Planning Department

W240N3065 Pewaukee Road
Pewaukee, WI 53072
(262) 691-0770 Fax (262) 691-1798

PLAN COMMISSION
MEETING NOTICE AND AGENDA
Thursday, March 16, 2023
6:00 PM

Common Council Chambers
W240 N3065 Pewaukee Rd. Pewaukee, WI 53072

---

1. Call to Order and Pledge of Allegiance

2. Discussion and Action Regarding a Recommendation to the Common Council for a Conditional Use Permit for Keith Tubin for Property Located at N37 W26745 Kopmeier Drive for the Purpose of Constructing a Boathouse (PWC 0894014)

3. Discussion and Action Regarding a Recommendation to the Common Council for a Conditional Use Permit for Mark and Jodi Olson for Property Located at N27 W27204 Woodland Drive for the Purpose of Constructing a Boathouse (PWC 0933136)

4. Discussion and Action Regarding a Mitigation Plan for Mark and Jodi Olson for Property Located at N27 W27204 Woodland Drive (PWC 0933136)

5. Discussion and Action Regarding a Recommendation to the Common Council for a Conditional Use Permit and Site and Building Plans for Quattro Development/Higher Ground Education for Property Located on Highfield Court for the Purpose of Constructing a Childcare Facility (PWC 0906994)

6. Discussion and Action Regarding a Recommendation to the Common Council for a Conditional Use Permit for Better Cowork, LLC for Property Located at W239 N3490 Pewaukee Road for the Purpose of Developing a Shared Office Space (PWC 0907992)

7. Discussion and Action and Public Hearing for Andev Group, LLC to Rezone Vacant Land Located at the Northwest Corner of Golf Road and Meadowbrook Road from A-1 Agricultural, LC Lowland Conservancy, and F-1 Floodplain to Rm-3 Multi-Family Residential, LC Lowland Conservancy, and F-1 Floodplain for the Purpose of Developing the Courtyard at Pewaukee, a Community Based Residential Facility (PWC 0940999001)

8. Discussion and Action Regarding a Recommendation to the Common Council for a Comprehensive Master Plan Amendment to Change the Year 2050 Land Use/Transportation Plan Use Designation for the City of Pewaukee for the Courtyard at Pewaukee for Vacant Land Located at the Northwest Corner of Golf Road and Meadowbrook Road from Low-Medium Density Residential and Floodplains, Lowland & Upland Conservancy and Other Natural Areas to High Density Residential and Floodplains, Lowland & Upland Conservancy and Other Natural Areas (PWC 0940999001)

9. Discussion and Action Regarding the Site and Building Plans for Andev Group, LLC for Vacant Land Located at the Northwest Corner of Golf Road and Meadowbrook Road for the Purpose of Developing the Courtyard at Pewaukee, a Community Based Residential Facility (PWC 0940999001)

10. Discussion Regarding the Community Development and Building Services Annual Report for 2022

11. Adjournment

Ami Hurd
Deputy Clerk

3/10/2023

NOTICE

It is possible that members of other governmental bodies of the municipality may be in attendance to gather information that may form a quorum. At the above stated meeting, no action will be taken by any governmental body other than the governmental body specifically referred to above in this notice.

Any person who has a qualifying disability under the Americans with Disabilities Act that requires the meeting or materials at the meeting to be in an accessible format must contact the City Planner, Nick Fuchs, at (262) 691-6007 three business days prior to the meeting so that arrangements may be made to accommodate your request.

CITY OF PEWAUKEE
PLAN COMMISSION AGENDA ITEM 2.

DATE: March 16, 2023

DEPARTMENT: Planning

PROVIDED BY:

SUBJECT:

Discussion and Action Regarding a Recommendation to the Common Council for a Conditional Use Permit for Keith Tubin for Property Located at N37 W26745 Kopmeier Drive for the Purpose of Constructing a Boathouse (PWC 0894014)

BACKGROUND:

FINANCIAL IMPACT:

RECOMMENDED MOTION:

ATTACHMENTS:

Description

Tubin staff report 2.16.23

Tubin boathouse Conditional Use

Tubin boathouse photos

Tubin draft Conditional Use Permit 4.3.23

Office of the Planner & Community Development Director
W240 N3065 Pewaukee Road
Pewaukee, Wisconsin 53072
Phone (262) 691-0770 Fax (262) 691-1798
fuchs@pewaukee.wi.us

REPORT TO THE PLAN COMMISSION

Meeting of February 16, 2022

Date: 12/20/2022

Project Name: Conditional Use

Project Address/Tax Key No.: N37W26745 Kopmeier Drive /PWC 0894014

Applicant: Keith Tubin

Property Owner: Keith Tubin

Current Zoning: RS7-Single Family Residential

2050 Land Use Map Designation: Medium Density Residential (6,500 SQ. FT. – ½ AC. / D.U.)

Use of Surrounding Properties: Single-family residential to the east and west, CP Rail System to the north, and Pewaukee Lake to the south

Background

In August 2022, the applicant filed a Conditional Use application and submitted plans for the construction of a new boathouse upon property located at N37W26745 Kopmeier Drive. The Plan Commission recommended approval to the Common Council at their October 20th meeting; however, the Common Council denied the Conditional Use request at their November 17th meeting due primarily to neighbor concerns. Additionally, the applicant was not in attendance to present their application or address the concerns raised by the neighbor.

The applicant has now re-filed a Conditional Use application requesting approval of the same boathouse and location.

Project Description

The subject property is approximately 30,418 square feet and consists of a single-family dwelling, small accessory structure (187 square feet), deck, and detached garage (1,100 square feet). The boathouse is proposed to be located at the southeast corner of the property and has an area of 84 square feet. The boathouse will include two three-foot doors. *Staff recommends that the metal siding be replaced with wood*. The boathouse will be located 5-feet from the side property line and more than 20-feet from the ordinary high water mark.

Upon review of the attached plans, the Shoreland Overlay District and previously approved lot coverage standard is not met with the addition of the boathouse. A mitigation plan for the subject property was approved at the July 16, 2020 Plan Commission meeting which allowed for a maximum coverage of 35%. The subject property is 30,418 square feet, so the maximum total impervious surface allowed is 10,646.3 square feet.

The applicant provided staff with a survey that showed impervious surface would be removed in order for the standard to be met. The applicant indicated that 8" of concrete along the 68' width of existing concrete would be removed and infilled with grass and dirt. *Staff recommends that 9" of concrete along the 68' width be removed to reach 51 square feet of concrete removal, which would then comply with the maximum total impervious surface allowed*.

In review of this boathouse, The Plan Commission may consider that the City defines a boathouse as "A structure designed to protect or store boats, which may be built no closer than five (5) feet from the ordinary high-water mark of a lake or stream."

Boat is defined within the Zoning Code as "A vessel that is designed to carry at least one individual on the surface of a body of water, and is propelled by oars, paddles, wind or motor power. Motor power includes, but is not limited to, power generated by steam engine, electric motor or combustion engine of any kind."

It can further be noted that the State of Wisconsin defines a boathouse as "a permanent structure used for the storage of watercraft and associated materials and includes all structures which are totally enclosed, have roofs or walls or any combination of these structural parts."

Recommendation

Staff recommends a motion to approve the Conditional Use application and plans for the construction of a new boathouse located at the subject property with the conditions that the applicant replaces the metal siding with wood and removes 51 square feet of concrete to comply with maximum lot coverage requirements.

Nov. 29, 2022

City of Pewaukee Plan Commission

W240 N3065 Pewaukee Road

Pewaukee, WI 53072

Attn: Plan Commission Board

Project Description for Proposed Accessory Boathouse Structure:

Keith Tubin, the owner of the property located at W37N26745 Kopmeier Dr., is planning to install a new pre-built boat house. This new boat house will be located at the south side of the property and 5' from the east property line adjacent to the existing neighbor's boat house. This boat house will be more than 5' away from the high-water mark. The boat house has 2 3' doors for access and in order to store boating equipment and to keep the lakefront shore area clean. The boat house is 14' x 6' and approximately 84 square feet.

The boat house will be mounted on top of gravel with a minimum of 2 anchors to prevent lifting in the event of flooding.

The boat house is built of wood with siding to match the colors of the exiting home. It will also have 2 vented openings as required in case of a special storm event.

The cost of the boat house with installation is estimated at $7,500.00.

We would like permission to get this work done.

Should you have any other questions or concerns, please contact Keith Tubin.

Sincerely,

Keith Tubin
Owner
702-429-3408
Email: keith@dedicatedcm.com


104" high
118" high
14' wide by 6' deep

Tubin Property

PLAT OF SURVEY

LOCATION: N37 W26745 Kopmeier Drive, Pewaukee, Wisconsin

LEGAL DESCRIPTION:
Lot 3 in **PAWLINGS ADDITION**, being a Subdivision in the Northwest 1/4 of Section 8, Town 7 North, Range 19 East, in the City of Pewaukee, County of Waukesha, Wisconsin.

April 30, 2020 Survey No. 111464

Lot Area to Waters Edge
30,418 sq.ft.

Area Calculations

Ⓐ *Existing House=1,953 sq.ft. (6.4% of Lot Area)*

Ⓑ New Garage = 1,100sf (3.6% of Lot Area)

Ⓒ *Existing Deck=282 sq.ft. (0.9% of Lot Area)*

Ⓓ *Existing Concrete=1,804 sq.ft. (5.9% of Lot Area)*

Ⓔ *Existing Asphalt Pavement=5,474 sq.ft.. (18.0% of Lot Area)*

F - New 84sf shed will add .02% to Lot Area.

G - Removal of concrete -51sf

Total SF Proposed	10,646
Total SF Allowed	10,646

Remove 8" of concrete along the 68' width from north to south and infill with dirt/grass.

New boat house 14'x6'.
2-3' doors on west side of shed.
Mounted on 4 Diamond piers Model DP-50/42".
To be mounted 5' from property line.

GRAPHIC SCALE

30 0 15 30 60 120

(IN FEET)
1 inch = 30 ft.

WISCONSIN
DENNIS C. SAUER
S-2421
Franklin, WI
LAND SURVEYOR

METROPOLITAN SURVEY SERVICE, INC.
PROFESSIONAL LAND SURVEYORS AND CIVIL ENGINEERS
9415 West Forest Home Avenue, Suite 202
Hales Corners, Wisconsin 53130
PH. (414) 529-5380 FAX (414) 529-9787
email address: survey@metropolitansurvey.com

◉ — *Denotes Iron Pipe Found*
○ — *Denotes Iron Pipe Set*

I HEREBY CERTIFY THAT I HAVE SURVEYED THE ABOVE DESCRIBED PROPERTY AND THAT THE ABOVE MAP IS A TRUE REPRESENTATION THEREOF AND SHOWS THE SIZE AND LOCATION OF THE PROPERTY. ITS EXTERIOR BOUNDARIES, THE LOCATION OF ALL VISIBLE STRUCTURES AND DIMENSIONS OF ALL PRINCIPAL BUILDINGS THEREON, BOUNDARY FENCES, APPARENT EASEMENTS AND ROADWAYS AND VISIBLE ENCROACHMENT, IF ANY.

THIS SURVEY IS MADE FOR THE EXCLUSIVE USE OF THE PRESENT OWNERS OF THE PROPERTY, AND ALSO THOSE WHO PURCHASE, MORTGAGE, OR GUARANTEE THE TITLE THERETO WITHIN ONE (1) YEAR FROM THE DATE HEREOF.

SIGNED _____
Dennis C. Sauer
Professional Land Surveyor S-2421











A COVENANT
REGARDING THE ISSUANCE OF A
CONDITIONAL USE PERMIT
BY THE
CITY OF PEWAUKEE

TAX KEY NUMBER(S) OR PARCEL(S) INVOLVED:

PWC 0894014

CONDITIONAL USE PERMIT: NO. CUP-23-3-1

Recording area

Name & Return Address

City of Pewaukee
W240N3065 Pewaukee Rd
Pewaukee, WI 53072

LEGAL DESCRIPTION:

LOT 3 PAWLINGS ADDITION PEWAUKEE PT NW1/4 SEC 8 T7N R19E

PERSON(S), AGENT(S) OR CORPORATION(S) PETITIONING FOR PERMIT:

Keith Tubin

WHEREAS, It is understood by all parties to this covenant that Section 62.23 of WIS. Statutes prescribes the legal basis for the granting of a conditional use permit by a City and Chapter 17 of the City Codes and Ordinances provides for the issuance of such permits as well as the standards by which all such uses will be measured; and,

WHEREAS, The City Plan Commission has held a meeting on March 16, 2023; has reviewed the various elements of the petitioner's proposal; and has recommended that a Conditional Use Permit be granted to the above-named petitioner for the property/parcel identified above; and,

WHEREAS, The City Common Council held a public hearing meeting on April 3, 2023.

NOW, THEREFORE, let it be known that the City Common Council, by its action on April 3, 2023 has, hereby, granted a Conditional Use Permit for the following use(s):

Construction of a boathouse.

FURTHER, such approved use of the above designated parcel(s) are hereby allowed based on the following conditions being continually met:

1. Nine inches of concrete along the 68-foot width must be removed in order to reach 51 square feet of concrete removal in order to comply with the maximum total impervious surface allowed.
2. The applicant shall replace the metal siding with wood.

The parties hereto, namely the City of Pewaukee and the Equitable Owner of the property for which this conditional use has been sought, set their signatures or the signatures of their representatives below, thereby agreeing to the provisions and conditions set forth in this covenant.

_____ _____

Attest: Signature of equitable owner

_____

Date

_____ _____

Kelly Tarczewski
City Clerk

Steve Bierce
Mayor, City of Pewaukee

_____

Date

State of Wisconsin
County of Waukesha

Signed or attested before me on _____, 2023 by Steve Bierce, Mayor and Kelly Tarczewski, Clerk.

_____

(Seal) Ami Hurd
My Commission expires _____

This instrument was drafted by Ami Hurd, Deputy Clerk

DRAFT

CITY OF PEWAUKEE
PLAN COMMISSION AGENDA ITEM 3.

DATE: March 16, 2023

DEPARTMENT: Planning

PROVIDED BY:

SUBJECT:

Discussion and Action Regarding a Recommendation to the Common Council for a Conditional Use Permit for Mark and Jodi Olson for Property Located at N27 W27204 Woodland Drive for the Purpose of Constructing a Boathouse (PWC 0933136)

BACKGROUND:

FINANCIAL IMPACT:

RECOMMENDED MOTION:

ATTACHMENTS:

Description

Olson staff report 3.16.23

Olson boathouse narrative

Olson boathouse site & building plans

Olson draft conditional use permit

Office of the Planner & Community Development Director
W240 N3065 Pewaukee Road
Pewaukee, Wisconsin 53072
Phone (262) 691-0770 Fax (262) 691-1798
fuchs@pewaukee.wi.us

REPORT TO THE PLAN COMMISSION

Meeting of March 16, 2023

Date: 3/09/2023

Project Name: Conditional Use

Project Address/Tax Key No.: N27W27204 Woodland Dr./PWC 0933136

Applicant: Jodi & Mark Olson

Property Owner: Mark & Jodi Olson

Current Zoning: RS7-Single Family Residential & F-1 Floodplain

2050 Land Use Map Designation: Medium Density Residential (6,500 Sq. Ft. – ½ Ac./D.U.) & Floodplains, Lowland & Upland Conservancy and Other Natural Areas

Use of Surrounding Properties: Pewaukee Lake to the north, Rs-7 to the east and west, and Woodland Dr. to the south.

Project Description

The applicant has filed a Conditional Use application and submitted plans for Plan Commission review for the construction of a new boathouse upon property located at N27W27204 Woodland Dr.

It should be noted that the City defines a boathouse as "A structure designed to protect or store boats, which may be built no closer than five (5) feet from the ordinary high water mark of a lake or stream." Boat is defined as "A vessel that is designed to carry at least one individual on the surface of a body of water, and is propelled by oars, paddles, wind or motor power. Motor power includes, but is not limited to, power generated by steam engine, electric motor or combustion engine of any kind."

Furthermore, the State of Wisconsin defines a boathouse as "a permanent structure used for the storage of watercraft and associated materials and includes all structures which are totally enclosed, have roofs or walls or any combination of these structural parts."

The subject property is approximately 30,418 square feet and consists of a single-family dwelling and small accessory structure (48 square feet) which will be removed and replaced with the proposed boathouse. The boathouse is located at the northeast corner of the property, has an area of 140 square feet, and a height of 10-feet. The boathouse consists of one aluminum overhead door on the south elevation and patio doors with two windows above on the north elevation and will be built with LP Smartside siding.

The plans provided show the boathouse 2.9-feet from the side property line. The applicant has been made aware that, as required by the Zoning Code, *the boathouse shall be located a minimum of 5-feet from the side property line and no less than 5-feet from the ordinary high-water mark*.

The applicant will also have electrical wiring installed throughout. *As such, all electrical shall need to be reviewed and approved through the Building Services Department.*

The larger proposed boathouse will result in the maximum allowed lot coverage being exceeded; therefore, *approval of the Conditional Use Permit shall be contingent upon approval of the concurrently submitted mitigation plan by the Plan Commission and City Engineer*.

Recommendation

Staff recommends a motion to approve the Conditional Use application and plans for the construction of a new boathouse located at N27W27204 Woodland Dr., subject to the following conditions:

1. *Approval of the concurrently submitted mitigation plan by the Plan Commission and City Engineer*.
2. *The boathouse shall be located a minimum of 5-feet from the side property line and no less than 5-feet from the ordinary high-water mark*.
3. *All electrical shall need to be approved through the Building Services*.

Olson Boathouse for Jodi & Mark Olson
Tax Name under Pewaukee Realty, LLC
N27W27204 Woodland Drive
Pewaukee, WI 53072

PROJECT DESCRIPTION:

1) Jodi & Mark Olson submit this application to the City of Pewaukee for a new (dry) Boathouse. If successful, this application will allow the The Olsons to raze the existing 6x8 shed and build a new 10x14 dry Boathouse in its place.

2) Professional Architectural plans have been designed to build a 10x14 boathouse. The height of the boathouse will be no taller than 10'. The existing shed has no concrete slab underneath it; the new boathouse will have a concrete slab. The existing shed has no electrical wiring; the new shed will have electrical wiring for light, charging electric lawn mowers, charging boat lifts, boat batteries, and other basic electrical necessities for a lake house.

PROJECT GOALS & OUTCOME:

1) The goals for the new boathouse are:
    A. Provide a larger building for the needed storage for all the boating and outdoor furniture and charging equipment.
    B. The current rotted structure is at the end of its life so a new boathouse will provide an appealing shoreline that our neighborhood and beautiful lake deserves. The new boathouse will have a modern look and will match the motif of the existing modern house that was built in 2020.

PROJECTED COST:

1) The cost of the new boathouse is projected at $7,500, which will be built by the homeowner.

Jodi & Mark Olson
Pewaukee Realty, LLC
November 16, 2022

OLSON BOAT HOUSE
DESIGN DRAWINGS

W131N6573 Crestwood Dr.
Menomonee Falls, WI 53051
TEL 414.430.7834
medingerdesignstudio@yahoo.com

MEDINGER
DESIGN STUDIO, LLC

Drawing Index

Architectural

000 Title Sheet
001 Architectural Site (For Information Only)
201 First Floor Plan
202 Roof Plan
400 Exterior Elevations
401 Exterior Elevations
402 Building Section
403 Exterior Perspective
404 Exterior Perspective

Project Information

Applicable Codes and Zoning

Wisconsin Uniform Dwelling Code (One- and Two-Family Dwellings)
Zoning: City of Pewaukee Ordinances

Building Area

First Floor: 120 SQ. FT.



N27W27204 Woodland Drive
Pewaukee, WI 53072
Project Number: 2022-108
Project Date: 2.11.2023

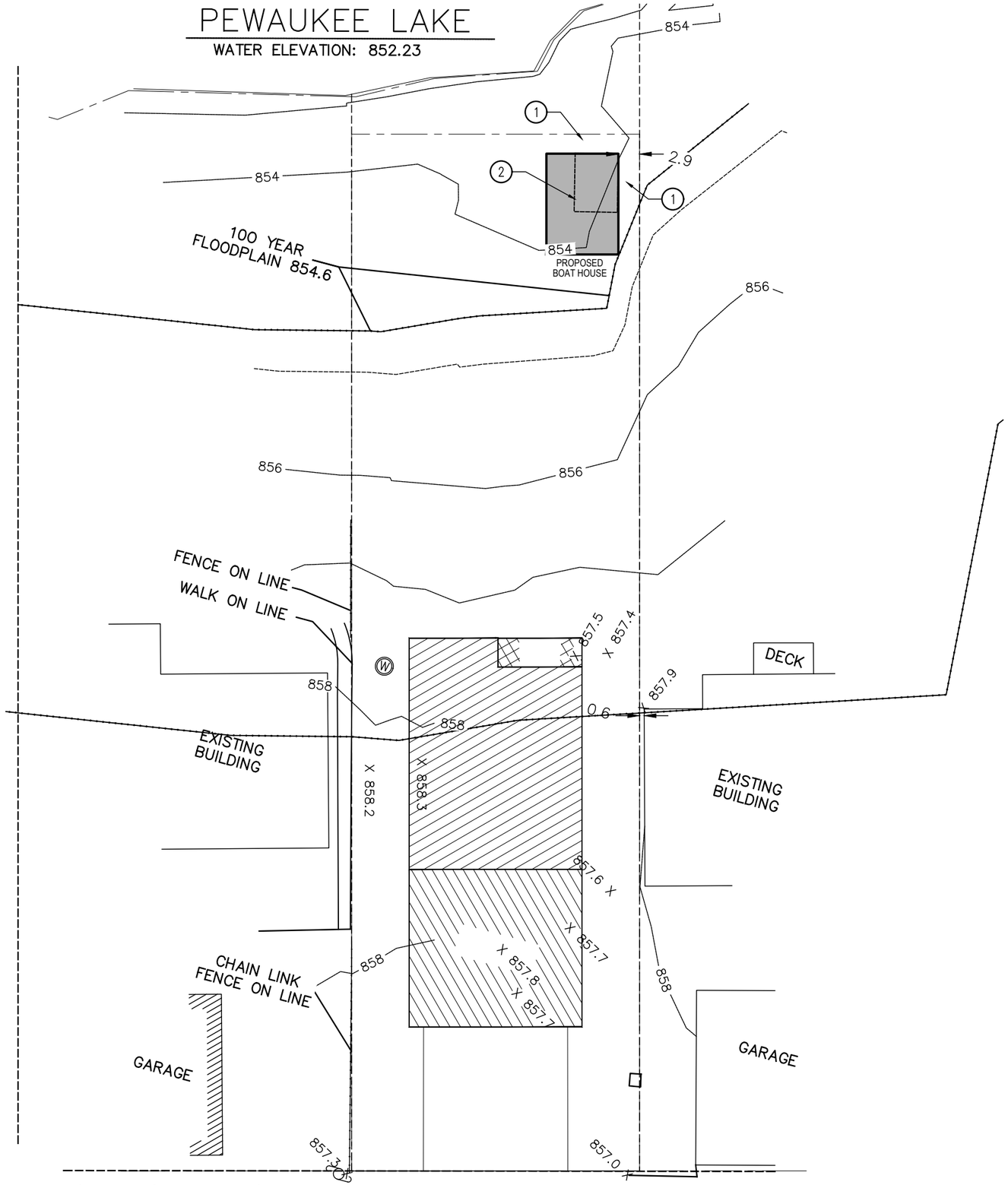
Project Team

Architect

Medinger Design Studio, LLC
Tel
Mobile 414.430.7834

Owner

Mark & Jodi Olson
Tel
Mobile



ARCHITECTURAL SITE PLAN 1/16" = 1'-0"

FOR REFERENCE ONLY

SITE PLAN - SYMBOLS LEGEND

(1) SITE PLAN NOTE

NEW CONCRETE SLAB / WALK / STOOP

SITE PLAN - GENERAL NOTES

A. FIELD VERIFY DIMENSIONS AND CONDITIONS AT JOB SITE.

B. REFER TO SITE SURVEY FOR ADDITIONAL INFORMATION PERTAINING TO SITE PLANNING. PROVIDE EROSION CONTROL AS REQUIRED BY LOCAL ORDINANCE.

C. MARK ALL UTILITIES. ALL DAMAGED UTILITY OR SERVICES ARE TO BE IMMEDIATELY REPAIRED AT NO ADDITIONAL COST TO THE OWNER.

TO OBTAIN LOCATIONS OF PARTICIPANTS UNDERGROUND FACILITIES BEFORE YOU DIG IN WISCONSIN

CALL DIGGERS HOTLINE

1–800–242–8511

TOLL FREE

WIS STATUTE 182.0175(1974) REQUIRES MIN. 3 WORK DAYS NOTICE BEFORE YOU EXCAVATE

MILW. AREA (414) 259–1181

SITE PLAN NOTES

(1) VERIFY SETBACK WITH LOCAL ZONING

(2) EXISTING 6' X 8' SHED TO BE RAZED.

N

W131N6573 Crestwood Dr
Menomonee Falls, WI 53051
(414) 430-7834

MEDINGER DESIGN STUDIO, LLC

SCALE AS NOTED

DRAWN BY

DO NOT REPRODUCE OR USE WITHOUT THE WRITTEN PERMISSION OF MEDINGER DESIGN STUDIO

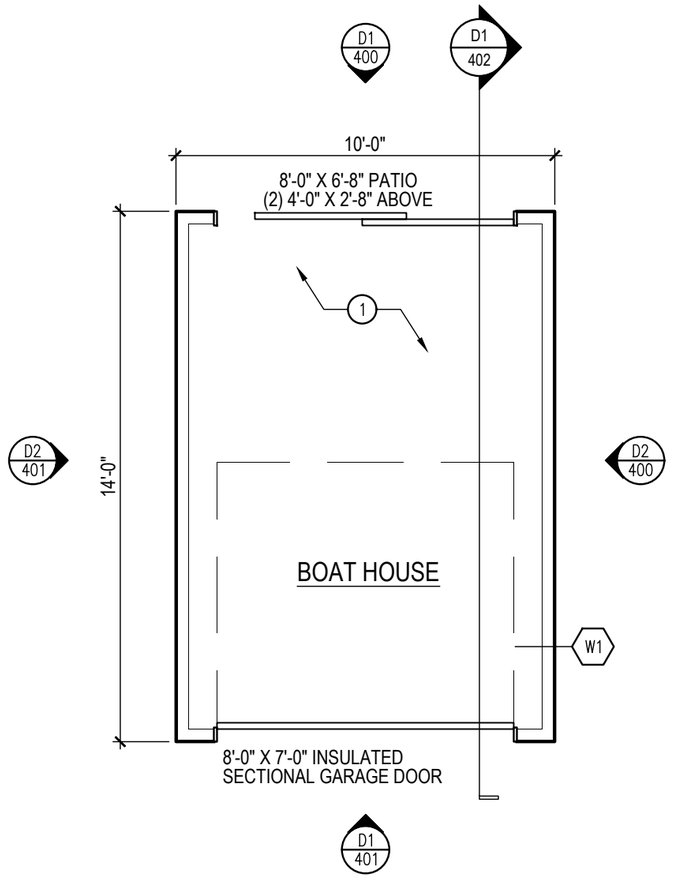
OLSON BOAT HOUSE

N27W27204 Woodland Drive
Pewaukee, WI 53072

DATE 2.11.2023

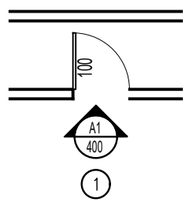
REVISED DATE

SHEET NUMBER 001



FIRST FLOOR PLAN 1/4" = 1'-0"

FLOOR PLAN - SYMBOLS LEGEND



NEW WALL

NEW DOOR AND TAG

EXTERIOR ELEVATION

PLAN NOTE

FLOOR PLAN - GENERAL NOTES

A. DIMENSIONS ON FLOOR PLAN ARE BASED ON FACE OF DRYWALL TO FACE OF DRYWALL

B. ELECTRICAL TO BE DESIGN BUILD BY THE GENERAL CONTRACTOR. WORK SHALL BE DESIGNED AND BUILT IN ACCORDANCE WITH APPLICABLE CODES AND STANDARDS AND SHALL COMPLY WITH THE REQUIREMENTS OF THE CURRENT CODE.

C. ALL NEWLY CONSTRUCTED WALLS SHALL TERMINATE AT THE UNDERSIDE OF ROOF/FLOOR STRUCTURE, UNLESS NOTED OTHERWISE.

D. ALL NECESSARY STRUCTURAL ENGINEERING OF BEAMS, HEADERS, SLABS, FOOTINGS, ETC. TO BE ENGAGED THROUGH GENERAL CONTRACTOR, ENGINEERED BY STRUCTURAL ENGINEER, AND COORDINATED W/ ARCHITECTURAL DRAWINGS.

E. INSULATE ALL EXTERIOR WALLS AND ROOF SPACES PER CODE.

F. ALL FURNITURE BY OWNER.

G. ELECTRICAL DEVICES SHALL BEAR APPROVAL OF UNDERWRITER'S LABORATORIES. NEW OUTLETS IN ADDITION TO NEW OUTLETS REQUIRED BY CODE, ARE INDICATED ON FLOOR PLAN. COORDINATE LOCATIONS WITH OWNER. OWNER SHALL REVIEW AND APPROVE ALL ELECTRICAL DRAWINGS PRIOR TO COMMENCEMENT OF WORK.

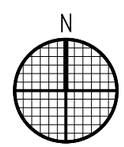
FLOOR PLAN NOTES

1 FINAL PLACEMENT OF HOUSE TO SETBACKS TO BE VERIFIED WITH OWNER / SURVEYOR

EXTERIOR WALL TYPE LEGEND



EXTERIOR WALL: LP SMARTSIDE BOARD CLAD WALL CONSISTING OF LP SMARTSIDE LAP OR PANEL BOARD SIDING, ON BUILDING WRAP ON EXTERIOR GRADE PLYWOOD/OSB SHEATHING. 2X4 WOOD STUDS @ 16" OC,



W131N6573 Crestwood Dr
Menomonee Falls, WI 53051
(414) 430-7834

MEDINGER
DESIGN STUDIO, LLC

SCALE
AS NOTED

DRAWN BY

DO NOT REPRODUCE OR USE WITHOUT THE WRITTEN PERMISSION OF MEDINGER DESIGN STUDIO

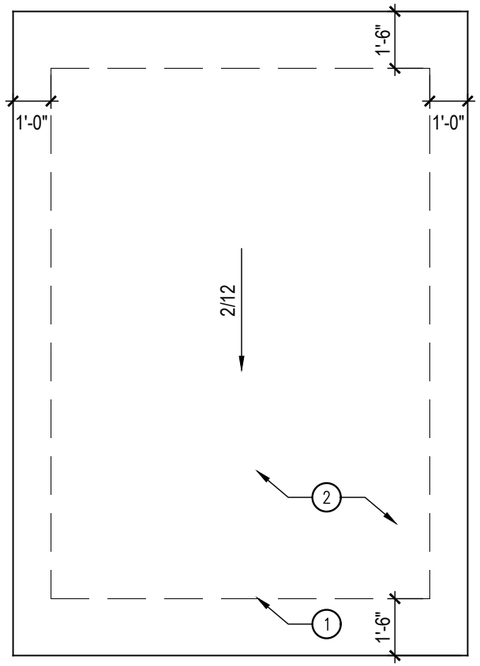
OLSON BOAT HOUSE

N27W27204 Woodland Drive
Pewaukee, WI 53072

DATE
2.11.2023

REVISED DATE

SHEET NUMBER
201



ROOF PLAN

1/4" = 1'-0"

ROOF PLAN - SYMBOLS LEGEND

- SLOPE DIRECTION
- VALLEY OR RIDGE
- (1) ROOF PLAN NOTE
- BUILDING LINE BELOW

ROOF PLAN - GENERAL NOTES

A. FIELD VERIFY DIMENSIONS AND CONDITIONS AT JOB SITE.

B. PROVIDE POSITIVE ROOF DRAINAGE. PROVIDE SADDLES AND CRICKETS AT ALL PENETRATIONS TO ENSURE POSITIVE DRAINAGE.

C. PROVIDE SELF-ADHERING RUBBERIZED ASPHALT UNDERLAYMENT AT ALL VALLEYS AND EAVES.

D. CONTRACTOR RESPONSIBLE FOR PROVIDING QUANTITY AND QUALITY OF UNDERLAYMENT AT ALL ROOF CONDITIONS, INCLUDING LOW SLOPE ROOF CONDITIONS IN ORDER TO PROVIDE SPECIFIED ROOF WARRANTY.

E. PROVIDE ROOF VENTING PER CODE REQUIREMENTS.

ROOF PLAN NOTES

(1) EDGE OF BUILDING / WALL BELOW

(2) DIMENSIONAL ASPHALT SHINGLE ROOF WITH SELF-ADHERING ICE AND WATER SHEILD ON ENTIRE ROOF SHEATHING. SEE SHINGLE MANUFACTURER FOR LOW SLOPE ROOF INSTALLATION REQUIREMENTS.

N

W131N6573 Crestwood Dr
Menomonee Falls, WI 53051
(414) 430-7834

MEDINGER
DESIGN STUDIO, LLC

SCALE
AS NOTED

DRAWN BY

DO NOT REPRODUCE OR USE WITHOUT THE WRITTEN PERMISSION OF MEDINGER DESIGN STUDIO

OLSON BOAT HOUSE

N27W27204 Woodland Drive
Pewaukee, WI 53072

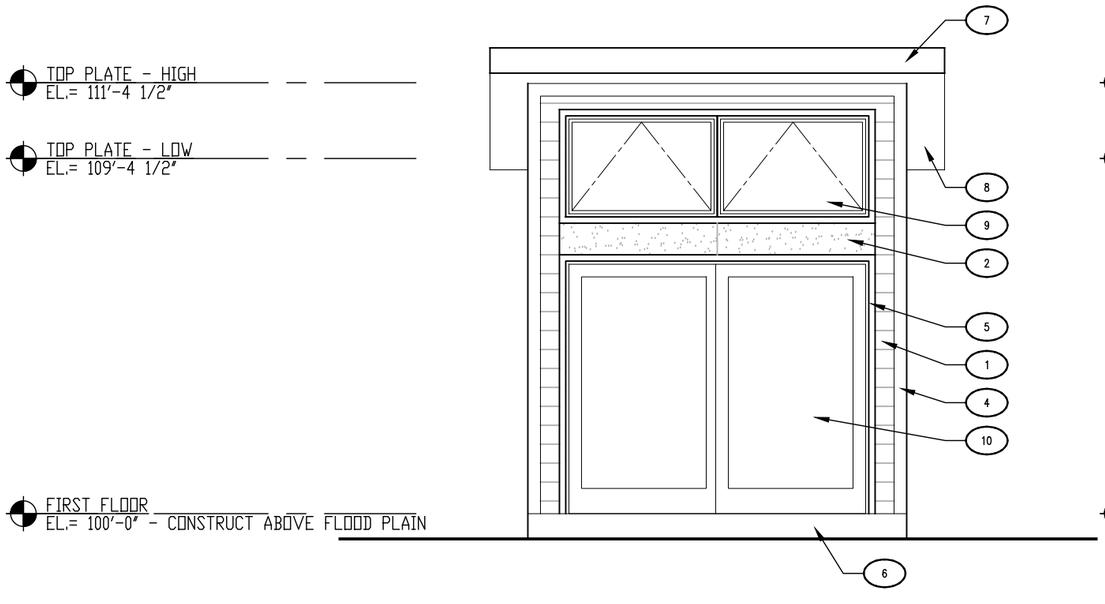
DATE
2.11.2023

REVISED DATE

SHEET NUMBER
202

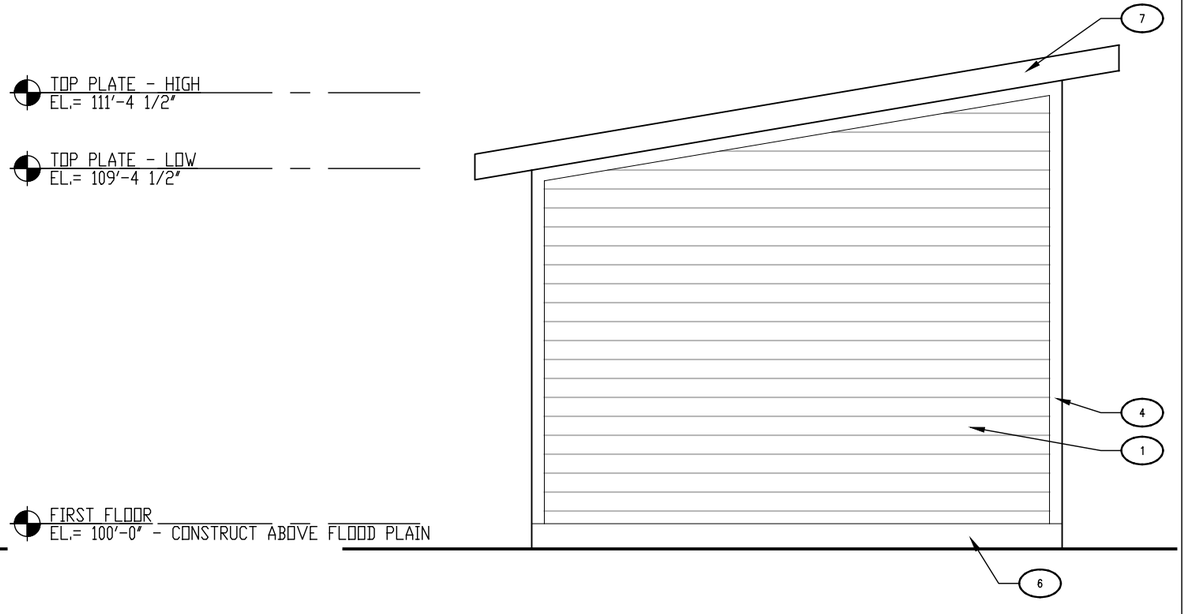
EXTERIOR FINISH MATERIALS SCHEDULE	
ITEM	
1	LP SMARTSIDE HORIZONTAL 8" LAP BOARD SIDING, COLOR: ABYSS BLACK
2	LP SMARTSIDE PANEL BOARD SIDING, COLOR: ABYSS BLACK
3	ASPHALT DIMENSIONAL SHINGLE ROOF SYSTEM, BRAND: OWENS CORNING DURATION
4	4" FIBER CEMENT TRIM, COLOR: ABYSS BLACK
5	2" FIBER CEMENT TRIM, COLOR: ABYSS BLACK
6	8" FIBER CEMENT TRIM, COLOR: ABYSS BLACK, VERIFY SIZE
7	LP SMARTSIDE FASCIA, COLOR: ABYSS BLACK
8	VENTED SOFFIT, COLOR: ABYSS BLACK
9	INSULATED WINDOW SYSTEM, SEE ELEVATIONS FOR OPERATION, BRAND: MARVIN WINDOWS ESSENTIAL COLLECTION OR ANDERSEN 400 SERIES, COLOR: BLACK
10	INSULATED EXTERIOR PATIO DOOR, COLOR: BLACK
11	INSULATED ALUMINUM SECTIONAL OVERHEAD DOOR, COLOR: BLACK

NOTE: GENERAL CONTRACTOR / SURVEYOR RESPONSIBLE FOR SETTING / VERIFYING BUILDING FLOOR ELEVATIONS



D1 / 400 NORTH ELEVATION

1/4" = 1'-0"



D2 / 400 EAST ELEVATION

1/4" = 1'-0"

W131N6573 Crestwood Dr
Menomonee Falls, WI 53051
(414) 430-7834

MEDINGER DESIGN STUDIO, LLC

SCALE
AS NOTED

DRAWN BY

DO NOT REPRODUCE OR USE WITHOUT THE WRITTEN PERMISSION OF MEDINGER DESIGN STUDIO

OLSON BOAT HOUSE

N27W27204 Woodland Drive
Pewaukee, WI 53072

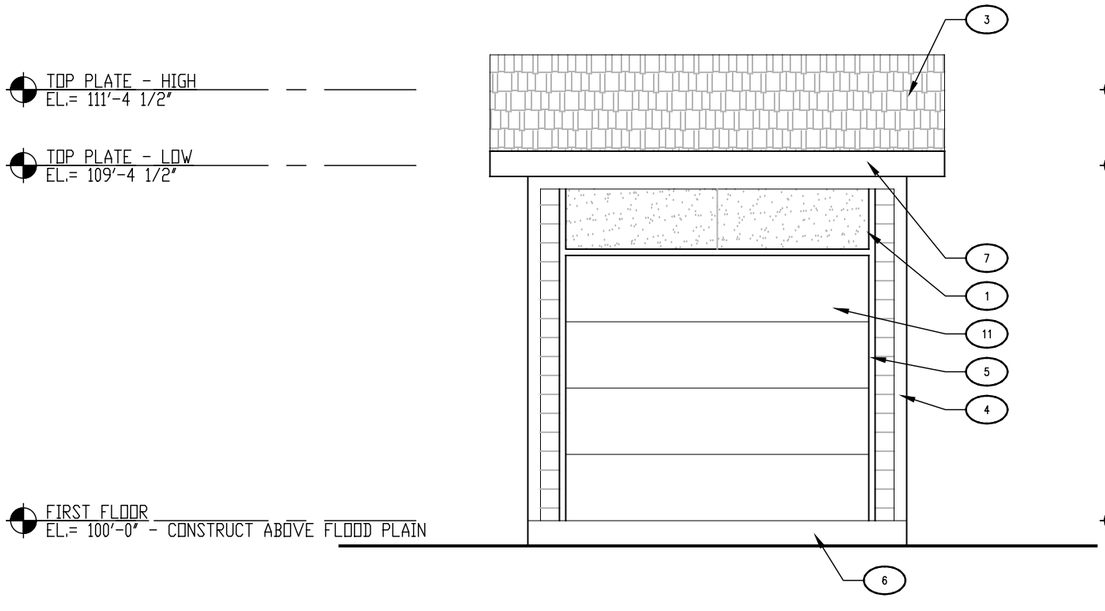
DATE
2.11.2023

REVISED DATE

SHEET NUMBER
400

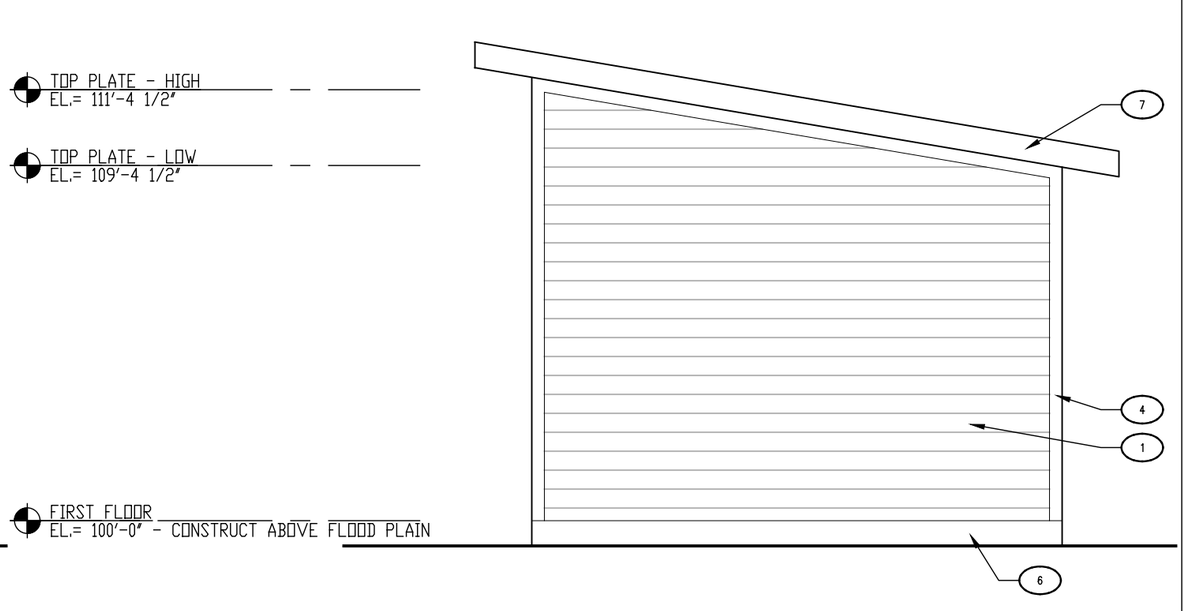
EXTERIOR FINISH MATERIALS SCHEDULE	
ITEM	
1	LP SMARTSIDE HORIZONTAL 8" LAP BOARD SIDING, COLOR: ABYSS BLACK
2	LP SMARTSIDE PANEL BOARD SIDING, COLOR: ABYSS BLACK
3	ASPHALT DIMENSIONAL SHINGLE ROOF SYSTEM, BRAND: OWENS CORNING DURATION
4	4" FIBER CEMENT TRIM, COLOR: ABYSS BLACK
5	2" FIBER CEMENT TRIM, COLOR: ABYSS BLACK
6	8" FIBER CEMENT TRIM, COLOR: ABYSS BLACK, VERIFY SIZE
7	LP SMARTSIDE FASCIA, COLOR: ABYSS BLACK
8	VENTED SOFFIT, COLOR: ABYSS BLACK
9	INSULATED WINDOW SYSTEM, SEE ELEVATIONS FOR OPERATION, BRAND: MARVIN WINDOWS ESSENTIAL COLLECTION OR ANDERSEN 400 SERIES, COLOR: BLACK
10	INSULATED EXTERIOR PATIO DOOR, COLOR: BLACK
11	INSULATED ALUMINUM SECTIONAL OVERHEAD DOOR, COLOR: BLACK

NOTE: GENERAL CONTRACTOR / SURVEYOR RESPONSIBLE FOR SETTING / VERIFYING BUILDING FLOOR ELEVATIONS



D1 / 401 SOUTH ELEVATION

1/4" = 1'-0"



D2 / 401 WEST ELEVATION

1/4" = 1'-0"

W131N6573 Crestwood Dr
Menomonee Falls, WI 53051
(414) 430-7834

MEDINGER DESIGN STUDIO, LLC

SCALE
AS NOTED

DRAWN BY

DO NOT REPRODUCE OR USE WITHOUT THE WRITTEN PERMISSION OF MEDINGER DESIGN STUDIO

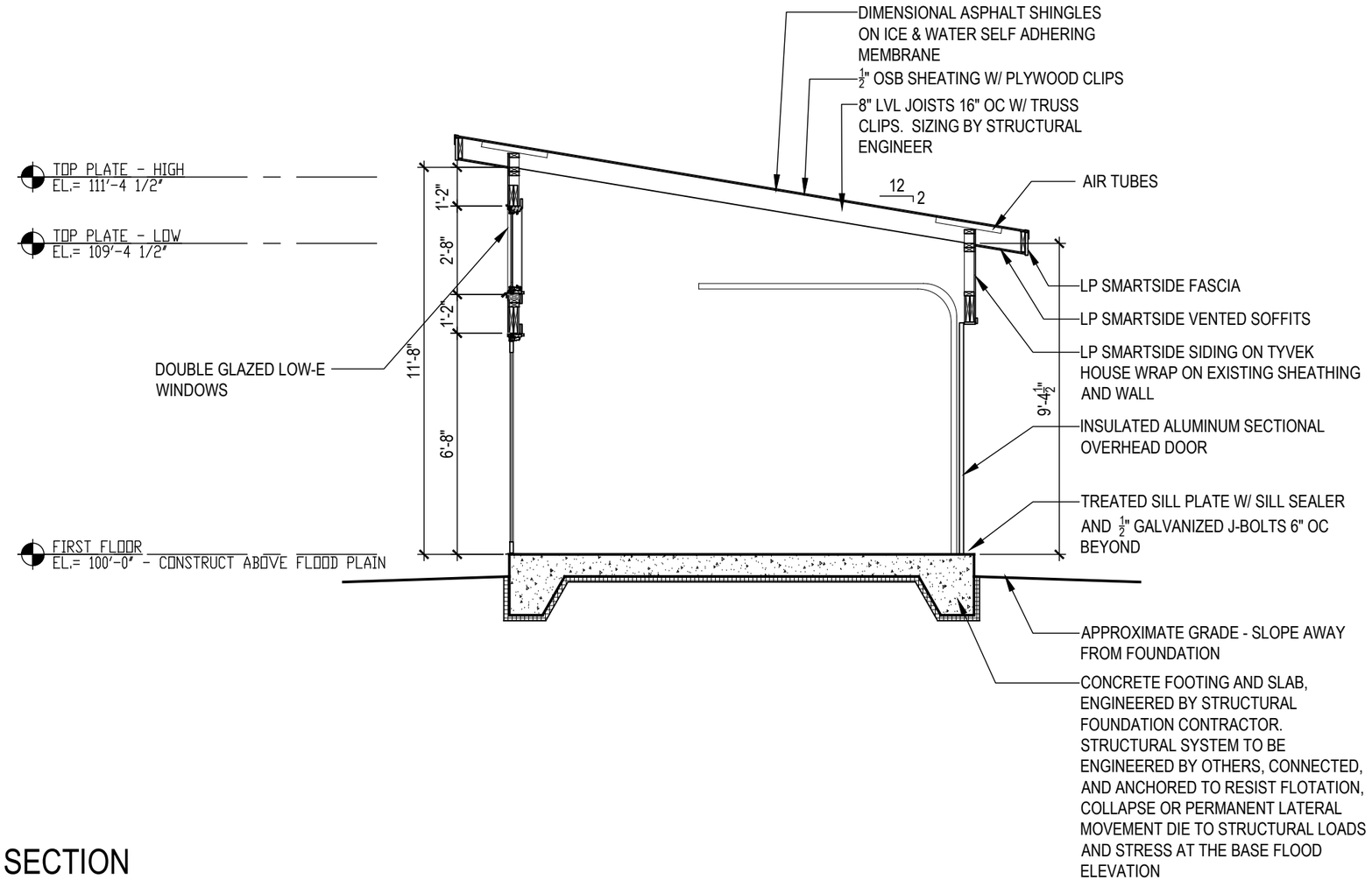
OLSON BOAT HOUSE

N27W27204 Woodland Drive
Pewaukee, WI 53072

DATE
2.11.2023

REVISED DATE

SHEET NUMBER
401



D1
402
BUILDING SECTION

1/4" = 1'-0"

W131N6573 Crestwood Dr
Menomonee Falls, WI 53051
(414) 430-7834

MEDINGER
DESIGN STUDIO, LLC

SCALE
AS NOTED

DRAWN BY

DO NOT REPRODUCE OR USE WITHOUT THE WRITTEN PERMISSION OF MEDINGER DESIGN STUDIO

OLSON BOAT HOUSE
N27W27204 Woodland Drive
Pewaukee, WI 53072

DATE
2.11.2023

REVISED DATE

SHEET NUMBER
402

D1
403
EXTERIOR PERSPECTIVE
N.T.S.

SCALE
AS NOTED
DRAWN BY

DO NOT REPRODUCE OR USE WITHOUT
THE WRITTEN PERMISSION OF
MEDINGER DESIGN STUDIO

MEDINGER
DESIGN STUDIO, LLC
W131N6573 Crestwood Dr
Menomonee Falls, WI 53051
(414) 430-7834

OLSON BOAT HOUSE
N27W27204 Woodland Drive
Pewaukee, WI 53072

DATE
2.11.2023
REVISED DATE
SHEET NUMBER
403

D1
404
EXTERIOR PERSPECTIVE
N.T.S.

OLSON BOAT HOUSE
N27W27204 Woodland Drive
Pewaukee, WI 53072

DATE
2.11.2023

REVISED DATE

SHEET NUMBER
404

SCALE
AS NOTED

DRAWN BY

DO NOT REPRODUCE OR USE WITHOUT THE WRITTEN PERMISSION OF MEDINGER DESIGN STUDIO

MEDINGER
DESIGN STUDIO, LLC
W131N6573 Crestwood Dr
Menomonee Falls, WI 53051
(414) 430-7834

EXHIBIT A - FIGURE 1

PLAT OF SURVEY - NEW BOATHOUSE

LANDMARK ENGINEERING SCIENCES, INC.
119 COOLIDGE AVE., SUITE 100
WAUKESHA, WI 53186
(414) 719-2769
LandMark-Engineering@live.com

LEGAL DESCRIPTION:
LOT 31 OF EDGEWOOD PLAT NO. 2 LOCATED IN THE SE. 1/4 OF THE NE. 1/4 OF SECTION 18, T.7N., R.19E., CITY OF PEWAUKEE, WAUKESHA COUNTY, WISCONSIN.

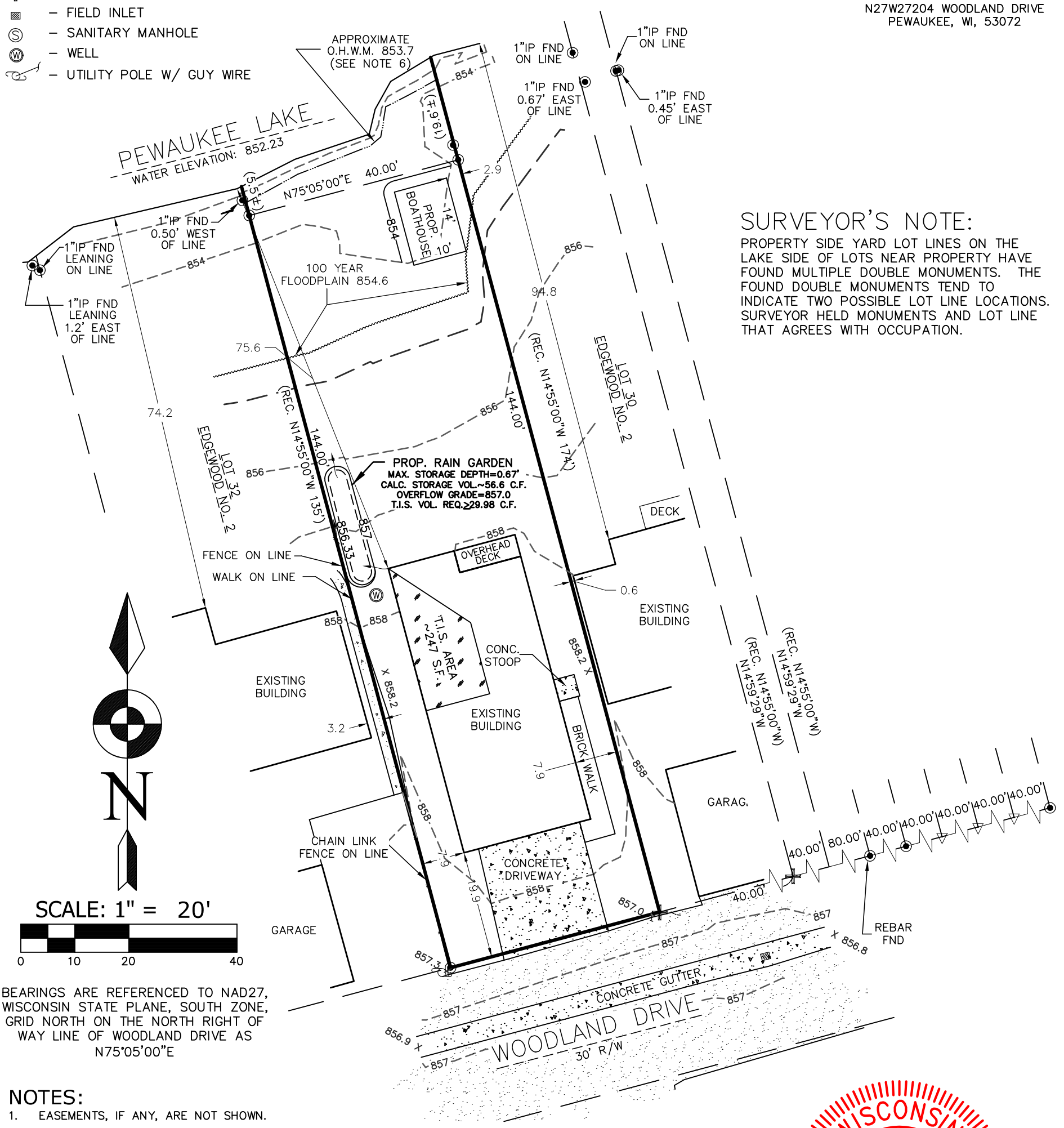
ENGINEER:
MARK AUGUSTINE, PE, PLS

FOR:
GOLD COAST HOST LLC

PROPERTY:
N27W27204 WOODLAND DRIVE
PEWAUKEE, WI, 53072

LEGEND

- ◉ – 1" IRON PIPE FOUND (UNLESS OTHERWISE STATED)
- ● – 1" DIA. IRON PIPE SET, 18" LONG
- ▽ – PK NAIL FOUND
- ╋ – CROSS FOUND
- ▨ – FIELD INLET
- Ⓢ – SANITARY MANHOLE
- Ⓦ – WELL
- – UTILITY POLE W/ GUY WIRE



BEARINGS ARE REFERENCED TO NAD27, WISCONSIN STATE PLANE, SOUTH ZONE, GRID NORTH ON THE NORTH RIGHT OF WAY LINE OF WOODLAND DRIVE AS N75°05'00"E

SURVEYOR'S NOTE:

PROPERTY SIDE YARD LOT LINES ON THE LAKE SIDE OF LOTS NEAR PROPERTY HAVE FOUND MULTIPLE DOUBLE MONUMENTS. THE FOUND DOUBLE MONUMENTS TEND TO INDICATE TWO POSSIBLE LOT LINE LOCATIONS. SURVEYOR HELD MONUMENTS AND LOT LINE THAT AGREES WITH OCCUPATION.

NOTES:

1. EASEMENTS, IF ANY, ARE NOT SHOWN.

2. THE SURVEYOR TAKES NO RESPONSIBILITY FOR ANY UNDERGROUND STRUCTURES OR BURIED MATERIALS SUCH AS FOUNDATIONS, WELLS, SEPTIC, HOLDING TANKS, UTILITIES, HAZARDOUS MATERIALS, OR ANY OTHER ITEMS OF WHICH NO EVIDENCE CAN BE FOUND ON THE SURFACE BY A VISUAL INSPECTION.

3. THE 100 YEAR FLOODPLAIN ELEVATION IS 854.4 (NAVD88) OR 854.6 (NGVD1929) PER FLOOD INSURANCE STUDY NUMBER 55133CV001C DATED NOVEMBER 5, 2014.

4. INITIAL FIELD WORK WAS COMPLETED ON DECEMBER 19TH, 2018 AND UPDATED DECEMBER 21, 2022.

5. VERTICAL DATUM: NGVD1929, BENCHMARK: E 1/4 CORNER OF SECTION 18.

6. COUNTY DOES NOT HAVE AN ESTABLISHED ORDINARY HIGH WATER MARK IN AREA. SURVEYOR DETERMINED APPPROIMATE O.H.W.M. BASED ON MEAN TOP OF BANK ELEVATIONS: 853.7 (NGVD1929)

SURVEYOR'S CERTIFICATE:

I HEREBY CERTIFY THAT I HAVE SURVEYED THE ABOVE DESCRIBED PROPERTY AND, IN MY PROFESSIONAL OPINION, THE ABOVE MAP IS A TRUE REPRESENTATION THEREOF AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF.

THIS SURVEY IS MADE FOR THE USE OF THE PRESENT OWNERS OF THE PROPERTY, AND ALSO THOSE WHO PURCHASE, MORTGAGE, OR GUARANTEE THE TITLE THERETO WITHIN ONE (1) YEAR FROM DATE HEREOF.

WISCONSIN
MARK D. AUGUSTINE
S-2780
WAUKESHA, WI.
LAND SURVEYOR

DATE 15 JAN 2023
I.S.A. CALCS 02FEB2023

PROJECT # 2993.10

Document Number

Stormwater Management Practice Maintenance Agreement

THIS INSTRUMENT IS REQUIRED AND RECORDED pursuant to the provisions of §17.0436 of the City of Pewaukee Municipal Code which states, in substance, that man-made material coverage of lots/parcels within close proximity to navigable waterways shall be restricted; and

WHEREAS SAID CODE SECTION PROVIDES, in substance, that impervious surfaces may be increased if the parcel owner reaches a written agreement with the City to mitigate such increased coverage by putting in place mitigation measures; and

WHEREAS SAID CODE SECTION STATES, "… Such mitigation measure requirements shall be recorded in the minutes of a City Plan Commission meeting and shall be recorded by the County Register of Deeds as a property deed restriction for/on the property … ;" and

WHEREAS the owner of the following described Subject Property intends to develop improvements described herein and intends to hereby encumber the Subject Property and improvements with certain restrictions and obligations with respect to the use and maintenance of such property and improvements;

NOW, THEREFORE, the owner of the Subject Property, by this instrument, establishes and imposes the restrictions and mitigation measures set forth herein as covenants running with the land and as binding on the owner and owner's successors and assigns and all subsequent owners and occupants of all or any part of the said Subject Property.

The address and legal description of the Subject Property is set forth in the attached **Exhibit A**.

Name and Return Address:

City of Pewaukee –
Planning & Community Development
W240N3065 Pewaukee Road
Pewaukee, WI 53072

Tax identification Number:

PWC 0933042

The attached **Exhibit B** sets forth (1) the total lot area calculation; (2) the existing impervious area calculation; (3) the new impervious area calculation;(4) the agreed upon increased percentage of impervious area allowed by the City of Pewaukee; and (5) the description of the agreed upon mitigation measures to be installed and maintained on the Subject Property.

The attached **Exhibit C** is a copy of the approved minutes of the meeting of the City of Pewaukee Plan Commission at which the required mitigation measures were determined and directed to be made and maintained.

Dated this ____ day of _____, 20___.

_____ _____
(Owner Signature) (Owner Signature)

_____ _____
(Print Owner Name Here) (Print Owner Name Here)

STATE OF WISCONSIN)
SS
COUNTY OF WAUKESHA)

Personally came before me this _____ day of _____ , 20____ , to me known to be the person(s) who executed the foregoing instrument and acknowledged the same.

_____
NOTARY PUBLIC

_____
Print Name of Notary Public

Notary Public, _____County, Wisconsin

My Commission Expires:

_____

This document was drafted by:

Mark D. Augustine
LandMark Engineering Sciences, Inc.
119 Coolidge Avenue – Suite 100
Waukesha, WI 53186-6602

Exhibit A – Legal Description

The legal description for the Property for which this Agreement applies is:

LOT 31 OF EDGEWOOD PLAT NO. 2 LOCATED IN THE SE. 1/4 OF THE NE. 1/4 OF SECTION 18, T.7N., R.19E., CITY OF PEWAUKEE, WAUKESHA COUNTY, WISCONSIN.

Property Address: N27W27204 Woodland Drive

EXHIBIT A - FIGURE 1

PLAT OF SURVEY - NEW BOATHOUSE

LEGAL DESCRIPTION:
LOT 31 OF EDGEWOOD PLAT NO. 2 LOCATED IN THE SE. 1/4 OF THE NE. 1/4 OF SECTION 18, T.7N., R.19E., CITY OF PEWAUKEE, WAUKESHA COUNTY, WISCONSIN.

LANDMARK ENGINEERING SCIENCES, INC.
119 COOLIDGE AVE., SUITE 100
WAUKESHA, WI 53186
(414) 719-2769
LandMark-Engineering@live.com

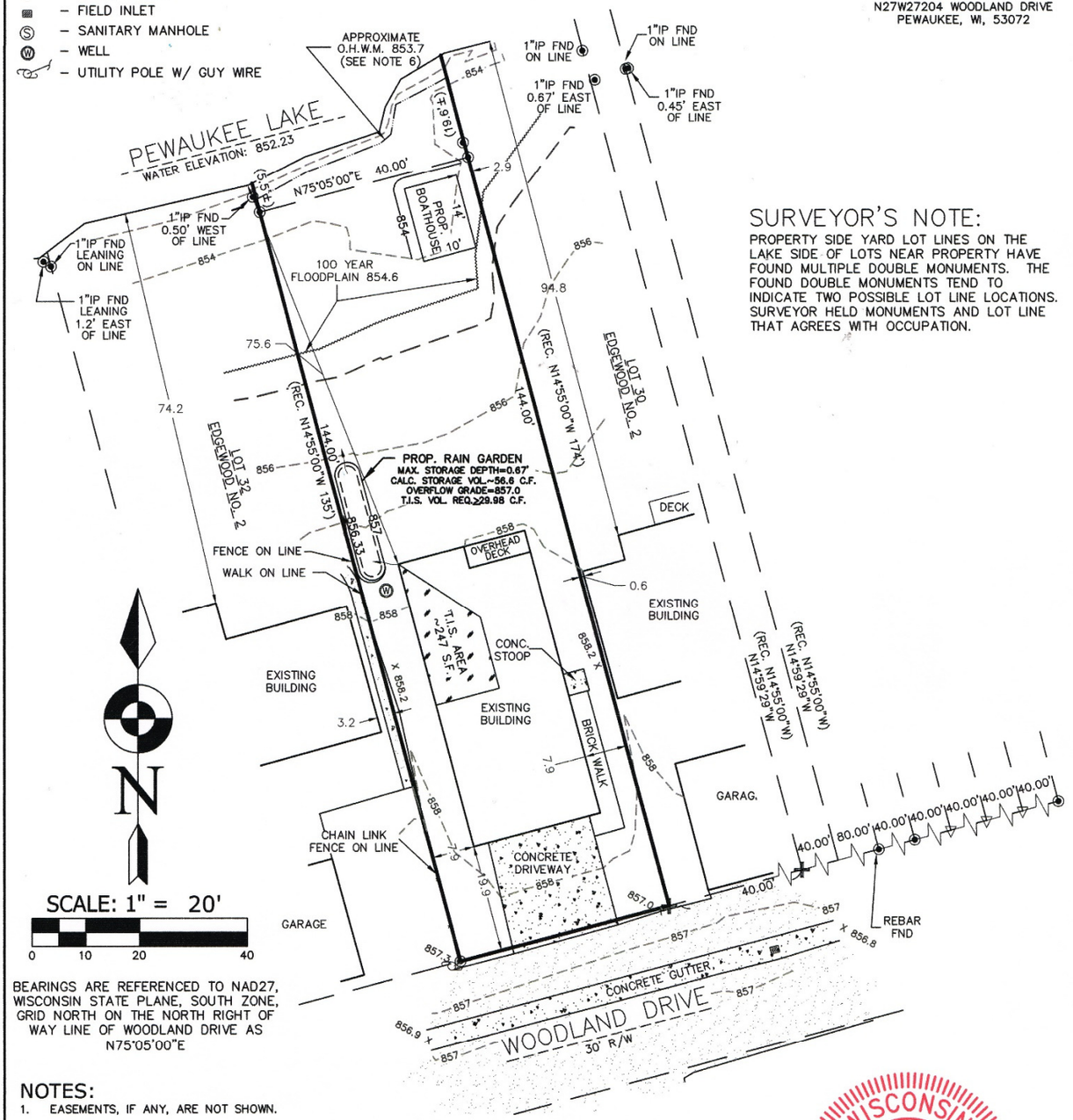
ENGINEER:
MARK AUGUSTINE, PE, PLS

FOR:
GOLD COAST HOST LLC

PROPERTY:
N27W27204 WOODLAND DRIVE
PEWAUKEE, WI, 53072

LEGEND

- ◉ – 1" IRON PIPE FOUND (UNLESS OTHERWISE STATED)
- ● – 1" DIA. IRON PIPE SET, 18" LONG
- ▽ – PK NAIL FOUND
- ✚ – CROSS FOUND
- ▩ – FIELD INLET
- Ⓢ – SANITARY MANHOLE
- Ⓦ – WELL
- – UTILITY POLE W/ GUY WIRE



BEARINGS ARE REFERENCED TO NAD27, WISCONSIN STATE PLANE, SOUTH ZONE, GRID NORTH ON THE NORTH RIGHT OF WAY LINE OF WOODLAND DRIVE AS N75°05'00"E

SURVEYOR'S NOTE:
PROPERTY SIDE YARD LOT LINES ON THE LAKE SIDE OF LOTS NEAR PROPERTY HAVE FOUND MULTIPLE DOUBLE MONUMENTS. THE FOUND DOUBLE MONUMENTS TEND TO INDICATE TWO POSSIBLE LOT LINE LOCATIONS. SURVEYOR HELD MONUMENTS AND LOT LINE THAT AGREES WITH OCCUPATION.

NOTES:

1. EASEMENTS, IF ANY, ARE NOT SHOWN.
2. THE SURVEYOR TAKES NO RESPONSIBILITY FOR ANY UNDERGROUND STRUCTURES OR BURIED MATERIALS SUCH AS FOUNDATIONS, WELLS, SEPTIC, HOLDING TANKS, UTILITIES, HAZARDOUS MATERIALS, OR ANY OTHER ITEMS OF WHICH NO EVIDENCE CAN BE FOUND ON THE SURFACE BY A VISUAL INSPECTION.
3. THE 100 YEAR FLOODPLAIN ELEVATION IS 854.4 (NAVD88) OR 854.6 (NGVD1929) PER FLOOD INSURANCE STUDY NUMBER 55133CV001C DATED NOVEMBER 5, 2014.
4. INITIAL FIELD WORK WAS COMPLETED ON DECEMBER 19TH, 2018 AND UPDATED DECEMBER 21, 2022.
5. VERTICAL DATUM: NGVD1929, BENCHMARK: E 1/4 CORNER OF SECTION 18.
6. COUNTY DOES NOT HAVE AN ESTABLISHED ORDINARY HIGH WATER MARK IN AREA. SURVEYOR DETERMINED APPPROIMATE O.H.W.M. BASED ON MEAN TOP OF BANK ELEVATIONS: 853.7 (NGVD1929)

SURVEYOR'S CERTIFICATE:
I HEREBY CERTIFY THAT I HAVE SURVEYED THE ABOVE DESCRIBED PROPERTY AND, IN MY PROFESSIONAL OPINION, THE ABOVE MAP IS A TRUE REPRESENTATION THEREOF AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF.

THIS SURVEY IS MADE FOR THE USE OF THE PRESENT OWNERS OF THE PROPERTY, AND ALSO THOSE WHO PURCHASE, MORTGAGE, OR GUARANTEE THE TITLE THERETO WITHIN ONE (1) YEAR FROM DATE HEREOF.

WISCONSIN
MARK D. AUGUSTINE
S-2780
WAUKESHA, WI.
LAND SURVEYOR

DATE 15 JAN 2023
I.S.A. CALCS 02FEB2023

PROJECT # 2993.10

Exhibit B – Stormwater Management System Plan

The stormwater mitigation practice covered by this Agreement are depicted in the construction plans, as shown in the following figures below. The practice includes rain garden treatment.

EXHIBIT B - FIGURE 1

STORMWATER MITIGATION

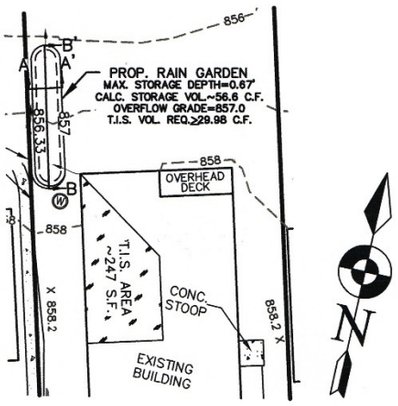
LOT 31 OF EDGEWOOD PLAT NO. 2 LOCATED IN THE SE. 1/4 OF THE NE. 1/4 OF SECTION 18, T.7N., R.19E., CITY OF PEWAUKEE, WAUKESHA COUNTY, WISCONSIN.

LANDMARK ENGINEERING SCIENCES, INC.
119 COOLIDGE AVE., SUITE 100
WAUKESHA, WI 53186
(414) 719-2769
LandMark-Engineering@live.com

ENGINEER:
MARK AUGUSTINE, PE, PLS

FOR:
GOLD COAST HOST LLC

PROPERTY:
N27W27204 WOODLAND DRIVE
PEWAUKEE, WI, 53072



SCALE: 1" = 20'

0 10 20 40

IMPERVIOUS SURFACE AREAS:

(LOT SIZE TO WATER'S EDGE = 6,193 SF)
(LOT SIZE TO APPARENT OHWM = 6,071 SF)

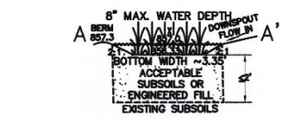
	EXISTING	PROPOSED
DRIVE & WALKS	494 SF (8.14%)	494 SF (8.14%)
HOUSE + DECK	1320 SF (20.95%)	1320 SF (20.95%)
BOATHOUSE/SHED	49 SF (0.81%)	140 SF (2.31%)
BOATHOUSE PATIO	33 SF (0.54%)	0 SF (0.00%)
TOTAL:	1896 SF (31.23%)	1954 SF (32.19%)

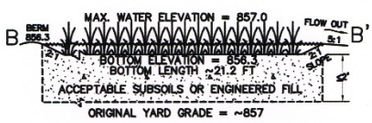
CITY-REGULATED IMPERVIOUS SURFACE AREA (ISA) PERCENTAGES ARE CALCULATED AS A MAXIMUM 20% ISA FROM PERMANENT STRUCTURES (HOUSE, DECK AND BOATHOUSE) PLUS A MAXIMUM 10% ISA FROM OTHER SOURCES (DRIVEWAY, WALK AND PATIO) ONTO THE LOT AREA OUTSIDE THE APPARENT OHWM. THE TOTAL ALLOWABLE UNTREATED ISA IS 6,071 SF * 30% = 1,821 SF. TOTAL ISA CAN BE AS HIGH AS 35% (2,125 SF), PROVIDED RUNOFF FROM THE ISA GREATER THAN 30% IS TREATED.

ISA AREA REQUIRED TO BE TREATED FOR CURRENT DESIGN IS ≥133 SF (≥2.19%). PROPOSED RAIN GARDEN IS DESIGNED TO TREAT ROOF RUNOFF FOR A 2-YR, 24-HR RAINFALL EVENT OF 2.69 INCHES (PER CITY OF PEWAUKEE).
THE REQUIRED MINIMUM TREATED RUNOFF VOLUME IS 133 SF*2.69"/12 = 29.8 C.F.
ACTUAL TREATED RUNOFF FROM ROOF AREA IS 247 S.F*2.69"/12 = 55.4 C.F.
DESIGN TREATMENT VOLUME OF PROPOSED RAIN GARDEN WITH 2:1 SLOPE IS 0.67'*84.89 SF = 56.6 C.F. ANY RUNOFF OVERFLOW FROM RAIN GARDEN SHEET FLOWS TOWARDS PEWAUKEE LAKE.

THUS, RUNOFF TREATED BY RAIN GARDEN EXCEEDS REQUIRED ISA RUNOFF VOLUME.

CROSS SECTIONS

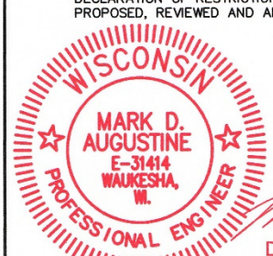




CONSTRUCTION INSPECTION SCHEDULE:

THE ENGINEER OF RECORD IS THE INDIVIDUAL THAT HAS STAMPED AND SIGNED THE APPROVED PLAN SET. AS SUCH, THEY AND/OR THEIR DESIGNATED REPRESENTATIVE (HENCEFORTH REFERRED TO JOINTLY AS "EOR") WILL COORDINATE WITH BUILDER TO CONDUCT SITE INSPECTIONS DURING CONSTRUCTION TO ENSURE RAIN GARDEN SYSTEM IS INSTALLED ACCORDING TO THE APPROPRIATE PERFORMANCE SPECIFICATIONS. SYSTEM MUST BE INSPECTED AND MAINTAINED IN SUCH A MANNER AS TO OPERATE AS DESIGNED FOR THE LIFE OF THE RESIDENTIAL STRUCTURE. AT A MINIMUM, SITE INSPECTIONS WILL BE PERFORMED DURING THESE CONSTRUCTION PHASES:

1. SOIL AMENDMENTS. EOR WILL CONDUCT VISUAL INSPECTION OF AMENDED NATIVE SOILS WITHIN 2' OF RAIN GARDEN BOTTOM GRADE TO ENSURE AMENDED SOILS HAVE ACCEPTABLE POROSITY CHARACTERISTICS AND ORGANIC MATTER.
2. ROOF GUTTER SYSTEM INSTALLATION. AS THE RAIN GARDEN DESIGN TREATS RUNOFF FROM A PORTION OF THE ROOF, EOR WILL INSPECT THE APPROPRIATE SECTION OF GUTTER & DOWNSPOUT INSTALLATION TO VERIFY CONSTRUCTION MEETS DESIGN SPECIFICATIONS.
3. GRADING. EOR WILL VISUALLY INSPECT SUBGRADE SOILS PRIOR TO ADDITION OF FINAL TOPSOIL LAYER TO VERIFY SUBSOILS WERE NOT DAMAGED OR DISTURBED TO THE POINT THEIR FUTURE FUNCTIONALITY MAY BE COMPROMISED. AFTER FINAL GRADES ARE ESTABLISHED WITH TOPSOIL LAYER ADDITION, EOR WILL INSPECT TO VERIFY GRADES AND SOILS MEET APPROVED RAIN GARDEN DESIGN FUNCTIONALITY.
4. PLANTINGS. EOR WILL VISUALLY INSPECT PLANTINGS TO VERIFY PLANTS ARE SUFFICIENTLY ESTABLISHED FOR SELF-PROPOGATION. EOR WILL THEN COMPLETE A CONSTRUCTION VERIFICATION DOCUMENT FOR SUBMITTAL TO AND REVIEW BY CITY OF PEWAUKEE STAFF. AFTER CONSTRUCTION VEIRIFICATION IS ACCEPTED BY CITY OF PEWAUKEE STAFF, AN ADDENDUM TO THE DECLARATION OF RESTRICTIONS SHALL BE RECORDED BY THE SITE OWNER AT THE WAUKESHA COUNTY REGISTER OF DEEDS OFFICE. THE ADDENDUM MAY INCLUDE ADDITIONAL EXHIBITS, SUCH AS THE EOR VERIFICATION FORM AND/OR SYSTEM AS-BUILT PLANS. CITY OF PEWAUKEE MAY REQUIRE FUTURE CHANGES TO THIS DECLARATION OF RESTRICTIONS IF PLAN MODIFICATIONS ARE PROPOSED, REVIEWED AND APPROVED BY SAID STAFF.



DATE 12 JAN 2023
I.S.A. CALCS 02FEB2023

PROJECT # 2993.10

APPROVED RAIN GARDEN NATIVE PLANTINGS LIST:

Common Name	Scientific Name	Soil Type			Light Preference		Bloom Time	Height (feet)
		Clay	Loam	Sand	Full Sun	Semi-Shady		
Blue Flag Iris	Iris versicolor	X			X	X	June-July	2-3
Bottlebrush Sedge	Carex comosa	X	X	X	X	X	May-June	2-4
Butterflyweed	Asclepias tuberosa			X	X		June-Aug	2-3
Calico Aster	Aster lateriflorus	X	X	X		X	Sept-Oct	2-3
Cream False Indigo	Baptisia bracteata			X	X		May-June	1-2
Crooked Stem Aster	Aster prenanthoides	X	X	X		X	Aug-Oct	1-3
Culver's Root	Veronicastrum virginicum	X	X		X	X	July-Aug	3-6
Fireweed	Epilobium angustifolium			X	X		July-Sept	2-6
Fox Sedge	Carex vulpinoidea	X	X	X	X	X	May-June	1-3
Foxglove beardtongue	Penstemon digitalis	X	X	X	X	X	June-July	2-3
Golden Alexander	Zizia aurea	X	X	X	X	X	May-July	1-3
Great Blue Lobelia	Lobelia siphilitica	X	X		X		July-Sept	1-4
Hoary Vervain	Verbena stricta			X	X		July-Sept	2-4
Ironweed	Vernonia fasciculata	X	X		X		July-Sept	4-6
Jack in the Pulpit	Arisaema triphyllum	X	X	X		X	April-May	1-2
Jacob's Ladder	Polemonium reptans		X			X	May-June	1-2
Joe Pye Weed	Eupatorium maculatum	X	X		X		Aug-Sept	4-6
Little Bluestem	Schizachyrium scoparium			X	X		Aug-Sept	2-3
Mountain Mint	Pycnanthemum virginianum	X	X		X		July-Sept	1-3
New England Aster	Aster novae-angliae	X	X		X		Aug-Oct	3-6
Nodding Onion	Allium cernuum	X	X	X	X	X	July-Aug	1-2
Northern Sea Oats	Chasmanthium latifolium		X			X	Aug-Oct	2-4
Obedient Plant	Physostegia virginiana	X			X		Aug-Sept	1-2
Ohio Goldenrod	Solidago ohioensis	X	X		X		Aug-Sept	2-3
Ohio Spiderwort	Tradescantia ohiensis			X	X		June-July	2-4
Pale Purple Coneflower	Echinacea pallida			X	X		June-July	3-5
Prairie Blazing Star	Liatris pycnostachya	X	X		X		July-Aug	3-5
Prairie Dropseed	Sporobolus heterolepis		X	X	X		Aug-Sept	2-4
Purple Coneflower	Echinacea purpurea		X		X		July-Sept	3-4
Rattlesnake Master	Eryngium yuccifolium		X		X		June-Aug	3-5
Red Baneberry*	Actaea rubra	X	X	X		X	June	1-2
Rough Blazing Star	Liatris aspera			X	X		Aug-Sept	2-5
Showy Goldenrod	Solidago speciosa			X	X		Aug-Sept	1-3
Smooth Blue Aster	Aster laevis			X	X		Aug-Oct	2-4
Smooth Phlox	Phlox glaberrima	X	X	X		X	June-July	2-4
Solomon's Seal	Polygonatum biflorum	X	X	X		X	May-June	1-3
Swamp Milkweed	Asclepias incarnata	X	X		X		June-July	3-5
Sweet Black Eyed Susan	Rudbeckia subtomentosa	X	X		X	X	Aug-Oct	4-6
Sweet Joe Pye Weed	Eupatorium purpureum	X	X	X		X	Aug-Sept	4-6
Virginia Bluebells	Mertensia virginica	X	X	X		X	April-May	1-2
Virginia Wild Rye	Elymus virginicus	X	X	X		X	July-Aug	4-5
White False Indigo	Baptisia alba	X	X		X		June-July	3-5
Wild Bergamot	Monarda fistulosa	X	X	X	X		July-Sept	2-5
Wild Geranium	Geranium maculatum		X	X		X	May-June	1-2
Wild Petunia	Ruellia humilis			X	X		June-Aug	1-2
Wild Quinine	Parthenium integrifolium	X	X		X		June-Sept	3-5
Wild Senna	Cassia hebecarpa	X	X		X		July-Aug	4-6
Yellow Coneflower	Ratibida pinnata	X	X	X	X		July-Sept	3-6
Zig Zag Goldenrod	Solidago flexicaulis	X	X	X		X	Aug-Sept	2-4

For a full-sized version of this figure, please see non-recorded document at City of Pewaukee

EXHIBIT B - FIGURE 2
MITIGATION MAINTENANCE PLAN

LANDMARK
ENGINEERING SCIENCES, INC.
119 COOLIDGE AVE., SUITE 100
WAUKESHA, WI 53186
(414) 719-2769
LandMark-Engineering@live.com

ENGINEER:
MARK AUGUSTINE, PE, PLS

FOR:
GOLD COAST HOST LLC

PROPERTY:
N27W27204 WOODLAND DRIVE
PEWAUKEE, WI, 53072

Narrative. This exhibit explains the basic function of the storm water practice listed in Exhibit B and prescribes the minimum maintenance requirements to remain compliant with this Agreement. The maintenance activities listed below are aimed to ensure these practices continue serving their intended functions in perpetuity. The list of activities indicates the minimum type of maintenance that can be expected for this particular site. Any failure of a storm water practice that is caused by a lack of maintenance will subject the Owner(s) to enforcement of the provisions listed on page 1 of this Agreement by the City of Pewaukee.

Treated Impervious Surface System. The Owner, or their agents, or the subsequent owner of the property shall fully comply with the treated impervious surface (the "TIS") System Plan with a Long-Term Maintenance Schedule, Exhibit A, Exhibit B, and Exhibit C, prepared by Landmark Engineering Services, Inc. (henceforth referred to as the "Plans"). The owner shall comply with the details, specifications, and notes on the Plans. Full-size copies of the Plans are also located in the office of the City of Pewaukee Planning and Zoning Department. If modifications to the Plans are required, review and approval of such modifications are required by the staff at the City of Pewaukee.

Minimum Maintenance Requirements. To ensure the proper function of the rain garden, the following list of maintenance activities are recommended:

1. A minimum of 70% soil cover made up of native grasses, sedges, or forbs must be maintained on the rain garden bottom to ensure infiltration rates. Periodic burning or mowing is recommended to enhance establishment of the prairie plants (which may take 2-3 years) and maintain the minimum native cover. To reduce competition from cool season grasses (bluegrass, fescues, quack, etc.) and other weeds:
    a. For the first year, cut to a 6" height three times – once each in June, July and early August. To prevent damage to the native plants, do not mowed below a 6" height. Remove excessive accumulation of clippings to avoid smothering next year's seedlings.
    b. After the first year, mowing may only be needed in early June each year to help control the spread of cool season plants. The mowing should also be raised to 10-12" to avoid damage to the warm season plants.
    c. Burning may also be used to manage weeds in 2-5 years intervals. Late spring burns (late April – early May) provide maximum stimulus to warm season plants and work well to control cool season grasses. Burn when the cool season grasses are growing and the warm season plants are just barely starting to grow to get maximum control of cool season species.
    d. Any major bare areas or areas taken over by nonnative species must be replanted. To clear area of weeds and cool season grasses, treat with an herbicide that contains glysophosphate in accordance with manufacture's instructions. Plant with plugs of loamy soil, full sun exposure preference native species (see list on Exhibit B). Cover with a light layer of mulch and newspaper.
2. Invasive plant and animal species shall be managed in compliance with Wisconsin Administrative Code Chapter NR 40. This may require eradication of invasive species in some cases.
3. The rain garden and all components (grass swales, infalls, outfalls, etc.) should be inspected after each heavy rain, but at a minimum of once per year. If the rain garden is not draining properly (within 72 hours), further inspection may be required by persons with expertise in storm water management and/or soils.
    a. If soil testing shows that the soil surface has become crusted, sealed or compacted, some deep tillage should be performed, loosening the soil and improving infiltration rates. Tilling may be performed manually or with a mini-excavator. Minimize disturbance of established vegetation.
    b. If sedimentation is determined to be causing the failure, the accumulated sediment must be removed and the area replanted in accordance with the notes above.
    c. If inspection of the rain garden shows that groundwater is regularly near the surface, additional design features may need to be considered, such as subsurface drainage or conversion to a wetland treatment system.
4. Any eroding areas must be repaired immediately to prevent premature sediment build-up in the rain garden. Erosion matting is recommended for repairing grassed areas.
5. Heavy equipment and vehicles must be kept off of the bottom and side slopes of rain gardens to prevent soil compaction. Soil compaction will reduce infiltration rates and may cause failure of the garden, resulting in ponding and possible growth of wetland plants.
6. No trees are to be planted or allowed to grow on the earthen berms or the bottom of the rain garden. On the berms, tree root systems can reduce soil compaction and cause berm failure. On the rain garden bottom, trees may shade out the native grasses. The rain garden must be inspected annually and any woody vegetation removed.
7. Grass swales leading to the rain garden shall be preserved to allow free flowing of surface runoff in accordance with approved grading plans. No buildings or other structures are allowed in these areas. No grading or filling is allowed that may interrupt flows in any way.
8. No grading or filling of the rain garden or berms other than for sediment removal is allowed.
9. Periodic mowing the grass swales will encourage rigorous grass cover and allow better erosion inspections.
10. Any other repair or maintenance needed to ensure the continued function of the rain garden as ordered by the City of Pewaukee under the provisions listed on page 1 of this Agreement.

Addendums to Restrictions. The Engineer of Record (EOR) for the TIS system design must conduct system inspections during construction, then prepare a verification of the system's construction. After construction verification has been accepted by City of Pewaukee staff for the TIS system, an addendum to this Declaration of Restrictions shall be recorded by the Owner. The addendum may include several additional exhibits, including the construction verification letter and/or as-built plans of the TIS system. Cityof Pewaukee may require future changes to this Declaration of Restrictions if modifications to the Plans are proposed, reviewed and approved by City of Pewaukee staff.



PROJECT # 2993.10

For a full-sized version of this figure, please see non-recorded document at City of Pewaukee

A COVENANT
REGARDING THE ISSUANCE OF A
CONDITIONAL USE PERMIT
BY THE
CITY OF PEWAUKEE

TAX KEY NUMBER(S) OR PARCEL(S) INVOLVED:

PWC 0933136

CONDITIONAL USE PERMIT: NO. CUP-23-3-2

Recording area

Name & Return Address

City of Pewaukee
W240N3065 Pewaukee Rd
Pewaukee, WI 53072

LEGAL DESCRIPTION:

LOT 31 EDGEWOOD NO 2 PT NE1/4 SEC 18 T7N R19E :: DOC# 4185262

PERSON(S), AGENT(S) OR CORPORATION(S) PETITIONING FOR PERMIT:

Mark & Jodi Olson

WHEREAS, It is understood by all parties to this covenant that Section 62.23 of WIS. Statutes prescribes the legal basis for the granting of a conditional use permit by a City and Chapter 17 of the City Codes and Ordinances provides for the issuance of such permits as well as the standards by which all such uses will be measured; and,

WHEREAS, The City Plan Commission has held a meeting on March 16, 2023; has reviewed the various elements of the petitioner's proposal; and has recommended that a Conditional Use Permit be granted to the above-named petitioner for the property/parcel identified above; and,

WHEREAS, The City Common Council held a public hearing meeting on April 3, 2023.

NOW, THEREFORE, let it be known that the City Common Council, by its action on April 3, 2023 has, hereby, granted a Conditional Use Permit for the following use(s):

Construction of a boathouse.

FURTHER, such approved use of the above designated parcel(s) are hereby allowed based on the following conditions being continually met:

DRAFT

1. Approval of the concurrently submitted mitigation plan by the Plan Commission and City Engineer.
2. The boathouse shall be located a minimum of 5-feet from the side property line and no less than 5-feet from the ordinary high-water mark.
3. 3. All electrical shall need to be approved through the Building Services.

The parties hereto, namely the City of Pewaukee and the Equitable Owner of the property for which this conditional use has been sought, set their signatures or the signatures of their representatives below, thereby agreeing to the provisions and conditions set forth in this covenant.

_____ _____

Attest: Signature of equitable owner

_____

Date

_____ _____

Kelly Tarczewski
City Clerk

Steve Bierce
Mayor, City of Pewaukee

_____

Date

State of Wisconsin
County of Waukesha

Signed or attested before me on _____, 2023 by Steve Bierce, Mayor and Kelly Tarczewski, Clerk.

_____

(Seal) Ami Hurd
My Commission expires _____

This instrument was drafted by Ami Hurd, Deputy Clerk

DRAFT

CITY OF PEWAUKEE
PLAN COMMISSION AGENDA ITEM 4.

DATE: March 16, 2023

DEPARTMENT: Planning

PROVIDED BY:

SUBJECT:

Discussion and Action Regarding a Mitigation Plan for Mark and Jodi Olson for Property Located at N27 W27204 Woodland Drive (PWC 0933136)

BACKGROUND:

FINANCIAL IMPACT:

RECOMMENDED MOTION:

ATTACHMENTS:

Description

Olson mitigation plan staff report 3.16.23

Olson mitigation plan

Department of Public Works
Engineering Division
W240N3065 Pewaukee Road
Pewaukee, WI 53072
(262) 691-0804 Fax: (262) 691-5720

Memorandum

To: **File**

From: **Magdelene J. Wagner, P.E.**

Subject: **Olson Residence – N27W27204 Woodland Drive**
Mitigation Plan

Date: **March 8, 2023**

Required Action: The mitigation plan and Plan Commission minutes are recorded at Waukesha County and a recorded copy provided to the City for their records.

Background:
According to Ordinance 17.0436, any home within 300 feet of the lake has a maximum building coverage of permanent structures of 20% of the total parcel area. In addition, it has a maximum of 10% (lot is less than 10,000 sf) of permanent impervious surfaces outside of the structures. If a lot is proposing to be over this 30%, it will be allowed a maximum of 35% total impervious area with mitigation practices as approved by the Plan Commission.

The Olson property is located at N27W27204 Woodland Drive and has a lot size of 6,071 SF. The allowable permanent structure is 1,214.2 SF (20%) and the allowable permanent impervious surface is 607.1 SF (10%) for a total allowable impervious area of 1821.3 SF. Olson is requesting approval for 32.19% total impervious area which consists of 1460 SF (24.05%) for permanent structures and 494 SF (8.14%) for permanent impervious surfaces.

The Olson property is mitigating this additional impervious area (132.7 SF) with a 56.6 SF at 8” deep rain garden which will receive drainage from the house.

The rain garden are adequately sized to provide the required mitigation. We would recommend moving the rain garden further from the well.

We approve the mitigation plan contingent on the following:

1. The mitigation plan narrative, plan, and the Plan Commission minutes are recorded at Waukesha County (City provided a recorded copy) as required in the ordinance using the Recording Template previously provided to the owner.

EXHIBIT A - FIGURE 1

PLAT OF SURVEY - NEW BOATHOUSE

LANDMARK ENGINEERING SCIENCES, INC.
119 COOLIDGE AVE., SUITE 100
WAUKESHA, WI 53186
(414) 719-2769
LandMark-Engineering@live.com

LEGAL DESCRIPTION:
LOT 31 OF EDGEWOOD PLAT NO. 2 LOCATED IN THE SE. 1/4 OF THE NE. 1/4 OF SECTION 18, T.7N., R.19E., CITY OF PEWAUKEE, WAUKESHA COUNTY, WISCONSIN.

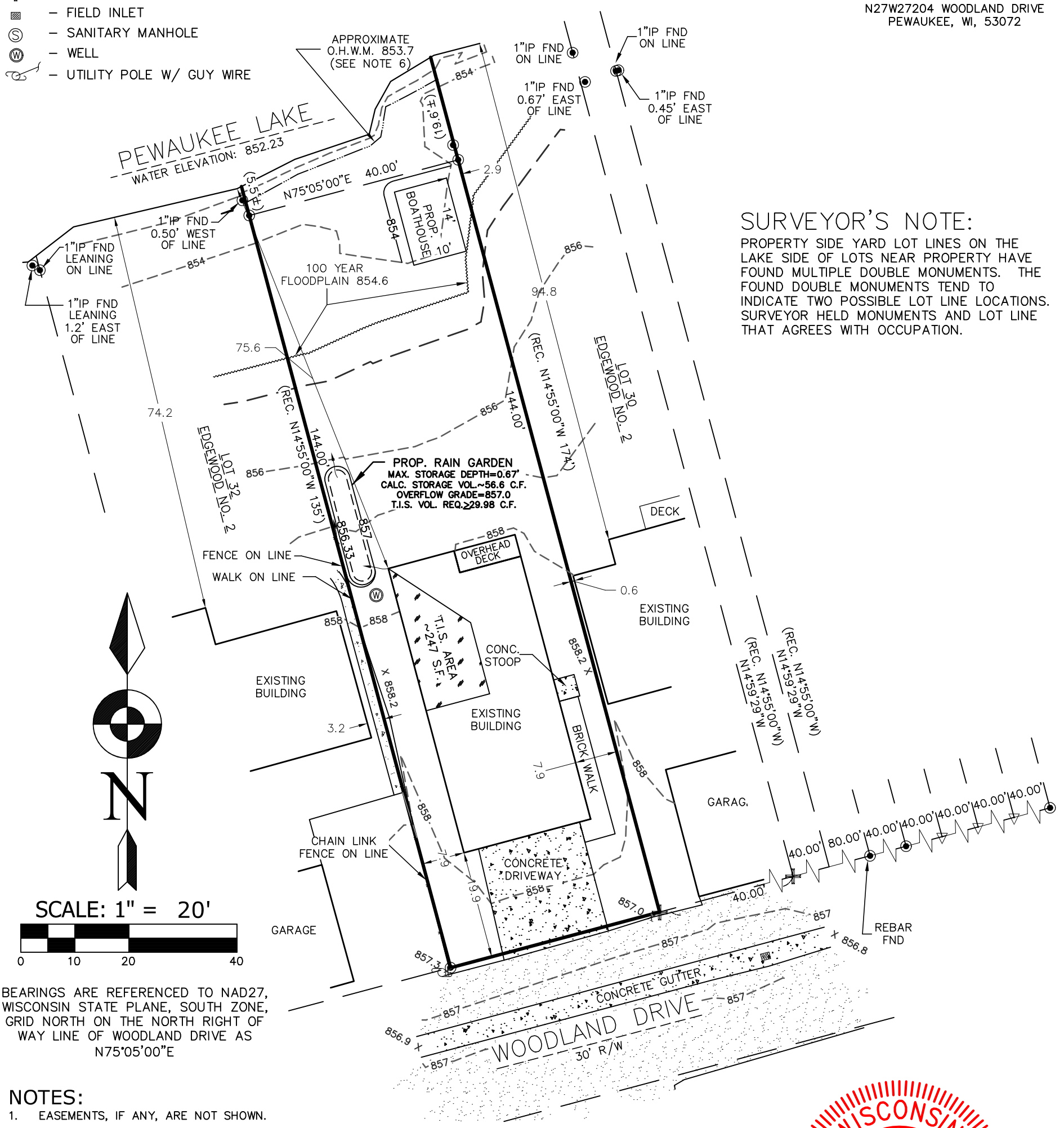
ENGINEER:
MARK AUGUSTINE, PE, PLS

FOR:
GOLD COAST HOST LLC

PROPERTY:
N27W27204 WOODLAND DRIVE
PEWAUKEE, WI, 53072

LEGEND

- ◉ – 1" IRON PIPE FOUND (UNLESS OTHERWISE STATED)
- ● – 1" DIA. IRON PIPE SET, 18" LONG
- ▽ – PK NAIL FOUND
- ╋ – CROSS FOUND
- ▨ – FIELD INLET
- Ⓢ – SANITARY MANHOLE
- Ⓦ – WELL
- – UTILITY POLE W/ GUY WIRE



BEARINGS ARE REFERENCED TO NAD27, WISCONSIN STATE PLANE, SOUTH ZONE, GRID NORTH ON THE NORTH RIGHT OF WAY LINE OF WOODLAND DRIVE AS N75°05'00"E

SURVEYOR'S NOTE:

PROPERTY SIDE YARD LOT LINES ON THE LAKE SIDE OF LOTS NEAR PROPERTY HAVE FOUND MULTIPLE DOUBLE MONUMENTS. THE FOUND DOUBLE MONUMENTS TEND TO INDICATE TWO POSSIBLE LOT LINE LOCATIONS. SURVEYOR HELD MONUMENTS AND LOT LINE THAT AGREES WITH OCCUPATION.

NOTES:

1. EASEMENTS, IF ANY, ARE NOT SHOWN.

2. THE SURVEYOR TAKES NO RESPONSIBILITY FOR ANY UNDERGROUND STRUCTURES OR BURIED MATERIALS SUCH AS FOUNDATIONS, WELLS, SEPTIC, HOLDING TANKS, UTILITIES, HAZARDOUS MATERIALS, OR ANY OTHER ITEMS OF WHICH NO EVIDENCE CAN BE FOUND ON THE SURFACE BY A VISUAL INSPECTION.

3. THE 100 YEAR FLOODPLAIN ELEVATION IS 854.4 (NAVD88) OR 854.6 (NGVD1929) PER FLOOD INSURANCE STUDY NUMBER 55133CV001C DATED NOVEMBER 5, 2014.

4. INITIAL FIELD WORK WAS COMPLETED ON DECEMBER 19TH, 2018 AND UPDATED DECEMBER 21, 2022.

5. VERTICAL DATUM: NGVD1929, BENCHMARK: E 1/4 CORNER OF SECTION 18.

6. COUNTY DOES NOT HAVE AN ESTABLISHED ORDINARY HIGH WATER MARK IN AREA. SURVEYOR DETERMINED APPPROIMATE O.H.W.M. BASED ON MEAN TOP OF BANK ELEVATIONS: 853.7 (NGVD1929)

SURVEYOR'S CERTIFICATE:

I HEREBY CERTIFY THAT I HAVE SURVEYED THE ABOVE DESCRIBED PROPERTY AND, IN MY PROFESSIONAL OPINION, THE ABOVE MAP IS A TRUE REPRESENTATION THEREOF AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF.

THIS SURVEY IS MADE FOR THE USE OF THE PRESENT OWNERS OF THE PROPERTY, AND ALSO THOSE WHO PURCHASE, MORTGAGE, OR GUARANTEE THE TITLE THERETO WITHIN ONE (1) YEAR FROM DATE HEREOF.

WISCONSIN
MARK D. AUGUSTINE
S-2780
WAUKESHA, WI.
LAND SURVEYOR

DATE 15 JAN 2023
I.S.A. CALCS 02FEB2023

PROJECT # 2993.10

Document Number

Stormwater Management Practice Maintenance Agreement

THIS INSTRUMENT IS REQUIRED AND RECORDED pursuant to the provisions of §17.0436 of the City of Pewaukee Municipal Code which states, in substance, that man-made material coverage of lots/parcels within close proximity to navigable waterways shall be restricted; and

WHEREAS SAID CODE SECTION PROVIDES, in substance, that impervious surfaces may be increased if the parcel owner reaches a written agreement with the City to mitigate such increased coverage by putting in place mitigation measures; and

WHEREAS SAID CODE SECTION STATES, "… Such mitigation measure requirements shall be recorded in the minutes of a City Plan Commission meeting and shall be recorded by the County Register of Deeds as a property deed restriction for/on the property … ;" and

WHEREAS the owner of the following described Subject Property intends to develop improvements described herein and intends to hereby encumber the Subject Property and improvements with certain restrictions and obligations with respect to the use and maintenance of such property and improvements;

NOW, THEREFORE, the owner of the Subject Property, by this instrument, establishes and imposes the restrictions and mitigation measures set forth herein as covenants running with the land and as binding on the owner and owner's successors and assigns and all subsequent owners and occupants of all or any part of the said Subject Property.

The address and legal description of the Subject Property is set forth in the attached **Exhibit A**.

Name and Return Address:

City of Pewaukee –
Planning & Community Development
W240N3065 Pewaukee Road
Pewaukee, WI 53072

Tax identification Number:

PWC 0933042

The attached **Exhibit B** sets forth (1) the total lot area calculation; (2) the existing impervious area calculation; (3) the new impervious area calculation;(4) the agreed upon increased percentage of impervious area allowed by the City of Pewaukee; and (5) the description of the agreed upon mitigation measures to be installed and maintained on the Subject Property.

The attached **Exhibit C** is a copy of the approved minutes of the meeting of the City of Pewaukee Plan Commission at which the required mitigation measures were determined and directed to be made and maintained.

Dated this ____ day of _____, 20___.

_____ _____
(Owner Signature) (Owner Signature)

_____ _____
(Print Owner Name Here) (Print Owner Name Here)

STATE OF WISCONSIN)
SS
COUNTY OF WAUKESHA)

Personally came before me this _____ day of _____ , 20____ , to me known to be the person(s) who executed the foregoing instrument and acknowledged the same.

_____
NOTARY PUBLIC

_____
Print Name of Notary Public

Notary Public, _____County, Wisconsin

My Commission Expires:

_____

This document was drafted by:

Mark D. Augustine
LandMark Engineering Sciences, Inc.
119 Coolidge Avenue – Suite 100
Waukesha, WI 53186-6602

Exhibit A – Legal Description

The legal description for the Property for which this Agreement applies is:

LOT 31 OF EDGEWOOD PLAT NO. 2 LOCATED IN THE SE. 1/4 OF THE NE. 1/4 OF SECTION 18, T.7N., R.19E., CITY OF PEWAUKEE, WAUKESHA COUNTY, WISCONSIN.

Property Address: N27W27204 Woodland Drive

EXHIBIT A - FIGURE 1

PLAT OF SURVEY - NEW BOATHOUSE

LANDMARK ENGINEERING SCIENCES, INC.
119 COOLIDGE AVE., SUITE 100
WAUKESHA, WI 53186
(414) 719-2769
LandMark-Engineering@live.com

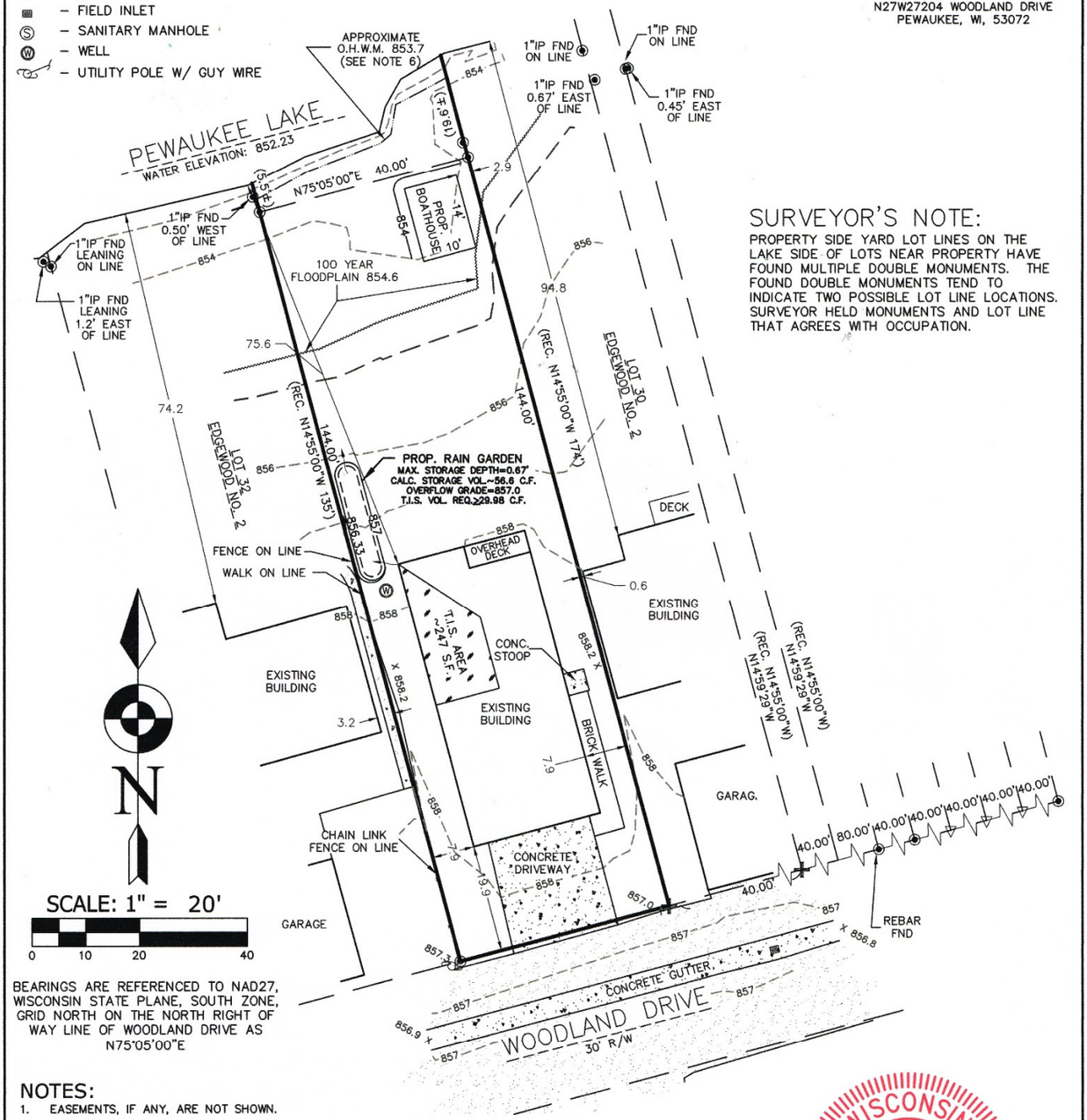
ENGINEER:
MARK AUGUSTINE, PE, PLS

FOR:
GOLD COAST HOST LLC

PROPERTY:
N27W27204 WOODLAND DRIVE
PEWAUKEE, WI, 53072

LEGAL DESCRIPTION:
LOT 31 OF EDGEWOOD PLAT NO. 2 LOCATED IN THE SE. 1/4 OF THE NE. 1/4 OF SECTION 18, T.7N., R.19E., CITY OF PEWAUKEE, WAUKESHA COUNTY, WISCONSIN.

LEGEND
- ◉ – 1" IRON PIPE FOUND (UNLESS OTHERWISE STATED)
- ● – 1" DIA. IRON PIPE SET, 18" LONG
- ▽ – PK NAIL FOUND
- ✚ – CROSS FOUND
- ▩ – FIELD INLET
- Ⓢ – SANITARY MANHOLE
- Ⓦ – WELL
- – UTILITY POLE W/ GUY WIRE



SCALE: 1" = 20'
0 10 20 40

BEARINGS ARE REFERENCED TO NAD27, WISCONSIN STATE PLANE, SOUTH ZONE, GRID NORTH ON THE NORTH RIGHT OF WAY LINE OF WOODLAND DRIVE AS N75°05'00"E

SURVEYOR'S NOTE:

PROPERTY SIDE YARD LOT LINES ON THE LAKE SIDE OF LOTS NEAR PROPERTY HAVE FOUND MULTIPLE DOUBLE MONUMENTS. THE FOUND DOUBLE MONUMENTS TEND TO INDICATE TWO POSSIBLE LOT LINE LOCATIONS. SURVEYOR HELD MONUMENTS AND LOT LINE THAT AGREES WITH OCCUPATION.

NOTES:

1. EASEMENTS, IF ANY, ARE NOT SHOWN.
2. THE SURVEYOR TAKES NO RESPONSIBILITY FOR ANY UNDERGROUND STRUCTURES OR BURIED MATERIALS SUCH AS FOUNDATIONS, WELLS, SEPTIC, HOLDING TANKS, UTILITIES, HAZARDOUS MATERIALS, OR ANY OTHER ITEMS OF WHICH NO EVIDENCE CAN BE FOUND ON THE SURFACE BY A VISUAL INSPECTION.
3. THE 100 YEAR FLOODPLAIN ELEVATION IS 854.4 (NAVD88) OR 854.6 (NGVD1929) PER FLOOD INSURANCE STUDY NUMBER 55133CV001C DATED NOVEMBER 5, 2014.
4. INITIAL FIELD WORK WAS COMPLETED ON DECEMBER 19TH, 2018 AND UPDATED DECEMBER 21, 2022.
5. VERTICAL DATUM: NGVD1929, BENCHMARK: E 1/4 CORNER OF SECTION 18.
6. COUNTY DOES NOT HAVE AN ESTABLISHED ORDINARY HIGH WATER MARK IN AREA. SURVEYOR DETERMINED APPPROIMATE O.H.W.M. BASED ON MEAN TOP OF BANK ELEVATIONS: 853.7 (NGVD1929)

SURVEYOR'S CERTIFICATE:

I HEREBY CERTIFY THAT I HAVE SURVEYED THE ABOVE DESCRIBED PROPERTY AND, IN MY PROFESSIONAL OPINION, THE ABOVE MAP IS A TRUE REPRESENTATION THEREOF AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF.

THIS SURVEY IS MADE FOR THE USE OF THE PRESENT OWNERS OF THE PROPERTY, AND ALSO THOSE WHO PURCHASE, MORTGAGE, OR GUARANTEE THE TITLE THERETO WITHIN ONE (1) YEAR FROM DATE HEREOF.

WISCONSIN
MARK D. AUGUSTINE
S-2780
WAUKESHA, WI.
LAND SURVEYOR

DATE 15 JAN 2023
I.S.A. CALCS 02FEB2023

PROJECT # 2993.10

Exhibit B – Stormwater Management System Plan

The stormwater mitigation practice covered by this Agreement are depicted in the construction plans, as shown in the following figures below. The practice includes rain garden treatment.

EXHIBIT B - FIGURE 1

STORMWATER MITIGATION

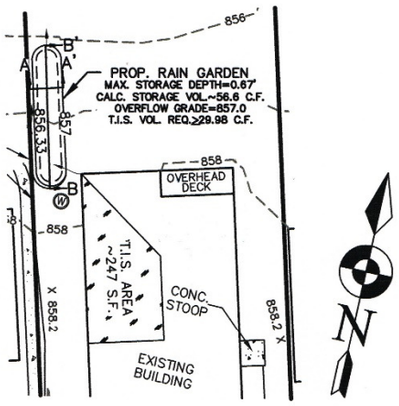
LOT 31 OF EDGEWOOD PLAT NO. 2 LOCATED IN THE SE. 1/4 OF THE NE. 1/4 OF SECTION 18, T.7N., R.19E., CITY OF PEWAUKEE, WAUKESHA COUNTY, WISCONSIN.

LANDMARK ENGINEERING SCIENCES, INC.
119 COOLIDGE AVE., SUITE 100
WAUKESHA, WI 53186
(414) 719-2769
LandMark-Engineering@live.com

ENGINEER:
MARK AUGUSTINE, PE, PLS

FOR:
GOLD COAST HOST LLC

PROPERTY:
N27W27204 WOODLAND DRIVE
PEWAUKEE, WI, 53072



IMPERVIOUS SURFACE AREAS:

(LOT SIZE TO WATER'S EDGE = 6,193 SF)
(LOT SIZE TO APPARENT OHWM = 6,071 SF)

	EXISTING	PROPOSED
DRIVE & WALKS	494 SF (8.14%)	494 SF (8.14%)
HOUSE + DECK	1320 SF (20.95%)	1320 SF (20.95%)
BOATHOUSE/SHED	49 SF (0.81%)	140 SF (2.31%)
BOATHOUSE PATIO	33 SF (0.54%)	0 SF (0.00%)
TOTAL:	1896 SF (31.23%)	1954 SF (32.19%)

CITY-REGULATED IMPERVIOUS SURFACE AREA (ISA) PERCENTAGES ARE CALCULATED AS A MAXIMUM 20% ISA FROM PERMANENT STRUCTURES (HOUSE, DECK AND BOATHOUSE) PLUS A MAXIMUM 10% ISA FROM OTHER SOURCES (DRIVEWAY, WALK AND PATIO) ONTO THE LOT AREA OUTSIDE THE APPARENT OHWM. THE TOTAL ALLOWABLE UNTREATED ISA IS 6,071 SF * 30% = 1,821 SF. TOTAL ISA CAN BE AS HIGH AS 35% (2,125 SF), PROVIDED RUNOFF FROM THE ISA GREATER THAN 30% IS TREATED.

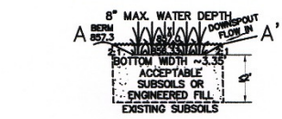
ISA AREA REQUIRED TO BE TREATED FOR CURRENT DESIGN IS ≥133 SF (≥2.19%). PROPOSED RAIN GARDEN IS DESIGNED TO TREAT ROOF RUNOFF FOR A 2-YR, 24-HR RAINFALL EVENT OF 2.69 INCHES (PER CITY OF PEWAUKEE).
THE REQUIRED MINIMUM TREATED RUNOFF VOLUME IS 133 SF*2.69"/12 = 29.8 C.F.
ACTUAL TREATED RUNOFF FROM ROOF AREA IS 247 S.F*2.69"/12 = 55.4 C.F.
DESIGN TREATMENT VOLUME OF PROPOSED RAIN GARDEN WITH 2:1 SLOPE IS 0.67'*84.89 SF = 56.6 C.F. ANY RUNOFF OVERFLOW FROM RAIN GARDEN SHEET FLOWS TOWARDS PEWAUKEE LAKE.

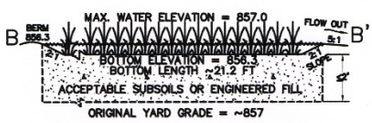
THUS, RUNOFF TREATED BY RAIN GARDEN EXCEEDS REQUIRED ISA RUNOFF VOLUME.

SCALE: 1" = 20'

0 10 20 40

CROSS SECTIONS

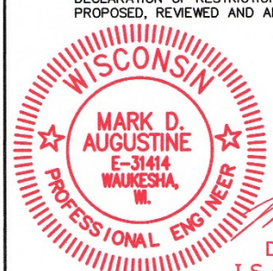




CONSTRUCTION INSPECTION SCHEDULE:

THE ENGINEER OF RECORD IS THE INDIVIDUAL THAT HAS STAMPED AND SIGNED THE APPROVED PLAN SET. AS SUCH, THEY AND/OR THEIR DESIGNATED REPRESENTATIVE (HENCEFORTH REFERRED TO JOINTLY AS "EOR") WILL COORDINATE WITH BUILDER TO CONDUCT SITE INSPECTIONS DURING CONSTRUCTION TO ENSURE RAIN GARDEN SYSTEM IS INSTALLED ACCORDING TO THE APPROPRIATE PERFORMANCE SPECIFICATIONS. SYSTEM MUST BE INSPECTED AND MAINTAINED IN SUCH A MANNER AS TO OPERATE AS DESIGNED FOR THE LIFE OF THE RESIDENTIAL STRUCTURE. AT A MINIMUM, SITE INSPECTIONS WILL BE PERFORMED DURING THESE CONSTRUCTION PHASES:

1. SOIL AMENDMENTS. EOR WILL CONDUCT VISUAL INSPECTION OF AMENDED NATIVE SOILS WITHIN 2' OF RAIN GARDEN BOTTOM GRADE TO ENSURE AMENDED SOILS HAVE ACCEPTABLE POROSITY CHARACTERISTICS AND ORGANIC MATTER.
2. ROOF GUTTER SYSTEM INSTALLATION. AS THE RAIN GARDEN DESIGN TREATS RUNOFF FROM A PORTION OF THE ROOF, EOR WILL INSPECT THE APPROPRIATE SECTION OF GUTTER & DOWNSPOUT INSTALLATION TO VERIFY CONSTRUCTION MEETS DESIGN SPECIFICATIONS.
3. GRADING. EOR WILL VISUALLY INSPECT SUBGRADE SOILS PRIOR TO ADDITION OF FINAL TOPSOIL LAYER TO VERIFY SUBSOILS WERE NOT DAMAGED OR DISTURBED TO THE POINT THEIR FUTURE FUNCTIONALITY MAY BE COMPROMISED. AFTER FINAL GRADES ARE ESTABLISHED WITH TOPSOIL LAYER ADDITION, EOR WILL INSPECT TO VERIFY GRADES AND SOILS MEET APPROVED RAIN GARDEN DESIGN FUNCTIONALITY.
4. PLANTINGS. EOR WILL VISUALLY INSPECT PLANTINGS TO VERIFY PLANTS ARE SUFFICIENTLY ESTABLISHED FOR SELF-PROPOGATION. EOR WILL THEN COMPLETE A CONSTRUCTION VERIFICATION DOCUMENT FOR SUBMITTAL TO AND REVIEW BY CITY OF PEWAUKEE STAFF. AFTER CONSTRUCTION VEIRIFICATION IS ACCEPTED BY CITY OF PEWAUKEE STAFF, AN ADDENDUM TO THE DECLARATION OF RESTRICTIONS SHALL BE RECORDED BY THE SITE OWNER AT THE WAUKESHA COUNTY REGISTER OF DEEDS OFFICE. THE ADDENDUM MAY INCLUDE ADDITIONAL EXHIBITS, SUCH AS THE EOR VERIFICATION FORM AND/OR SYSTEM AS-BUILT PLANS. CITY OF PEWAUKEE MAY REQUIRE FUTURE CHANGES TO THIS DECLARATION OF RESTRICTIONS IF PLAN MODIFICATIONS ARE PROPOSED, REVIEWED AND APPROVED BY SAID STAFF.



DATE 12 JAN 2023
I.S.A. CALCS 02FEB2023

PROJECT # 2993.10

APPROVED RAIN GARDEN NATIVE PLANTINGS LIST:

Common Name	Scientific Name	Soil Type			Light Preference		Bloom Time	Height (feet)
		Clay	Loam	Sand	Full Sun	Semi-Shady		
Blue Flag Iris	Iris versicolor	X			X	X	June-July	2-3
Bottlebrush Sedge	Carex comosa	X	X	X	X	X	May-June	2-4
Butterflyweed	Asclepias tuberosa			X	X		June-Aug	2-3
Calico Aster	Aster lateriflorus	X	X	X		X	Sept-Oct	2-3
Cream False Indigo	Baptisia bracteata			X	X		May-June	1-2
Crooked Stem Aster	Aster prenanthoides	X	X	X		X	Aug-Oct	1-3
Culver's Root	Veronicastrum virginicum	X	X		X	X	July-Aug	3-6
Fireweed	Epilobium angustifolium			X	X		July-Sept	2-6
Fox Sedge	Carex vulpinoidea	X	X	X	X	X	May-June	1-3
Foxglove beardtongue	Penstemon digitalis	X	X	X	X	X	June-July	2-3
Golden Alexander	Zizia aurea	X	X	X	X	X	May-July	1-3
Great Blue Lobelia	Lobelia siphilitica	X	X		X		July-Sept	1-4
Hoary Vervain	Verbena stricta			X	X		July-Sept	2-4
Ironweed	Vernonia fasciculata	X	X		X		July-Sept	4-6
Jack in the Pulpit	Arisaema triphyllum	X	X	X		X	April-May	1-2
Jacob's Ladder	Polemonium reptans		X			X	May-June	1-2
Joe Pye Weed	Eupatorium maculatum	X	X		X		Aug-Sept	4-6
Little Bluestem	Schizachyrium scoparium			X	X		Aug-Sept	2-3
Mountain Mint	Pycnanthemum virginianum	X	X		X		July-Sept	1-3
New England Aster	Aster novae-angliae	X	X		X		Aug-Oct	3-6
Nodding Onion	Allium cernuum	X	X	X	X	X	July-Aug	1-2
Northern Sea Oats	Chasmanthium latifolium		X			X	Aug-Oct	2-4
Obedient Plant	Physostegia virginiana	X			X		Aug-Sept	1-2
Ohio Goldenrod	Solidago ohioensis	X	X		X		Aug-Sept	2-3
Ohio Spiderwort	Tradescantia ohiensis			X	X		June-July	2-4
Pale Purple Coneflower	Echinacea pallida			X	X		June-July	3-5
Prairie Blazing Star	Liatris pycnostachya	X	X		X		July-Aug	3-5
Prairie Dropseed	Sporobolus heterolepis		X	X	X		Aug-Sept	2-4
Purple Coneflower	Echinacea purpurea		X		X		July-Sept	3-4
Rattlesnake Master	Eryngium yuccifolium		X		X		June-Aug	3-5
Red Baneberry*	Actaea rubra	X	X	X		X	June	1-2
Rough Blazing Star	Liatris aspera			X	X		Aug-Sept	2-5
Showy Goldenrod	Solidago speciosa			X	X		Aug-Sept	1-3
Smooth Blue Aster	Aster laevis			X	X		Aug-Oct	2-4
Smooth Phlox	Phlox glaberrima	X	X	X		X	June-July	2-4
Solomon's Seal	Polygonatum biflorum	X	X	X		X	May-June	1-3
Swamp Milkweed	Asclepias incarnata	X	X		X		June-July	3-5
Sweet Black Eyed Susan	Rudbeckia subtomentosa	X	X		X	X	Aug-Oct	4-6
Sweet Joe Pye Weed	Eupatorium purpureum	X	X	X		X	Aug-Sept	4-6
Virginia Bluebells	Mertensia virginica	X	X	X		X	April-May	1-2
Virginia Wild Rye	Elymus virginicus	X	X	X		X	July-Aug	4-5
White False Indigo	Baptisia alba	X	X		X		June-July	3-5
Wild Bergamot	Monarda fistulosa	X	X	X	X		July-Sept	2-5
Wild Geranium	Geranium maculatum		X	X		X	May-June	1-2
Wild Petunia	Ruellia humilis			X	X		June-Aug	1-2
Wild Quinine	Parthenium integrifolium	X	X		X		June-Sept	3-5
Wild Senna	Cassia hebecarpa	X	X		X		July-Aug	4-6
Yellow Coneflower	Ratibida pinnata	X	X	X	X		July-Sept	3-6
Zig Zag Goldenrod	Solidago flexicaulis	X	X	X		X	Aug-Sept	2-4

For a full-sized version of this figure, please see non-recorded document at City of Pewaukee

Figure 2

EXHIBIT B - FIGURE 2
MITIGATION MAINTENANCE PLAN

LANDMARK ENGINEERING SCIENCES, INC.
119 COOLIDGE AVE., SUITE 100
WAUKESHA, WI 53186
(414) 719-2769
LandMark-Engineering@live.com

ENGINEER:
MARK AUGUSTINE, PE, PLS

FOR:
GOLD COAST HOST LLC

PROPERTY:
N27W27204 WOODLAND DRIVE
PEWAUKEE, WI, 53072

Narrative. This exhibit explains the basic function of the storm water practice listed in Exhibit B and prescribes the minimum maintenance requirements to remain compliant with this Agreement. The maintenance activities listed below are aimed to ensure these practices continue serving their intended functions in perpetuity. The list of activities indicates the minimum type of maintenance that can be expected for this particular site. Any failure of a storm water practice that is caused by a lack of maintenance will subject the Owner(s) to enforcement of the provisions listed on page 1 of this Agreement by the City of Pewaukee.

Treated Impervious Surface System. The Owner, or their agents, or the subsequent owner of the property shall fully comply with the treated impervious surface (the "TIS") System Plan with a Long-Term Maintenance Schedule, Exhibit A, Exhibit B, and Exhibit C, prepared by Landmark Engineering Services, Inc. (henceforth referred to as the "Plans"). The owner shall comply with the details, specifications, and notes on the Plans. Full-size copies of the Plans are also located in the office of the City of Pewaukee Planning and Zoning Department. If modifications to the Plans are required, review and approval of such modifications are required by the staff at the City of Pewaukee.

Minimum Maintenance Requirements. To ensure the proper function of the rain garden, the following list of maintenance activities are recommended:

1. A minimum of 70% soil cover made up of native grasses, sedges, or forbs must be maintained on the rain garden bottom to ensure infiltration rates. Periodic burning or mowing is recommended to enhance establishment of the prairie plants (which may take 2-3 years) and maintain the minimum native cover. To reduce competition from cool season grasses (bluegrass, fescues, quack, etc.) and other weeds:
    a. For the first year, cut to a 6" height three times – once each in June, July and early August. To prevent damage to the native plants, do not mowed below a 6" height. Remove excessive accumulation of clippings to avoid smothering next year's seedlings.
    b. After the first year, mowing may only be needed in early June each year to help control the spread of cool season plants. The mowing should also be raised to 10-12" to avoid damage to the warm season plants.
    c. Burning may also be used to manage weeds in 2-5 years intervals. Late spring burns (late April – early May) provide maximum stimulus to warm season plants and work well to control cool season grasses. Burn when the cool season grasses are growing and the warm season plants are just barely starting to grow to get maximum control of cool season species.
    d. Any major bare areas or areas taken over by nonnative species must be replanted. To clear area of weeds and cool season grasses, treat with an herbicide that contains glysophosphate in accordance with manufacture's instructions. Plant with plugs of loamy soil, full sun exposure preference native species (see list on Exhibit B). Cover with a light layer of mulch and newspaper.
2. Invasive plant and animal species shall be managed in compliance with Wisconsin Administrative Code Chapter NR 40. This may require eradication of invasive species in some cases.
3. The rain garden and all components (grass swales, infalls, outfalls, etc.) should be inspected after each heavy rain, but at a minimum of once per year. If the rain garden is not draining properly (within 72 hours), further inspection may be required by persons with expertise in storm water management and/or soils.
    a. If soil testing shows that the soil surface has become crusted, sealed or compacted, some deep tillage should be performed, loosening the soil and improving infiltration rates. Tilling may be performed manually or with a mini-excavator. Minimize disturbance of established vegetation.
    b. If sedimentation is determined to be causing the failure, the accumulated sediment must be removed and the area replanted in accordance with the notes above.
    c. If inspection of the rain garden shows that groundwater is regularly near the surface, additional design features may need to be considered, such as subsurface drainage or conversion to a wetland treatment system.
4. Any eroding areas must be repaired immediately to prevent premature sediment build-up in the rain garden. Erosion matting is recommended for repairing grassed areas.
5. Heavy equipment and vehicles must be kept off of the bottom and side slopes of rain gardens to prevent soil compaction. Soil compaction will reduce infiltration rates and may cause failure of the garden, resulting in ponding and possible growth of wetland plants.
6. No trees are to be planted or allowed to grow on the earthen berms or the bottom of the rain garden. On the berms, tree root systems can reduce soil compaction and cause berm failure. On the rain garden bottom, trees may shade out the native grasses. The rain garden must be inspected annually and any woody vegetation removed.
7. Grass swales leading to the rain garden shall be preserved to allow free flowing of surface runoff in accordance with approved grading plans. No buildings or other structures are allowed in these areas. No grading or filling is allowed that may interrupt flows in any way.
8. No grading or filling of the rain garden or berms other than for sediment removal is allowed.
9. Periodic mowing the grass swales will encourage rigorous grass cover and allow better erosion inspections.
10. Any other repair or maintenance needed to ensure the continued function of the rain garden as ordered by the City of Pewaukee under the provisions listed on page 1 of this Agreement.

Addendums to Restrictions. The Engineer of Record (EOR) for the TIS system design must conduct system inspections during construction, then prepare a verification of the system's construction. After construction verification has been accepted by City of Pewaukee staff for the TIS system, an addendum to this Declaration of Restrictions shall be recorded by the Owner. The addendum may include several additional exhibits, including the construction verification letter and/or as-built plans of the TIS system. Cityof Pewaukee may require future changes to this Declaration of Restrictions if modifications to the Plans are proposed, reviewed and approved by City of Pewaukee staff.

WISCONSIN
MARK D. AUGUSTINE
E-31414
WAUKESHA, WI.
PROFESSIONAL ENGINEER
02 FEB 2023

PROJECT # 2993.10

For a full-sized version of this figure, please see non-recorded document at City of Pewaukee

CITY OF PEWAUKEE
PLAN COMMISSION AGENDA ITEM 5.

DATE: March 16, 2023

DEPARTMENT: Planning

PROVIDED BY:

SUBJECT:

Discussion and Action Regarding a Recommendation to the Common Council for a Conditional Use Permit and Site and Building Plans for Quattro Development/Higher Ground Education for Property Located on Highfield Court for the Purpose of Constructing a Childcare Facility (PWC 0906994)

BACKGROUND:

FINANCIAL IMPACT:

RECOMMENDED MOTION:

ATTACHMENTS:

Description

Quattro Development staff report 2.16.23
Higher Ground project narrative
Higher Ground response comments
Higher Ground civil & architectural plans
Higher Ground ROW release request
Higher Ground CSM
Quattro Development draft Conditional Use Permit 4.3.23
Quattro Development draft Resolution

Office of the Planner & Community Development Director
W240 N3065 Pewaukee Road
Pewaukee, Wisconsin 53072
Phone (262) 691-0770 Fax (262) 691-1798
fuchs@pewaukee.wi.us

REPORT TO THE PLAN COMMISSION

Meeting of February 16, 2023

Date: February 9, 2023

Project Name: Guidepost Montessori Conditional Use and Site & Building Plan Review

Project Address/Tax Key No.: Highfield Court/PWC 0906994

Applicant: Quattro Development, LLC

Property Owner: KB Pewaukee, LLC

Current Zoning: B-6 Mixed Use Business

2050 Land Use Map Designation: Office/Commercial

Use of Surrounding Properties: Capitol Dr to the south, Highfield Ct to the north, a daycare to the east and bank to the west.

Project Description/Analysis:

The applicant, Quattro Development LLC, submitted a Conditional Use Application and Site & Building Plans for a proposed childcare facility on a mostly vacant lot located along Highfield Court and Capitol Drive between HWY 164 and Highfield Road. The subject property is zoned B-6 Mixed Use Business District and designated as Office/Commercial on the City's Year 2050 Land Use/Transportation Plan map.

Conditional Use

The proposed use is more specifically a Montessori educational facility. The applicant anticipates 15 full-time employees, with a maximum child occupancy of 152 children. The hours of operation are from 7am to 6pm Monday through Friday.

The B-6 District refers to the B-4 and B-5 districts regarding allowed uses. Educational and childcare facilities is not specifically listed as an allowed use; however, the B-4 and B-5 districts allow uses similar to those that are listed as Permitted Uses within each district. Those uses not listed are required to apply for Conditional Use Permits.

The B-4 District generally allows offices, banks, and studios for fine arts. The B-5 District generally allows auto sales and services, hotels and motels, and restaurants.

Staff finds that the proposed use is most similar to B-4 type uses and would not have any adverse impacts to the surrounding area. The B-4 District is intended to consist of less intensive uses in order to be compatible with neighborhood residential uses, such as the residential subdivision to the north and condominiums to the east. Staff contends that the proposed use meets this intent and fits in with adjacent uses.

Furthermore, the abutting use to the east is also a childcare facility. This property is zoned B-1, which similarly does not specifically allow childcare facilities but allows similar uses as those permitted in

the B-1 District via Conditional Use Permit. The B-1 District generally allows retail and office type uses.

Site Plan
The subject property is about 2-acres and the total site disturbance of the project will be a total of 1.67 acres. The project results in about 50% greenspace, which is in conformance with City standards.

The proposed development consists of a new 11,836 square foot, single-story building. Two large playground areas are proposed at the north and south ends of the childcare facility. A smaller play area is also proposed on the east side of the building.

A dumpster enclosure is located beside the driveway, slightly northwest of the northernmost playground area. A 6-foot wrought iron fence runs from the north side of the building down to the south side of the building and 4-foot white vinyl fencing is used to separate play areas.

Overall, the proposed development complies with B-6 District development standards.

Staff recommends that the playground areas, fencing, and any other accessory structure and use be located behind the building on the north side of the property. The applicant has indicated that due to the building configuration and operation of the Montessori program, the playground locations as proposed are integral to their use.

Access
This site abuts both Capitol Drive and Highfield Court, but is only accessible from Highfield Court.

Additionally, there is an existing and unimproved 45' right-of-way reservation depicted along the south side of the property, adjacent to Capitol Drive, shown on Certified Survey Map No. 10366. The applicant is requesting that this reservation be released by the City.

Staff has reviewed this request and does not have any objections. It is anticipated that a resolution releasing this reservation will be brought forward to the Common Council for their review and approval.

Landscaping
The applicant is proposing to install 19 Deciduous Trees, 5 Evergreen Trees, 31 Deciduous Shrubs, and 29 Evergreen Shrubs. There are at least three different species of Deciduous Trees, Deciduous Shrubs, and Evergreen Shrubs provided and two different species of Evergreen Trees.

The landscape plan focuses many plantings on screening the fencing and playground area along Capitol Drive. Plantings are also provided directly around the dumpster enclosure.

Parking
The site plan includes 25 new parking spaces, of which three are ADA required spaces.

Additionally, there is existing parking located on the northwest side of the site, which is shared with the bank and office building to the west. There is an existing cross parking easement with the property to the west.

Parking spaces are 10’ x 18’ (180 square feet), which is in compliance with Zoning Code standards.

Architecture
The proposed building exterior consists of Hardie shank siding, thin concrete brick veneer, thin stone veneer, and asphalt shingles. The dumpsters will be enclosed in a decorative masonry enclosure matching the building’s exterior materials.

The mechanicals are located in a recessed rooftop penthouse, which screens them from public view.

Signage
A wall sign and monument sign are anticipated and shown for reference only in the plans. All signage must comply with standards set forth in Section 17.0700 of the City’s Zoning Code and will require separate review and approval by the City Planner as well as a Sign Permit from the Building Services Department, prior to installation.

Utilities
Public sewer and water are available and will serve the development.

Final grading, erosion control and storm water management plans shall be approved by the Engineering Department, prior to any land disturbing activities.

Lighting
The Lighting Plan consists of three parking lot lights. Light levels are at 0.0 footcandles at the property lines. The peak height of lights is 18-feet, which complies with the 20-foot maximum height requirement of the Zoning Code. The Wattage is under 150 and not visible from adjacent streets or residential properties.

Bell Tower
The subject property was previously part of the property to the west. In 2005, the City approved Conditional Use Permit No. COP-05-10-3, which included this property, and contained the conditions listed below related to the construction of a bell tower. The bell tower was being proposed by the property owner at that time along with the Bell Tower Memorial non-profit organization.

1. The bank would build a bell tower according to the plans that were developed and brought to the Plan Commission at their November 2005 meeting.
2. The bell tower would be constructed prior to occupancy of the second office building proposed for the site.
3. The second office building proposed for the site would be constructed within three (3) years or by October of 2008.
4. If the bell tower is not built by October 2008, the City will build the tower according to the plans submitted on November 17, 2005, and assess the Foundation Bank for the cost of the tower, plus any administrative costs.

The applicant is requesting that these conditions be removed and that there be no requirement to construct a bell tower. It is staff’s understanding that the Bell Tower Memorial organization is continuing to fundraise to construct the bell tower within the Pewaukee Kiwanis Village Park, opposed

to this location. The bell that was to be utilized for the tower at this site was also sold or given to another organization.

The Conditional Use Permit has been drafted to include language stating that "*The applicant shall not be responsible for the construction of a bell tower as conditioned within Conditional Use Permit No. COP-05-10-3.*"

Recommendation:

A motion to recommend approval of the Conditional Use Permit for Quattro Development LLC to locate a childcare facility upon property bearing Tax Key No. PWC 0906994.

and

A motion to approve the Site & Building Plans for the construction of a childcare facility upon property bearing Tax Key No. PWC 0906994, subject to the conditions contained within this report.

February 3, 2023

Project Narrative

Project: Higher Ground Education
East of N35W23877 Highfield Ct
Pewaukee, WI 53072
Excel Project No: 2245520

Quattro Development, LLC (partnered with Higher Ground Education) is requesting conditional use permit review and approval for a new childcare facility development located on parcel PWC 0906994, just east of N35W23877 Highfield Ct in the City of Pewaukee. The property is zoned B-6 Mixed Use Business and the proposed use requires a conditional use in this district. The existing site is vacant and undeveloped. Higher Ground Education provides Montessori-powered educational offerings.

The proposed project consists of a new 11,705 SF single story childcare facility. The existing site is 2 acres and the total site disturbance for the project will total 1.67 acres. The site can be accessed via the existing shared drive from Highfield Ct. An existing access easement is in place along with a cross parking easement. The proposed new parking will consist of 38 new stalls. Traffic access will be consistent with the existing facility to the west of the proposed development as the existing shared access drive will be utilized. Some new parking stalls will access directly off the existing driveway with the remaining being placed in a parking lot extension to the south. Truck unloading and deliveries will be at a minimum and when needed, the site drive west of the building will be utilized. The playground areas are strategically located in conjunction with the floor plan and provide ample dedicated area for outdoor play/activities.

Stormwater management for this property was accounted for by the adjacent/neighboring parent development to the west of the subject property. A stormwater wet pond is located west of the existing bank/office complex. Proposed stormwater from the development will surface drain consistent with the original stormwater plan to the neighboring stormwater facility. Final engineering documents will be provided to as-built and model the existing stormwater facility and show conformance with current stormwater management ordinances. Sanitary and water utilities will connect to existing public infrastructure as shown on the proposed Utility Plan.

Exterior materials as represented in the attached colored elevations and rendering will consist of the following: Hardie board lap/vertical siding, Hardie shake siding, thin stone veneer, and asphalt shingles. Refuse and recycling dumpsters will be enclosed in a decorative masonry enclosure to match the building's exterior materials. The enclosure will be located in the north parking field, aligning with perpendicular drive isle for access.

Landscaping will be provided in accordance with the City ordinance, in a fashion which ensures species resiliency and complimentary aesthetics. Site lighting will meet the City ordinance in a fashion that provides appropriate foot candles for safety, cut-off fixtures for zero up-lighting, and a decorative style that compliments the development and building architecture.

The proposed daycare/childcare center will have 15 full-time employees, and 0 part-time employees. The largest shift will be all 15 full-time employees. Maximum child occupancy will be 152. The daycare will be in operation from 7:00 a.m. to 6:00 p.m. during weekdays. No hazardous products or chemicals are located on the property nor is there outside storage. The estimated project value is $3,000,000 and an approximate start date is Spring of 2023.

In conjunction with the proposed development project, it is requested to remove the bell tower requirement that is tied to the title of the subject property. The bell tower is not proposed for this project and will not be provided.

100 Camelot Drive • Fond du Lac, WI 54935
920.926.9800 • www.excelengineer.com

February 3, 2023

City of Pewaukee
Attn: Nick Fuchs
W240N3065 Pewaukee Road
Pewaukee, WI 53072

Re: Quattro Development - Guidepost Montessori Conditional Use and Site & Building Plan Review

Dear Mr. Fuchs,

This letter is in response to the staff comments dated January 20, 2023.

General Comments

1. There appears to be many inconsistencies on page C1.1 between the labels and arrows on the site plan and the Site Plan Keynotes. Below are several examples. Please double check these items and revise accordingly.
   a. 25 is listed as a flagpole yet no flagpole label on the plan.
      Excel Response: Number 25 has been removed from the Site Plan Keynotes as there is no proposed flagpole.

   b. 7 is listed as dumpster pad/apron concrete yet no dumpster pan/apron concrete label is on the plan.
      Excel Response: The mentioned label has been adjusted on the site plan.

   c. 29, 30, & 31 are included within the middle of the building with their arrows not directed at any element on the plan.
      Excel Response: The mentioned labels have been adjusted on the site plan.

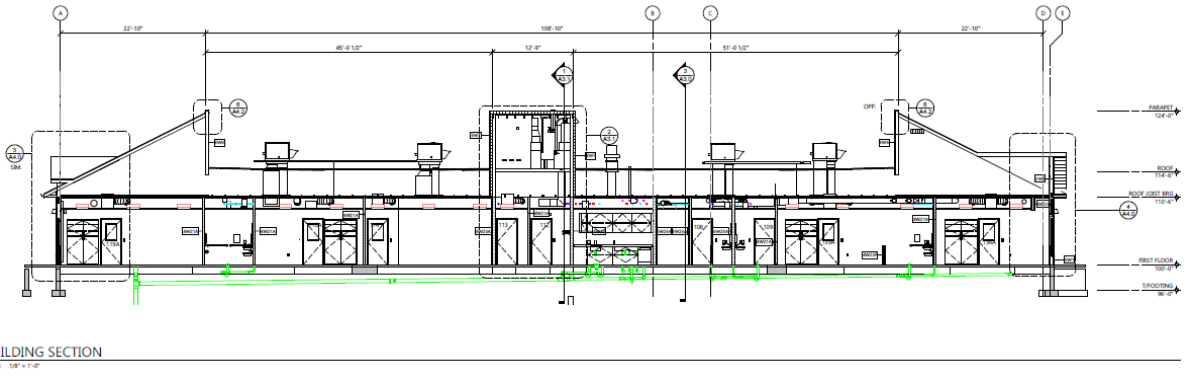
   d. 28 is listed as traffic arrows yet they are labeled around the playgrounds. Why are there traffic arrows around the playgrounds?
      Excel Response: The traffic arrows designate the direction of travel around the playgrounds for a tricycle loop.

2. What is directly abutting the north playground to the east?
   Excel Response: This area is designated as an outdoor seating area.

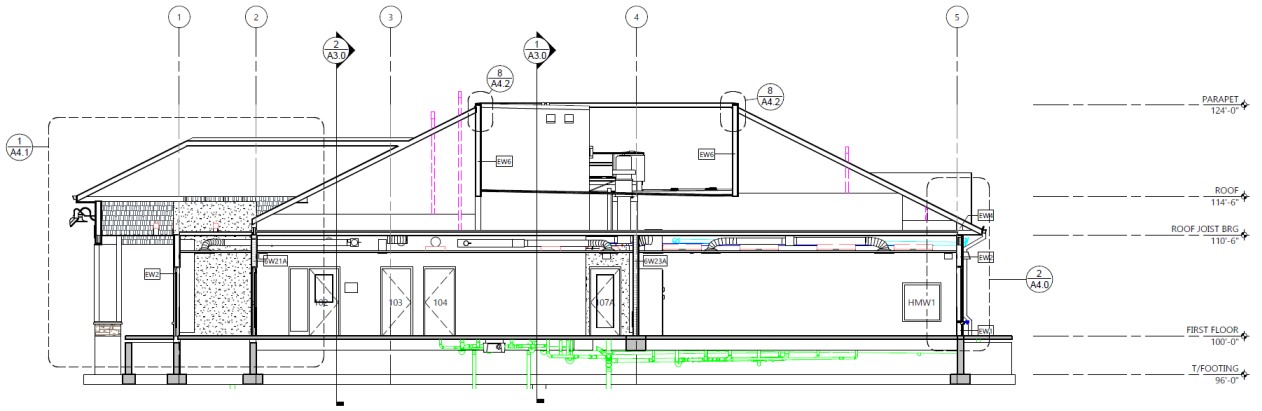
3. Was the poured rubber playground surface included in the impervious surface calculations?
   Excel Response: The poured rubber playground surface was included in the impervious surface calculations.

4. Where are mechanicals located? How are these screened?
   Excel Response: The mechanicals are located in a rooftop penthouse recessed out of view.

100 Camelot Drive • Fond du Lac, WI 54935
920.926.9800 • www.excelengineer.com



BUILDING SECTION



3 A3.0 BUILDING SECTION
SCALE: 1/8" = 1'-0"

Site Plan Comments

1. Please illustrate the 30-foot parking and loading setback along the south side of the property adjacent to Capitol Drive and remove any portion of the parking lot encroaching into that setback.
   Excel Response: The appropriate adjustments have been made on the site plan.

2. Staff recommends exploring ways to reconfigure the building and site layout to address the comments and recommendations below.
   a. It is recommended that the playground areas, fencing, and majority of parking be located behind the building.
      Excel Response: The site and building have been situated to maintain the intent of stormwater management that was set up at the time of the bank development. Modifications after discussions with staff are implemented in the revised site plans. The building layout cannot change and is specific to the Montessori learning with associated break-out playground areas around the building perimeter.

   b. It is recommended to revise the parking layout to avoid cars having to back out into the main drive aisle. Parking could potentially be configured to follow the layout of the adjacent parking to the west, which extends onto this property.
      Excel Response: Several parking stalls on the north side of the proposed parking lot have been removed to accommodate this. The site plan modifications were discussed with staff, the shared parking will be used for employee parking.

c. Relocate the dumpster enclosure where it can be better screened by landscaping.
Excel Response: The dumpster enclosure has been moved further to the east of its previous position to include landscaping around it.

d. It is recommended to not have the metal doors and service equipment facing Capitol Drive.
Excel Response: Doors have been removed from the south side of the building facing Capitol Drive.

e. Will there be a lot of drop off and pick up occurring onsite? If so, the site plan should be revised to accommodate that better.
Excel Response: Drop off and pick will be in the stalls immediately west of the building. Give the age group of the facility, parents will park and escort children into the building. A "drop off" scenario typical to schools is not applicable for this facility.

Architecture Comments

1. Consider incorporating additional masonry on the elevation facing Capitol Drive as well as additional elements to provide more variation in the footprint and roofline of the building. Materials and quality should match that of the adjacent buildings.
Excel Response: The Capitol Drive elevations have been updated to address this comment.

Parking Comments

1. On page C1.1 it states that three ADA spaces are required yet two ADA spaces are provided. Please revise and provide the appropriate number of ADA accessible parking spaces.
Excel Response: Three ADA spaces have been provided on the site plan.

Landscaping Comments

1. Staff suggests adding additional plantings adjacent to the playground areas. These may be more sporadic as the intent is not to necessarily require these areas to be fully screened.
Excel Response: Additional plantings have been included on the south and north side of the site plan.

2. As previously discussed, there is a requirement that a bell tower be constructed on this property. As part of the Conditional Use, please revise the project narrative to include a specific request to remove this requirement, assuming the bell tower is not being proposed as part of this development.
Excel Response: The CUP project narrative has been updated to remove the bell tower requirement.

Signage Comments

1. Please be aware that signage will require separate review and approval by the City Planner as well as a Sign Permit from the Building Services Department prior to installation.
Excel Response: The appropriate accommodations will be made.

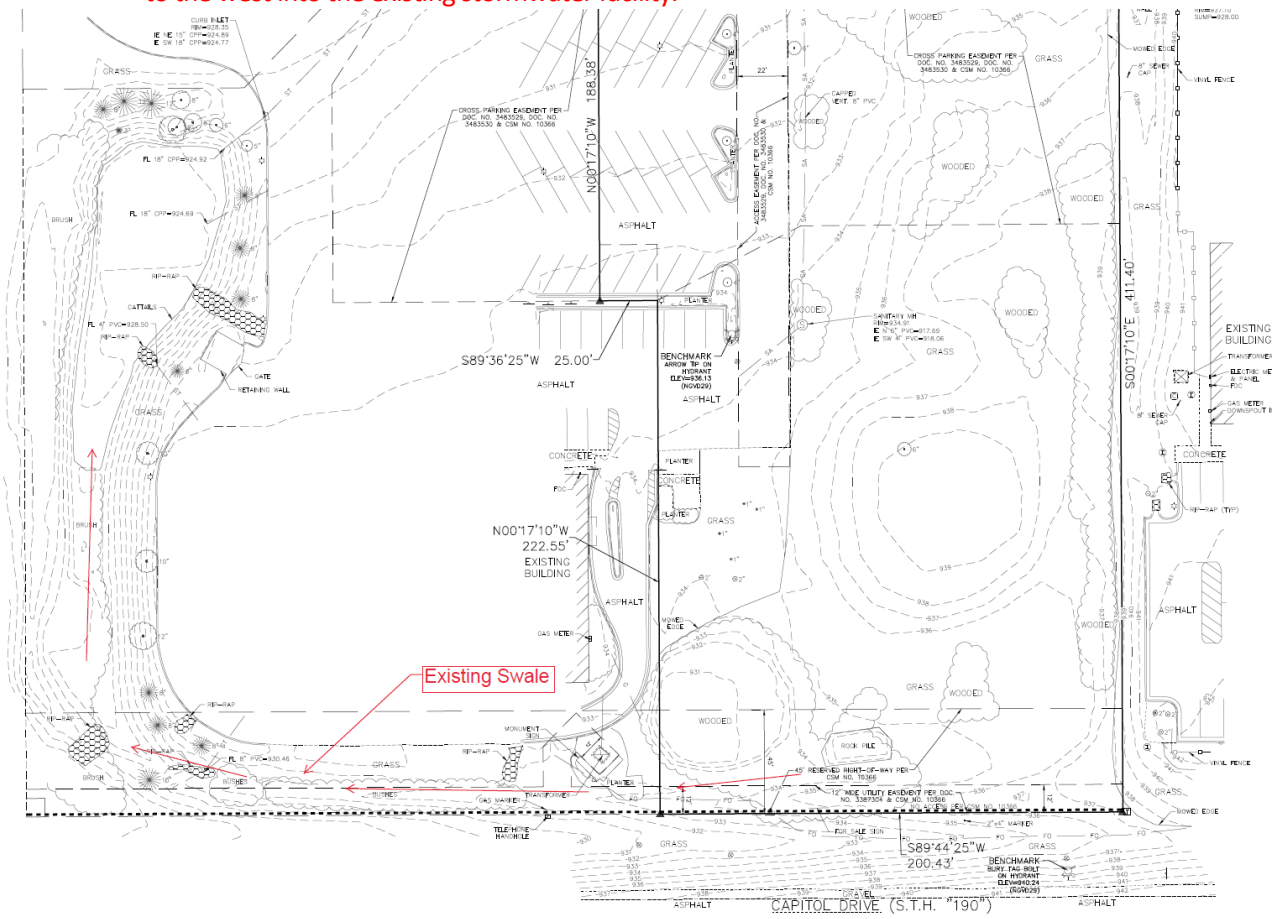
2. Also note that per section 17.0706(c) a ground sign located within 660 feet of a residential zoning district boundary shall not be illuminated during the seven-hour period beginning at

100 Camelot Drive • Fond du Lac, WI 54935
920.926.9800 • www.excelengineer.com

eleven (11) PM and ending at six (6) AM.
Excel Response: The appropriate accommodations will be made.

Engineering Department Comments

1. The project narrative outlines that the existing basin on the adjacent property will be used to address stormwater requirements. Below are comments relating to this strategy.
   a. A large portion of the proposed site appears to drain to the southwest corner of the site into an existing drainage swale. This drainage swale does not lead to the existing stormwater pond based on existing contours.
   Excel Response: There is an on-site drainage swale north of the R/W line that does direct runoff to the west into the existing stormwater facility.



   b. This stormwater facility is off-site. Documentation of agreements with adjacent landowner stating that this development can utilize the existing stormwater facility must be provided to the City. Note that it must also be shown that the existing facility can handle the additional flow.
   Excel Response: Understood.

   c. The north portion of the site is planned to sheet flow towards the neighbor's parking lot. Agreements must be provided stating that the neighbor is aware of this design, approves of it, and won't change their site in a way that would restrict the sheet flow. Calculations

shall be provided that show the existing conveyance systems (mostly storm sewer) are adequate for the additional flow.
Excel Response: Understood.

2. There is currently no stormwater maintenance agreement for the existing stormwater facilities. A stormwater maintenance agreement must be provided and signed by both the developer and the owner of the existing stormwater facilities.
Excel Response: Understood.

3. The proposed plan shows the development connecting to the existing sanitary lateral for the adjacent property which connects to a holding tank. Please note the requirements below:
   a. An easement will need to be created to accommodate the existing sanitary lateral.
   Excel Response: An easement will be provided.

   b. This service is currently connected to a holding bank. It will need to be connected to the sanitary sewer system during construction.
   Excel Response: Understood, a connection to the public sanitary system will be provided.

   c. Each lot will need to have a separate sampling manhole.
   Excel Response: Understood, sampling manholes will be provided.

The submittal documents have been revised per the comments above. Please accept for review and approval. Please let me know if you have any comments, questions, or need additional information.

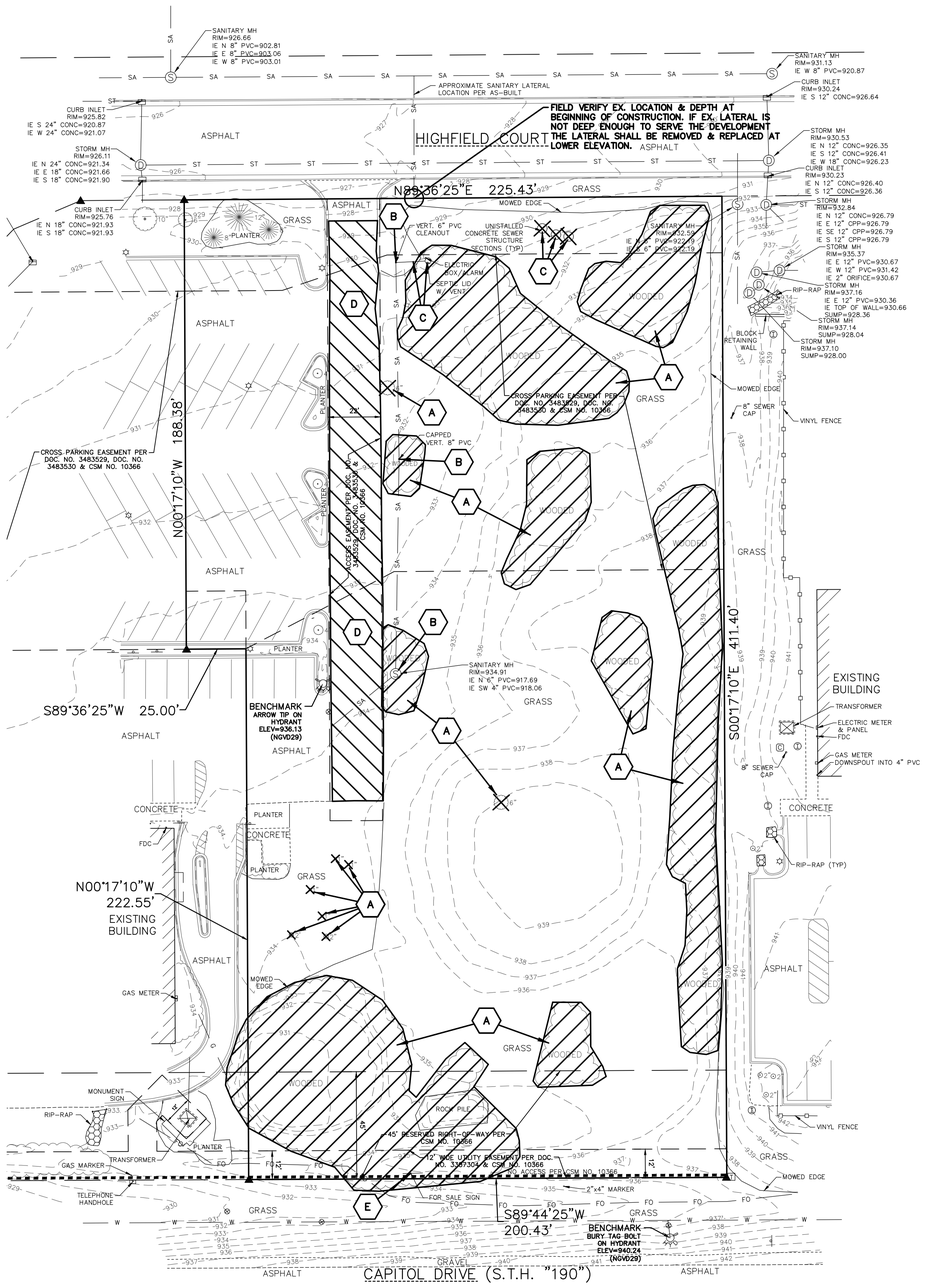
Sincerely,

Excel Engineering, Inc.



Grant Duchac, P.E.
Project Manager

100 Camelot Drive • Fond du Lac, WI 54935
920.926.9800 • www.excelengineer.com



SPECIFICATION NOTE:
SEE SHEET C0.1 FOR PLAN SPECIFICATIONS AND REQUIREMENTS

DEMOLITION PLAN KEYNOTES

A	CLEAR & GRUB TREES/BRUSH
B	PROTECT SANITARY ITEMS
C	REMOVE SANITARY ITEMS. VERIFY INACTIVE PRIOR TO REMOVAL.
D	REMOVE ASPHALT
E	REMOVE SIGN

X(X) IDENTIFICATION: KEYNOTE ITEM(QUANTITY) – IF NO () = QUANTITY IS 1

NORTH

1"= 30' SCALE 30' 0 30' 60' FEET

CIVIL EXISTING SITE AND DEMOLITION PLAN

EXCEL
Always a Better Plan
100 Camelot Drive
Fond du Lac, WI 54935
920-926-9800
excelengineer.com

COLLABORATION

Quattro Development

PROJECT INFORMATION

PROPOSED EARLY CHILDHOOD SCHOOL FOR:
QUATTRO DEVELOPMENT
23877 HIGHFIELD COURT • PEWAUKEE, WI 53072

PROFESSIONAL SEAL

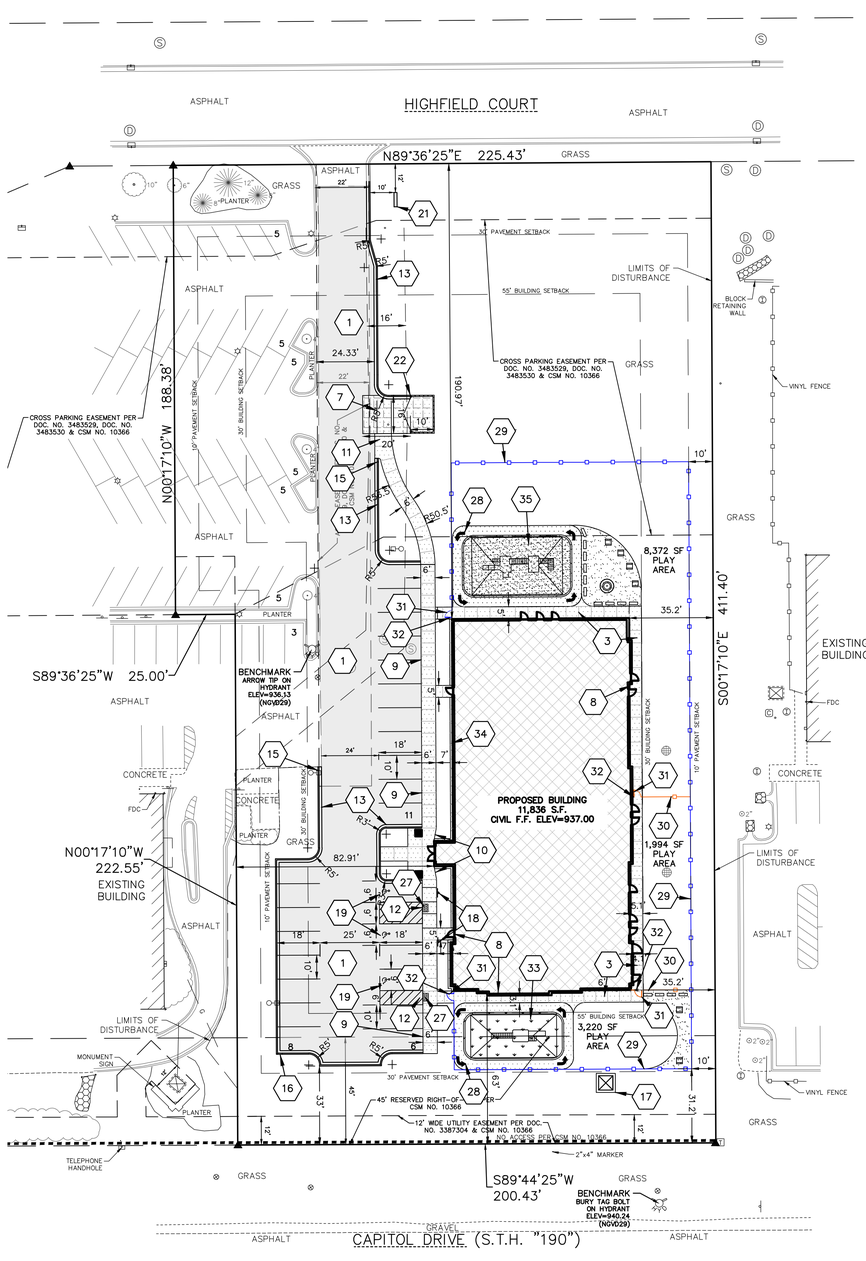
PRELIMINARY DATES
DEC. 12, 2022
JAN. 4, 2023
FEB. 3, 2023

NOT FOR CONSTRUCTION

JOB NUMBER
2245520

SHEET NUMBER
C1.0

2021 © EXCEL ENGINEERING, INC.



EXISTING SITE DATA

	AREA (AC)	AREA (SF)	RATIO
PROJECT SITE	2.00	87,120	
BUILDING FLOOR AREA	0.00	0	0.0%
PAVEMENT (ASP. & CONC.)	0.00	0	0.0%
TOTAL IMPERVIOUS	0.00	0	0.0%
LANDSCAPE/ OPEN SPACE	2.00	87,120	100.0%

PROPOSED SITE DATA

	AREA (AC)	AREA (SF)	RATIO
PROJECT SITE	2.00	87,120	
BUILDING FLOOR AREA	0.27	11,836	13.6%
PAVEMENT (ASP. & CONC.)	0.73	31,783	36.5%
TOTAL IMPERVIOUS	1.00	43,619	50.1%
LANDSCAPE/ OPEN SPACE	1.00	43,501	49.9%

SPECIFICATION NOTE:
SEE SHEET C0.1 FOR PLAN SPECIFICATIONS AND REQUIREMENTS

SITE INFORMATION:

LEGAL DESCRIPTION: Lot 2 of Certified Survey Map Number 10366 filed in Volume 98 of Certified Survey Maps on Page 203 as Document Number 3472291;

PROPERTY AREA: AREA = 87,120 S.F. (2.00 ACRES).

EXISTING ZONING: B-6 MIXED USE BUSINESS

PROPOSED ZONING: B-6 MIXED USE BUSINESS

PROPOSED USE: DAYCARE/CHILDCARE FACILITY

AREA OF SITE DISTURBANCE: 72,650 S.F. (1.67 ACRES)

SETBACKS: BUILDING: FRONT = 55'
SIDE = 30'
REAR = 55'
PAVEMENT: FRONT = 30'
SIDE = 10'
REAR = 10'

PROPOSED BUILDING HEIGHT: 25' (MAX. HEIGHT ALLOWED: 45')

PARKING REQUIRED: 1 SPACE PER 2 EMPLOYEES (8 SPACES REQ.)

PARKING PROVIDED: 25 SPACES (3 H.C. ACCESSIBLE) & 33 SHARED STALLS

HANDICAP STALLS REQUIRED: 3, HANDICAP STALLS PROVIDED: 3

HOURS OF OPERATION: 7:00 A.M. – 6:00 P.M.

BUILDING OCCUPANCY CLASSIFICATION = E

CLASS OF BUILDING CONSTRUCTION = 5B

LANDSCAPE REQUIREMENTS: MIN. LANDSCAPE SURFACE RATIO: 40%
MAXIMUM IMPERVIOUS SURFACE: 60%
MAXIMUM LOT COVERAGE – BUILDING ONLY: 35%

SITE PLAN KEYNOTES

1	STANDARD ASPHALT SECTION (TYP.)
3	CONCRETE SIDEWALK (TYP.)
7	DUMPSTER PAD/APRON CONCRETE (TYP)
8	CONCRETE STOOP (TYP.) SEE ARCH. PLANS FOR DETAILS.
9	RAISED WALK (TYP.)
10	TRANSITION WALK FROM 5' TO 6' WIDE
11	WALK RAMP
12	ADA RAMP
13	18" CURB & GUTTER (TYP.)
15	CURB TAPER (TYP.)
16	CURB CUT (TYP.)
17	CONCRETE TRANSFORMER PAD BY UTILITY SUPPLIER (CONTRACTOR TO VERIFY FINAL LOCATION & DESIGN PRIOR TO CONSTRUCTION)
18	HANDICAP SIGN (TYP.)
19	HANDICAP STALL & STRIPING PER STATE CODES.
21	MONUMENT SIGN (DETAILS, FINAL LOCATION, & APPROVAL BY SIGN VENDOR)
22	DUMPSTER ENCLOSURE (SEE ARCH PLANS FOR DETAILS)
24	STOP SIGN (TYP.)
27	DETECTABLE WARNING PLATE
28	TRAFFIC ARROWS (TYP.)
29	6' TALL WROUGHT IRON FENCE
30	4' TALL WHITE VINYL FENCE
31	FENCE GATE
32	PANIC HARDWARE
33	POURED RUBBER PLAYGROUND SURFACE OVER 4–6" CLEAR STONE AGGREGATE BASE (FOLLOW DESIGN SPECS. BY SUPPLIER)
34	12" WIDE CONCRETE STRIP ALONG WEST FOUNDATION
35	WOOD FIBER SURFACE BY PLAYGROUND VENDOR

NORTH

1" = 30' SCALE: 30' 0 30' 60' FEET

CIVIL SITE PLAN

EXCEL
Always a Better Plan
100 Camelot Drive
Fond du Lac, WI 54935
920-926-9800
excelengineer.com

COLLABORATION

Quattro Development

PROJECT INFORMATION

PROPOSED EARLY CHILDHOOD SCHOOL FOR:
QUATTRO DEVELOPMENT
23877 HIGHFIELD COURT • PEWAUKEE, WI 53072

PROFESSIONAL SEAL

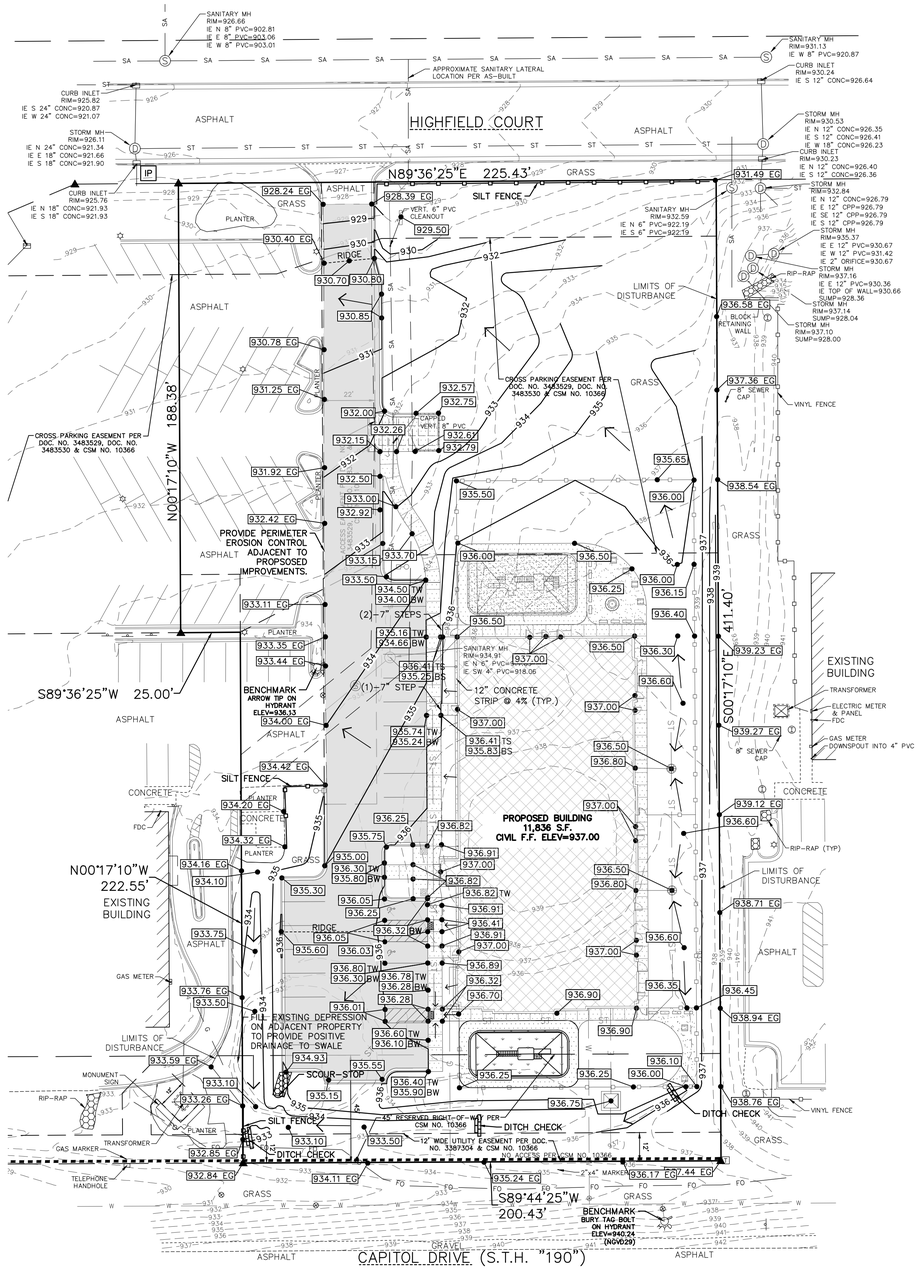
PRELIMINARY DATES
NOV. 29, 2022
DEC. 12, 2022
JAN. 4, 2023
FEB. 3, 2023

NOT FOR CONSTRUCTION

JOB NUMBER
2245520

SHEET NUMBER
C1.1

2021 © EXCEL ENGINEERING, INC.



SPECIFICATION NOTE:
SEE SHEET C0.1 FOR PLAN SPECIFICATIONS AND REQUIREMENTS

NOTES:

1. HANDICAP STALL AND ACCESS AISLES SHALL NOT EXCEED A SLOPE OF 1.50% IN ANY DIRECTION. HANDICAP STALL & ACCESS AISLES SHALL CONFORM TO ADA REQUIREMENTS (CURRENT EDITION)
2. ALL SIDEWALKS SHALL NOT EXCEED A MAXIMUM CROSS SLOPE OF 1.50% AND RUNNING SLOPE OF 4.50% UNLESS OTHERWISE SPECIFIED.

STORMWATER NOTE:

SITE STORMWATER DRAINS TO EXISTING STORMWATER FACILITY ON NEIGHBORING PROPERTY.

IP

INLET PROTECTION NOTE:

CONTRACTOR SHALL PROVIDE TEMPORARY INLET PROTECTION FOR ALL CURB INLETS & CATCH BASINS ONSITE & OFFSITE IMMEDIATELY DOWNSTREAM OF THE PROJECT SITE PER LOCAL CODE.

STABILIZED CONSTRUCTION ENTRANCE NOTE:

CONTRACTOR SHALL PROVIDE STABILIZED CONSTRUCTION ENTRANCE AT CONSTRUCTION ENTRANCE FOR PROPOSED IMPROVEMENTS AS REQUIRED PER CODE.

CONCRETE WASHOUT NOTE:

CONTRACTOR SHALL PROVIDE CONCRETE WASHOUT AS REQUIRED PER CODE. FINAL LOCATION TBD BY CONTRACTOR.

NORTH

1"= 30' SCALE 30' 0 30' 60' FEET

CIVIL GRADING AND EROSION CONTROL PLAN

EXCEL
Always a Better Plan
100 Camelot Drive
Fond du Lac, WI 54935
920-926-9800
excelengineer.com

COLLABORATION

Quattro Development

PROJECT INFORMATION

PROPOSED EARLY CHILDHOOD SCHOOL FOR:
QUATTRO DEVELOPMENT
23877 HIGHFIELD COURT • PEWAUKEE, WI 53072

PROFESSIONAL SEAL

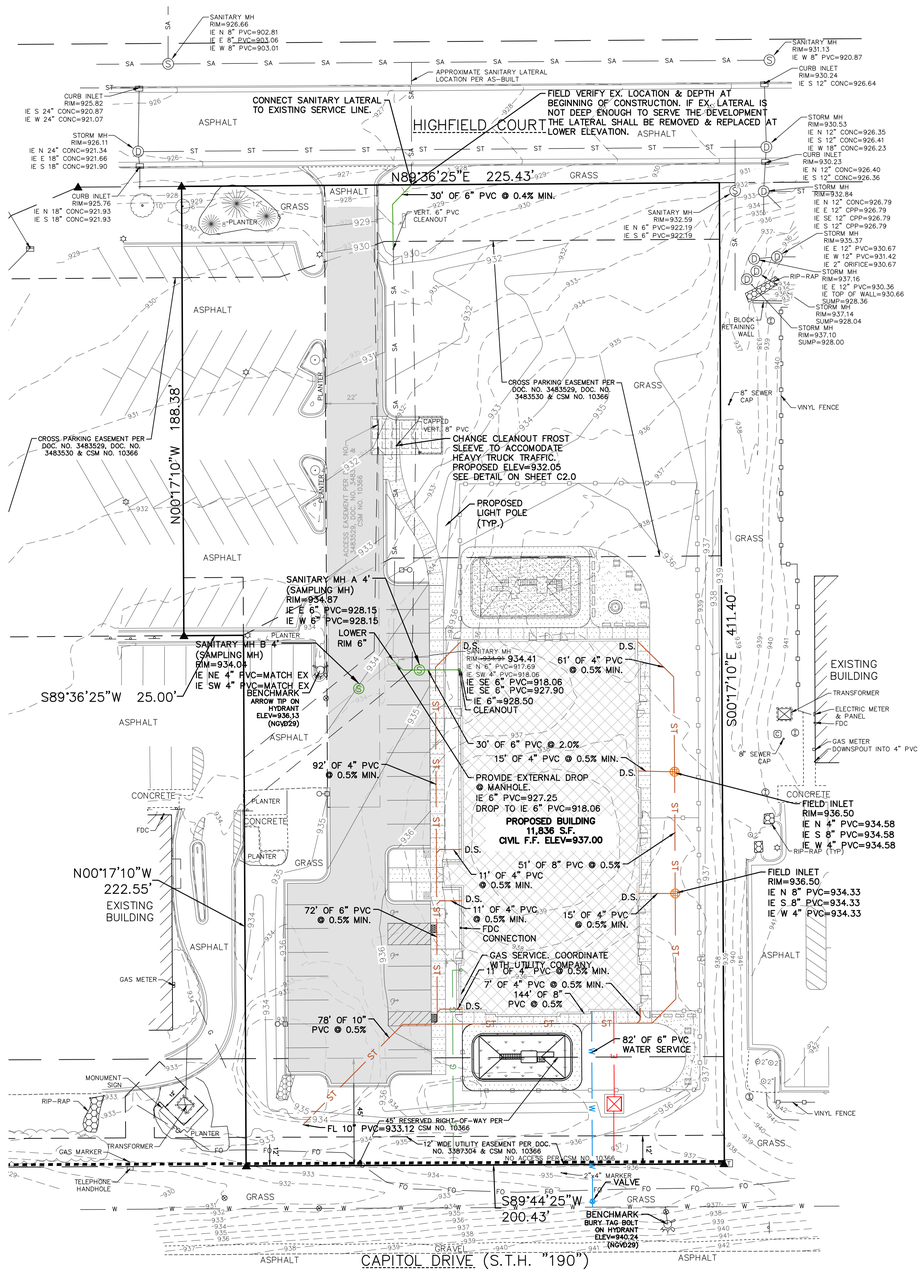
PRELIMINARY DATES
DEC. 12, 2022
JAN. 4, 2023
FEB. 3, 2023

NOT FOR CONSTRUCTION

JOB NUMBER
2245520

SHEET NUMBER
C1.2

2021 © EXCEL ENGINEERING, INC.



SPECIFICATION NOTE:
SEE SHEET C0.1 FOR PLAN SPECIFICATIONS AND REQUIREMENTS

DOWNSPOUT NOTE:

DS = DENOTES DOWNSPOUT TO GRADE LOCATIONS. PROVIDE SPLASH BLOCKS AT ALL DS TO GRADE LOCATIONS. SEE ARCH PLANS FOR FINAL LOCATIONS.

CLEANOUT NOTE:

CO = DENOTES LOCATIONS WHERE CONTRACTOR SHALL INSTALL CLEANOUTS, SEE C0.1 FOR SPECIFICATION.

NORTH

1" = 30' SCALE 30' 0 30' 60' FEET

CIVIL UTILITY PLAN

EXCEL
Always a Better Plan
100 Camelot Drive
Fond du Lac, WI 54935
920-926-9800
excelengineer.com

COLLABORATION

Quattro Development

PROJECT INFORMATION

PROPOSED EARLY CHILDHOOD SCHOOL FOR:
QUATTRO DEVELOPMENT
23877 HIGHFIELD COURT • PEWAUKEE, WI 53072

PROFESSIONAL SEAL

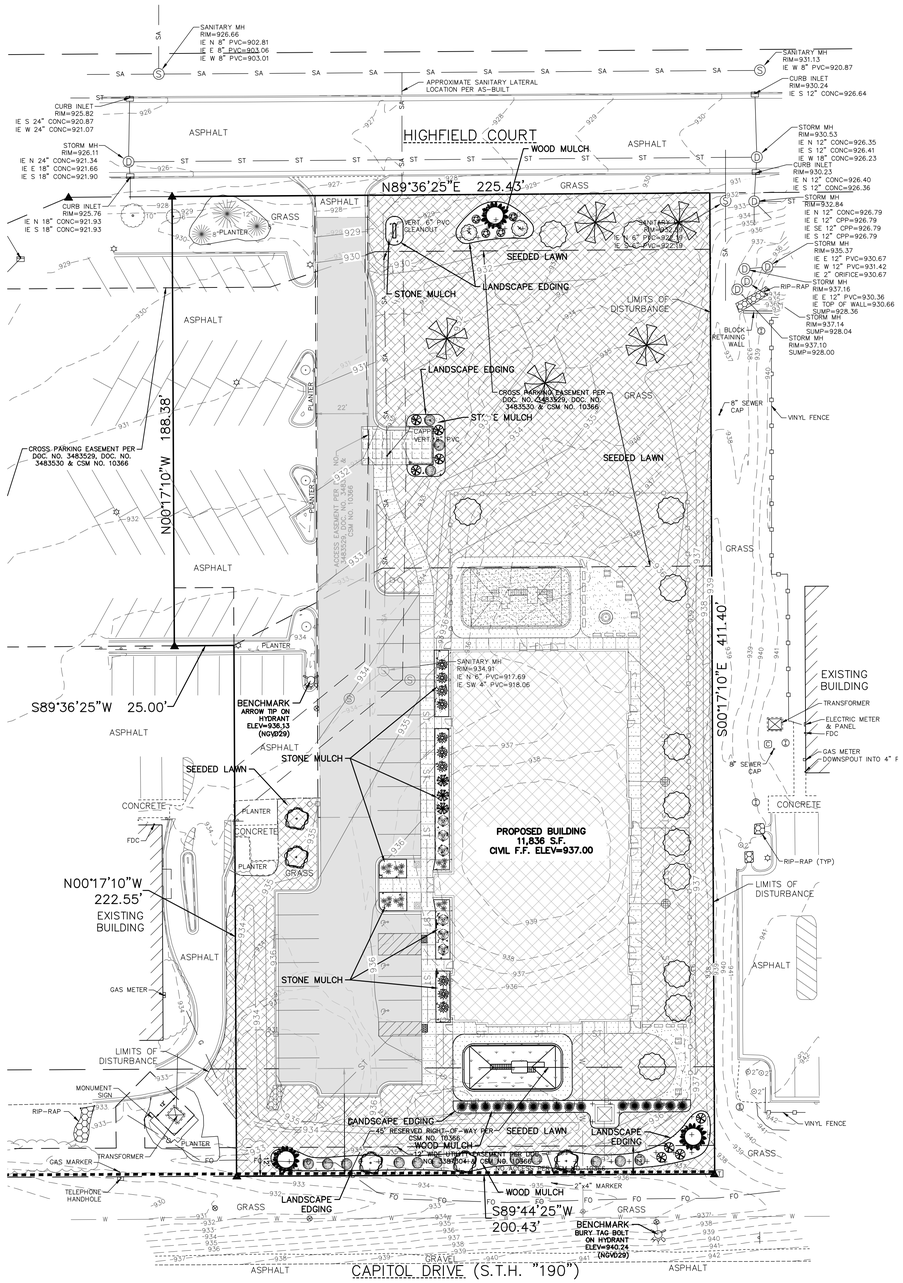
PRELIMINARY DATES
DEC. 12, 2022
JAN. 4, 2023
FEB. 3, 2023

NOT FOR CONSTRUCTION

JOB NUMBER
2245520

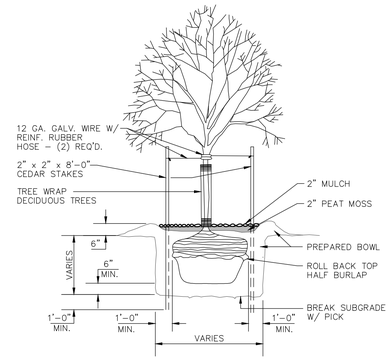
SHEET NUMBER
C1.3

2021 © EXCEL ENGINEERING, INC.



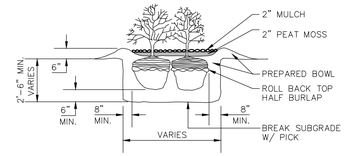
CIVIL LANDSCAPE AND RESTORATION PLAN

SPECIFICATION NOTE:
SEE SHEET C0.1 FOR PLAN SPECIFICATIONS AND REQUIREMENTS



TREE PLANTING DETAIL
NO SCALE

NOTE:
FOR MASS PLANTINGS EXCAVATE ENTIRE BED & BACKFILL W/ PREPARED SOIL.



SHRUB PLANTING DETAIL
NO SCALE

LANDSCAPING PLANTING SCHEDULE

SYMBOL	COMMON NAME	BOTANICAL NAME	PLANTED SIZE	QUANTITY	MATURE SIZE
	DECIDUOUS TREES				
	Jack Flowering Pear	Pyrus calleryana 'Jaczam'	2"	5	15–20'
	Redmond Linden	Tilia americana	2"	9	25'–30'
	Sugar Maple	Acer saccharum	3"	5	30–45'
	EVERGREEN TREES				
	Arborvitae – Nigra	Thuja occidentalis 'Nigra'	2'	2	4'–10'
	Colorado Blue Spruce	Picea pungens	4'	3	25'
	DECIDUOUS SHRUBS				
	Emerald Mound Honeysuckle	Lonicera x xylosteum 'Emerald Mound'	15"–18"	10	4'–6'
	Sunrise Forsythia	Forsythia 'Sunrise'	18"–24"	6	5'
	Arrowwood Viburnun	Viburnum dentatum	30"–36"	15	6'–8'
	EVERGREEN SHRUBS				
	Taunton Yew	Tauntonii	24"	4	5'–6'
	Techny Arborvitae	Thuja occidentalis	42"–48"	8	4'–6'
	Dwarf Alberta Spruce	Picea glauca 'Conica'	2'	17	6'
	PERENNIALS				18"–24"
	Purple Dome Aster	Aster novae–angliae 'Purple Dome'	1 gal pot	6	12"–24"
	Daylilies 'Stella de Oro'	Hemerocallis 'Stella de Oro'	1 gal pot	3	

NORTH

1" = 30'
30' 0 30' 60'
SCALE FEET

EXCEL
Always a Better Plan
100 Camelot Drive
Fond du Lac, WI 54935
920-926-9800
excelengineer.com

COLLABORATION
Quattro Development

PROJECT INFORMATION

PROPOSED EARLY CHILDHOOD SCHOOL FOR:
QUATTRO DEVELOPMENT
23877 HIGHFIELD COURT • PEWAUKEE, WI 53072

PROFESSIONAL SEAL

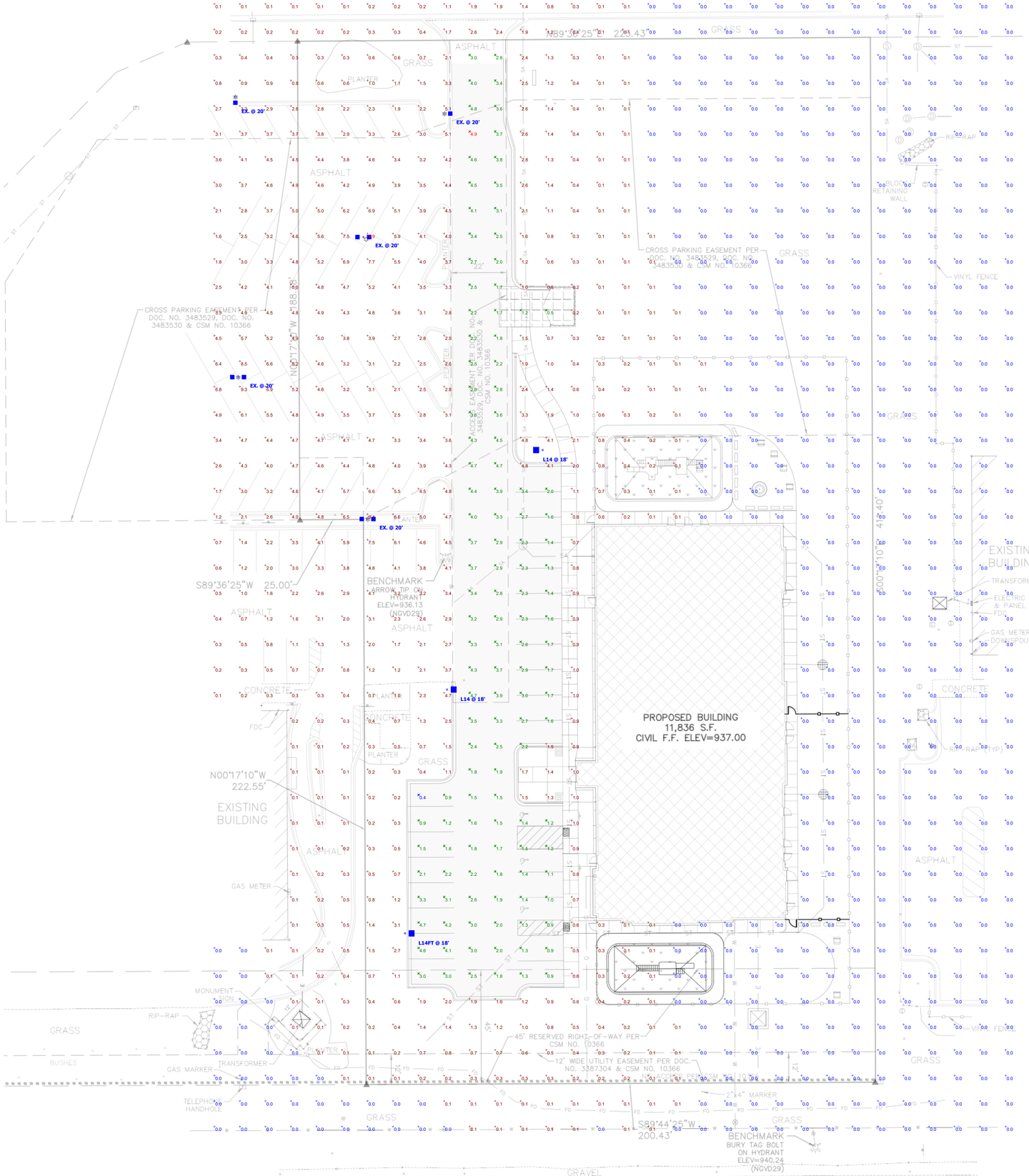
PRELIMINARY DATES
DEC. 12, 2022
DEC. 16, 2022
JAN. 4, 2023
FEB. 3, 2023

NOT FOR CONSTRUCTION

JOB NUMBER
2245520

SHEET NUMBER
C1.4

2021 © EXCEL ENGINEERING, INC.



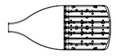


D-Series Size 1
LED Area Luminaire

d*series

Specifications

EPA:	0.69 ft² (0.06 m²)
Length:	32.71" (83.1 cm)
Width:	14.26" (36.2 cm)
Height H1:	7.88" (20.0 cm)
Height H2:	2.23" (5.7 cm)
Weight:	34 lbs (15.4kg)





Catalog Number
Notes
Type
Note: All dims are nominal. Refer to page 3 or visit lithonia.lithonia.com/dsxled for detailed dimensions.

Introduction

The modern styling of the D-Series features a highly refined aesthetic that blends seamlessly with its environment. The D-Series offers the benefits of the latest in LED technology into a high performance, high efficacy, long-life luminaire.

The photometric performance results in sites with excellent uniformity, greater pole spacing and lower power density. D-Series outstanding photometry aids in reducing the number of poles required in area lighting applications with typical energy savings of 65% and expected service life of over 100,000 hours.

Ordering Information

EXAMPLE: DSX1 LED P7 40K 70CRI T3M MVOLT SPA NLTAIR2 PIRHN DDBXD

DSX1 LED

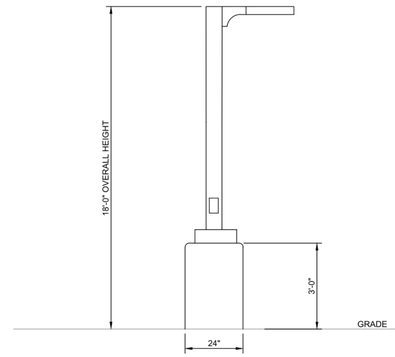
Series	LEDs	Color temperature[1]	Color Rendering Index[1]	Distribution		Voltage	Mounting
DSX1 LED	**Forward optics** P1 P6 P2 P7 P3 P8 P4 P9 P5 **Rotated optics** P10[2] P12[2] P11[2] P13[2]	(this section 70CRI only) 30K 3000K 40K 4000K 50K 5000K (this section 80CRI only, extended lead times apply) 27K 2700K 30K 3000K 35K 3500K 40K 4000K 50K 5000K	70CRI 70CRI 70CRI 80CRI 80CRI 80CRI 80CRI 80CRI	AFR Automotive front row T1S Type I short T2M Type II medium T3M Type III medium T3LG Type III low glare[3] T4M Type IV medium T4LG Type IV low glare[3] TFTM Forward Throw medium T5M Type V medium T5LG Type V low glare[3] T5W Type V wide BLC3 Type III backlight control[3] BLC4 Type IV backlight control[3] LCCO Left corner cutoff[3] RCCO Right corner cutoff[3]	MVOLT (120V-277V)[4] HVOLT (347V-480V)[4,5] XVOLT (277V - 480V)[4,5]	**Shipped included** SPA Square pole mounting (RA drilling) RPA Round pole mounting (RA drilling) SPA5 Square pole mounting (RT drilling) RPA5 Round pole mounting (RT drilling) SPANR Square narrow pole mounting (RA drilling) WBA Wall bracket[6]

Control options		Other options		Finish (required)	
Shipped installed NLTAIR2 PIRHN nLight AIR gen 2 enabled with bi-level motion / ambient sensor, 8-40' mounting height, ambient sensor enabled at 2fc.[7,8,9,10] PIR High/low, motion/ambient sensor, 8-40' mounting height, ambient sensor enabled at 2fc.[7,8,9,10] PER NEMA twist-lock receptacle only (controls ordered separately)[11] PER5 Five-pin receptacle only (controls ordered separately)[11,12]	PER7 Seven-pin receptacle only (controls ordered separately)[11,12] FAO Field adjustable output[7,13] BL30 Bi-level switched dimming, 30%[9,14] BL50 Bi-level switched dimming, 50%[9,14] DMG 0-10v dimming wires pulled outside fixture (for use with an external control, ordered separately)[15] DS Dual switching[9,14,16]	**Shipped installed** SPD20KV 20kV surge protection HS Houseside shield (black finish standard)[17] L90 Left rotated optics[7] R90 Right rotated optics[7] CCE Coastal Construction[18] **Shipped separately** EGS External Glare Shield (reversible; field install required, matches housing finish) BS Bird Spikes (field install required)	DDBXD Dark Bronze DBLXD Black DNAXD Natural Aluminum DWHXD White DDBTXD Textured dark bronze DBLBXD Textured black DNATXD Textured natural aluminum DWHGXD Textured white	

LITHONIA LIGHTING
COMMERCIAL OUTDOOR

One Lithonia Way • Conyers, Georgia 30012 • Phone: 1-800-705-SERV (7378) • www.lithonia.com
© 2011-2022 Acuity Brands Lighting, Inc. All rights reserved.

DSX1 LED
Rev. 11/10/22
Page 1 of 10



LIGHT POLE DETAIL

NO SCALE

Schedule									
Symbol	Label	Quantity	Manufacturer	Catalog Number	Description	Number Lamps	Lumens Per Lamp	Light Loss Factor	Wattage	Wattage
	L14	2	Lithonia Lighting	DSX1 LED P5 40K 80CRI T4M	D-Series Size 1 Area Luminaire P5 Performance Package 4000K CCT 80 CRI Type 4 Medium	1	16418	0.9	138.16	
	L14FT	1	Lithonia Lighting	DSX1 LED P5 40K 80CRI TFTM	D-Series Size 1 Area Luminaire P5 Performance Package 4000K CCT 80 CRI Forward Throw	1	16531	0.9	138.16	

Statistics						
Description	Symbol	Avg	Max	Min	Max/Min	Avg/Min
Calc Zone #1	+	1.1 fc	9.9 fc	0.0 fc	N/A	N/A
PARKING LOT	X	2.6 fc	4.9 fc	0.4 fc	12.3:1	6.5:1

NORTH

1"= 20' SCALE 20' 0 20' 40' FEET

CIVIL SITE PHOTOMETRIC PLAN & DETAILS

EXCEL
Always a Better Plan
100 Camelot Drive
Fond du Lac, WI 54935
920-926-9800
excelengineer.com

COLLABORATION

Quattro Development

PROJECT INFORMATION

PROPOSED EARLY CHILDHOOD SCHOOL FOR:
QUATTRO DEVELOPMENT
23877 HIGHFIELD COURT • PEWAUKEE, WI 53072

PROFESSIONAL SEAL

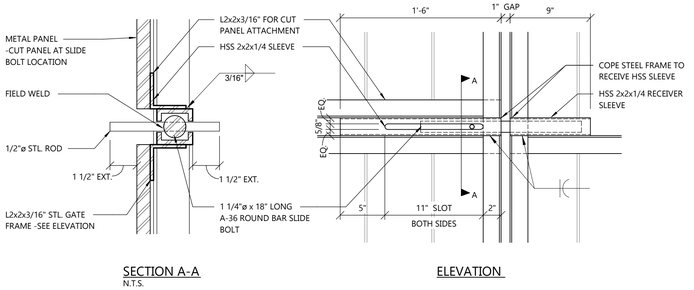
PRELIMINARY DATES
SHEET ISSUE
REVISIONS

NOT FOR CONSTRUCTION

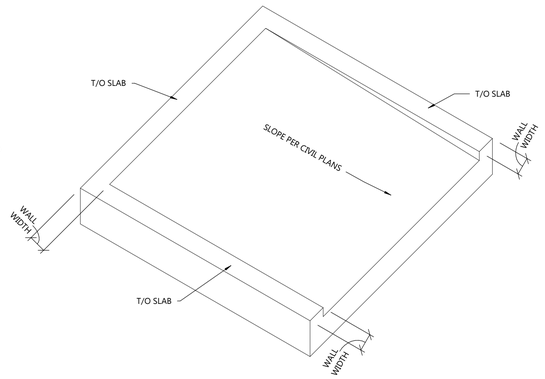
JOB NUMBER
2245520

SHEET NUMBER
C3.1

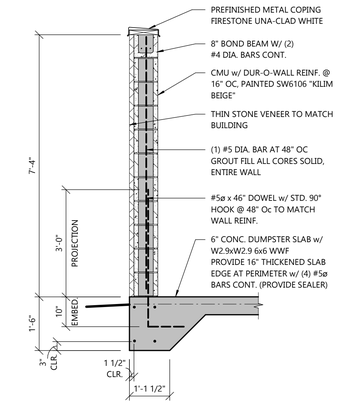
2021 © EXCEL ENGINEERING, INC.



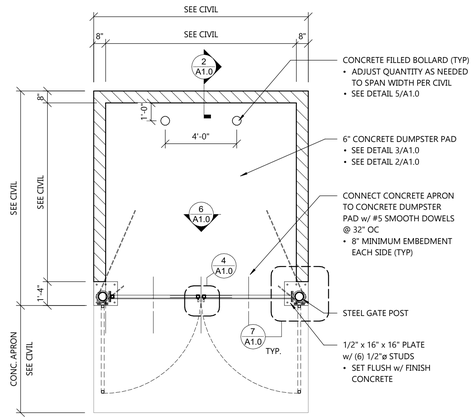
4 A1.0 GATE SLIDE BOLT
SCALE: 1 1/2" = 1'-0"



3 A1.0 DUMPSTER PAD DETAIL
NOT TO SCALE

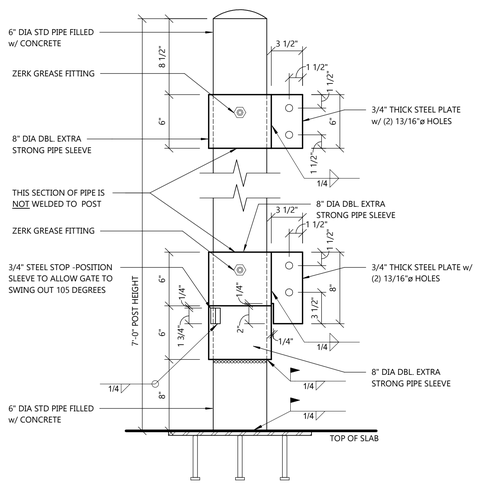


2 A1.0 DUMPSTER WALL SECTION
SCALE: 1/2" = 1'-0"

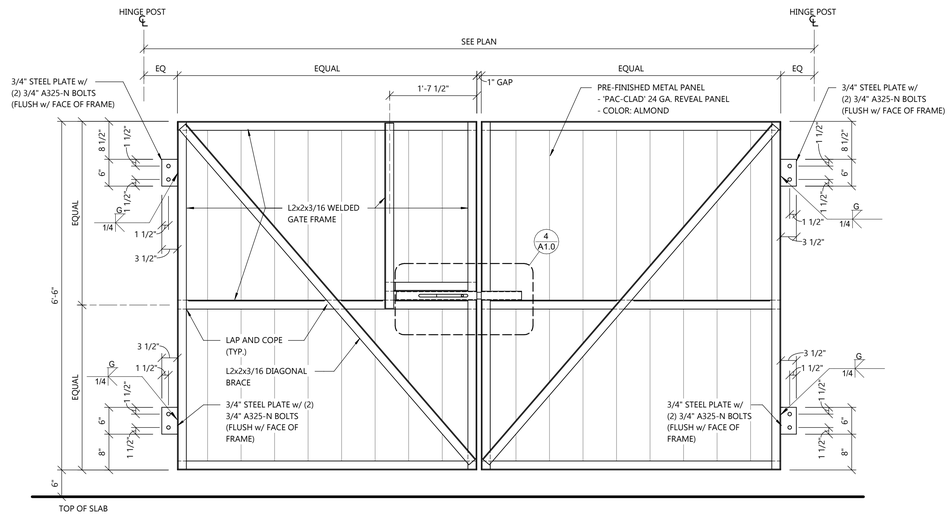


1 A1.0 DUMPSTER PLAN
SCALE: 1/4" = 1'-0"

ALL EXPOSED METAL SURFACES ON DUMPSTER ENCLOSURE TO RECEIVE ONE COAT RUST-INHIBITING PRIMER AND (2) COATS PAINT: SW6106 "KILIM BEIGE" (UNLESS NOTED OTHERWISE)

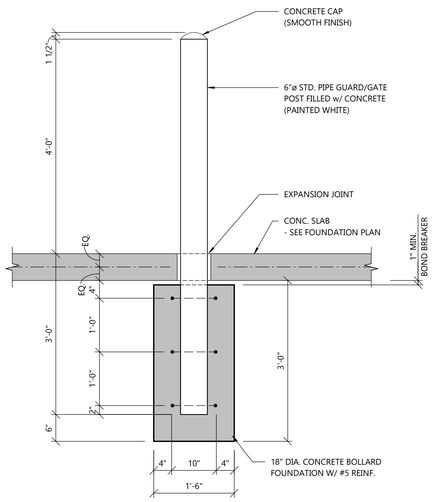


7 A1.0 GATE HINGE DETAIL
SCALE: 1 1/2" = 1'-0"



INSIDE ELEVATION

6 A1.0 DUMPSTER GATE ELEVATION
NOT TO SCALE



5 A1.0 BOLLARD DETAIL
SCALE: 3/4" = 1'-0"

ARCHITECTURAL DUMPSTER ENCLOSURE DETAILS

EXCEL
Always a Better Plan
100 Camelot Drive
Fond du Lac, WI 54935
920-926-9800
excelengineer.com

COLLABORATION

Quattro Development

PROJECT INFORMATION

PROPOSED EARLY CHILDHOOD SCHOOL FOR:
QUATTRO DEVELOPMENT
N35 W23824 CAPTIOL DRIVE • PEWAUKEE, WI

PROFESSIONAL SEAL

SHEET DATES
SHEET ISSUE DEC. 19, 2022
REVISIONS

JOB NUMBER
2245520

SHEET NUMBER
A1.0

2022 © EXCEL ENGINEERING, INC.

C:\Revit Local\2245520 Arch Central V21_DotNMD.rvt
12/28/2022 7:56:54 AM

GENERAL NOTES

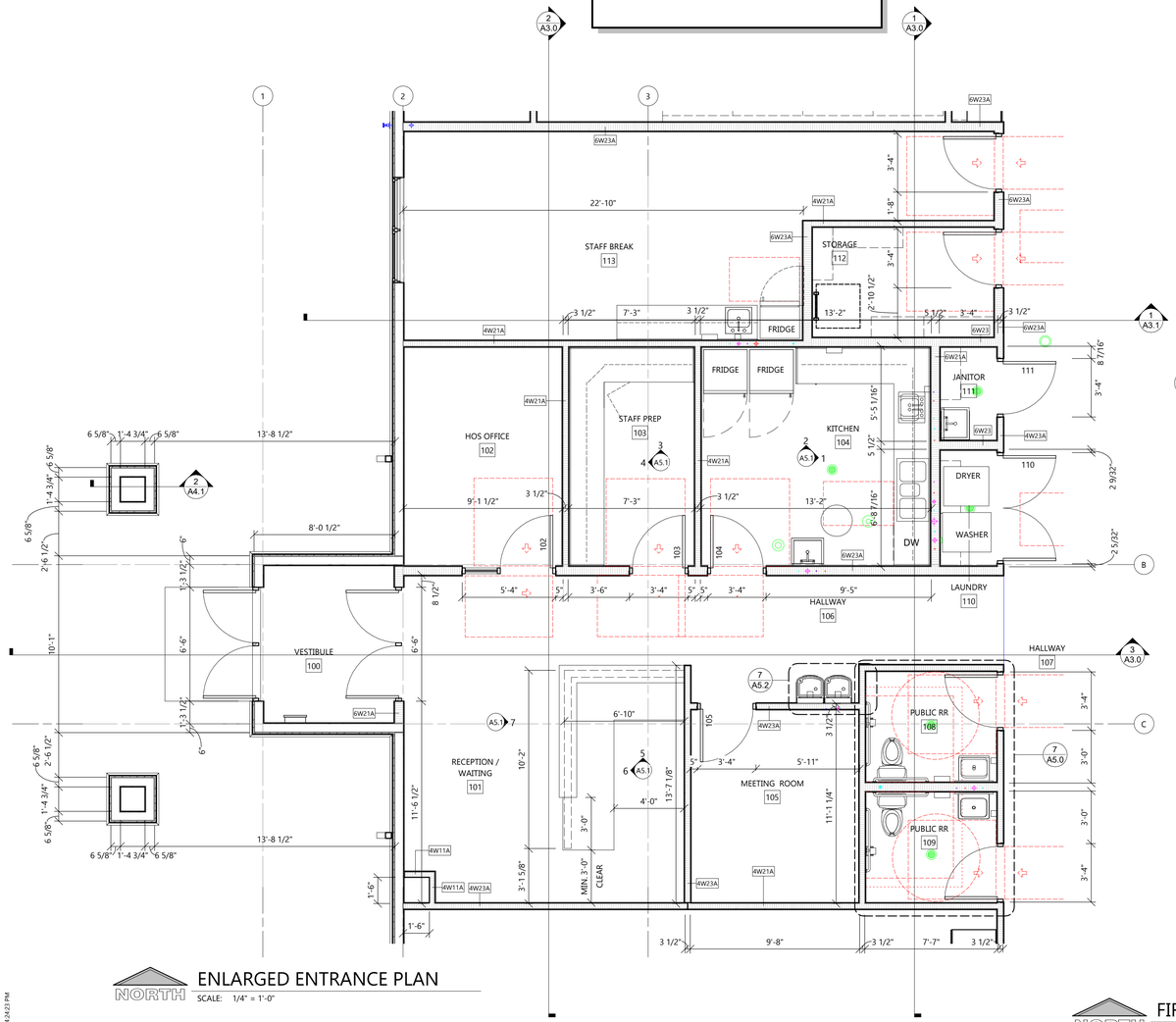
- ALL INTERIOR DIMS. ARE FROM FACE-OF-STUD TO FACE OF-STUD.
- ALL INTERIOR WALLS TO BE 2x4 OR 2x6 @ 16" O.C. (SEE FLOOR PLAN FOR SIZE) W/ 1/2" OR 5/8" GYPSUM BOARD BOTH SIDES - EXTEND TO BOTTOM CHORD OF TRUSSES / UNDERSIDE OF DECK.
- ALL INTERIOR WALLS TO BE 3 5/8" OR 6" METAL STUDS @ 16" O.C. (SEE FLOOR PLAN FOR SIZE) W/ 5/8" GYPSUM BOARD BOTH SIDES - EXTEND TO BOTTOM CHORD OF TRUSSES.
- MISCELLANEOUS HARDWARE INCLUDED: HANDICAP HARDWARE.
- PROVIDE WOOD BLOCKING FOR ANY FURNISHINGS BY OWNER. (VERIFY LOCATIONS)
- ALL EXTERIOR WINDOWS TO HAVE ALUMINUM FLASHING RETURNS AT HEAD, JAMBS, AND SILL OF ALL WINDOWS.
- ALL EXTERIOR WINDOWS TO HAVE GYPSUM BOARD RETURNS AT HEAD AND JAMBS AND PLASTIC LAMINATE COVERED WOOD SILL.
- ALL CABINETS AND COUNTERTOPS TO HAVE PLASTIC LAMINATE FRONTS AND TOPS.
- KITCHEN AND CABINET W/ COUNTERS BY GENERAL CONTRACTOR AS REQUIRED
- ALL CABINETRY AND EQUIPMENT BY OTHERS - SEE EQUIPMENT DRAWING BY INTERIOR DESIGNER FOR REQUIREMENTS.
- FOOD PREP AREA TO BE VERIFIED W/ OWNER. PROVIDE SHOP DRAWINGS ON EQUIPMENT.

SYMBOLS LEGEND

- 12B1 — SEE SHEET AX.X FOR WALL TYPES
- EXIT SIGNAGE
- FIRE EXTINGUISHER -SEE A5 SHEETS
- FIRE EXTINGUISHER w/ CABINET -SEE A5 SHEETS
- STUD WALL
- CONCRETE WALL
- MASONRY VENEER
- C.M.U. WALL
- SEE PLAN FOR ALL WALL WIDTHS
- NEW DOOR
- CHILD HEIGHT TOILET
- ADULT HEIGHT TOILET
- CHILD HEIGHT SINK
- ADULT HEIGHT SINK

KEYED NOTES

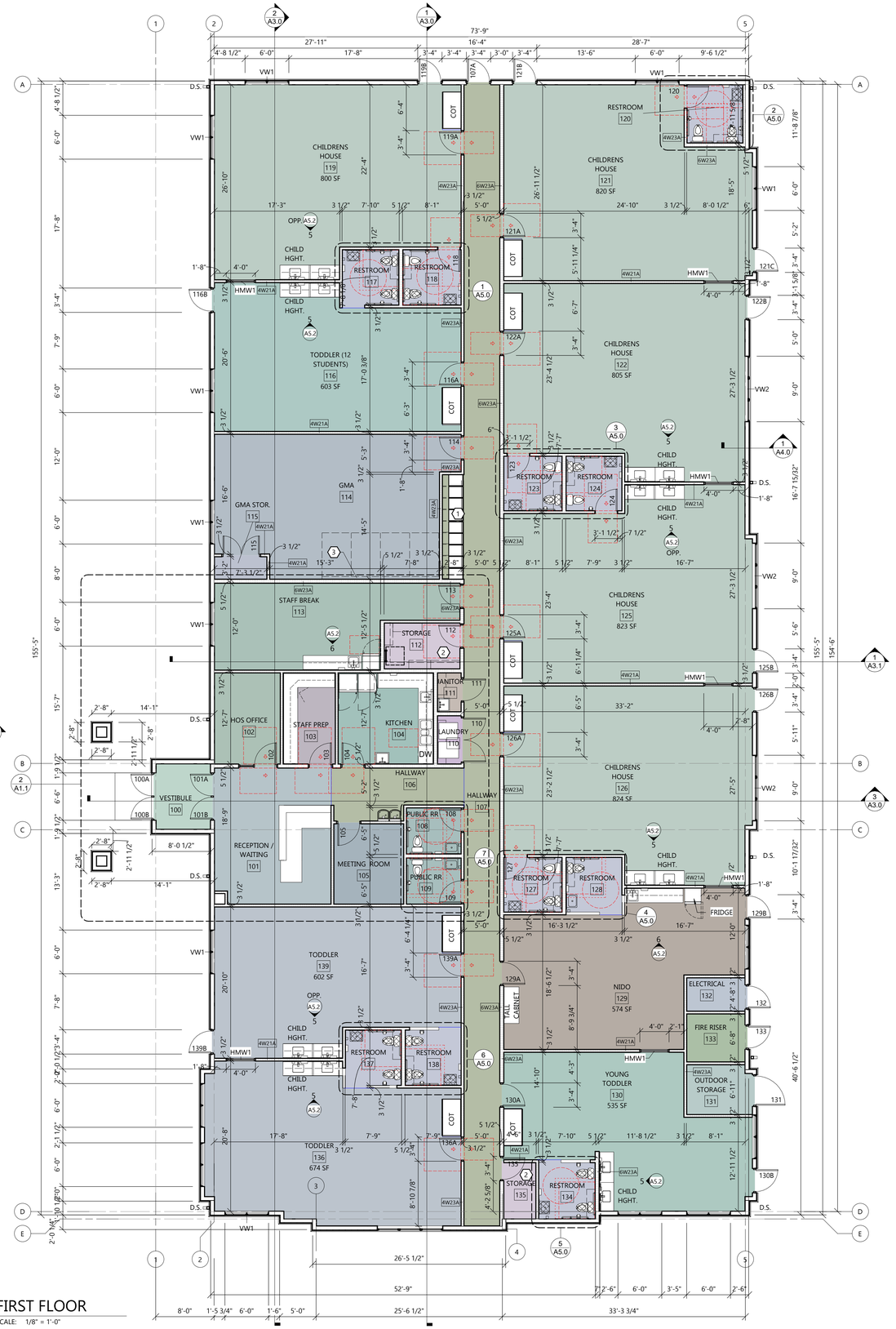
1. PROVIDE METAL LOCKERS PER HGE SPECIFICATIONS.
2. PROVIDE METAL SHELVING PER HGE SPECIFICATIONS.
3. CLIMBING WALL & MATS BY LL PER HGE OUTLINE SPECIFICATIONS



NORTH

ENLARGED ENTRANCE PLAN

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



NORTH

FIRST FLOOR

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

ARCHITECTURAL FIRST FLOOR PLAN

EXCEL

Always a Better Plan

100 Camelot Drive
Fond du Lac, WI 54935
920-926-9800
excelengineer.com

COLLABORATION

Quattro Development

PROJECT INFORMATION

PROPOSED EARLY CHILDHOOD SCHOOL FOR:

QUATTRO DEVELOPMENT

N35 W23824 CAPTIOL DRIVE • PEWAUKEE, WI

PROFESSIONAL SEAL

PRELIMINARY DATES

- NOV. 3, 2022
- NOV. 11, 2022
- NOV. 16, 2022
- NOV. 17, 2022
- DEC. 12, 2023
- JAN. 24, 2023

NOT FOR CONSTRUCTION

JOB NUMBER

2245520

SHEET NUMBER

A1.1

2022 © EXCEL ENGINEERING, INC.

C:\Revit Local\224552D1 Arch Central V21_dk_dean.rdLCR.rvt
1/24/2023 8:43:23 PM



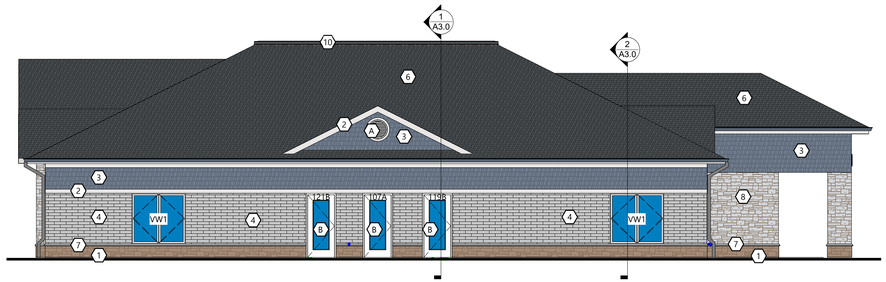


EXTERIOR FINISH KEY

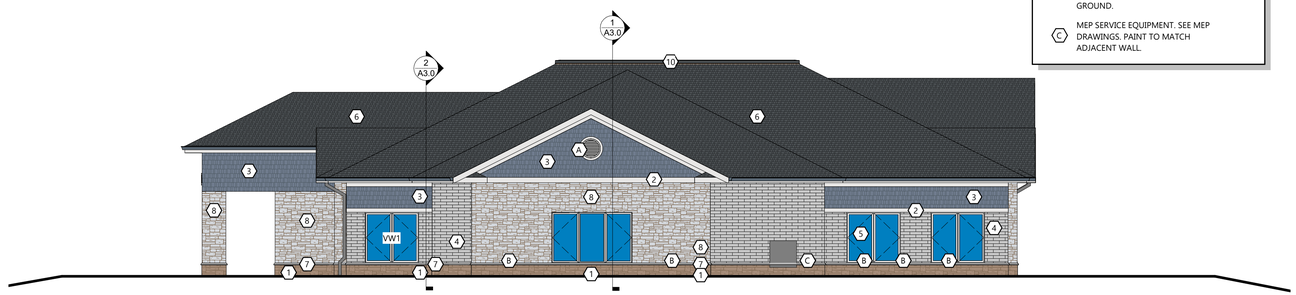
10	PREFINSIHED METAL COPING MFR: PAC-CLAD COLOR: MUSKET GRAY
9	VINYL CASEMENT WINDOW MFR: MINNKOTA PRODUCT: ASPEKT 1800 COLOR: WHITE
8	THIN STONE VENEER MFR: LAFARGE FOX RIVER DECORATIVE STONE PRODUCT: CHILTON COUNTRY SPUIRE
7	PRECAST CONCRETE SILL MFR: STONECAST PRODUCT: LIMESTONE
6	ASPHALT SHINGLES MFR: CERTAINTEED LANDMARK COLOR: GEORGETWON GRAY
5	ALUM STOREFRONT WINDOW GLASS: 1" INSUL. LOW-E GLASS FRAMES: DARK BRONZE
4	THIN CONCRETE BRICK VENEER MFR: COUNTY MATERIALS PRODUCT: HERITAGE COLLECTION COLOR: GRAYSTONE
3	SHAKE SIDING MFR: JAMES HARDIE PRODUCT: HARDIESHINGLE SIDING COLOR: CADET SW9143
2	1x6 TRIM MFR: JAMES HARDIE COLOR: EXTRA WHITE SW7006
1	THIN STONE VENEER MFR: LAFARGE FOX RIVER DECORATIVE STONE PRODUCT: CUSTOM COUNTRY BLEND

ELEVATION KEYNOTES

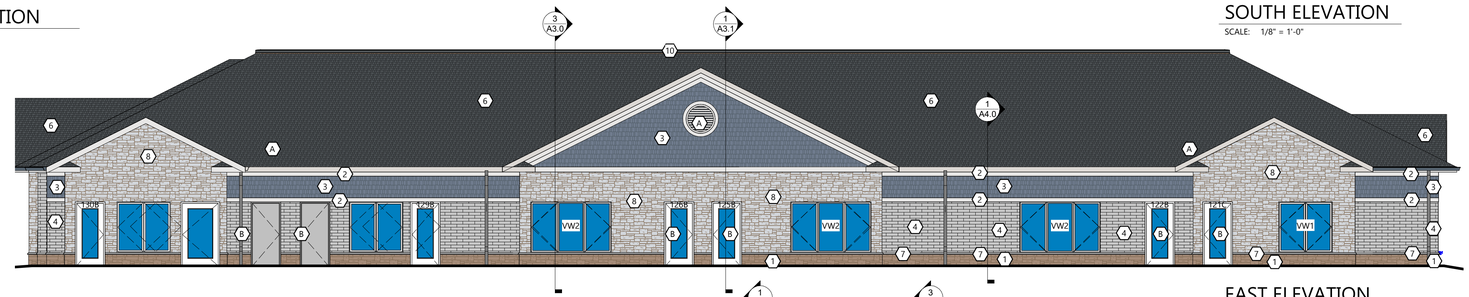
- A — VINYL ATTIC VENT. COLOR TO MATCH HARDIE TRIM, SW 7006 EXTRA WHITE
- B — HOLLOW METAL DOOR TO BE PAINTED PER HIGHER GROUND GUIDELINES. COORDINATE COLOR WITH HIGHER GROUND.
- C — MEP SERVICE EQUIPMENT. SEE MEP DRAWINGS. PAINT TO MATCH ADJACENT WALL.



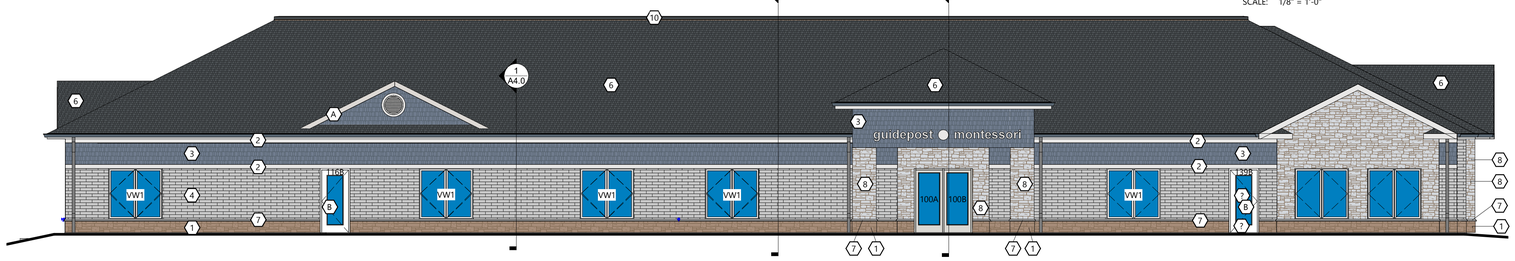
NORTH ELEVATION
SCALE: 1/8" = 1'-0"



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



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



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

ARCHITECTURAL EXTERIOR ELEVATIONS

EXCEL
Always a Better Plan
100 Camelot Drive
Fond du Lac, WI 54935
920-926-9800
excelengineer.com

COLLABORATION

Quattro Development

PROJECT INFORMATION

PROPOSED EARLY CHILDHOOD SCHOOL FOR:
QUATTRO DEVELOPMENT
N35 W23824 CAPTIOL DRIVE • PEWAUKEE, WI

PROFESSIONAL SEAL

PRELIMINARY DATES
NOV. 3, 2022
NOV. 11, 2022
NOV. 16, 2022
DEC. 12, 2022
JAN. 24, 2023

NOT FOR CONSTRUCTION

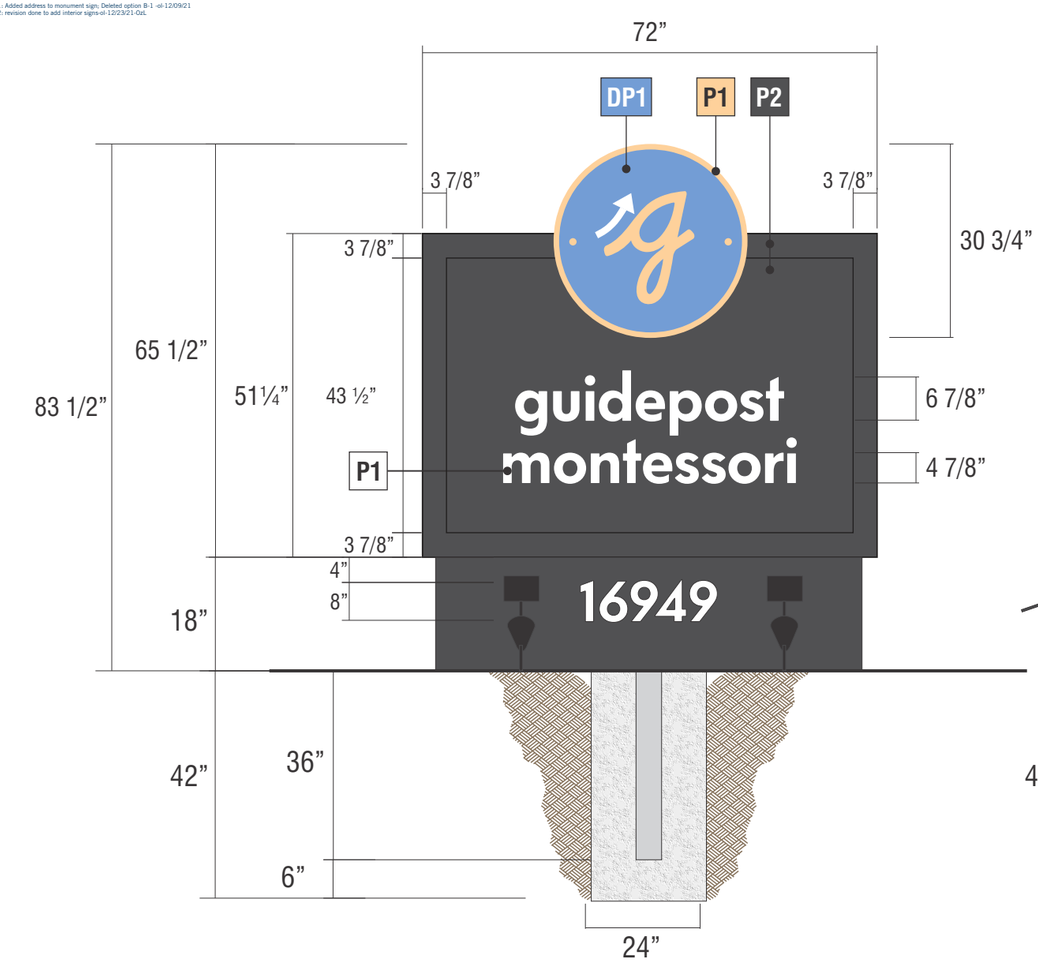
JOB NUMBER
2245520

SHEET NUMBER
A2.0

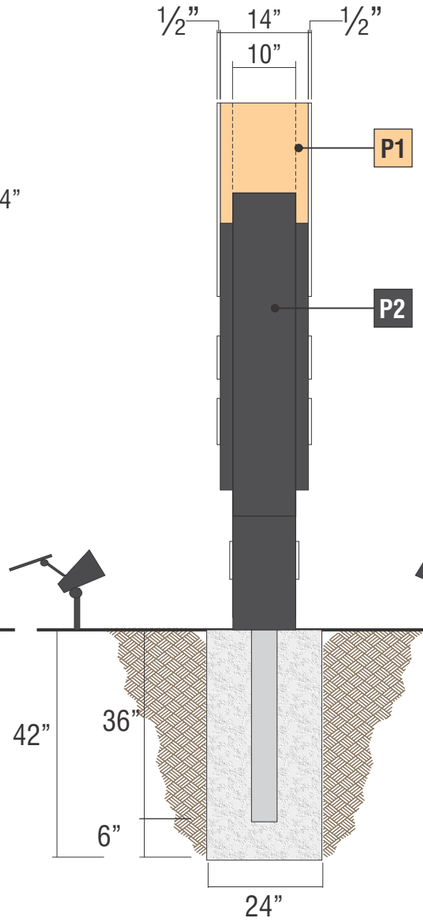
2022 © EXCEL ENGINEERING, INC.

C:\Revit Local\2245520 Arch Central V21_ps_dwn s5LCR.rvt
1/24/2023 4:42:21 PM

R1: Added address to monument sign; Deleted option B-1 -ol-12/09/21
R2: revision done to add interior signs-ol-12/23/21-OzL



FRONT ELEVATION SCALE: 1/2” = 1’-0”



SIDE ELEVATION SCALE: 1/2” = 1’-0”



BACK ELEVATION SCALE: 1/2” = 1’-0”

A | **SIGNTYPE** | **GPM-MON-65x72-83-DF**

MANUFACTURE AND INSTALL ONE (1) DOUBLE SIDED NON-ILLUMINATED MONUMENT SIGN W/ EXTERNAL LIGHTS

CABINET: TO BE CLAD WITH .125” ALUMINUM PAINTED MATTHEWS MP07102 “DEEP RIVER”, SATIN FINISH
PANEL: BREAK FORM ALUMINUM 2” DEEP PAINTED MATTHEWS MP07102 “DEEP RIVER”, SATIN FINISH
LOGO: 1/2” PLEX WITH FIRST SURFACE DIGITAL PRINTED LOGO.
COPY: 1/2” PLEX PAINTED MATTHEWS SATIN WHITE.
ADDRESS NUMERALS (NON-ILLUMINATED) : 1/2” ACRYLIC, PAINTED MATTHEWS SATIN WHITE
POLE: TO BE CLAD WITH .125” ALUMINUM PAINTED DARK GREY
FOOTINGS: BY SIGNTECH ENGINEERING.

PAINT COLORS

DP1 DIGITAL PRINT TO MATCH PMS 7453C BLUE, SATIN LAMINATE
(REVERSED WEED DOTS TO SHOW THRU TAN BACKGROUND)

P1 PAINT TO MATCH (C-0 M-20 Y-43 K-0), SATIN FINISH

P2 PAINT MATTHEWS MP07102 “DEEP RIVER”, SATIN FINISH

P1 MATTHEWS SATIN WHITE



AMIR Solar Spotlights Outdoor = (4) Pack

Signtech
4444 Federal Blvd San Diego, CA 92102
(619) 527-6100 signtech.com

GUIDEPOST MONTESSORI
N56 West 16949 Ridgewood Dr #56,
Menomonee Falls, WI 53051 USA
This design is the exclusive property of Signtech and cannot be reproduced in whole or in part, without their prior written approval

Sales: Christine Mello
Coordinator: Brian Benson
Design: Oz Lemus
Engineering:

Date: 08/25/21
Drawing: 21-01361 **Rev:** R2-12/23/21-OzL
Quote:
Project ID: GUIDEPOST_N56W_2

Quattro Development
1100 Jorie Blvd. • Suite 140
Oak Brook, IL 60523
(630) 870-1921

January 26, 2023

Mr. Nick Fuchs
Planner & Community Development Director
City of Pewaukee
W240N3065 Pewaukee Road
Pewaukee, WI 53072

Re: Release of 45' Reserved Right-of-Way from
Lot 2 of Certified Survey Map No. 10366
Pewaukee, WI

Dear Mr. Fuchs:

This letter is in regards to the existing 45' reserved right-of-way along the southern property line of Lot 2 of Certified Survey Map No. 13066.

Per our prior conversations, we have confirmed with the Wisconsin DOT that this was not a DOT requirement, but rather a City of Pewaukee requirement. In reviewing the aerial maps of this area, it appears that the lots adjacent to this property have encroached into the reserved right-of-way leading us to believe that the City has no plans to develop within this area. To develop Lot 2 to its full potential, we respectfully request that the City vacate / discontinue this future right-of-way from Lot 2.

Please review and let us know if the City would be open to this request.

If you have any further questions regarding this matter, please feel free to contact me at (630) 870-1921.

Sincerely,

Quattro Development, LLC

Brett J. Dahlman, P.E.
Director of Construction & Development
brett@quattrodevelopment.com

Attachment: CSM 10366

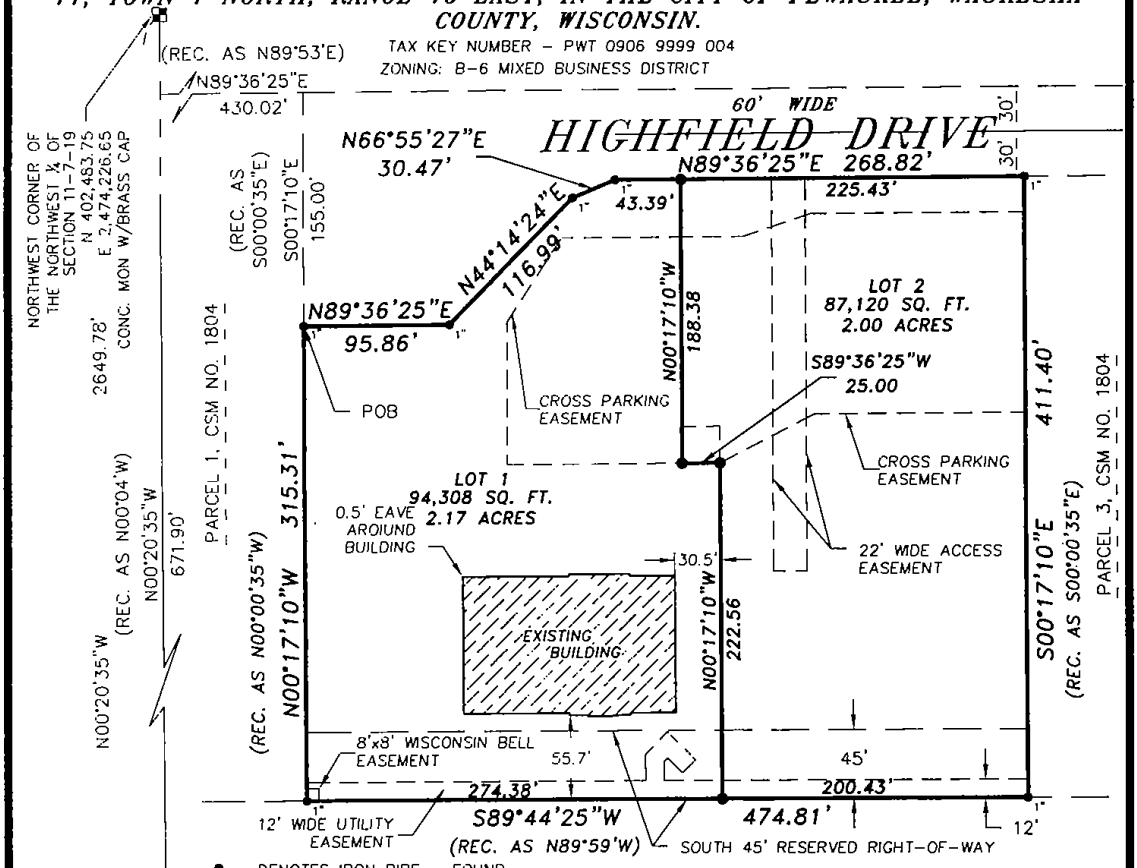
WC3472291-007

3472291

CERTIFIED SURVEY MAP NO. 10966

BEING A REDIVISION OF PART OF PARCEL 2 OF CERTIFIED SURVEY MAP NO. 1804, BEING A PART OF THE SOUTHWEST CORNER OF THE NORTHWEST ¼ OF SECTION 11, TOWN 7 NORTH, RANGE 19 EAST, IN THE CITY OF PEWAUKEE, WAUKESHA COUNTY, WISCONSIN.

TAX KEY NUMBER – PWT 0906 9999 004
ZONING: B-6 MIXED BUSINESS DISTRICT



●1 – DENOTES IRON PIPE – FOUND.

● – DENOTES 1.315" O.D. IRON PIPE, WEIGHTING NOT LESS THAN 1.13 LBS PER LINEAL FOOT, 18" IN LENGTH – SET.

ALL DIMENSIONS ARE MEASURED AND COMPUTED TO THE NEAREST ONE HUNDREDTH OF A FOOT.

BEARINGS ARE REFERENCE TO THE WISCONSIN STATE PLANE COORDINATE SYSTEM, SOUTH ZONE, ASSUMED WEST LINE N00°20'35"W.

THERE SHALL BE NO DIRECT ACCESS FROM LOTS 1, 2 AND 3 TO S.T.H. "190" / CAPITOL DRIVE.

WIDTH VARIES

CAPITOL DRIVE
(S.T.H. "190")

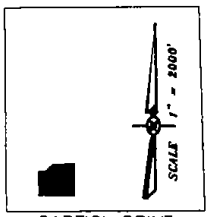
SOUTHWEST CORNER OF THE NORTHWEST ¼ OF SECTION 11-7-19
N 399,834.27
E 2,474,242.52
CONC. MON W/BRASS CAP

OWNER:
KB Pewaukee, LLC
2226 STATE ROAD 580
CLEARWATER, FL. 33763

SEE SHEET 2 OF 7 FOR EASEMENT DETAILS
SEE SHEET 3 OF 7 FOR LINE TABLE

GRAPHIC SCALE
100' 50' 0 100'

SCALE 1" = 100'



CAPTIOL DRIVE
VICINITY MAP
NW 1/4 SEC. 11-7-19

WISCONSIN
MARK D. NESGOOD
S-1967
KENOSHA, WI
LAND SURVEYOR

McCLURE ENGINEERING ASSOCIATES, INC.
5417 North 118th Court, Milwaukee, WI 53225
(414)616-4880 PROJECT NO. 08-15-05-114
(414) 616-4885 (FAX) DRAWING: 05114C2.DWG

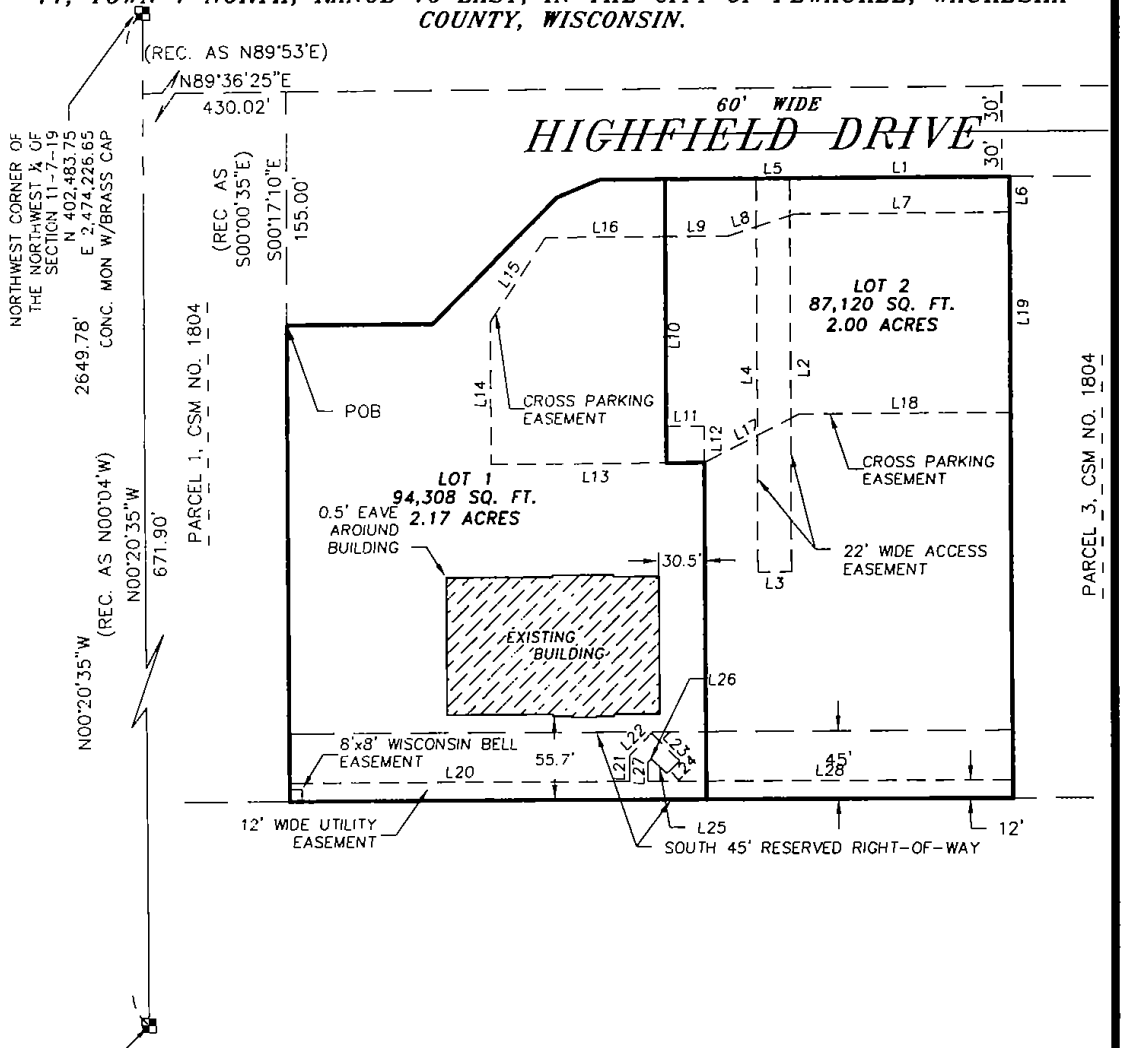
WISCONSIN REGISTERED LAND SURVEYOR
MARK D. NESGOOD S-1967

THIS INSTRUMENT WAS DRAFTED BY MARK D. NESGOOD, RLS

SHEET 1 OF 7

CERTIFIED SURVEY MAP NO. 10364

BEING A REDIVISION OF PART OF PARCEL 2 OF CERTIFIED SURVEY MAP NO. 1804, BEING A PART OF THE SOUTHWEST CORNER OF THE NORTHWEST ¼ OF SECTION 11, TOWN 7 NORTH, RANGE 19 EAST, IN THE CITY OF PEWAUKEE, WAUKESHA COUNTY, WISCONSIN.



WIDTH VARIES

CAPITOL DRIVE (S.T.H. "190")

SOUTHWEST CORNER OF THE NORTHWEST ¼ OF SECTION 11-7-19
N 399,834.27
E 2,474,242.52
CONC. MON W/BRASS CAP

GRAPHIC SCALE

100' 50' 0 100'

1" = 100'

SCALE

WISCONSIN
MARK D. NESGOOD
S-1967
KENOSHA, WI
LAND SURVEYOR

McCLURE ENGINEERING ASSOCIATES, INC.
5417 North 118th Court, Milwaukee, WI 53225
(414)616-4880
(414) 616-4885 (FAX)

PROJECT NO. 08-15-05-114
DRAWING: 05114C2.DWG

3/28/07

WISCONSIN REGISTERED LAND SURVEYOR
MARK D. NESGOOD S-1967

THIS INSTRUMENT WAS DRAFTED BY MARK D. NESGOOD, RLS

SHEET 2 OF 7

CERTIFIED SURVEY MAP NO. 10366

BEING A REDIVISION OF PART OF PARCEL 2 OF CERTIFIED SURVEY MAP NO. 1804, BEING A PART OF THE SOUTHWEST CORNER OF THE NORTHWEST 1/4 OF SECTION 11, TOWN 7 NORTH, RANGE 19 EAST, IN THE CITY OF PEWAUKEE, WAUKESHA COUNTY, WISCONSIN.

LINE TABLE		
LINE	BEARING	DISTANCE
L1	S89°36'25"W	143.52'
L2	S00°16'37"E	260.80'
L3	S89°43'25"W	22.00'
L4	N00°16'37"W	260.75'
L5	S89°36'25"W	22.00'
L6	S00°17'10"E	23.68'
L7	S89°36'25"W	140.49'
L8	S71°16'14"W	46.32'
L9	S89°36'25"W	41.00'
L10	S00°17'10"E	125.82'
L11	N89°36'25"E	25.00'
L12	S00°17'10"E	24.30'
L13	S89°36'25"W	140.49'
L14	N00°17'10"W	94.45'
L15	N32°59'24"E	66.67'
L16	N89°36'25"E	78.91'
L17	N62°29'07"E	70.01'
L18	N89°36'25"E	138.18'
L19	N00°17'10"W	132.78'
L20	N89°44'25"E	223.97'
L21	N00°32'10"W	17.46'
L22	N44°27'51"E	20.49'
L23	S45°32'09"E	26.00'
L24	S44°27'51"W	12.00'
L25	N45°32'09"W	14.00'
L26	S44°27'51"W	3.51'
L27	S00°32'10"E	12.54'
L28	N89°44'25"E	238.84'

WISCONSIN
MARK D. NESGOOD S-1967 KENOSHA, WI
LAND SURVEYOR

3/18/07

WISCONSIN REGISTERED LAND SURVEYOR
MARK D. NESGOOD S-1967

THIS INSTRUMENT WAS DRAFTED BY MARK D. NESGOOD, RLS

SHEET 3 OF 7

CERTIFIED SURVEY MAP NO. 10366

BEING A REDIVISION OF A PART OF PARCEL 2 OF CERTIFIED SURVEY MAP NO. 1804, BEING A PART OF THE SOUTHWEST ¼ OF THE NORTHWEST ¼ OF SECTION 11, TOWN 7 NORTH, RANGE 19 EAST, IN THE CITY OF PEWAUKEE, WAUKESHA COUNTY, WISCONSIN.

SURVEYOR'S CERTIFICATE

STATE OF WISCONSIN)
MILWAUKEE COUNTY) SS

I, Mark D. Nesgood, Registered Land Surveyor, do hereby certify that I have surveyed, divided and mapped a Redivision of a part of Parcel 2 of Certified Survey Map No. 1804, being a part of the Southwest ¼ of the Northwest ¼ of Section 11, Town 7 North, Range 19 East, City of Pewaukee, Waukesha County, Wisconsin, bounded and described as follows:

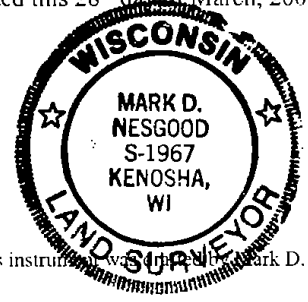
Commencing at the Southwest corner of the Northwest ¼ of said Section; thence N00°20'35"W along the West line of the Northwest ¼ of said Section 671.90 feet; thence N89°36'25"E 430.02 feet to the Northwest corner of Parcel 2 of said Certified Survey Map; thence S00°17'10"E along the West line of Parcel 2 of said Certified Survey Map 155.00 feet to the point of beginning; thence N89°36'25"E along the South right-of-way line of Highfield Drive; thence N44°14'24"E along the Southeasterly right-of-way line of said Drive 116.99 feet; thence N66°55'27"E along the Southeasterly right-of-way line of said Drive 30.47 feet; thence N89°36'25"E along the South right-of-way line of said Drive 268.82 feet to a point on the East line of Parcel 2 of said Certified Survey Map; thence S00°17'10"E along the East line of Parcel 2 of said Certified Survey Map 411.40 feet to the Southeast corner of Parcel 2 of said Certified Survey Map and a point on the North right-of-way line of Capitol Drive; thence S89°44'25"W along the South line of Parcel 2 of said Certified Survey Map and the North right-of-way line of said Drive 474.81 feet to the Southwest corner of Parcel 2 of said Certified Survey Map; thence N00°17'10"W along the West line of Parcel 2 of said Certified Survey Map 315.31 feet to the point of beginning. Containing 4.17 acres of land more or less.

THAT I have made such survey, land division and map by the direction of KB Pewaukee, LLC, a Florida limited liability company, owner of said land.

THAT such map is a correct representation of all exterior boundaries and of the land surveyed and the land division thereof made.

THAT I have fully complied with the provisions of Chapter 236 of the Wisconsin State Statutes and the regulations of the City of Pewaukee in surveying, dividing and mapping the same.

Dated this 28th day of March, 2007



Wisconsin Registered Land Surveyor
Mark D. Nesgood S-1967

CERTIFIED SURVEY MAP NO. 10366

BEING A REDIVISION OF A PART OF PARCEL 2 OF CERTIFIED SURVEY MAP NO. 1804, BEING A PART OF THE SOUTHWEST ¼ OF THE NORTHWEST ¼ OF SECTION 11, TOWN 7 NORTH, RANGE 19 EAST, IN THE CITY OF PEWAUKEE, WAUKESHA COUNTY, WISCONSIN.

OWNERS CERTIFICATE

As Owner, I do hereby certify that I have caused the land described on this plat to be surveyed, divided and mapped as represented on this plat. We also certify that this Certified Survey Map is Required to be submitted to the following for approval: City of Pewaukee.

WITNESS the hand and seal of said Owner this 29th day of March, 2007.

IN THE PRESENCE OF:

KB Pewaukee, LLC, a Florida Limited Liability Company.

, Member
Robert E. Schmidt, Jr.
Managing Member

STATE OF Florida)
Pinellas COUNTY) SS

PERSONALLY came before me this 29 day of March, 2007, the above named Robert E Schmidt Member of KB Pewaukee, LLC a Florida Limited Liability Company, to me known to be the person who executed the foregoing instruction and acknowledged the same.

Amanda D. Norwick
Commission # DD641050
Expires: FEB. 15, 2011
www.AaronNotary.com

Notary Public, State of Florida
My commission expires Feb. 15, 2011

WISCONSIN
MARK D. NESGOOD
S-1004
KENOSHA, WI
LAND SURVEYOR

THIS INSTRUMENT WAS DRAFTED BY MARK D. NESGOOD, R.L.S. SHEET 5 OF 7

207

CERTIFIED SURVEY MAP NO. 10366

BEING A REDIVISION OF A PART OF PARCEL 2 OF CERTIFIED SURVEY MAP NO. 1804, BEING A PART OF THE SOUTHWEST ¼ OF THE NORTHWEST ¼ OF SECTION 11, TOWN 7 NORTH, RANGE 19 EAST, IN THE CITY OF PEWAUKEE, WAUKESHA COUNTY, WISCONSIN.

CONSENT OF CORPORATE MORTGAGEE

Park Bank, mortgagee of the above described land, does hereby consent to the surveying, dividing and mapping of the land described on this map, and does hereby consent to the foregoing owner's certificate.

Park Bank

STATE OF)
COUNTY) SS

Personally came before me this 2ND day of APRIL, 2007, HEATHER BAYLOR of the above named Corporation, to be known to be the person who executed the foregoing instrument, and to me known to be such VICE PRESIDENT of said Corporation, and acknowledged that he executed the foregoing instrument as such officer as the deed of said corporation, by its authority.

Notary Public, State of WI
My Commission expires 4-[illegible]

WISCONSIN
MARK D.
NESGOOD
S-1967
KENOSHA
LAND SURVEYOR

THIS INSTRUMENT WAS DRAFTED BY MARK D. NESGOOD, R.L.S. SHEET 6 OF 7

CERTIFIED SURVEY MAP NO. 10366

BEING A REDIVISION OF A PART OF PARCEL 2 OF CERTIFIED SURVEY MAP NO. 1804, BEING A PART OF THE SOUTHWEST ¼ OF THE NORTHWEST ¼ OF SECTION 11, TOWN 7 NORTH, RANGE 19 EAST, IN THE CITY OF PEWAUKEE, WAUKESHA COUNTY, WISCONSIN.

CITY PLAN COMMISSION APPROVAL:

Approved by the Plan Commission, City of Pewaukee, this 15th day of March, 2007.

Scott Klein – Chairman

David Mokros – Secretary

CITY COMMON COUNCIL APPROVAL:

Approved by the Common Council, City of Pewaukee, this 19th day of March, 2007.

Scott Klein – Mayor

Kelly Tarczewski – Clerk

CITY OF PEWAUKEE CORPORATE SEAL WISCONSIN

Vol 48 Pages 203-209

3472291

REGISTER'S OFFICE
WAUKESHA COUNTY, WI
RECORDED ON

04-13-2007 11:51 AM

MICHAEL J. HASSLINGER
REGISTER OF DEEDS

REC. FEE: 16.00
REC. FEE-CO: 5.00
REC. FEE-ST: 2.00
TRAN. FEE:
TRAN. FEE-STATE:
PAGES: 7

WISCONSIN MARK D. NESGOOD S-1967 KENOSHA WI LAND SURVEYOR

THIS INSTRUMENT WAS DRAFTED BY MARK D. NESGOOD, R.L.S. SHEET 7 OF 7

A COVENANT
REGARDING THE ISSUANCE OF A
CONDITIONAL USE PERMIT
BY THE
CITY OF PEWAUKEE

TAX KEY NUMBER(S) OR PARCEL(S) INVOLVED:

CONDITIONAL USE PERMIT: NO. CUP-23-3-3

PWC 0906994

Recording area

Name & Return Address

City of Pewaukee
W240N3065 Pewaukee Rd
Pewaukee, WI 53072

LEGAL DESCRIPTION:

LOT 2 CERT SURV 10366 VOL 98/203 2.00 AC PT NW1/4 SEC 11 T7N R19E DOC# 3482373

PERSON(S), AGENT(S) OR CORPORATION(S) PETITIONING FOR PERMIT:

Quattro Development/Higher Ground Education

WHEREAS, It is understood by all parties to this covenant that Section 62.23 of WIS. Statutes prescribes the legal basis for the granting of a conditional use permit by a City and Chapter 17 of the City Codes and Ordinances provides for the issuance of such permits as well as the standards by which all such uses will be measured; and,

WHEREAS, The City Plan Commission has held a meeting on March 16, 2023; has reviewed the various elements of the petitioner's proposal; and has recommended that a Conditional Use Permit be granted to the above-named petitioner for the property/parcel identified above; and,

WHEREAS, The City Common Council held a public hearing meeting on April 3, 2023.

NOW, THEREFORE, let it be known that the City Common Council, by its action on April 3, 2023 has, hereby, granted a Conditional Use Permit for the following use(s):

Construction of a childcare facility.

FURTHER, such approved use of the above designated parcel(s) are hereby allowed based on the following conditions being continually met:

1. Staff recommends that the playground areas, fencing, and any other accessory structure and use be located behind the building on the north side of the property.
2. Final grading, erosion control and storm water management plans shall be approved by the Engineering Department, prior to any land disturbing activities.
3. The applicant shall not be responsible for the construction of a bell tower as conditioned within Conditional Use Permit No. COP-05-10-3.

The parties hereto, namely the City of Pewaukee and the Equitable Owner of the property for which this conditional use has been sought, set their signatures or the signatures of their representatives below, thereby agreeing to the provisions and conditions set forth in this covenant.

_____ _____

Attest: Signature of equitable owner

_____

Date

_____ _____

Kelly Tarczewski
City Clerk

Steve Bierce
Mayor, City of Pewaukee

_____

Date

State of Wisconsin
County of Waukesha

Signed or attested before me on _____, 2023 by Steve Bierce, Mayor and Kelly Tarczewski, Clerk.

_____

(Seal) Ami Hurd
My Commission expires _____

This instrument was drafted by Ami Hurd, Deputy Clerk

DRAFT

WAUKESHA COUNTY CITY OF PEWAUKEE STATE OF WISCONSIN

RESOLUTION NO. __-__

A RESOLUTION AUTHORIZING THE RELEASE, WAIVER, VACATION AND REVISION OF A FORTY-FIVE FOOT RESERVED RIGHT-OF-WAY RESTRICTION UPON LOTS 1 AND 2 OF CERTIFIED SURVEY MAP NO. 10366 FOR PROPERTIES LOCATED AT APPROXIMATELY N35W23877 HIGHFIELD COURT BEARING TAX KEY NOS. 0906993 AND 0906994

WHEREAS, the Plan Commission having approved a Conditional Use and Site and Building Plan Review Application upon the application of Quattro Development, LLC on March 16, 2023, and the Plan Commission having conditioned approval thereof in part upon Common Council approval of the release of a 45' Reserved Right-of-Way restriction located upon Parcels 1 and 2 of Certified Survey Map No. 10366, recorded April 13, 2007 in Volume 98 of Certified Survey Maps on Pages 03 to 209, inclusive as Document No. 3472291 with the Office of the Register of Deeds for Waukesha County, Wisconsin, as further described below:

Release of the 45' Reserved Right-Of-Way located along the south property line of Parcel 1 of CSM No. 10366.

Release of the 45' Reserved Right-Of-Way located along the south property line of Parcel 2 of CSM No. 10366; and

WHEREAS, the City Engineering Department and City Planner have reviewed the proposed release of a 45' Reserved Right-of-Way restriction and recommended approval thereof to the Common Council; and

WHEREAS, the 45' Reserved Right-of-Way has been determined to no longer be needed considering the developments of the subject properties and adjacent parcels to the east; and

WHEREAS, the previously recorded 45' Reserved Right-of-Way restriction described above are located upon Certified Survey Map No. 10366, which properties are legally described as follows:

> Commencing at the Southwest comer of the Northwest ¼ of said Section; thence N00°20'35"W along the West line of the Northwest ¼ of said Section 671.90 feet; thence N89°36'25"E 430.02 feet to the Northwest comer of Parcel 2 of said Certified Survey Map; thence S00°17'10"E along the West line of Parcel 2 of said Certified Survey Map 155.00 feet to the point of beginning; thence N 89°36'25"E along the South right-of-way line of Highfield Drive; thence N44°14'24" E along the Southeasterly right-of-way line of said Drive 116.99 feet; thence N66°55'27"E along the Southeasterly right-of-way line of said Drive 30.47 feet; thence

N89°36'25"E along the South right-of-way line of said Drive 268.82 feet to a point on the East line of Parcel 2 of said Certified Survey Map; thence S00°17'10"E along the East line of Parcel 2 of said Certified Survey Map 411.40 feet to the Southeast comer of Parcel 2 of said Certified Survey Map and a point on the North right-of-way line of Capitol Drive; thence S89°44'25"W along the South line of Parcel 2 of said Certified Survey Map and the North right-of-way line of said Drive 474.81 feet to the Southwest comer of Parcel 2 of said Certified Survey Map; thence N00°17'10"W along the West line of Parcel 2 of said Certified Survey Map 315.31 feet to the point of beginning. Containing 4.17 acres of land more or less.

WHEREAS, Wis. Stats section 236.293 provides in part that any restriction placed on platted land by covenant, grant of easement or in any other manner, which was required by a public body vests in the public body the right to enforce the restriction at law or in equity and that the restriction may be released or waived in writing by the public body having the right of enforcement; and

WHEREAS, the Common Council has determined that the release, waiver, vacation and revision of the prior recorded 45' Reserved Right-of-Way is reasonable as it is no longer necessary for the orderly development of the subject properties or appropriate following the approval of the aforesaid site and building development plans submitted by Quattro Development, LLC.

NOW, THEREFORE, BE IT RESOLVED, by the Mayor and Common Council of the City of Pewaukee, Wisconsin, that the 45' Reserved Right-of-Way upon Parcels 1 and 2 of Certified Survey Map No. 10366, recorded April 13, 2007 in Volume 98 of Certified Survey Maps on Pages 03 to 209, inclusive as Document No. 3472291 with the Office of the Register of Deeds for Waukesha County, Wisconsin, be and the same are hereby waived and released.

BE IT FURTHER RESOLVED that the City Clerk is hereby directed to record this Resolution in the Office of the Register of Deeds for Waukesha County, Wisconsin following the approval of the proposed Quattro Development, LLC Conditional Use and Site and Building Plan Review applications.

Passed and adopted this __th day of _____, 2023.

FOR THE COMMON COUNCIL OF THE CITY OF PEWAUKEE, WAUKESHA COUNTY, WISCONSIN

ATTEST:

_____
Steve Bierce, Mayor

_____
Kelly Tarczewski, Clerk/Treasurer

CITY OF PEWAUKEE
PLAN COMMISSION AGENDA ITEM 6.

DATE: March 16, 2023

DEPARTMENT: Planning

PROVIDED BY:

SUBJECT:

Discussion and Action Regarding a Recommendation to the Common Council for a Conditional Use Permit for Better Cowork, LLC for Property Located at W239 N3490 Pewaukee Road for the Purpose of Developing a Shared Office Space (PWC 0907992)

BACKGROUND:

FINANCIAL IMPACT:

RECOMMENDED MOTION:

ATTACHMENTS:

Description

Better Cowork staff report 3.16.23

Better Cowork plans

Better Cowork site plans

Better Cowork draft Conditional Use Permit

Office of the Planner & Community Development Director
W240 N3065 Pewaukee Road
Pewaukee, Wisconsin 53072
Phone (262) 691-0770 Fax (262) 691-1798
fuchs@pewaukee.wi.us

REPORT TO THE PLAN COMMISSION

Meeting of March 16, 2023

Date: 03/09/2023

Project Name: Better Cowork Conditional Use

Project Address/Tax Key No.: W239N3490 Pewaukee Road/PWC 0907992

Applicant: Vertical Investments LLC

Property Owner: CAPWAUKEE PROPERTIES LLC

Current Zoning: B-6 Mixed Use Business District

2050 Land Use Map Designation: Office/Commercial

Use of Surrounding Properties: Rm-3 (Crosswind Condos) to the east, Capitol Dr to the north and west, and Rs-4 to the south (Five Fields Subdivision).

Project Description/Analysis:

The applicant, Vertical Investments, LLC, filed a petition for a Conditional Use for the property currently occupied by Inlanta Mortgage located at the southeast corner of Capitol Drive and Highway 164. The proposed Conditional Use requests to use the building as coworking space.

The existing building onsite has an area of approximately 24,312 square feet. The building will become vacant on March 31, 2023, as Inlanta Mortgage announced it was closing on November 30, 2022.

The proposed use of coworking space consists of people from different companies working in a single, shared space. Individuals and businesses would be allowed to purchase memberships to access the building for various amounts of time, without having members register as tenants or sign leases.

The building would include two full-time employees on-site from 8am to 5pm, Monday through Friday. Security cameras will be installed, and a record of users will be maintained. There are no proposed exterior site or building alterations, and only minor interior modifications.

The property is zoned B-6 Mixed Use Business District, which allows permitted uses within the B-4 and B-5 districts. Staff finds that the proposed use meets the intent of the B-6 District and is compatible with the principal permitted uses in the B-4 and B-5 districts. However, typically individual businesses are required to submit a Business Plan of Operation Application. This application is reviewed by staff to ensure that the use occupying a tenant space within a building is permitted within the zoning district.

Unlike a typical multi-tenant building, a membership type system is being utilized. The applicant has also indicated that users of the coworking space are often much shorter terms than a typical tenant that

would be leasing space. As such, the applicant is requesting that individual businesses not be required to apply for a Business Plan of Operation Application with the City.

Staff does not object to this request and recommends that *general office business uses shall not be required to obtain individual Business Plan of Operation Applications or other zoning use approvals under this Conditional Use Permit, unless required by the Zoning Administrator*. *All other uses shall be required to obtain a Business Plan of Operation or Conditional Use Permit as required by the Zoning District*.

Recommendation:

A motion to recommend approval of the Conditional Use Permit for Better Cowork, subject to staff's recommended condition of approval.

Office of the Planner & Community Development Director
W240 N3065 Pewaukee Road
Pewaukee, Wisconsin 53072
Phone (262) 691-0770
Fax (262) 691-1798
fuchs@pewaukee.wi.us

PETITION FOR CONDITIONAL USE

TO THE HONORABLE MAYOR AND COMMON COUNCIL OF THE CITY OF PEWAUKEE, WAUKESHA COUNTY, WISCONSIN

The undersigned hereby petitions the Common Council of the City of Pewaukee, Waukesha County, Wisconsin for a Conditional Use Permit for the purpose of: Shared office space (See attached for more detail) without the obligation to register members as tenants

Legal description of property – Please attach.

Common property description or name: Inlanta Building

Property Address: W239N3490 Pewaukee Rd **Tax Key Number(s):** PWC0907992001

Property owner(s) (Full Legal Name): Capwaukee Properties LLC.

Owner's Address: W239N3490 Pewaukee Rd **City/State/Zip:** Pewaukee, WI 53072

Phone: (262) 720 8545 **Email:** alex@SimicFamily.com

Applicant (Full Legal Name):

Name: M. Alex Simic

Company: Vertical Investments LLC

Address: 2735 N. Calhoun Rd

City/State/Zip: Brookfield WI 53005

Phone: (262) 720 8545

Email: alex@verticalinvestments llc. com

Contact Person (Full Legal Name):

Name: M. Alex Simic

Company: Vertical Investments LLC

Address: 2735 N. Calhoun Rd

City/State/Zip: Brookfield WI 53005

Phone: (262) 720-8545

Email: alex@simicfamily.com

Conditional Use submittals must include and be accompanied by the following:

- ☐ This Application form accurately completed with original signatures.
- ☐ Application Filing Fee, payable to the City of Pewaukee:
  - $400.00, plus cost for publication, notice and all attorney fees related to project
- ☐ Five (5) complete collated sets of Application materials to include:
  - A written project narrative detailing the request, business/use operational information, future development plans, site and building improvements, tentative development schedule, and estimated project value.
  - Scaled drawings, as may be applicable, including, but not limited to; a site plan, grading/erosion control plan, preliminary storm water management plan, landscape plan, lighting plan, building elevations, colored renderings, sign details and natural resource delineations.
- ☐ All application materials provided in a digital format (Adobe PDF). Materials may be submitted on a USB Flash Drive or emailed to hurd@pewaukee.wi.us.
- ☐ Note twelve (12) additional sets of plans will be required for Plan Commission following staff review of the initial submittal. These plans should be revised in response to staff comments as may be necessary.

Office of the Planner & Community Development Director
W240 N3065 Pewaukee Road
Pewaukee, Wisconsin 53072
Phone (262) 691-0770
Fax (262) 691-1798
fuchs@pewaukee.wi.us

The applicant and property owner(s) hereby certify that:

1) all statements and other information submitted as part of this application are true and correct to the best of applicant's and property owner(s)' knowledge;
2) the applicant and property owner(s) has/have read and understand all information in this application; and
3) the applicant and property owner(s) agree that any approvals based on representations made by them in this Application and its submittal, and any subsequently issued building permits or other type of permits, may be revoked without notice if there is a breach of such representation(s) or any condition(s) of approval.

By execution of this application, the property owner(s) authorize the City of Pewaukee and/or its agents to enter upon the subject property(ies) between the hours of 7:00 a.m. and 7:00 p.m. daily for the purpose of inspection while the application is under review. The property owner(s) grant this authorization even if the property has been posted against trespassing pursuant to Wis. Stat. §943.13.

(The applicant's signature must be from a Managing Member if the business is an LLC, or from the President or Vice President if the business is a corporation. A signed applicant's authorization letter may be provided in lieu of the applicant's signature below, and a signed property owner's authorization letter may be provided in lieu of the property owner's signature[s] below. If more than one, all of the owners of the property must sign this Application).

PETITIONER'S/APPLICANT'S SIGNATURE: _____

NAME & TITLE (PRINT): M. Alex Simic

SIGN AND DATED this 26th **day of** Jan 2023.

PROPERTY OWNER'S SIGNATURE: _____

NAME & TITLE (PRINT): Manager for Capwaukee Properties, LLC

SIGN AND DATED this 26th **day of** January, 2023.

PROPERTY OWNER'S SIGNATURE: _____

NAME & TITLE (PRINT): _____

SIGN AND DATED this _____ **day of** _____, _____.

City Staff-

RECEIVED at City Hall by: _____ on _____

Fee paid: $_____. Date: _____.

Vertical Investments, LLC/ Better Cowork LLC Plan of Operations

Vertical Investments LLC, through its wholly owned subsidiary, Better Cowork LLC, would like to establish a coworking presence in the City of Pewaukee. It has entered into an agreement to purchase an office building located at W239N3490 Pewaukee Rd., Pewaukee WI 53072 (see **Exhibit 1**). The 4.724 acre property with an existing 24,312 square foot office building has been occupied by Inlanta Mortgage since 2016. However, the building will become vacant as of March 31, 2023, as Inlanta announced it was closing on November 30, 2022 (see **Exhibit 2**).

Better Cowork plans to use the building "as-is", and does not intend to make any alterations to the external building elevations or the lot. It expects to use most of the existing offices in the interior building, but may add lighting, furniture and possibly make some small interior modifications in the future. Better Cowork would apply for a separate Remodel/Alterations/Buildout Permit to the extent it would need to change the interior of the existing building. The total cost of purchasing and furnishing the property is expected to be $3,300,000. If approved, Better Cowork plans to commence operations in the building by the fourth quarter of 2023.

Better Cowork LLC will operate the building as a coworking office. Better Coworks would be the only office tenant in the building. However, it would allow the general public to purchase memberships to access the building either for the day or by the month. The Company will provide memberships to individuals and businesses. Depending on the level of membership, customers would have access to its lounges, meeting rooms, cafés, designated desks, private offices and team suites. Each of these work spaces would be fully furnished, come with high speed internet, and the meeting rooms would be equipped with the latest AV equipment. **Better Cowork is seeking the City of Pewaukee's approval to enable members to access the building without having to register as tenants. Members will occupy various portions of the building on a short basis, ranging from a day, to a month, or possibly multiple months. Members will not leave any personal property in the building overnight, and they will not be required to sign leases.**

The property will be staffed with 2 full time employees who will be on site from 8 am to 5 pm Mondays through Fridays. Members will have 24/7 access, but Better Cowork expects most office users will visit between 7 am and 6 pm. There will be security cameras in and key fob access to monitor the property and an maintain a record of users entering and leaving the property.

Better Cowork is owned by M. Alex Simic a local developer that sold about 1 million square feet of self storage assets in 2022. Mr. Simic lives in Elm Grove, WI and grew up in the Milwaukee MSA. He has over 25 years of developing and maintaining "best in class" properties in SE Wisconsin.

Coworking is a term used to describe a working arrangement in which people from different teams and companies come together to work in a single shared space.

The first coworking spaces began appearing in the early 2000s. They attracted mostly self-employed freelancers and web entrepreneurs searching for an alternative to working from coffee shops, business centers, and home offices.

Since then, coworking has become a global phenomenon, and coworking spaces themselves have evolved to keep up with the changing ways we work. There were an estimated 19,000 coworking spaces around the world in 2019. Today, they're used by everyone from individuals working remotely to entire corporate teams.

What is coworking space?

In the simplest sense, coworking space is an environment that's designed to accommodate people from different companies who come to do work.

Coworking space is characterized by shared facilities, services, and tools. Sharing infrastructure in this way helps to spread the cost of running an office across members, but coworking spaces are more than just a way of reducing overhead.

Coworking spaces are community centers, collaboration hubs, and social spaces where workers from different backgrounds can come together to share expertise and explore new ideas. Coworking has communal roots dating back to the first "hackerspaces" in Europe, and today's coworking spaces retain a strong social aspect.



WeWork 80 George Street in Edinburgh, UK.

Lately, coworking spaces are also being used by larger companies seeking to cut down on their unused office space, move away from traditional headquarters, and embrace a more flexible way of working.

Coworking spaces are a way for growing businesses to expand into new areas and access fresh talent pools without taking on the risk of a long-term lease. They're a convenient space for newly remote workers to continue to meet and collaborate with colleagues without having to travel too far.

The history of coworking

- **1995** — The first hackerspace opens in Berlin. A precursor to the modern coworking space, these community-operated venues attracted coders, scientists, and software engineers and acted as a hub for sharing new ideas, comparing code, and hosting social events and seminars.
- **1999** — Apple launches the first iBook. One of many increasingly powerful laptops of the era, the device enabled workers to be productive on the go. The iconic and colorful clamshell design was a common sight in coffee shops, study halls, and anywhere freelancers gathered to work.
- **2002** — An "entrepreneurs center" opens in Vienna. Located inside a run-down factory, Schraubenfabrik was a shared open-plan office that fostered a growing community of startups, freelancers, and architects before the term "coworking" entered the mainstream. Schraubenfabrik exists to this day, and proudly calls itself the "mother of coworking."
- **2004** — A "work club" opens in Emeryville, California. When Neil Goldberg, an architect and designer, couldn't find a buyer for his warehouse in the Bay Area, he transformed the building into the Gate 3 WorkClub: a shared space for dotcom telecommuters working in and around San Francisco.
- **2005** — The first official coworking space opens in San Francisco. Software engineer Brad Neuberg devised a new type of shared workspace that would bring together individual workers in a setting that was more social and productive than a home office. He launched the San Francisco Coworking Space at Spiral Muse, a feminist collective in the Mission District.
- **2008** — The global financial crash and the ensuing recession changes the world of work. With businesses downsizing and rising job losses, record numbers of workers turned to self-employment, reshaping the job landscape.
- **2009** — At South by Southwest, several unofficial coworking events take place. These impromptu meetings formed the framework of what would later become the Global Coworking Unconference Conference. By the end of the year, there were an estimated 160 coworking spaces around the world.
- **2010** — The first WeWork location opens in New York. The 3,000 square foot coworking space on the corner of Lafayette Street was characterized by its industrial aesthetic, wooden floors, and exposed brickwork—iconic design elements still seen in many locations around the world today.

- **2013** — The coworking movement is now firmly established, with new sites opening up almost every day to meet the growing demand for flexible office space. That year, there were an estimated 2,500 coworking spaces worldwide.
- **2019** — According to Statistica, there are almost 19,000 coworking spaces around the world.

Advantages of coworking space

The continued rise of coworking spaces in cities all across the world is driven by a bunch of different factors. Some of them are economic. The 2008 financial crash led to a boom in newly self-employed entrepreneurs and freelancers, many of whom needed someplace to work and collaborate that wasn't their own living room.

The COVID-19 pandemic shook things up again, accelerating the work-from-home trend as social distancing restrictions put the brakes on returning to the office. Now, as workers demand more flexibility in how and where they do their work, the traditional office is being reimagined as a collaboration hub, a creative space, and a hybrid workplace.



Crossroads in San Mateo, CA.

Coworking space can be a lifesaver for individual workers, but it also plays a big part in any company's strategy to shift toward a more flexible way of working. Some of the main advantages of coworking spaces include:.

- **Greater flexibility.** Most coworking spaces don't require you to commit to a long-term contract. Instead, freelancers and startups can take advantage of shorter leases and flexible pay-as-you-go terms, which can help keep things affordable for young companies just starting out.

- **A sense of community.** Coworking was created to help early web entrepreneurs escape the drudgery and isolation of working from home, and while they've evolved to fulfill a much wider range of roles, they're still very much social spaces at heart. A coworking space connects you with a group of like-minded professionals.

- **Frictionless networking.** This goes hand-in-hand with the community aspect of coworking spaces we mentioned above. When you share a physical space with workers from your own industry and beyond, you unlock potential opportunities, build strong relationships, and develop lasting connections with new people.

- **Boosted productivity.** Sharing a coworking space with a bunch of driven and focused coworkers is a surefire way to enhance your own productivity. Not only is it more difficult to slack off when someone else is around, but physically traveling to a space that's dedicated to working helps to regiment your schedule.

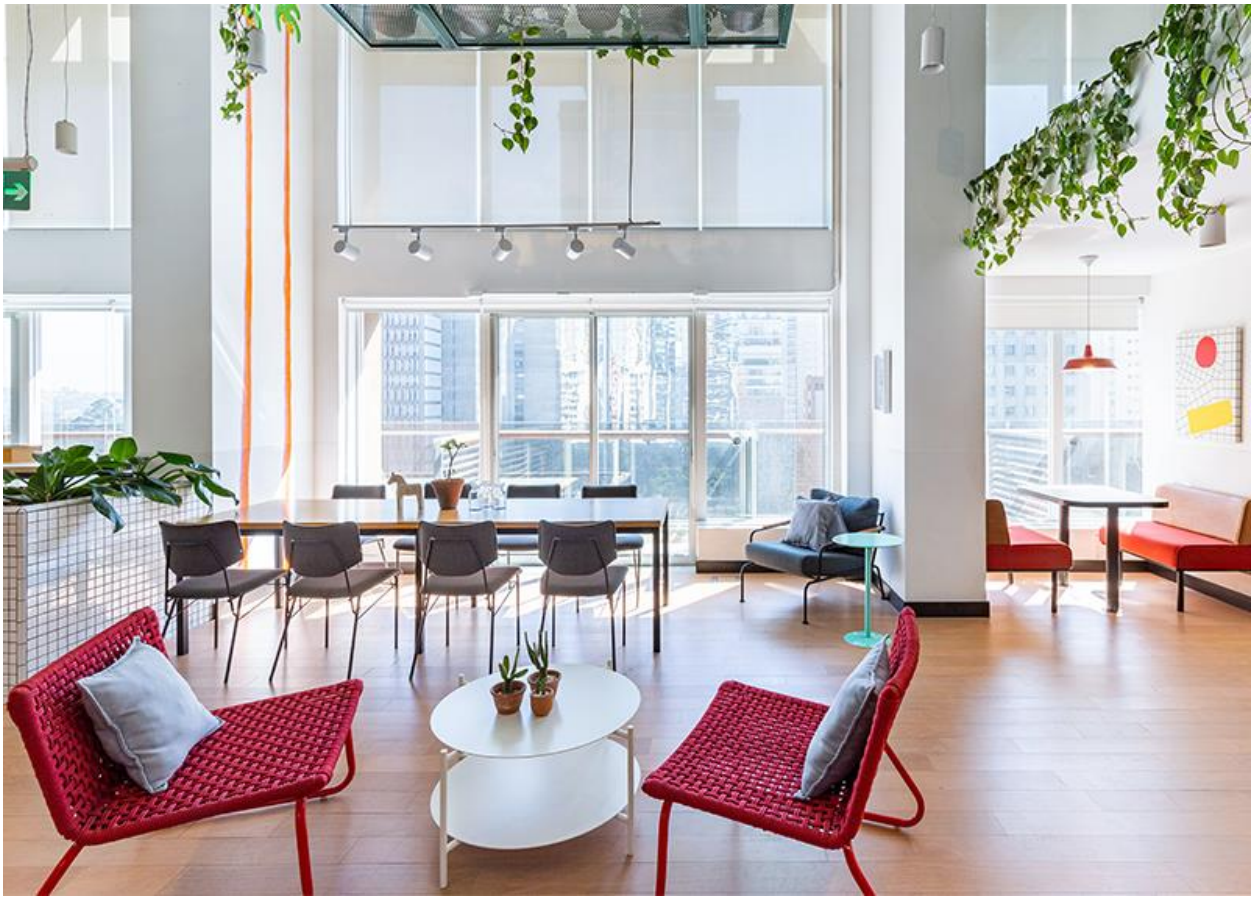
- **More creativity.** We're more creative when we're around other people. Whether you're working in a creative industry or you simply need a creative solution to a tricky problem, chatting with friends and colleagues helps kick-start new thought processes and introduce perspectives and ideas you hadn't considered.

- **Lower costs.** One of the main benefits of a coworking space is greater cost-efficiency. By sharing things like office facilities, reception services, internet, and printers with employees from other companies, businesses on a tight budget can avoid service charges and cut out many of the usual overheads associated with a long-term real estate lease.

Who uses coworking space?

The demographics of coworking spaces are changing. They're no longer dominated by the classic stereotype of Silicon Valley startups and creative freelancers. Instead, modern coworking spaces attract a broad community, from small businesses to enormous international companies.

For example, Microsoft is taking full advantage of the benefits of coworking space to cut their employees' commuting time around New York City. The tech giant used WeWork All Access to avoid countless wasted hours spent traveling between meetings. This led to a boost in productivity, happier teams, and invaluable access to the collaborative communities found in coworking spaces.



Joining Microsoft are a host of other large technology corporations trying to move away from formal offices, including IBM, Facebook, Samsung, and Verizon. Even notoriously secretive Apple was reported to have used a coworking space in Berlin to discreetly work on undisclosed projects in 2017.

Despite this influx of business titans, freelancers continue to make up most of the members of coworking spaces worldwide. According to the latest report from the Global Coworking Survey, 42 percent of coworkers are freelancers, while 14 percent describe themselves as digital nomads.

However, when you zoom in on major cities—especially across North America and Asia—it's employees who represent the largest group of members in coworking spaces by far. The trend can be explained by the growing number of companies leasing full-floor offices in coworking spaces in urban areas, while freelancers are a lot more likely to use coworking spaces in smaller towns closer to home.

The most popular profession in coworking spaces globally is IT, followed by marketing and public relations. Slightly more than half of all coworking members are women, and the average age is 36.

The evolution of coworking space: other methods of coworking

Although the term “coworking” was only recently coined, the basic concept is nothing new. Collectives and maker spaces have always existed in some form, and people have been working alongside one another for about as long as there have been people.

But in the past few years, coworking spaces are being reconsidered in the context of fast-changing workplace trends. Companies are shifting toward a more distributed way of working. Employees are demanding more flexibility and autonomy in when and how they use the office. Remote workers want a space away from home to focus and be productive, meet colleagues, and use specialist equipment.

This has given rise to the hybrid workplace model, a new type of working environment that combines aspects of remote working and in-office working. To support this style of working, businesses have had to transform their existing office layouts by removing fixed cubicles and assigned desks, and introducing design features that encourage more teamwork, creativity, and innovation.

As you might expect, the results look a lot more like coworking spaces than they do traditional offices. Once thought of as a liminal space filled with digital nomads and tech entrepreneurs playing table tennis, the modern coworking space has matured. Coworking spaces are now flexible offices and collaboration hubs designed to serve companies of all sizes as well as individuals.

Terms like flexible working and hybrid working are often used interchangeably, though they can mean different things in different contexts.

Tips on finding coworking space

Location

Whether you’re a solo freelancer in search of a desk or a CEO in charge of 1,000 people, the most important aspect of finding a coworking space is its location. The best coworking space might not be the one closest to you, but it should be convenient to reach by car, bike, or public transportation. If your goal is to network with like-minded coworkers, make waves in a new city, or even attract new staff, a perfectly located coworking space can make a huge difference.

Amenities

They might seem like a nice bonus, but top-level amenities can truly elevate a coworking space into something special. Endless free coffee, reliable Wi-Fi, and printing facilities are a good starting point, but consider other features when making your choice. Outdoor space is an enormous perk in urban centers, for example, while experienced on-site staff and smartly designed meeting areas help you emanate a professional vibe around clients.

Flexibility

For large employers, a coworking space can be a first foothold in a new market before deciding whether to make a more permanent expansion. Ensure the coworking space you choose offers a flexible, short-term office lease to give your business the elbow room it needs to navigate the unexpected and to easily scale up or down to suit your changing priorities as the company expands.

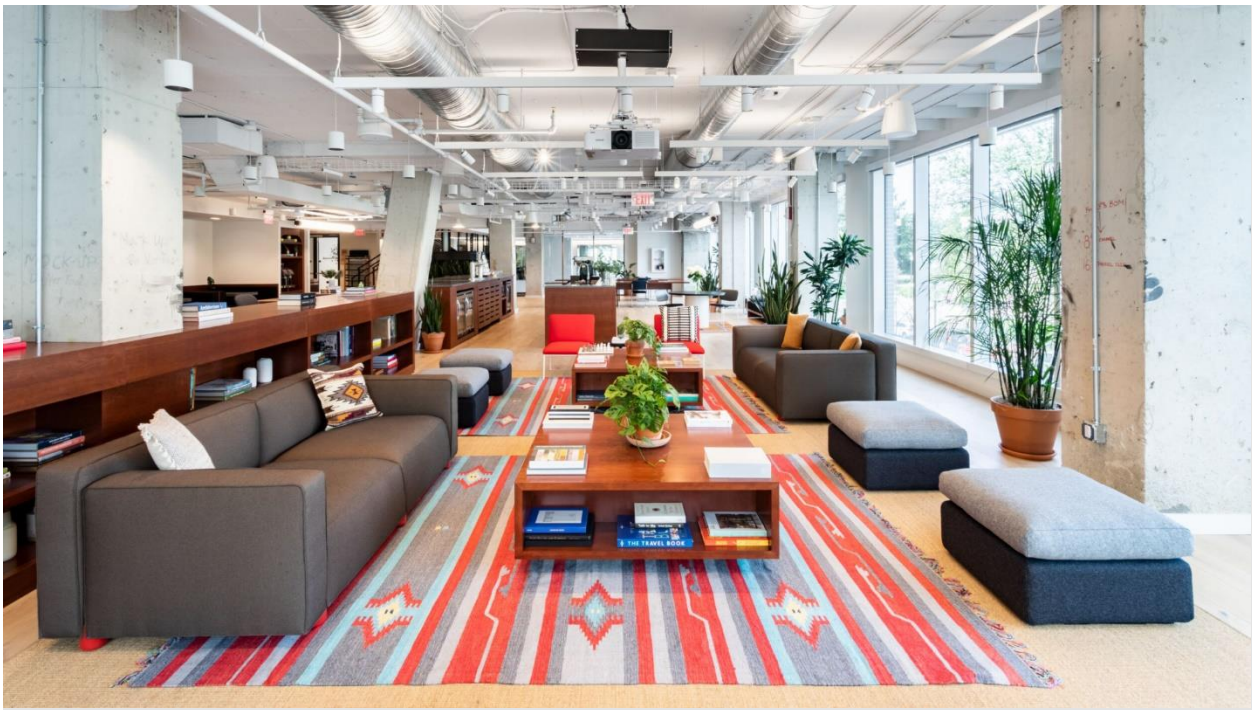
Budget

With furniture and amenities included, and unexpected expenses such as repairs already covered, coworking spaces can be a cheap option for businesses looking to move or expand. Your budget will ultimately determine which coworking spaces are affordable for you and your team, but consider how things might change as your company grows or shrinks—this is another area in which having a coworking space with a flexible lease can really help you out.

Privacy

Depending on the type of work you do, you're probably going to need a degree of security and privacy as you meet clients and generally go about your business. Open plan offices and flexible desk arrangements are an option for companies large enough to be able to lease an entire floor, but smaller teams and individual workers might benefit from private, lockable offices or bookable meeting rooms within a larger shared office.







How we can help you find the ideal coworking space for your company?

Whether you’re a freelancer in need of a coworking space or a business searching for the perfect flexible office solution, Better Cowork provides beautifully designed, adaptable workspaces that can be configured to meet the changing needs of your team.

No matter how large your company is, , Better Cowork can create a personalized coworking space with layouts that scale to suit your privacy and design requirements.

Exhibit 1 – W239N3490 Pewaukee Rd., Pewaukee, WI 53072



Suburban Office Building for Lease or Sale

W239N3490 PEWAUKEE ROAD
PEWAUKEE, WISCONSIN

Building Size
±24,312 SF

Parcel Size
±4.724 Acres

2021 Taxes
$44,161.68

Lease Rate
$20.00- $22.00 /SF, Full Service Gross

Sale Price
$3,875,000

Office Building for Lease or Sale

Property Highlights

- Modern office building with striking multi-story atrium
- Ideal owner-occupied building with multi-tenant opportunity
- Shared training room and fitness area with shower and restroom
- Signage available on building facade and on monument at the corner of Hwy 190 & Hwy 164
- Located between Lake Country and Brookfield, an easy to access location from all points in Waukesha County
- 20' pitched exposed wood beam ceiling on 2nd floor

For information, please contact:

Tim Janusz
Director
t 414-908-9155
tim.janusz@nmrk.com

757 N Broadway
Suite 700
Milwaukee, WI 53202
nmrk.com

NEWMARK

The information contained herein has been obtained from sources deemed reliable but has not been verified and no guarantee, warranty or representation, either express or implied, is made with respect to such information. Terms of sale or lease and availability are subject to change or withdrawal without notice.



Building Details

Year Built	2008
Materials	Masonry panels with metal construction
Roof	Metal
Parking	150 Stalls (6.17:1,000)

Property Details

Municipality	City of Pewaukee
Parcel ID	PWC 0907992001
Lot Size	4.724 Acres
Building Size	24,312 SF





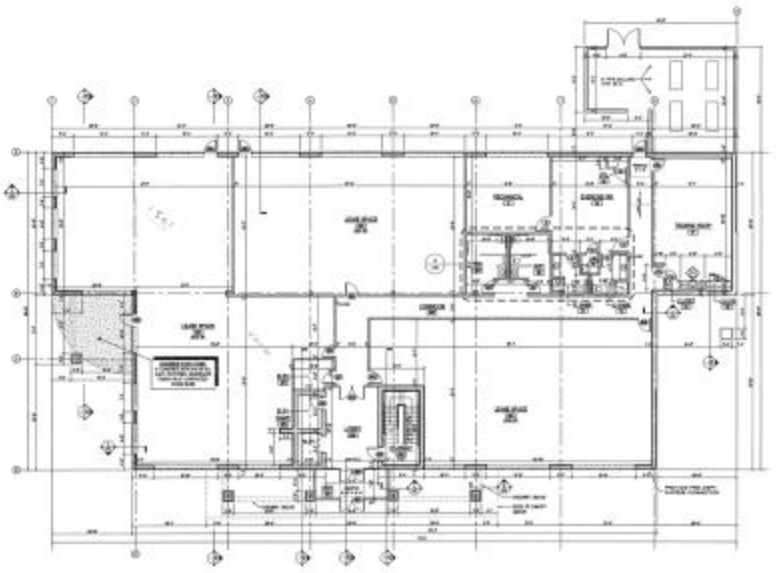


CONTACT

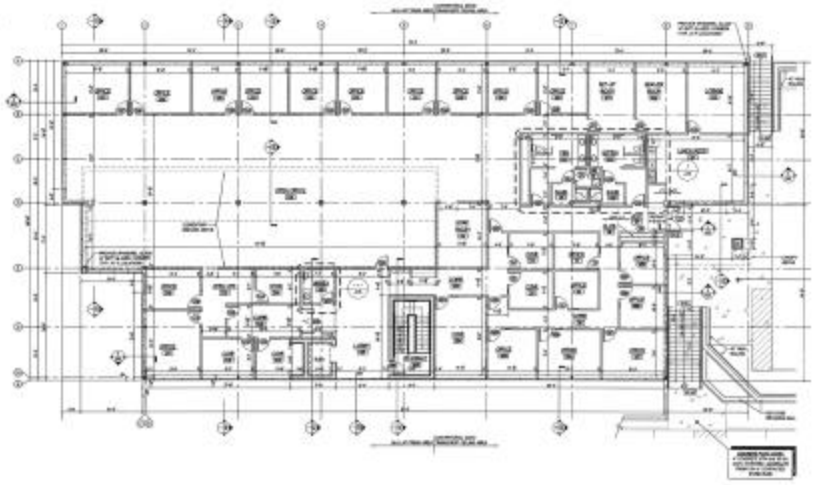
Tim Janusz
Director
t 414-908-9155
tim.janusz@nmrk.com
nmrk.com

NEWMARK

First Floor



Second Floor

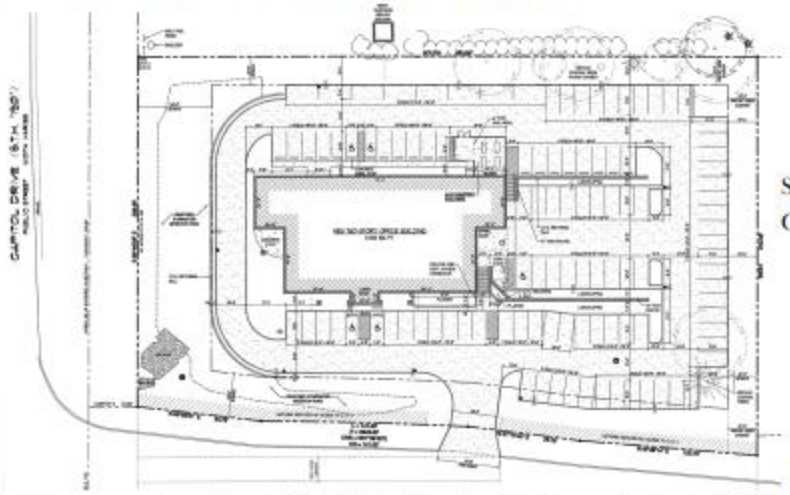


CONTACT

Tim Janusz
Director
t 414-908-9155
tim.janusz@nmrk.com
nmrk.com

NEWMARK

W239N3490 PEWAUKEE ROAD, PEWAUKEE, WISCONSIN



Site plan with
Original parcel

Parcel expanded in 2016.

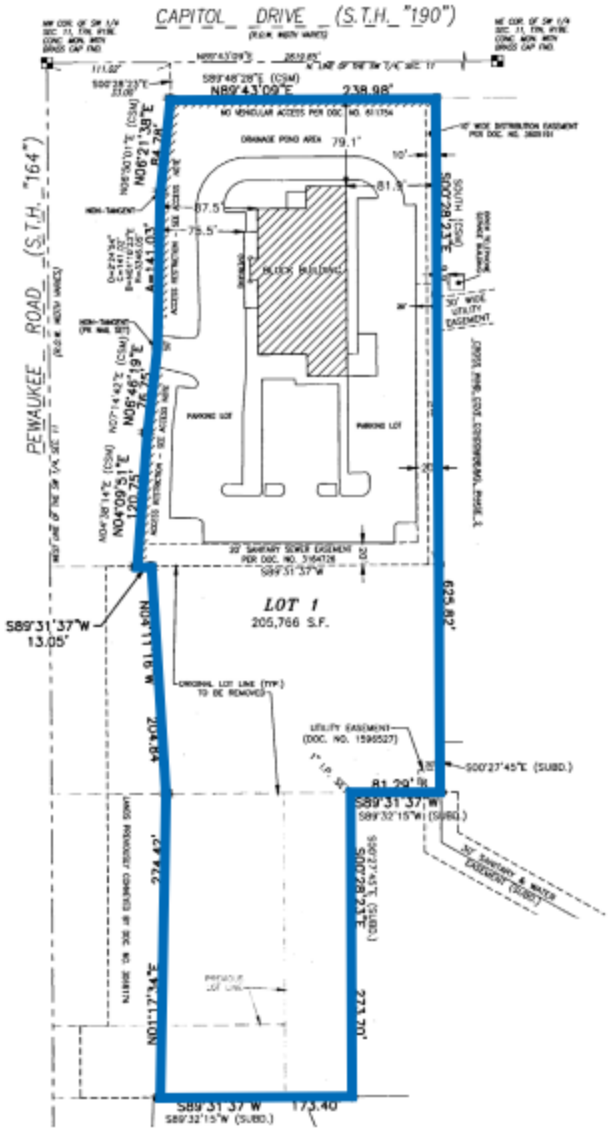


CONTACT

Tim Janusz
Director
t 414-908-9155
tim.janusz@nmrk.com
nmrk.com

NEWMARK

Survey (2016)



CONTACT

Tim Janusz
Director
t 414-908-9155
tim.janusz@nmrk.com
nmrk.com

NEWMARK

Exhibit 2 – Inlanta Closure Annoucement – November 30, 2022

Inlanta Mortgage plans layoffs, closure

Nov 30, 2022, 4:32pm CST



Getty Images

Inlanta Mortgage told the state of Wisconsin it plans to wind down its business.

Inlanta Mortgage Inc. plans to close next year, a response to a decrease in demand for home loans.

The Pewaukee-based business informed the Wisconsin Department of Workforce Development of the pending layoffs of 62 employees and closure in a notice dated Tuesday.

The letter, signed by Inlanta president Paul Buege, cites a "dramatic and unanticipated drop in mortgage product demand." As a result, Buege said Inlanta would transition its assets to an unnamed third-party buyer.

Buege assumed his role as president in May. He did not immediately return a request for comment.

Affected positions include roles such as loan processors, marketing staff, accountants and company executives, among others. The notice says 62 workers will be affected. The wind-down of Inlanta is expected to be complete by early April.

More finance news: The Covid-19 pandemic pushed record numbers to open bank accounts

---

According to materials previously published by the company, Inlanta has 39 branch offices in 27 states. The independent mortgage lender was founded in 1993.

Inlanta's decision to wind down comes as interest rates rise and the U.S. housing market cools. The interest rate hikes this year, a response to inflation, have increased the cost of credit for borrowers.

Federal Reserve chair Jerome Powell reportedly said Wednesday that the central bank might slow the pace of interest rate increases beginning in December. According to a report from Reuters, Powell said in a speech to the Brookings Institution that moderating the pace of increases "makes sense" as the nation approaches "the level of restraint that will be sufficient to bring inflation down."

A recent report from the Wisconsin Realtors Association found the state continues to see home prices increase but at what might be a slowing pace.

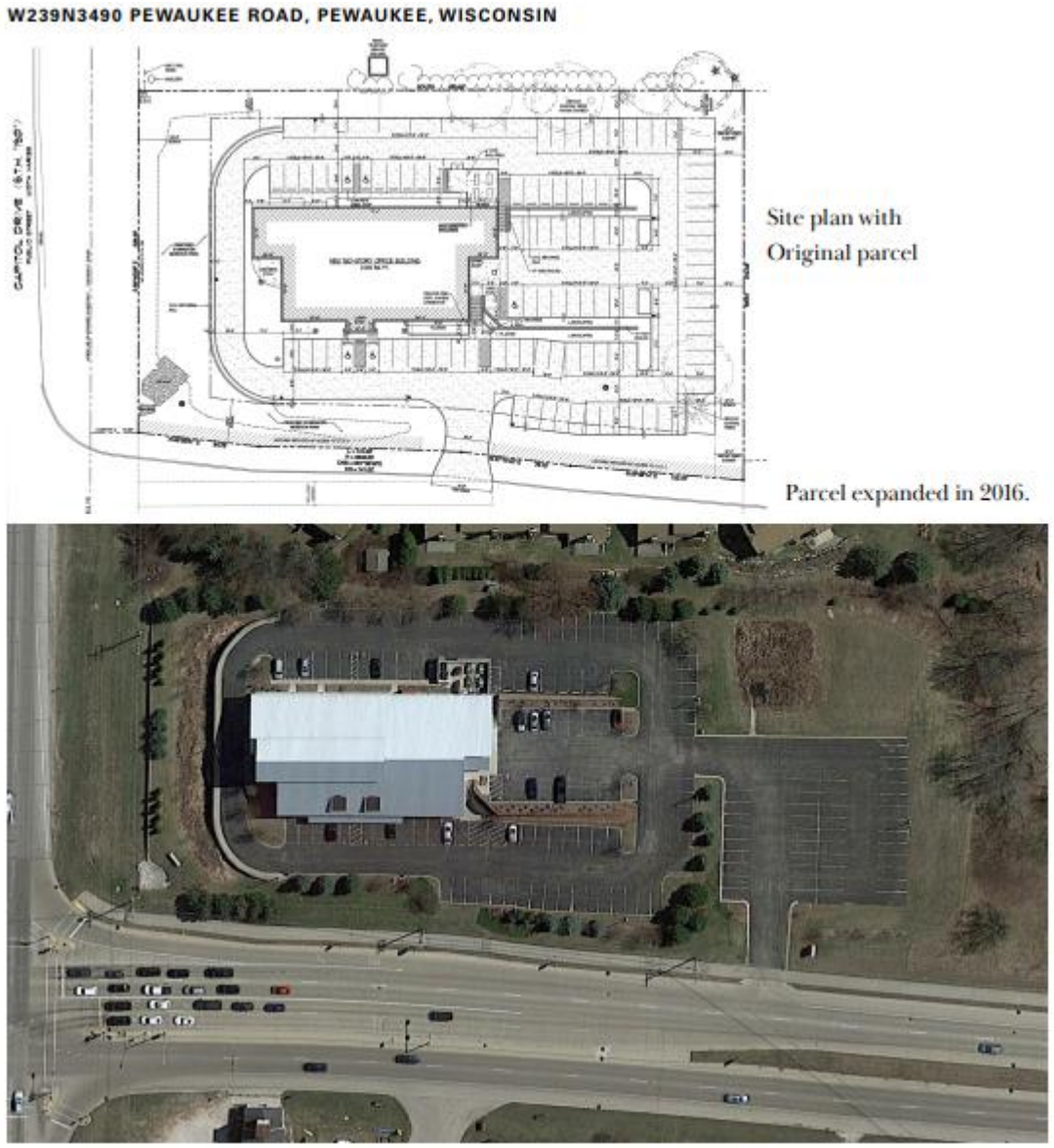


Sari Lesk
Reporter - *Milwaukee Business Journal*



Site Summary

Size:	4.74 Acres
Building:	24,312 Sq. Ft.
Zoning:	B6 - Mixed Use Business District
Parking Spaces:	150 Stalls (6.17:1,000)
Leased to:	Inlanta Mortgage, Inc from 2016 - March 2023
Purchase Agmt:	Executed on 2/2/2023 by

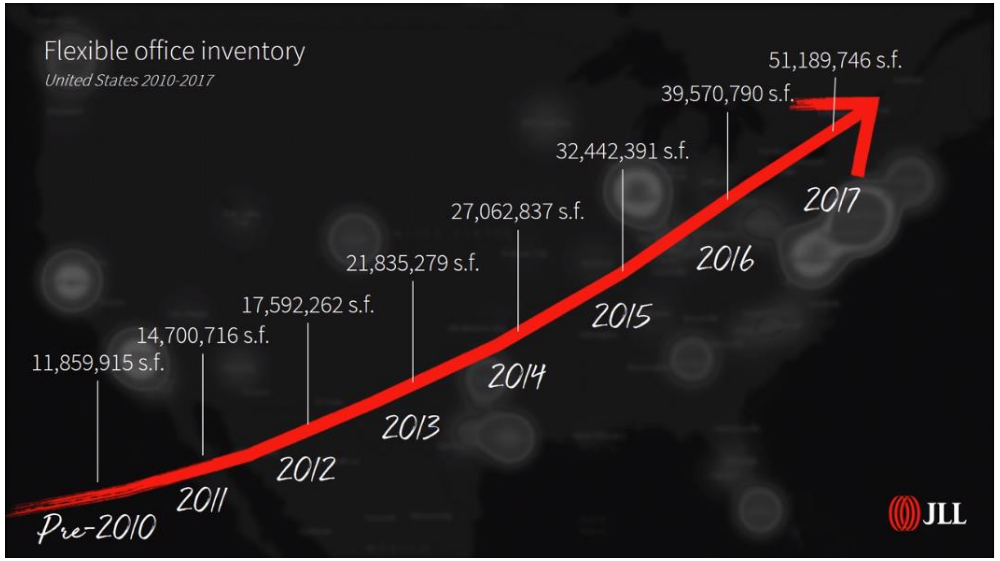


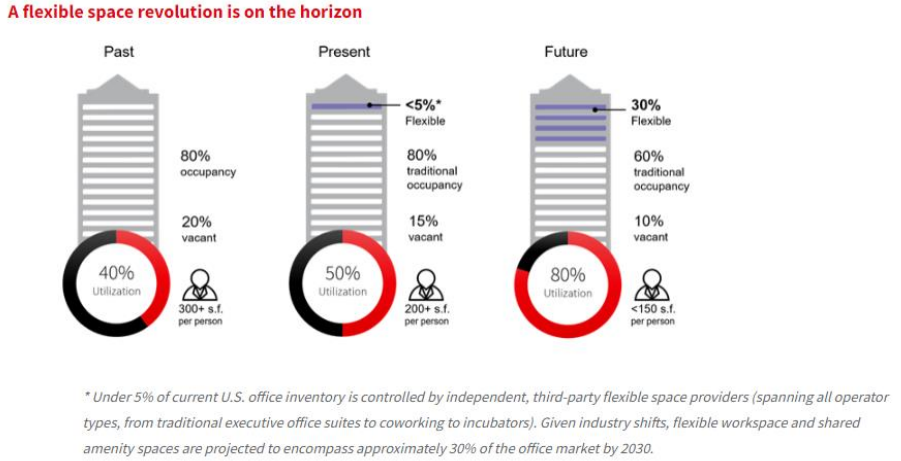
Executive Summary

- Better Cowork would like to establish a presence in Pewaukee.
  - Offering fun, fully furnished, and move-in ready shared work environments at affordable prices.
- It would provide coworking spaces with modern finishes and a high-end design that are in demand today.
- The US flexible office market ("Coworking market") grew by 23% per year from 2010 to 2017.
- Flexible Offices are forecast to account to 30% of the US office market by 2030.
- Factors driving flexible office or Coworking Office growth are:
  - The Covid 19 pandemic has led to remote and hybrid work arrangements.
  - Employees are demanding better work environments on the days they come into the office.
  - Employers want to increase staff collaboration and interaction to boost creativity and productivity.
- Better Cowork's owner, Alex Simic, is a resident of Elm Grove and has maintained "best-in-class" facilities in Wisconsin for more than 25 years.

Flexible office space has been growing at an average annual rate of 23% since 2010.

Coworking spaces are projected to account for 30% of the US office market by 2030.





Source: https://www.us.jll.com/en/coworking-market-growth#:~:text=Flexible%20space%20has%20been%20growing,driver%20within%20the%20office%20market

Coworking offices tend to stimulate employee engagement, creativity and productivity.

Traditional Office spaces do not tend to encourage collaboration.





Sample Interior Finishes













Exterior Elevations



Building Details

Year Built	2008
Materials	Masonry panels with metal construction
Roof	Metal
Parking	150 Stalls (6.17:1,000)

Property Details

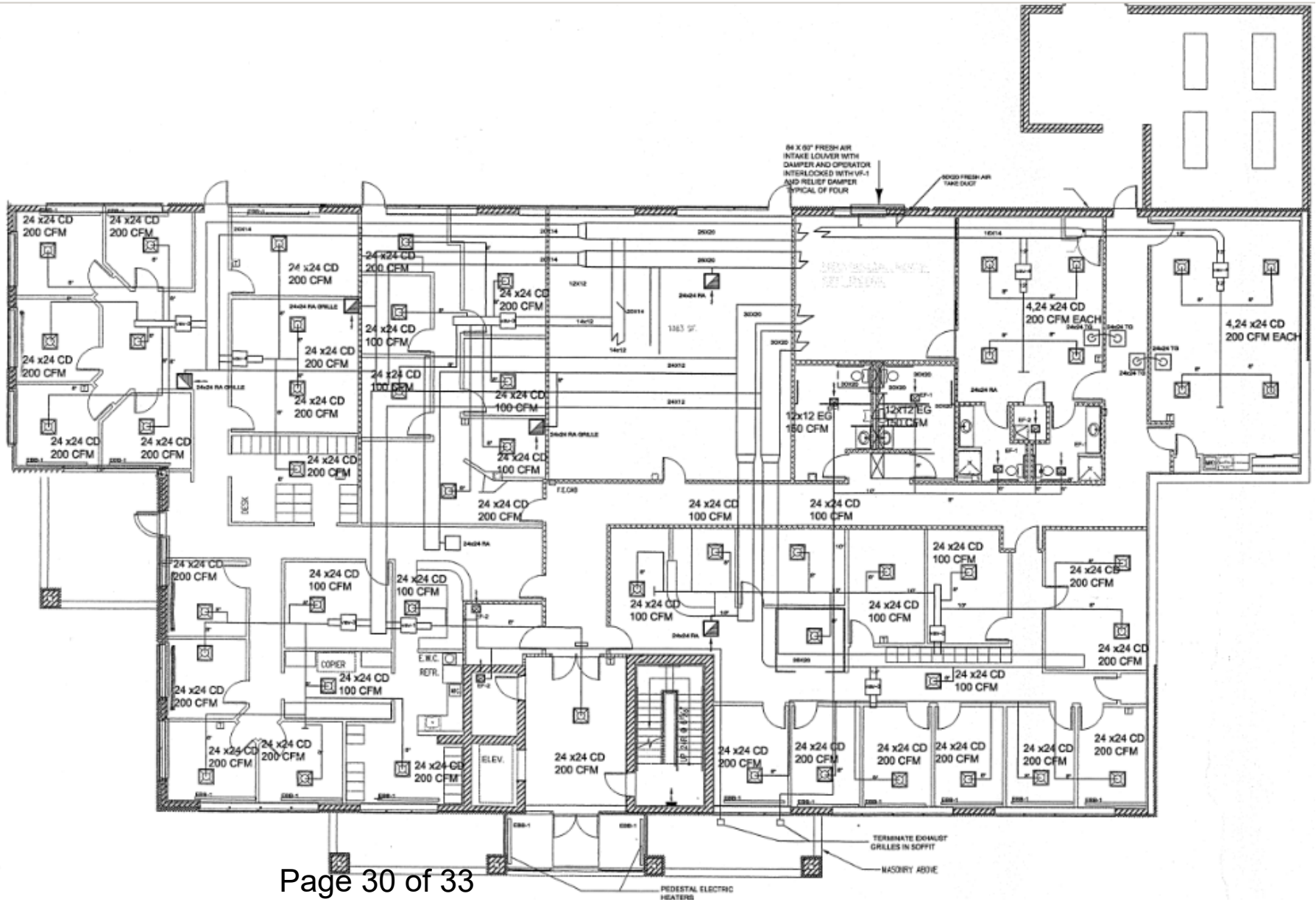
Municipality	City of Pewaukee
Parcel ID	PWC 0907992001
Lot Size	4.724 Acres
Building Size	24,312 SF



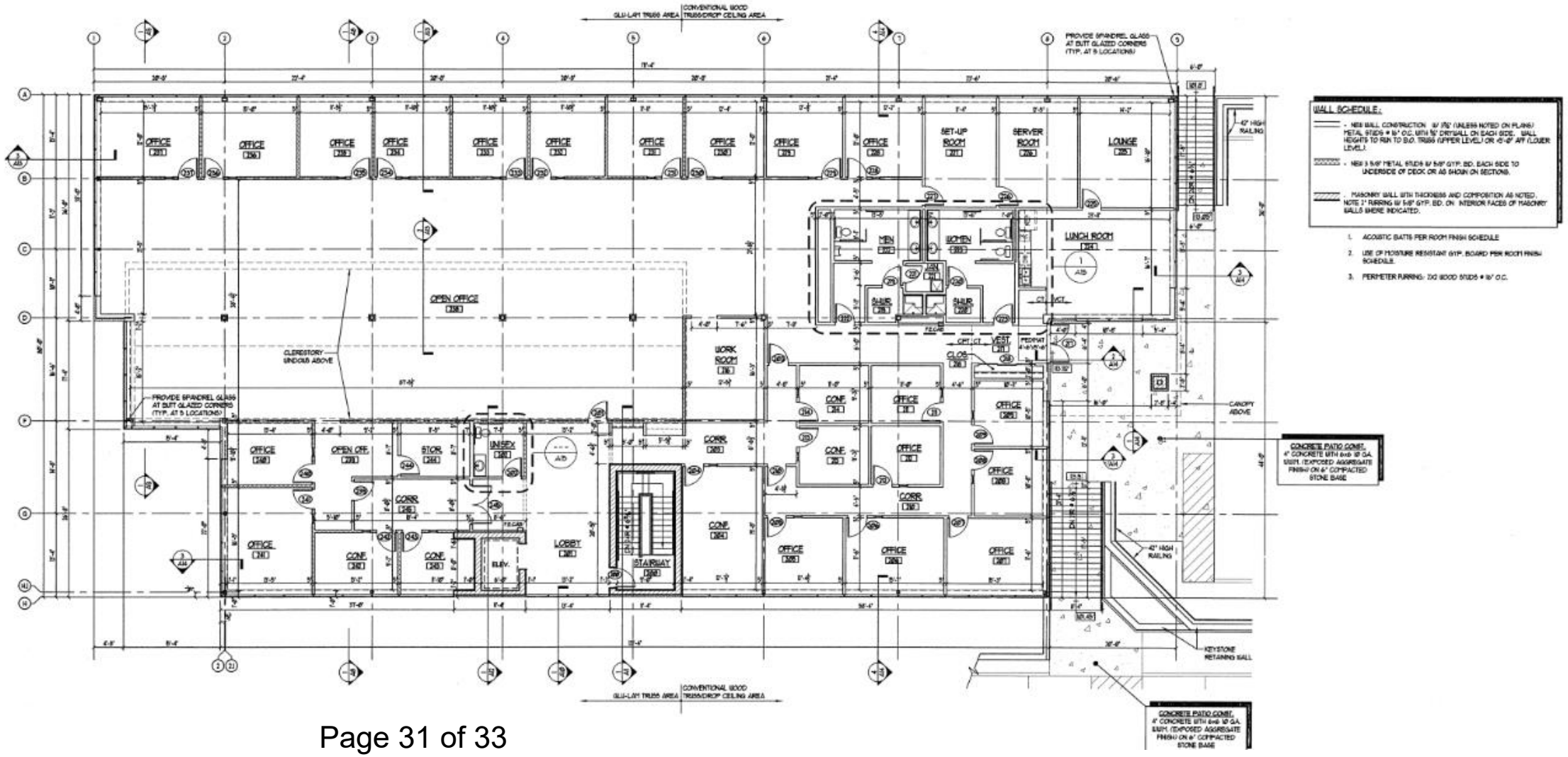




First Floor - Interior



2nd Floor - Interior



A COVENANT
REGARDING THE ISSUANCE OF A
CONDITIONAL USE PERMIT
BY THE
CITY OF PEWAUKEE

TAX KEY NUMBER(S) OR PARCEL(S) INVOLVED:

CONDITIONAL USE PERMIT: NO. CUP-23-3-4

PWC 0907992

Recording area

Name & Return Address

City of Pewaukee
W240N3065 Pewaukee Rd
Pewaukee, WI 53072

LEGAL DESCRIPTION:

LOT 1 CERT SURV 11463 VOL 114/79 REC AS DOC# 4214100 REDIV LOT 1 CERT SURV 10457, CERT SURV 2867, CERT SURV 58 & PT SW1/4 SEC 11 T7N R19E :: DOC# 4213993 & DOC# 4213994

PERSON(S), AGENT(S) OR CORPORATION(S) PETITIONING FOR PERMIT:

Better Cowork, LLC

WHEREAS, It is understood by all parties to this covenant that Section 62.23 of WIS. Statutes prescribes the legal basis for the granting of a conditional use permit by a City and Chapter 17 of the City Codes and Ordinances provides for the issuance of such permits as well as the standards by which all such uses will be measured; and,

WHEREAS, The City Plan Commission has held a meeting on March 16, 2023; has reviewed the various elements of the petitioner's proposal; and has recommended that a Conditional Use Permit be granted to the above-named petitioner for the property/parcel identified above; and,

WHEREAS, The City Common Council held a public hearing meeting on April 3, 2023.

NOW, THEREFORE, let it be known that the City Common Council, by its action on April 3, 2023 has, hereby, granted a Conditional Use Permit for the following use(s):

Developing a shared office space.

FURTHER, such approved use of the above designated parcel(s) are hereby allowed based on the following conditions being continually met:

1. General office business uses shall not be required to obtain individual Business Plan of Operation Applications or other zoning use approvals under this Conditional Use Permit, unless required by the Zoning Administrator. All other uses shall be required to obtain a Business Plan of Operation or Conditional Use Permit as required by the Zoning District.

The parties hereto, namely the City of Pewaukee and the Equitable Owner of the property for which this conditional use has been sought, set their signatures or the signatures of their representatives below, thereby agreeing to the provisions and conditions set forth in this covenant.

_____	_____
Attest:	Signature of equitable owner
	_____
	Date
_____	_____
Kelly Tarczewski City Clerk	Steve Bierce Mayor, City of Pewaukee
	_____
	Date

State of Wisconsin
County of Waukesha

Signed or attested before me on _____, 2023 by Steve Bierce, Mayor and Kelly Tarczewski, Clerk.

	_____
(Seal)	Ami Hurd My Commission expires _____

This instrument was drafted by Ami Hurd, Deputy Clerk

DRAFT

CITY OF PEWAUKEE
PLAN COMMISSION AGENDA ITEM 7.

DATE: March 16, 2023

DEPARTMENT: Planning

PROVIDED BY:

SUBJECT:

Discussion and Action and Public Hearing for Andev Group, LLC to Rezone Vacant Land Located at the Northwest Corner of Golf Road and Meadowbrook Road from A-1 Agricultural, LC Lowland Conservancy, and F-1 Floodplain to Rm-3 Multi-Family Residential, LC Lowland Conservancy, and F-1 Floodplain for the Purpose of Developing the Courtyard at Pewaukee, a Community Based Residential Facility (PWC 0940999001)

BACKGROUND:

FINANCIAL IMPACT:

RECOMMENDED MOTION:

ATTACHMENTS:

Description

Courtyard at Pewaukee staff report 3.16.23

Courtyard at Pewaukee narrative

Courtyard at Pewaukee rezoning map

Courtyard at Pewaukee staff comment responses

Office of the Planner & Community Development Director
W240 N3065 Pewaukee Road
Pewaukee, Wisconsin 53072
Phone (262) 691-0770 Fax (262) 691-1798
fuchs@pewaukee.wi.us

REPORT TO THE PLAN COMMISSION

Meeting of March 16, 2023

Date: 3/09/2023

Project Name: Comprehensive Master Plan Amendment, Rezoning, and Site & Building Plan Review.

Project Address/Tax Key No.: Vacant land at the northwest corner of Golf Road and Meadowbrook Road/PWC 0940999001

Applicant: ANDEV Group, LLC

Property Owner: Robert J Stenz Family Trust

Current Zoning: LC Lowland Conservancy, F-1 Floodplain, and A-1 Agricultural

2050 Land Use Map Designation: Low-Medium Density Residential (1/2 Ac. – 2 Ac./D.U.) and Floodplains, Lowland & Upland Conservancy and Other Natural Areas

Use of Surrounding Properties: Golf Rd to the south, Lake Country Trail to the north, Oak Spring subdivision and Lakewood Baptist Church to the west, and Meadowbrook Rd to the east.

Project Description/Analysis:

The applicant, ANDEV Group LLC, submitted a Rezoning Petition, Comprehensive Master Plan Amendment, and a Site & Building Plan Review Application for a proposed Community Based Residential Facility (CBRF) on 28.3 acres of vacant land located at the northwest corner of Golf Road and Meadowbrook Road. The Plan Commission previously discussed this proposal at a conceptual level at their October 21, 2021 meeting.

Site Plan

The subject property is 28.3 acres and the total site disturbance of the project will be 14.98 acres. The parcel contains a significant amount of wetland and floodplain on the north and west portions of the site. The project will result in approximately 3.4 acres of impervious surface with 24.9 acres remaining as greenspace, which is a ratio of about 88% greenspace. Note that a wetland delineation was completed in September of 2018 by Dave Meyer who is assured by the DNR.

The proposed development consists of a 76-unit senior living facility. The proposed building will consist of 40 apartments in an assisted living section, 36 units in a memory care section, and two courtyards, with one in each section of the building.

The building is orientated with the front facing north and the rear of the building facing south and Golf Road. According to the applicant, this was done due to the grading constraints of the site. A detached garage/accessory building for general storage and dumpsters is also located on the south side of the building. *Note that the proposed accessory building will not be greater than 18ft in height*.

Overall, the proposed development complies with Rm-3 District development standards.

Access

Ingress/Egress is proposed from Golf Road. Golf Road is a County Highway, so that access point will require Waukesha County review and approval. Staff has exchanged emails with the County and the location appears to meet their requirements.

Lakefield Drive currently terminates at this property with a temporary cul-de-sac as it was always planned to be extended with the development of the subject parcel.

The developer and adjacent homeowners have expressed that they do not wish for the road to be extended. With that, this cul-de-sac needs to be modified into a permanent turnaround.

The applicant has indicated that they are not able to comply with the City's typical design standards. It will be up to the Plan Commission to determine whether approval will be granted to deviate from those standards. Staff would not object to modifications as long as the cul-de-sac can accommodate the city's largest vehicles, such as fire trucks.

It should be noted that typically staff would recommend and hold a development to meeting City cul-de-sac standards. In this case, the cul-de-sac will solely be utilized for turning around and there are not driveways located around the cul-de-sac, which allows more flexibility for snow removal. With that, staff has less concerns with potential changes.

Note that the plans provided currently do not show a cul-de-sac at the end of Lakefield Drive. The Plan Commission should be aware that a permanent cul-de-sac will extend into this property and trees will have to be removed that are currently buffering this site and the adjacent residential homes.

Landscaping

The applicant is proposing to install 52 Deciduous Trees, 5 Ornamental Trees, 8 Evergreen Trees, 21 Street Trees, 68 Evergreen Shrubs, 173 Deciduous Shrubs, and a variety of Tall Ornamental Grass, Short Ornamental Grass, and Perennials.

There are at least nine different species of Deciduous Trees, Deciduous Shrubs, Evergreen Shrubs, Ornamental Grasses, and Perennials provided, four different species of Street Trees provided, and two different species of Evergreen Trees and Ornamental Trees provided.

The landscape plan focuses many plantings on screening the building from view along Golf Road and from the residential properties to the west. Plantings are also provided directly around the detached garage.

Parking

The site includes 68 new parking spaces of which four are ADA required spaces. Parking spaces are 10' x 18' (180 square feet), which is in compliance with Zoning Code standards. Staff finds the proposed parking sufficient.

Architecture

The proposed building exterior consists of fiber cement siding, fiber cement shakes, fiber cement panel, manufactured stone veneer, and asphalt shingles. The building contains a substantial amount of windows and dormers are also provided.

Signage

A monument sign is anticipated and shown for reference only in the plans. All signage must comply with standards set forth in Section 17.0700 of the City's Zoning Code and will require separate review and approval by the City Planner as well as a Sign Permit from the Building Services Department, prior to installation.

Utilities

Public sewer and water are available via a connection on Lakefield Drive which will serve the development.

Lighting

The Lighting Plan consists of 84 lights. Light levels are at 0.0 footcandles at the property lines. The peak height of the lights is roughly 17 feet, which complies with the 20-foot maximum height requirement of the Zoning Code. The wattage is under 150 and visibility is limited from adjacent streets or residential properties.

Recommendation:

A motion to recommend approval of the Rezoning for ANDEV Group LLC to rezone the property bearing Tax Key No. PWC 0940999001 from A-1, LC, and F-1 to Rm-3, LC, and F-1.[1]

A motion to recommend approval of the Comprehensive Master Plan Amendment for ANDEV Group LLC to amend the 2050 Land Use/Transportation Plan map designations for the property bearing Tax Key No. PWC 0940999001 from Low-Medium Density Residential and Floodplains, Lowland & Upland Conservancy and Other Natural Areas to High Density Residential and Floodplains, Lowland & Upland Conservancy and Other Natural Areas.[2]

and

A motion to approve the Site & Building Plans for the construction of a senior living facility upon property bearing Tax Key No. PWC 0940999001, subject to the conditions contained within this report.

[1] The LC Lowland Conservancy District and F-1 Floodplain District boundaries will be modified to follow the most up-to-date field delineations.

[2] The natural resources boundary for the future land use designation will be modified to follow the most up-to-date field delineations.

ANDEV GROUP
real estate development

January 24, 2023

Members of the Pewaukee Plan Commission

Re: Andev Group, LLC Petitions for Amendment of Master Plan, Rezoning District Plan Amendment, Conditional Use, and Application for Site and Building Plan Review regarding the property located at Golf Rd. and Meadowbrook Rd. to allow for development of a Senior Residential Housing Facility (CBRF) of 76 units.

Ladies and Gentlemen,

Andev Group, LLC is the contract purchaser of the approximately 28.3-acre parcel located at the northwest corner of Golf Rd. and Meadowbrook Rd., immediately north of I-94. The attached proposal is for a 76-unit senior living facility to be licensed as a CBRF under Wisconsin statutes. The property at this location is currently undeveloped land. The proposed purchaser of the property is ANDEV Group, LLC, or its nominee, who would be purchasing in order to provide the facility to be operated by Encore Senior Living, one of Wisconsin's largest provider of assisted living housing and services. ANDEV Group, LLC is a Midwest developer of senior housing having developed multiple sites located in Wisconsin and Illinois.

The approximately 11.28-acre area of the existing site upon which the development is planned to be constructed is zoned A-1 Agricultural; and the area to the north is zoned LC, lowland conservancy and F-1 floodland. We will require a rezoning of the A-1 portion of the property to RM-3 Multi-family Residential with a concordant change to the City's Comprehensive Master Plan along with Conditional Use approval for a senior living facility. The LC and F-1 portions of the property may retain their respective current zonings. Because of the existence of flood zones nearby, the developer has met with the Lake Pewaukee Sanitary District to address any capacity concerns they may have regarding the facility to be constructed. After reviewing our plans and their records, they have approved up to 90 units of the type proposed here.

The site is surrounded by zoning types: F-1, flood land to the north of the LC zoned land; F-1 and LC to the east across Meadowbrook Rd., a combination of R-2 and R-3 residential to the south across I-94 and R-4 to the west. Based on the use of the facility, the road, and driveway design and landscaping features, the impact on neighboring parcels will be minimal.

The building will house an assisted living section with 40 apartments and a memory care section with 36 units. Parking designed and suggested for the facility is 68 spaces, four of which will be designated for ADA. In Andev's and Encore's extensive experience this quantity is more than adequate to accommodate the staff, visitors, and the very few assisted living residents who may still own a private vehicle. That experience has established a workable ratio for parking of one-half space per residential unit. While the local ordinance calls for 1 parking space per unit, it allows for the Plan Commission to review the facts and circumstances for such developments and we are proposing the 68 spaces knowing

that neither the developer nor operator would invest the millions of dollars necessary to construct an under-parked building. In addition to the parking provided, the facility will provide transportation for the residents by van or bus. Visitation is typically light, with an increase on certain holidays or special events. The day shift is the maximum staffed shift and includes approximately 48 full time employees including all shifts. Shifts will most likely operate on a 7-3, 3-11 and 11-7, 24-hour rotation.

As residents of the memory care units are impaired and pose a wandering risk, that section of the building is a "secure" facility. The courtyards are enclosed and building exiting is controlled. Residents needing to go off-site are supervised. Fire exits are controlled through the use of code-approved delayed egress devices.

Like the country as a whole, Pewaukee's population is becoming significantly older, and the demographic and social changes that are beginning to affect the city will forever alter how the community looks and feels. With an aging population, this community will face both new opportunities and challenges in responding to older people's needs and wishes.

One out of eight people aged 65 and older (13 percent) has Alzheimer's disease. As older people move toward retirement, local governments, community and health organizations and families are becoming more aware of the challenges of our aging population:

- Local governments are realizing the demand for accessible, age-friendly infrastructure and transportation options.

- Families are navigating the social and economic challenges of parents and grandparents that require extra care and who may have to move from their homes and communities to access services and specialized accommodations.

All of ANDEV Group's senior housing establishments are conceived and designed specifically to meet the needs of the growing segment of the senior population, many of whom are no longer capable of independently performing activities of daily living such as cooking, cleaning, laundry, dressing, bathing, etc. but are not so ill or incapacitated that they need full-time nursing care. Additionally, many of these older persons suffer from dementia and memory loss. These people are at risk to themselves as they become easily confused, disoriented and lost. They are not, however, in need of being placed in a nursing home. Assisted living housing provides a safe and protective environment for them in which their needs can be met while maintaining a residential setting for their comfort.

Older adults are a vibrant cohort of all communities and contribute to the economy, support extended families, participate in volunteerism, and generally enhance the social health of our neighborhoods. By encouraging creative housing solutions such as assisted living communities, transportation alternatives, and social and recreational programs we have the opportunity to play an important role in facilitating the ability of older adults to age in place in Pewaukee.

With respect to the factors applicable to the Special Use contained within the City of Pewaukee's ordinance section 17.0416c and 17.0500 for ANDEV's proposed Senior Living Community we submit the following:

(1) We believe that the project will provide a variety of safe and secure senior housing alternatives for an aging population within a single integrated community.

(2) The project is consistent with applicable land-use policies contained in the City's Master Plan of current adoption in that all building codes and zoning restrictions are being incorporated and respected without variance.

(3) The project, as can be seen from the elevations and renderings has been designed, and will be constructed, landscaped, operated, and maintained so as to be harmonious and appropriate in appearance with the existing or intended character of the general vicinity and that such a use will not change the essential character of the same area. This area is currently vacant land covered with vegetation that is of no particular character and will improve that character with engineered stormwater control management, aesthetically pleasing buildings, and professional landscape design.

(4) The project will not adversely affect or be hazardous to existing neighboring uses. ANDEV has met with the neighbors and their representatives prior to presenting its application to the Plan Commission to ensure that their questions, opinions, and preferences are heard and satisfactorily addressed. The developer has been informed that the primary concern of the residents of the single-family homeowners that will be nearest to the project is that there be no connection with Lakeview Dr. that would allow for cut-through traffic from the east. The project design has respected this preference. The second concern is with regard to building height. Since the meeting with the neighbors, the building has been re-designed to be a one-story structure; having eliminated the two-story portion of the facility entirely. The side of the building nearest the existing homes and will have an extra-large setback accommodating the existing tree line to the greatest extent possible.

(5) The project will not be detrimental to the economic welfare of surrounding properties or the community. To the contrary, the project anticipates the direct creation of approximately 48 new full-time jobs and will support local businesses and suppliers – generating increased sales and real estate taxes that will benefit the residents of the entire city.

(6) The project is adequately served by public facilities, such as existing roads, schools, stormwater drainage, public safety, public transportation, and public recreation, or that the persons or agencies responsible for the establishment of the proposed use shall be able to provide any such service. All of the utilities necessary for the project’s construction and maintenance are present and sized sufficiently to service the project.

(7) The project is adequately served by public sanitation facilities. The same factors listed above regarding roads, stormwater, etc. are applicable to the availability and capacity of the water main and sanitary sewer connections.

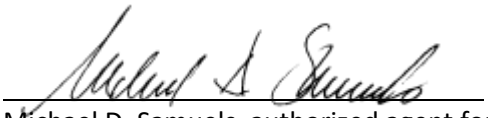
(8) The project will not involve uses, activities, processes, materials, and equipment and conditions of operation that will be detrimental to any persons, property, or the general welfare by reason of excessive production of traffic, noise, smoke, fumes, glare, or odors. The project has been specifically designed and engineered to provide all necessary traffic improvements to accommodate further development consistent with existing zoning to the north of the project without connecting to the

single-family neighborhood to the east, but still providing a second route for fire and emergency services from the north if necessary. Andev has commissioned a traffic report for the project, the guidelines of which will be followed in its planned construction.

(9) The project will not directly or indirectly have a substantial adverse impact on the natural resources of the Township, including, but not limited to, prime agricultural soils, water recharge areas, lakes, rivers, streams, major forests, wetlands, and wildlife areas, all of which are being respected in the design of stormwater detention and avoidance of natural wetlands. Andev has met with the representatives of the Lake Pewaukee Sanitary District and secured their endorsement of the construction on site of up to 90 resident units—14 more than the 76 units the project calls for.

I am available to answer questions or provide further clarification, if necessary,

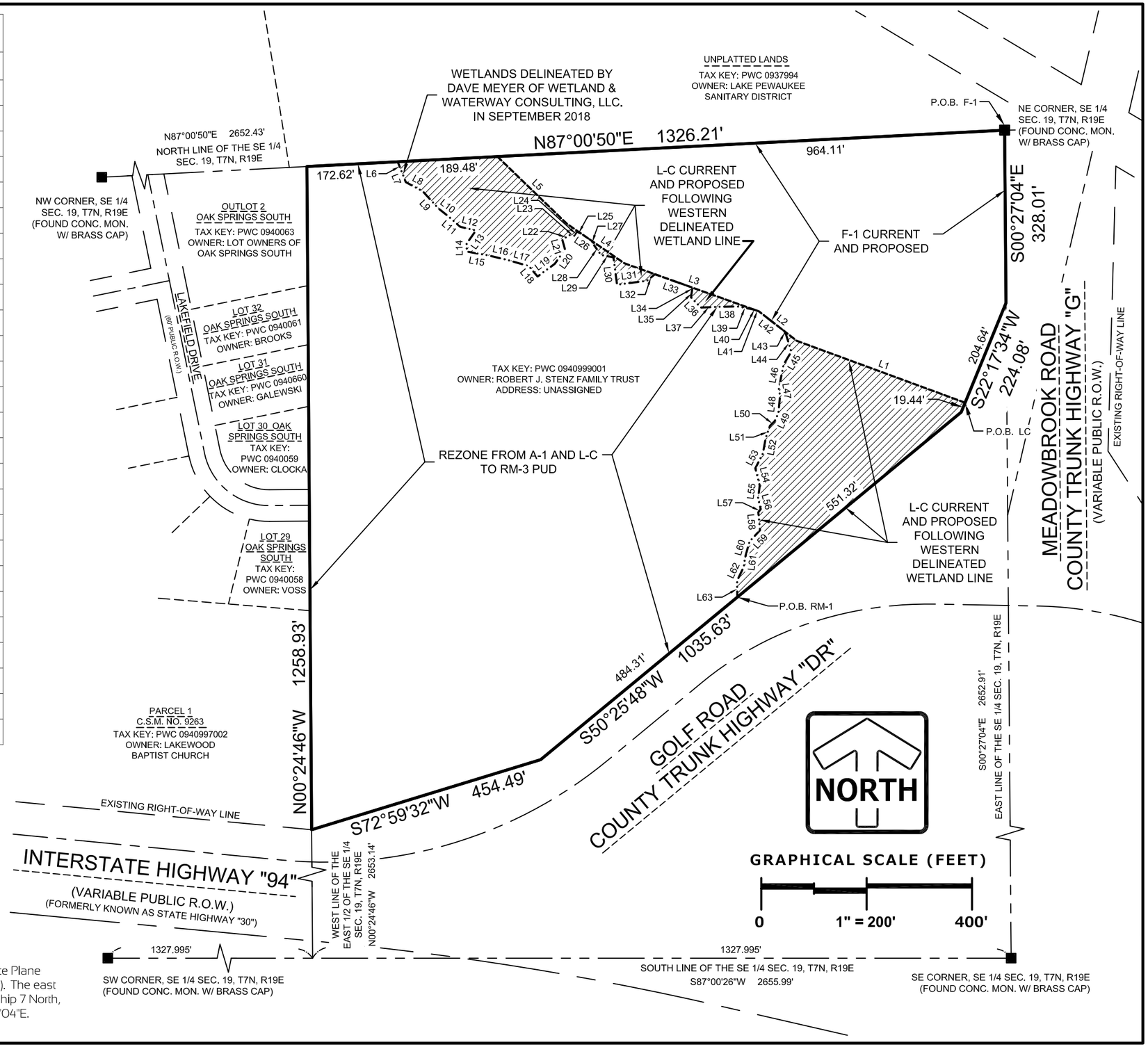
Very truly yours,



Michael D. Samuels, authorized agent for
Andev Group, LLC

LINE TABLE		
LINE NO.	BEARING	DISTANCE
L1	N69°49'44"W	340.51'
L2	N52°06'28"W	91.15'
L3	N70°20'57"W	270.60'
L4	N55°32'39"W	132.36'
L5	N45°57'55"W	183.92'
L6	S21°50'02"E	19.22'
L7	S21°20'44"E	22.26'
L8	S61°21'39"E	37.14'
L9	S42°23'42"E	44.26'
L10	S51°42'13"E	21.37'
L11	S49°03'46"E	32.34'
L12	S76°42'04"E	30.37'
L13	S35°14'34"W	30.49'
L14	S01°05'05"E	15.11'
L15	S79°53'19"E	44.21'
L16	S76°10'57"E	40.23'
L17	S73°48'57"E	36.77'
L18	S39°50'15"E	25.71'
L19	N53°30'55"E	40.69'
L20	N35°18'54"E	33.40'
L21	N15°36'58"W	19.34'
L22	N59°16'05"E	17.21'
L23	S80°43'17"E	10.15'
L24	N20°49'05"E	7.27'
L25	S74°35'43"E	8.38'
L26	S55°32'39"E	25.57'
L27	S13°42'51"E	3.99'
L28	S35°34'05"E	27.79'
L29	S79°38'43"E	23.96'
L30	S07°22'01"E	52.45'
L31	N82°34'03"E	57.35'
L32	N50°20'32"E	19.54'
L33	S70°20'57"E	75.25'
L34	S02°32'19"W	4.50'
L35	S08°46'26"W	14.29'
L36	S43°33'38"E	26.63'
L37	N87°49'43"E	30.61'

LINE TABLE		
LINE NO.	BEARING	DISTANCE
L38	N88°41'10"E	38.60'
L39	S79°35'55"E	29.90'
L40	S73°16'45"E	6.49'
L41	S70°20'57"E	5.92'
L42	S52°06'28"E	58.38'
L43	S33°59'43"E	10.46'
L44	S16°45'11"E	33.72'
L45	S31°03'52"W	28.18'
L46	S11°15'09"W	46.62'
L47	S09°02'17"E	14.49'
L48	S05°25'24"W	32.84'
L49	S25°33'11"W	16.46'
L50	S45°45'49"W	12.47'
L51	S19°11'13"W	24.79'
L52	S10°16'08"W	30.42'
L53	S27°24'03"W	30.78'
L54	S14°11'37"E	34.00'
L55	S07°30'42"W	24.85'
L56	S14°47'36"E	20.67'
L57	S39°14'22"W	7.57'
L58	S05°30'51"E	34.46'
L59	S42°50'37"W	29.13'
L60	S15°56'59"W	31.62'
L61	S07°36'46"W	17.65'
L62	S25°39'42"W	29.31'
L63	S00°47'15"E	31.27'



Bearings referenced to the Wisconsin State Plane Coordinate System, South Zone (N.A.D. 1927). The east line of the Southeast 1/4 of Section 19, Township 7 North, Range 19 East has a bearing of S00°27'04"E.

REZONING EXHIBIT

01/26/2023

PINNACLE ENGINEERING GROUP
20725 WATERTOWN ROAD | SUITE 100 | BROOKFIELD, WI 53186 | WWW.PINNACLE-ENGR.COM

PLAN | DESIGN | DELIVER

PEG JOB#1338.10

Office of the Planner & Community Development Director
W240 N3065 Pewaukee Road
Pewaukee, Wisconsin 53072
Phone (262) 691-0770 Fax (262) 691-1798
fuchs@pewaukee.wi.us

Date:	February 21, 2023
To:	ANDEV Group, LLC
From:	Nick Fuchs, Planner & Community Development Director
RE:	Staff Comments - Site & Building Plan Review

Comments and Recommendations:

Below are comments and recommendations for the proposed development application for property located at the northwest corner of Golf Road and Meadowbrook Road (Tax Key No. PWC 0940999001).

1. Site Plan
    a. As recommended by the Fire Chief, please widen the drives and drive aisle widths to a minimum of 24 feet.
    Per discussion with Chief Bierce on 02/23/23 the site is allowed 20 feet drives as long as there are pitched roofs on the site. Which the current building has, see architectural plans for details.
    b. Staff recommends orienting the front of the building to Golf Road. Alternatively, the south elevation could be revised to more closely match the entrance of the building on the opposite side. However, staff also recommends that the shed and dumpster enclosure be located on the north side of the building.
    As discussed in the review meeting, grading constraints dictate the orientation as well as the elevation. Shed and dumpster architectural modifications have been included to allow for the shed and dumpster to remain on the south side.
    c. It is suggested that walking trails and seating areas be provided onsite, perhaps adjacent to the bioretention basin.
    As discussed 2/22/23 no walking trails will be added as there is an amenity space in the center courtyards for the residents. Additionally, the owner would prefer to keep the residents away from any safety concerns.
2. Landscaping
    a. Staff recommends additional trees be planted throughout the site to better compensate for the tree removal that will occur with this development. Additional plantings should be considered adjacent to the east and west sides of the building, particularly abutting the Oak Springs South subdivision.
    Additional tress have been added throughout the site to satisfy the comment, see updated landscape plans for details.
    b. What was the minimum size of tree identified in the tree survey of the property?
    The minimum tree size that was identified in the plans was a 6-Inch. Tree survey has been included in the submittal.
3. Signage
    a. Please be aware that signage will require separate review and approval by the City Planner as well as a Sign Permit from the Building Services Department prior to installation.
    Understood will be done at a later date.

Office of the Planner & Community Development Director
W240 N3065 Pewaukee Road
Pewaukee, Wisconsin 53072
Phone (262) 691-0770 Fax (262) 691-1798
fuchs@pewaukee.wi.us

b. Also note that per section 17.0706(c) a ground sign located within 660 feet of a residential zoning district boundary shall not be illuminated during the seven-hour period beginning at eleven (11) PM and ending at six (6) AM.
Understood will be done at a later date.

c. Staff would also note that the entire coordinate address will be required to be displayed on the monument sign.
Understood will be done at a later date.

4. Lighting
   a. Please confirm that the total peak height of all lighting is no more than 20 feet as measured from grade. This includes the base, pole, and fixture as well as the mounting height of building lights.
   Understood Photometric plans have been updated to reflect this.
   b. Please provide a cut sheets/catalog pages of all fixtures.
   Understood Photometric plans have been updated to reflect this.

5. Engineering Department Comments:
   a. Construction Plans
      i. Permits will need to be obtained from Waukesha County for work performed within the CTH DR right-of-way.
      Understood will provide at a later date.
      ii. Provide right-of-way within the parcel extending from the end of Lakefield Drive large enough to accommodate a permanent cul-de-sac. This right-of-way and permanent cul-de-sac construction will be required of any site plan which doesn't include extension of public roadway from Lakefield Drive to Golf Road.
      In response to the meeting on 02/22/23 the City Staff was instructed to give an appropriate size and location. The applicant would prefer the right of way to be off the property. Applicant is looking for comments/feedback from planning commission.
      iii. It is recommended that different size storm sewers connecting to a single structure match top of pipe elevations to prevent backflowing during larger storm events.
      Understood will provide at a later date.
      iv. If inverts into bioretention basins are placed at bottom of basin elevation the tailwater during the 10-year storm event must be considered in the storm sewer sizing calculations.
      Understood will provide at a later date.
      v. Additional fire hydrants will likely be required on the east side and north sides of the building.
      Chief Bierce will advise on hydrant locations per our meeting on 02/23/23.
   b. Stormwater Management Plan
      i. This site will not be exempt from infiltration requirements. Implementation of non-structural infiltration features to achieve a maximum extent practicable approach will be required if a basin will not be feasible.
      Understood will provide at a later date.

Office of the Planner & Community Development Director
W240 N3065 Pewaukee Road
Pewaukee, Wisconsin 53072
Phone (262) 691-0770 Fax (262) 691-1798
fuchs@pewaukee.wi.us

ii. The emergency spillway of the bio-retention basin should be designed with a 1-foot minimum freeboard from the 100-year water surface elevation. Include calculations showing that the emergency spillway can convey the 100-year undetained flow going to the bio-retention basin.
Understood will provide at a later date.

iii. Analysis for storm water peak runoff rate needs to include the entire parcel which the site is located on.
Understood will provide at a later date.

CITY OF PEWAUKEE
PLAN COMMISSION AGENDA ITEM 8.

DATE: March 16, 2023

DEPARTMENT: Planning

PROVIDED BY:

SUBJECT:

Discussion and Action Regarding a Recommendation to the Common Council for a Comprehensive Master Plan Amendment to Change the Year 2050 Land Use/Transportation Plan Use Designation for the City of Pewaukee for the Courtyard at Pewaukee for Vacant Land Located at the Northwest Corner of Golf Road and Meadowbrook Road from Low-Medium Density Residential and Floodplains, Lowland & Upland Conservancy and Other Natural Areas to High Density Residential and Floodplains, Lowland & Upland Conservancy and Other Natural Areas (PWC 0940999001)

BACKGROUND:

FINANCIAL IMPACT:

RECOMMENDED MOTION:

ATTACHMENTS:

Description

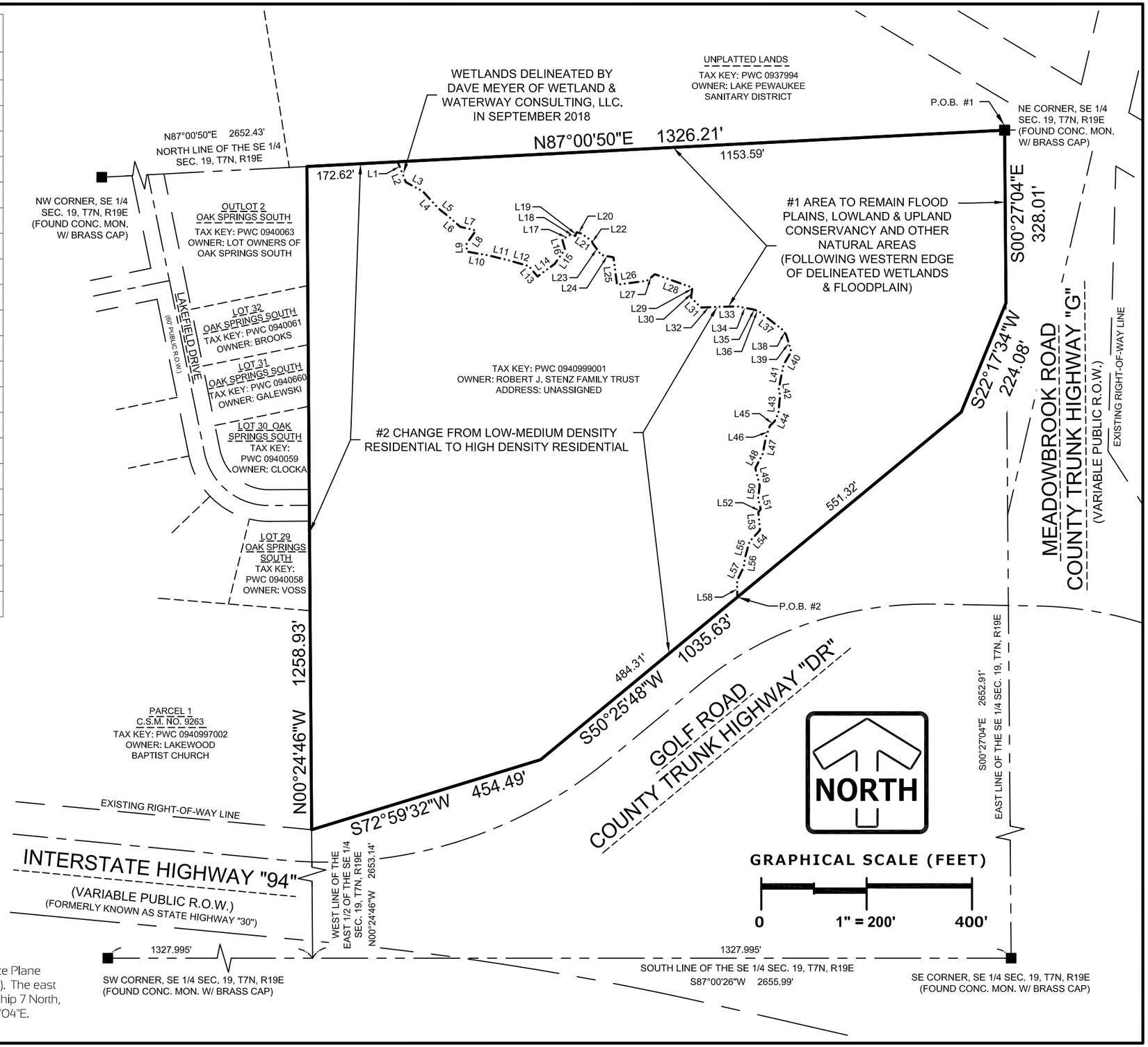
Courtyard at Pewaukee comp plan map

Courtyard at Pewaukee comp plan Ordinance

Courtyard at Pewaukee comp plan Resolution

LINE TABLE		
LINE NO.	BEARING	DISTANCE
L1	S21°50'02"E	19.22'
L2	S21°20'44"E	22.26'
L3	S61°21'39"E	37.14'
L4	S42°23'42"E	44.26'
L5	S51°42'13"E	21.37'
L6	S49°03'46"E	32.34'
L7	S76°42'04"E	30.37'
L8	S35°14'34"W	30.49'
L9	S01°05'05"E	15.11'
L10	S79°53'19"E	44.21'
L11	S76°10'57"E	40.23'
L12	S73°48'57"E	36.77'
L13	S39°50'15"E	25.71'
L14	N53°30'55"E	40.69'
L15	N35°18'54"E	33.40'
L16	N15°36'58"W	19.34'
L17	N59°16'05"E	17.21'
L18	S80°43'17"E	10.15'
L19	N20°49'05"E	7.27'
L20	S74°35'43"E	8.38'
L21	S55°32'39"E	25.57'
L22	S13°42'51"E	3.99'
L23	S35°34'05"E	27.79'
L24	S79°38'43"E	23.96'
L25	S07°22'01"E	52.45'
L26	N82°34'03"E	57.35'
L27	N50°20'32"E	19.54'
L28	S70°20'57"E	75.25'
L29	S02°32'19"W	4.50'
L30	S08°46'26"W	14.29'
L31	S43°33'38"E	26.63'
L32	N87°49'43"E	30.61'
L33	N88°41'10"E	38.60'
L34	S79°35'55"E	29.90'
L35	S73°16'45"E	6.49'
L36	S70°20'57"E	5.92'
L37	S52°06'28"E	58.38'

LINE TABLE		
LINE NO.	BEARING	DISTANCE
L38	S33°59'43"E	10.46'
L39	S16°45'11"E	33.72'
L40	S31°03'52"W	28.18'
L41	S11°15'09"W	46.62'
L42	S09°02'17"E	14.49'
L43	S05°25'24"W	32.84'
L44	S25°33'11"W	16.46'
L45	S45°45'49"W	12.47'
L46	S19°11'13"W	24.79'
L47	S10°16'08"W	30.42'
L48	S27°24'03"W	30.78'
L49	S14°11'37"E	34.00'
L50	S07°30'42"W	24.85'
L51	S14°47'36"E	20.67'
L52	S39°14'22"W	7.57'
L53	S05°30'51"E	34.46'
L54	S42°50'37"W	29.13'
L55	S15°56'59"W	31.62'
L56	S07°36'46"W	17.65'
L57	S25°39'42"W	29.31'
L58	S00°47'15"E	31.27'



Bearings referenced to the Wisconsin State Plane Coordinate System, South Zone (N.A.D. 1927). The east line of the Southeast 1/4 of Section 19, Township 7 North, Range 19 East has a bearing of S00°27'04"E.

COMPREHENSIVE MASTER PLAN AMENDMENT EXHIBIT

01/26/2023

PINNACLE ENGINEERING GROUP
20725 WATERTOWN ROAD | SUITE 100 | BROOKFIELD, WI 53186 | WWW.PINNACLE-ENGR.COM

PLAN | DESIGN | DELIVER

PEG JOB#1338.10

WAUKESHA COUNTY CITY OF PEWAUKEE STATE OF WISCONSIN

ORDINANCE NO. __-__

AN ORDINANCE TO AMEND THE CITY OF PEWAUKEE 2035 COMPREHENSIVE MASTER PLAN AND NEIGHBORHOOD PLANS 2015-2050 TO CHANGE THE YEAR 2050 LAND USE/TRANSPORTATION PLAN OF A PROPERTY LOCATED AT THE NORTHWEST CORNER OF GOLF ROAD AND MEADOWBROOK ROAD BEARING TAX KEY NO. 0940 999 001 FROM LOW-MEDIUM DENSITY RESIDENTIAL AND FLOODPLAINS, LOWLAND & UPLAND CONSERVANCY AND OTHER NATURAL AREAS TO HIGH DENSITY RESIDENTIAL AND FLOODPLAINS, LOWLAND & UPLAND CONSERVANCY AND OTHER NATURAL AREAS

WHEREAS, pursuant to Wis. Stat. §§ 62.23(2) and (3) and 66.1001(4), the City of Pewaukee is authorized to prepare and adopt and to amend a comprehensive plan as defined in Wis. Stat. §§ 66.1001(1)(a) and 66.1001(2); and

WHEREAS, ANDEV Group, LLC has applied for an amendment to the Comprehensive Master Plan to change the Year 2050 Land Use/Transportation Plan of a property located at the northwest corner of Golf Road and Meadowbrook Road bearing Tax Key No. 0940 999 001 from Low-Medium Density Residential (1/2 Ac. – 2 Ac. / D.U.) and Floodplains, Lowland & Upland Conservancy and Other Natural Areas to High Density Residential (< 6,500 Sq. Ft. / D.U.) and Floodplains, Lowland & Upland Conservancy and Other Natural Areas as depicted upon the Comprehensive Master Plan Amendment Exhibit dated January 26, 2023 on file with the Planner and Community Development Department; and

WHEREAS, the Plan Commission of the City of Pewaukee by a majority vote of the entire Commission on March 16, 2023, recorded in its minutes, has adopted a resolution recommending to the Common Council the adoption of the Ordinance to Amend the City of Pewaukee Comprehensive Master Plan to change the Year 2050 Land Use/Transportation Plan of a property located at the northwest corner of Golf Road and Meadowbrook Road bearing Tax Key No. 0940 999 001 from Low-Medium Density Residential (1/2 Ac. – 2 Ac. / D.U.) and Floodplains, Lowland & Upland Conservancy and Other Natural Areas to High Density Residential (< 6,500 Sq. Ft. / D.U.) and Floodplains, Lowland & Upland Conservancy and Other Natural Areas; and

WHEREAS, the City of Pewaukee held a public hearing upon this proposed Ordinance, in compliance with the requirements of Wis. Stat. § 66.1001(4)(d); the Common Council having received input from the public at a duly noticed public hearing on April 3, 2023; and

NOW THEREFORE, BE IT RESOLVED, by the Mayor and Common Council of the City of Pewaukee, Wisconsin, do ordain as follows:

SECTION 1: Adoption

The City of Pewaukee Comprehensive Master Plan is hereby amended to change the Year 2050 Land Use/Transportation Plan of a property located at the northwest corner of Golf Road and Meadowbrook Road bearing Tax Key No. 0940 999 001 from Low-Medium Density Residential (1/2 Ac. – 2 Ac. / D.U.) and Floodplains, Lowland & Upland Conservancy and Other Natural Areas to High Density Residential (< 6,500 Sq. Ft. / D.U.) and Floodplains, Lowland & Upland Conservancy and Other Natural Areas as depicted upon the Comprehensive Master Plan Amendment Exhibit dated January 26, 2023 on file with the Planner and Community Development Department.

SECTION 2: Document Transmittal

The City Common Council hereby directs the City Clerk/Treasurer to transmit a copy of the amendment as well as a signed copy of both the Resolution No. PC __-__-__ and this Ordinance No. __-__ to the Wisconsin Department of Administration, the Southeastern Wisconsin Regional Planning Commission, the Waukesha Park and Land Use Department, the Pewaukee Public Library and to each town, village and city that abuts the City of Pewaukee.

SECTION 3: Severability

The several sections and portions of this ordinance are declared to be severable. If any section or portion thereof shall be declared by a decision of a court of competent jurisdiction to be invalid, unlawful, or unenforceable, such decision shall apply only to the specific section or portion thereof directly specified in the decision, and shall not affect the validity of all other provisions, sections, or portions thereof of the ordinance. The remainder of the ordinance shall remain in full force and effect. Any other ordinances whose terms are in conflict with the provisions of this ordinance are hereby repealed as to those terms that conflict.

SECTION 4: Effective Date

This ordinance shall take effect immediately upon passage and posting of publication as provided by law.

Passed and adopted this 3rd day of April, 2023.

FOR THE COMMON COUNCIL OF THE CITY OF PEWAUKEE, WAUKESHA COUNTY, WISCONSIN

ATTEST:

_____
Steve Bierce, Mayor

_____
Kelly Tarczewski, Clerk/Treasurer

WAUKESHA COUNTY CITY OF PEWAUKEE STATE OF WISCONSIN

RESOLUTION NO. __-__

A RESOLUTION RECOMMENDING THE ADOPTION OF AN ORDINANCE TO AMEND THE CITY OF PEWAUKEE 2035 COMPREHENSIVE MASTER PLAN AND NEIGHBORHOOD PLANS 2015-2050 TO CHANGE THE YEAR 2050 LAND USE/TRANSPORTATION PLAN OF A PROPERTY LOCATED AT THE NORTHWEST CORNER OF GOLF ROAD AND MEADOWBROOK ROAD BEARING TAX KEY NO. 0940 999 001 FROM LOW-MEDIUM DENSITY RESIDENTIAL AND FLOODPLAINS, LOWLAND & UPLAND CONSERVANCY AND OTHER NATURAL AREAS TO HIGH DENSITY RESIDENTIAL AND FLOODPLAINS, LOWLAND & UPLAND CONSERVANCY AND OTHER NATURAL AREAS, PURSUANT TO WIS. STAT. § 66.1001(4)(b)

WHEREAS, pursuant to Wis. Stat. §§ 62.23(2) and (3) and 66.1001(4), the City of Pewaukee is authorized to prepare and adopt and to amend a comprehensive plan as defined in Wis. Stat. §§ 66.1001(1)(a) and 66.1001(2); and

WHEREAS, pursuant to Wis. Stat. § 66.1001(4)(b), the Plan Commission may recommend the amendment of the Comprehensive Master Plan to the Common Council by adopting a resolution by a majority vote of the entire Commission, which vote shall be recorded in the official minutes of the Plan Commission; and

WHEREAS, ANDEV Group, LLC has applied for an amendment to the Comprehensive Master Plan to change the Year 2050 Land Use/Transportation Plan of a property located at the northwest corner of Golf Road and Meadowbrook Road bearing Tax Key No. 0940 999 001 from Low-Medium Density Residential (1/2 Ac. – 2 Ac. / D.U.) and Floodplains, Lowland & Upland Conservancy and Other Natural Areas to High Density Residential (< 6,500 Sq. Ft. / D.U.) and Floodplains, Lowland & Upland Conservancy and Other Natural Areas as depicted upon the Comprehensive Master Plan Amendment Exhibit dated January 26, 2023 on file with the Planner and Community Development Department.

WHEREAS, the Plan Commission having determined that the proposed amendment in form and content as presented to the Commission on March 16, 2023, is consistent with the Comprehensive Master Plan's goals, objectives and policies and in proper form and content for adoption by the Common Council as an amendment to the Comprehensive Master Plan, subject to such modifications the Common Council may consider reasonable and necessary, following public hearing, in order to protect and promote the health, safety and welfare of the City of Pewaukee.

NOW, THEREFORE, BE IT RESOLVED, by the Plan Commission of the City of Pewaukee, Wisconsin, that the application for and the proposed ordinance to amend the City of Pewaukee Comprehensive Master Plan to change the Year 2050 Land

Use/Transportation Plan of a property located at the northwest corner of Golf Road and Meadowbrook Road from Low-Medium Density Residential (1/2 Ac. – 2 Ac. / D.U.) and Floodplains, Lowland & Upland Conservancy and Other Natural Areas to High Density Residential (< 6,500 Sq. Ft. / D.U.) and Floodplains, Lowland & Upland Conservancy and Other Natural Areas as depicted upon the Comprehensive Master Plan Amendment Exhibit dated January 26, 2023 on file with the Planner and Community Development Department, such property bearing Tax Key No. 0940 999 001, be and the same is hereby recommended for adoption and incorporation into the Comprehensive Master Plan by the Common Council:

Passed and adopted this 16th day of March, 2023.

FOR THE PLAN COMMISSION OF THE CITY OF PEWAUKEE, WAUKESHA COUNTY, WISCONSIN

ATTEST:

_____
Steve Bierce, Mayor

_____
Colleen Brown, Plan Commission Secretary

CITY OF PEWAUKEE
PLAN COMMISSION AGENDA ITEM 9.

DATE: March 16, 2023

DEPARTMENT: Planning

PROVIDED BY:

SUBJECT:

Discussion and Action Regarding the Site and Building Plans for Andev Group, LLC for Vacant Land Located at the Northwest Corner of Golf Road and Meadowbrook Road for the Purpose of Developing the Courtyard at Pewaukee, a Community Based Residential Facility (PWC 0940999001)

BACKGROUND:

FINANCIAL IMPACT:

RECOMMENDED MOTION:

ATTACHMENTS:

Description

Courtyard at Pewaukee architectural plans
Courtyard at Pewaukee tree survey
Courtyard at Pewaukee storm water management plan
Courtyard at Pewaukee civil set
Courtyard at Pewaukee landscape plans
Courtyard at Pewaukee plan view
Courtyard at Pewaukee lighting plan
Courtyard at Pewaukee traffic report

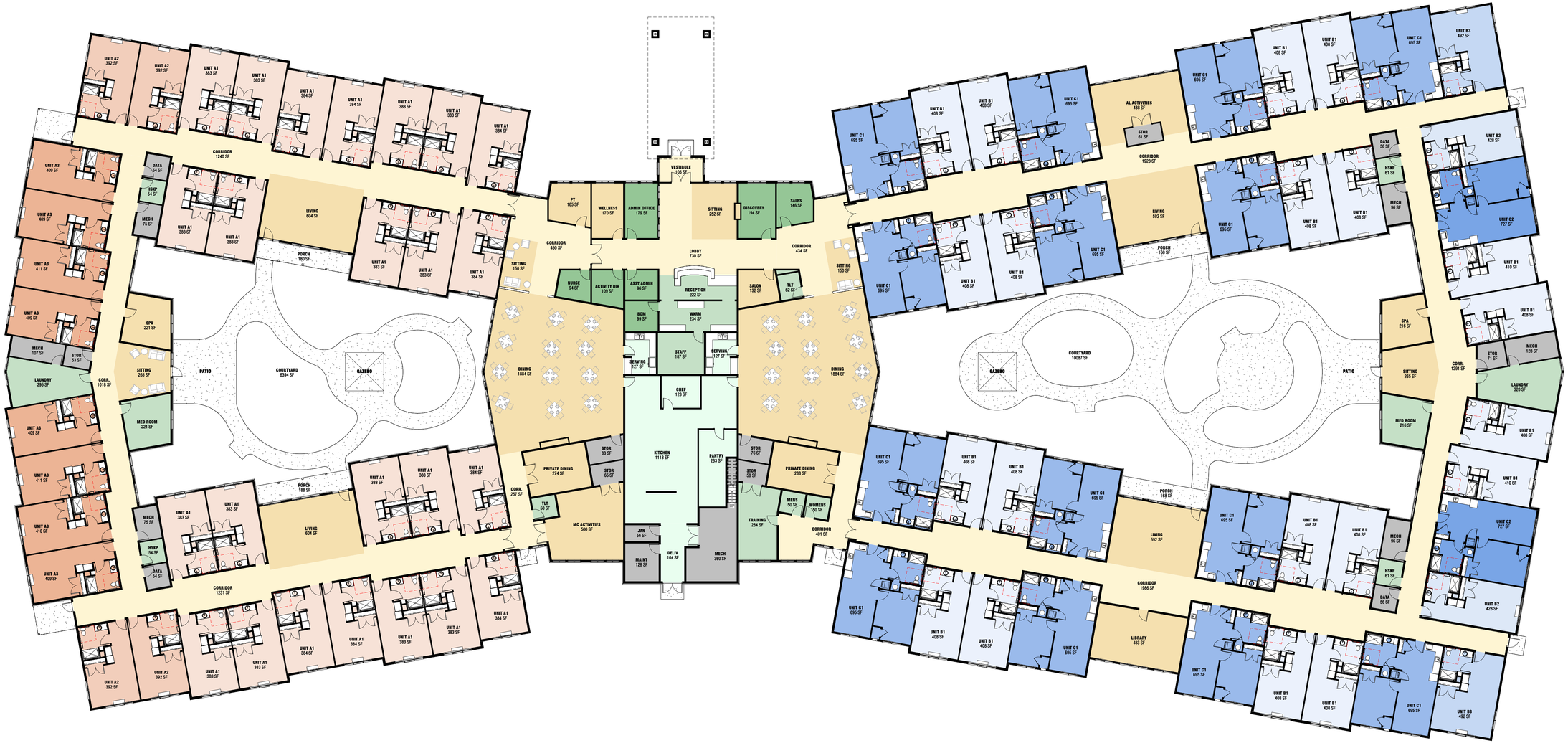
BUILDING INFORMATION

OVERALL BUILDING
FIRST FLOOR S.F. = 67,578 s.f.
CANOPY & PORCHES S.F. = 1,678 s.f.
TOTAL S.F. = 69,256 s.f.

TOTAL UNITS = 76
MEMORY CARE UNITS: 36
(24) UNIT A1 - MC STUDIO @ 383 s.f.
(4) UNIT A2 - MC STUDIO @ 392 s.f.
(8) UNIT A3 - MC STUDIO @ 410 s.f.
ASSISTED LIVING UNITS: 40
(20) UNIT B1 - AL STUDIO @ 408 s.f.
(2) UNIT B2 - AL STUDIO @ 428 s.f.
(7) UNIT B3 - AL STUDIO @ 492 s.f.
(14) UNIT C1 - AL ONE BED @ 695 s.f.
(2) UNIT C2 - AL ONE BED @ 727 s.f.

S.F. / UNIT = 911 s.f.

CONGREGATE AREA REQUIRED = (76 residents x 90 s.f.) = 6,840 s.f.
CONGREGATE AREA PROVIDED = 10,173 s.f.



OVERALL PRESENTATION FLOOR PLAN

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

SITE PLAN REVIEW 03-06-2023

Ganther Construction Architecture, Inc.
4825 County Road A
Oshkosh, Wisconsin 54901
tel. 920.426.4774 fax
920.426.4788 www.ganther.com

© 2022 GANTHER CONSTRUCTION | ARCHITECTURE, INC. ALL RIGHTS RESERVED. THIS DESIGN AND THESE DRAWINGS ARE THE EXCLUSIVE PROPERTY OF GANTHER. THESE DRAWINGS, IN PART OR IN WHOLE, ARE NOT TO BE REPRODUCED, CHANGED, COPIED OR ASSIGNED TO ANY THIRD PARTY IN ANY FORM OR MANNER WITHOUT FIRST OBTAINING THE EXPRESSED WRITTEN PERMISSION FROM GANTHER CONSTRUCTION / ARCHITECTURE, INC. PARTY OR PARTIES POSSESSING THESE DRAWINGS, WHETHER IN PAPER OR ELECTRONIC DATA FORMAT, AGREE TO INDEMNIFY AND HOLD GANTHER HARMLESS FROM ANY DAMAGES, LIABILITY OR COST INCLUDING ATTORNEY'S FEES AND COSTS OF DEFENSE ARISING FROM ANY CHANGES OR ALTERATIONS MADE BY ANYONE OTHER THAN GANTHER CONSTRUCTION | ARCHITECTURE, INC., OR FROM ANY REUSE OF THE DRAWINGS OR DATA WITHOUT THE PRIOR WRITTEN CONSENT FROM GANTHER CONSTRUCTION | ARCHITECTURE, INC.

PROPOSED PROJECT FOR:

THE COURTYARD AT PEWAUKEE

PEWAUKEE, WI

REVISIONS

#	DATE

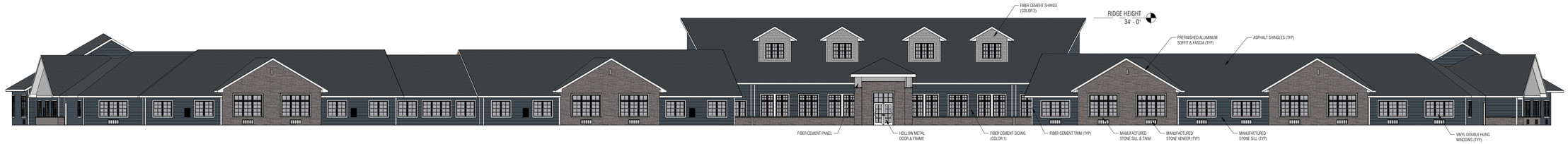
Project Number	21-1016
Date	03/06/2023
Drawn By	JR
Checked By	AI

OVERALL PRESENTATION FLOOR PLAN

A1

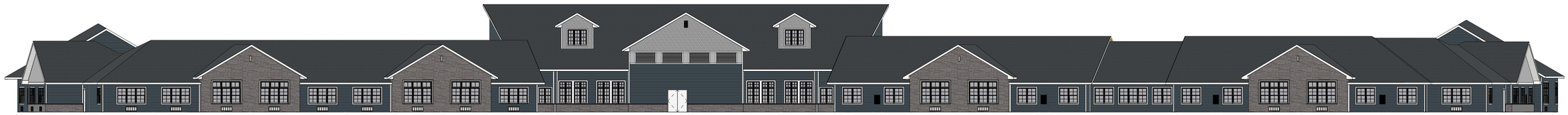
C:\Users\jaiverson\Documents\21-1016_The Courtyard at Pewaukee_01-26-2023_jaiversonDNCPW.rvt

3/6/2023 10:33:43 AM



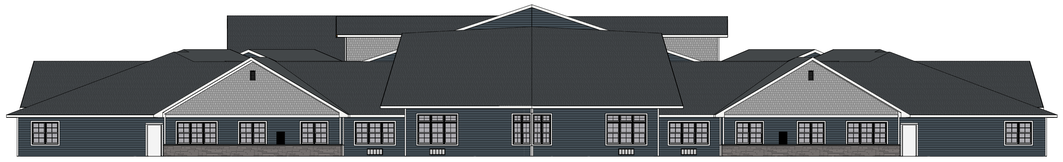
1 / A2 MAIN BUILDING - NORTH

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



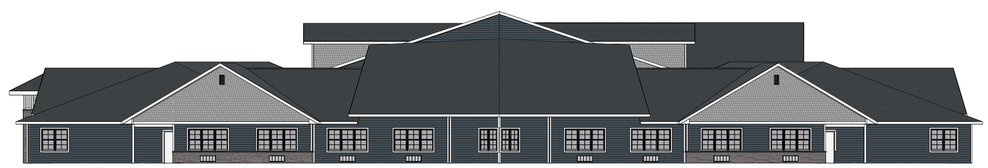
2 / A2 MAIN BUILDING - SOUTH

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



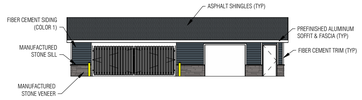
3 / A2 MAIN BUILDING - EAST

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



4 / A2 MAIN BUILDING - WEST

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



5 / A2 GARAGE - NORTH

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



6 / A2 GARAGE - SOUTH

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



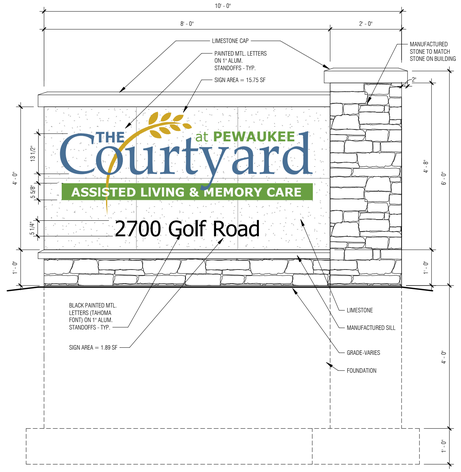
7 / A2 GARAGE - WEST

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



8 / A2 GARAGE - EAST

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



9 / A2 MONUMENT SIGN

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

SITE PLAN REVIEW 03-06-2023

Ganther Construction Architecture, Inc.
4825 County Road A
Oshkosh, Wisconsin 54901
tel. 920.426.4774 fax
920.426.4788 www.ganther.com

© 2022 GANTHER CONSTRUCTION | ARCHITECTURE, INC. ALL RIGHTS RESERVED. THIS DESIGN AND THESE DRAWINGS ARE THE EXCLUSIVE PROPERTY OF GANTHER. THESE DRAWINGS, IN PART OR IN WHOLE, ARE NOT TO BE REPRODUCED, CHANGED, COPIED OR ASSIGNED TO ANY THIRD PARTY IN ANY FORM OR MANNER WITHOUT FIRST OBTAINING THE EXPRESSED WRITTEN PERMISSION FROM GANTHER CONSTRUCTION / ARCHITECTURE, INC. PARTY OR PARTIES POSSESSING THESE DRAWINGS, WHETHER IN PAPER OR ELECTRONIC DATA FORMAT, AGREE TO INDEMNIFY AND HOLD GANTHER HARMLESS FROM ANY DAMAGES, LIABILITY OR COST INCLUDING ATTORNEY'S FEES AND COSTS OF DEFENSE ARISING FROM ANY CHANGES OR ALTERATIONS MADE BY ANYONE OTHER THAN GANTHER CONSTRUCTION | ARCHITECTURE, INC., OR FROM ANY REUSE OF THE DRAWINGS OR DATA WITHOUT THE PRIOR WRITTEN CONSENT FROM GANTHER CONSTRUCTION | ARCHITECTURE, INC.

PROPOSED PROJECT FOR:

THE COURTYARD AT PEWAUKEE

PEWAUKEE, WI

REVISIONS

#	DATE

Project Number	21-1016
Date	03/06/2023
Drawn By	JR
Checked By	AI

PRESENTATION EXTERIOR ELEVATIONS

A2

C:\Users\aiverson\Documents\21-1016_The Courtyard at Pewaukee_01-26-2023_aiversonDNCPW.rvt

3/6/2023 10:33:52 AM



STREET ENTRANCE RENDERING

SCALE: NOT TO SCALE



MAIN ENTRANCE RENDERING

SCALE: NOT TO SCALE

SITE PLAN REVIEW 03-06-2023

Ganther Construction
Architecture, Inc.
4825 County Road A
Oshkosh, Wisconsin 54901
tel. 920.426.4774 fax
920.426.4788 www.ganther.com

© 2022 GANTHER CONSTRUCTION | ARCHITECTURE, INC. ALL RIGHTS RESERVED. THIS DESIGN AND THESE DRAWINGS ARE THE EXCLUSIVE PROPERTY OF GANTHER. THESE DRAWINGS, IN PART OR IN WHOLE, ARE NOT TO BE REPRODUCED, CHANGED, COPIED OR ASSIGNED TO ANY THIRD PARTY IN ANY FORM OR MANNER WITHOUT FIRST OBTAINING THE EXPRESSED WRITTEN PERMISSION FROM GANTHER CONSTRUCTION / ARCHITECTURE, INC. PARTY OR PARTIES POSSESSING THESE DRAWINGS, WHETHER IN PAPER OR ELECTRONIC DATA FORMAT, AGREE TO INDEMNIFY AND HOLD GANTHER HARMLESS FROM ANY DAMAGES, LIABILITY OR COST INCLUDING ATTORNEY'S FEES AND COSTS OF DEFENSE ARISING FROM ANY CHANGES OR ALTERATIONS MADE BY ANYONE OTHER THAN GANTHER CONSTRUCTION | ARCHITECTURE, INC., OR FROM ANY REUSE OF THE DRAWINGS OR DATA WITHOUT THE PRIOR WRITTEN CONSENT FROM GANTHER CONSTRUCTION | ARCHITECTURE, INC.

PROPOSED PROJECT FOR:

THE COURTYARD AT PEWAUKEE

PEWAUKEE, WI

REVISIONS

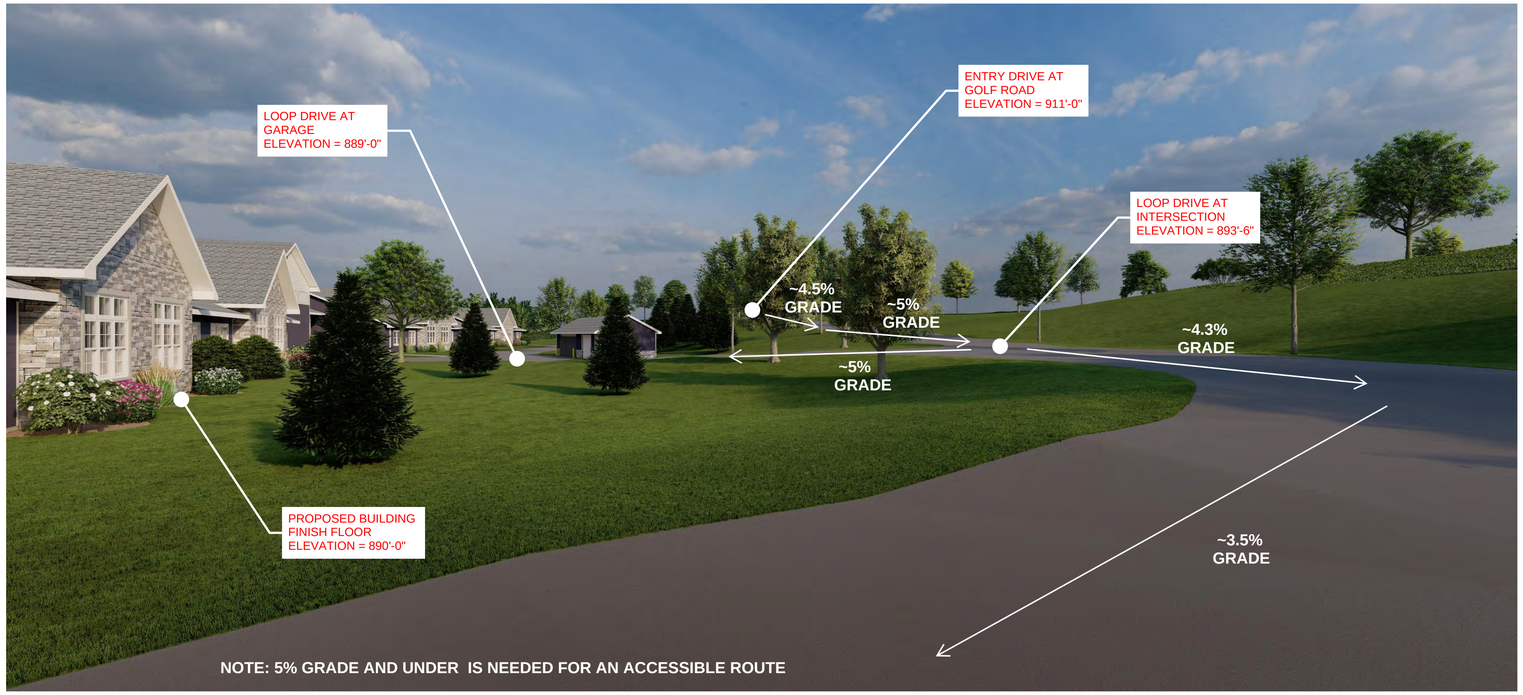
#	DATE	

Project Number	21-1016
Date	03/06/2023
Drawn By	Author
Checked By	Checker

PRESENTATION RENDERINGS

A3

C:\Users\aiverson\Documents\21-1016_The Courtyard at Pewaukee_01-26-2023_aiversonDNCPW.rvt
3/6/2023 10:33:52 AM



SOUTHWEST LOOP DRIVE RENDERING

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



SOUTHEAST LOOP DRIVE RENDERING

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

SITE PLAN REVIEW 03-06-2023

Ganther Construction Architecture, Inc.
4825 County Road A
Oshkosh, Wisconsin 54901
tel. 920.426.4774 fax
920.426.4788 www.ganther.com

© 2022 GANTHER CONSTRUCTION | ARCHITECTURE, INC. ALL RIGHTS RESERVED. THIS DESIGN AND THESE DRAWINGS ARE THE EXCLUSIVE PROPERTY OF GANTHER. THESE DRAWINGS, IN PART OR IN WHOLE, ARE NOT TO BE REPRODUCED, CHANGED, COPIED OR ASSIGNED TO ANY THIRD PARTY IN ANY FORM OR MANNER WITHOUT FIRST OBTAINING THE EXPRESSED WRITTEN PERMISSION FROM GANTHER CONSTRUCTION / ARCHITECTURE, INC. PARTY OR PARTIES POSSESSING THESE DRAWINGS, WHETHER IN PAPER OR ELECTRONIC DATA FORMAT, AGREE TO INDEMNIFY AND HOLD GANTHER HARMLESS FROM ANY DAMAGES, LIABILITY OR COST INCLUDING ATTORNEYS FEES AND COSTS OF DEFENSE ARISING FROM ANY CHANGES OR ALTERATIONS MADE BY ANYONE OTHER THAN GANTHER CONSTRUCTION | ARCHITECTURE, INC., OR FROM ANY REUSE OF THE DRAWINGS OR DATA WITHOUT THE PRIOR WRITTEN CONSENT FROM GANTHER CONSTRUCTION | ARCHITECTURE, INC.

PROPOSED PROJECT FOR:

THE COURTYARD AT PEWAUKEE

PEWAUKEE, WI

REVISIONS

#	DATE	

Project Number	21-1016
Date	03/06/2023
Drawn By	Author
Checked By	Checker

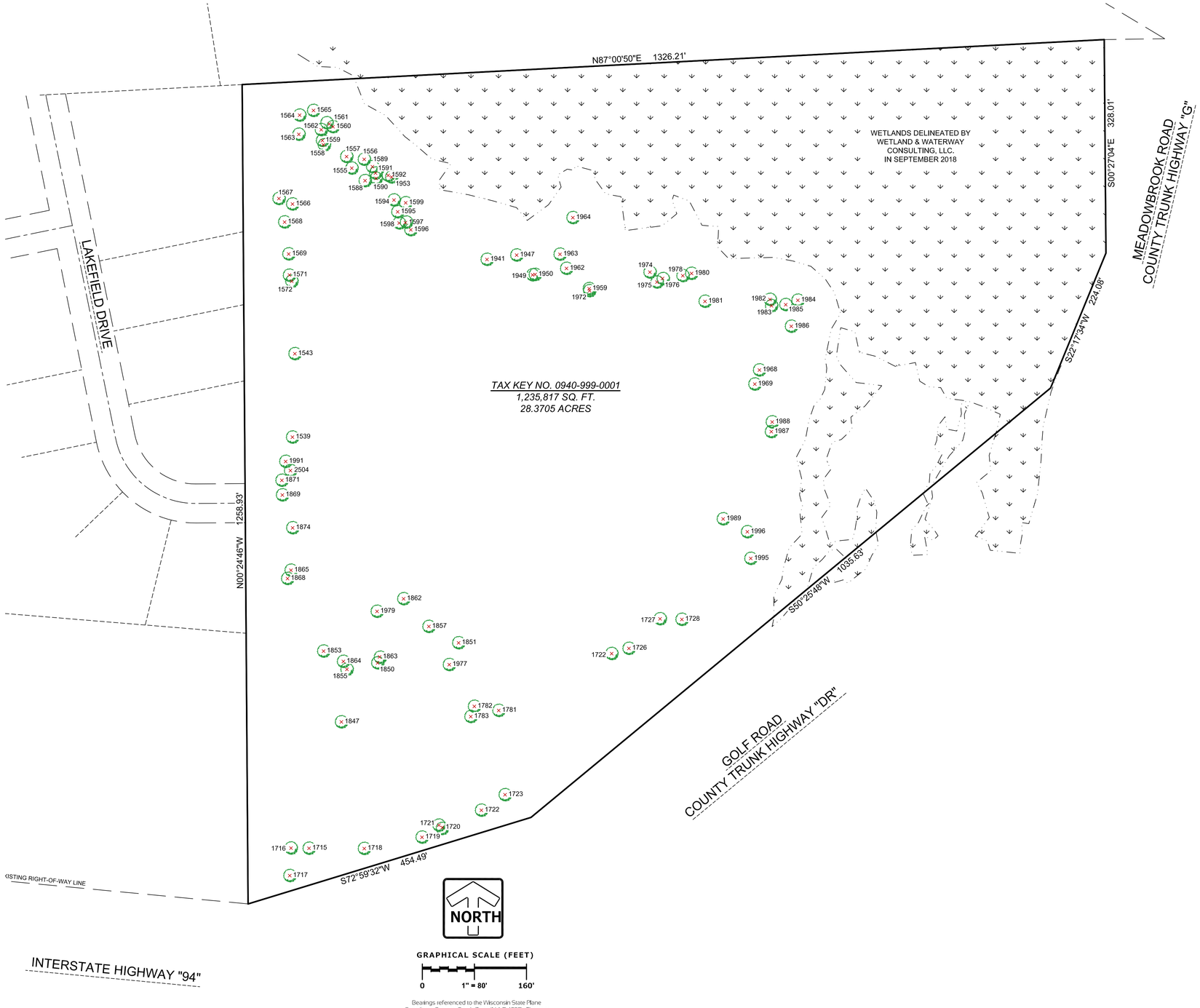
PRESENTATION RENDERINGS

A4

C:\Users\aiverson\Documents\21-1016_The Courtyard at Pewaukee_01-26-2023_aiversonDNCPW.rvt

3/6/2023 10:33:52 AM

THESE PLANS AND DESIGNS ARE COPYRIGHT PROTECTED AND MAY NOT BE USED IN WHOLE OR IN PART WITHOUT THE WRITTEN CONSENT OF PINNACLE ENGINEERING GROUP, LLC



Bearings referenced to the Wisconsin State Plane Coordinate System, South Zone (NAD 1927). The east line of the Southeast 1/4 of Section 19, Township 7 North, Range 19 East has a bearing of S00°27'04"E.

DRAFTED: ST
DESIGNED:
REVIEWED: JPK

PLAN | DESIGN | DELIVER
www.pinnacle-engr.com
PINNACLE ENGINEERING GROUP
ENGINEERING | NATURAL RESOURCES | SURVEYING
CHICAGO | MILWAUKEE | NATIONWIDE

WISCONSIN OFFICE:
15850 W. BLUEMOUND ROAD
BROOKFIELD, WI 53005
(262) 754-8888

GOLF ROAD

PART OF THE NE 1/4 OF THE SE 1/4 SEC. 19, T7N, R19E, CITY OF PEWAUKEE, WAUKESHA COUNTY, WISCONSIN

TREE INVENTORY

REVISIONS

PEG JOB No. 1338.00
PEG PM. -
DATE 12/24/18
SCALE 1"=80'

SHEET 1 OF 1

SURVEY

© COPYRIGHT 2018

www.pinnacle-engr.com









STORMWATER MANAGEMENT PLAN

THE COURTYARD AT PEWAUKEE

Pewaukee, Wisconsin

PEG Project Number: 1338.10-WI

January 24, 2023

PINNACLE ENGINEERING GROUP
20725 Watertown Road | Suite 100 | Brookfield, WI 53186
www.pinnacle-engr.com

TABLE OF CONTENTS

INTRODUCTION……2
DESIGN CRITERIA……2
EXISTING CONDITIONS……2
POST DEVELOPMENT CONDITIONS……3
ANALYSIS METHODS……4
SUMMARY OF RESULTS……4
Existing Conditions……4
Proposed Conditions……4
Runoff Water Quality……5
Infiltration……5
Protective Areas……5
CONCLUSION……6

APPENDICIES

APPENDIX 1 – MAPS, DETAILS

- Vicinity Map
- FEMA FIRM Map
- Existing County GIS Contours
- Detail of pond outfall structure
- Pond Cross Section
- Spillway

APPENDIX 2 – PRE-DEVELOPMENT CONDITIONS RATE ATTENUATION

- Hydrology Exhibit – Existing Conditions
- Hydrographs

APPENDIX 3 – POST-DEVELOPMENT CONDITIONS RATE ATTENUATION – CITY CODE

- Hydrology Exhibit – Proposed Conditions
- Hydrographs

APPENDIX 4 – POST-DEVELOPMENT CONDITIONS (WATER QUALITY)

- TSS Exhibit
- WinSLAMM Schematic
- WinSLAMM Modeling Input Data & Output Computations

APPENDIX 5 – GEOTECH AND WETLAND REPORT

APPENDIX 6 – CALCULATIONS

- Storm Sewer Calculations

APPENDIX 7 – MAINTENANCE AGREEMENT

Questions and comments can be directed to:
Mark T. Seidl, P.E.
Project Manager
Phone: 262.754.8888 | Fax: 262.754.8850
mseidl@pinnacle-engr.com

PINNACLE ENGINEERING GROUP
20725 Watertown Road | Suite 100
Brookfield, WI 53186
www.pinnacle-engr.com

INTRODUCTION

The proposed project is located at the northwest corner of Golf Rd and Meadowbrook Rd., Pewaukee, WI. The project site is approx. 28.72 acres, The site will entail a single senior living facility. The improvements will disturb more than 1 acre and thus will require stormwater management. The site is located within the Pewaukee River – Fox River watershed. The City of Pewaukee and the Wisconsin DNR have jurisdiction on the site with regards to stormwater requirements. PEG has prepared a plan which utilizes a Bioretention Basin to meet the stormwater goals.

DESIGN CRITERIA

City of Pewaukee:..... Chapter 19 of the municipal code

Wisconsin Department of Natural Resources:.....NR 216 & NR 151

Water Quantity (rate attenuation): In accordance with the City of Pewaukee stormwater management practices, the post-development peak discharge rates shall not exceed the pre-development discharge rates for the 1-year, 2-year, 10-year, and 100-year, 24-hour design storms. Pre-settlement conditions and the runoff curve numbers shall be used.

Water Quality: Since the project site will be evaluated as a new development. Since the site is new development, it will need to meet the minimum City and DNR requirements of 80% removal of the total suspended solids (TSS) load on an average annual basis.

Infiltration: The soils are composed of lean clay, which have poor infiltration rates. Per NR 151.12(5(c) this site will be exempted from the requirements to install infiltration devices.

Protective Areas: A delineated wetland exists on the northern half of the project site. The delineation can be found in **Appendix 5** of the attached report. The wetlands will remain undisturbed. In addition to the existing wetlands on site there is also a flood plain which also remain undisturbed.

Erosion Control: Erosion BMP'S to be used on site include: inlet protection, rip rap, hydroseeding and erosion blanket.

EXISTING CONDITIONS

The existing site is approximately 15.76 acres in size and is located in the northwest quadrant of the intersection of Golf Rd. and Meadowbrook Rd. The on-site soils consist of mainly Clay or clayey silt. See USDA Soil Maps in **Appendix 1** and the geotechnical report in **Appendix 6**. In addition to the various soil types on site mainly consisting of clay the site also has bedrock throughout that prevents any infiltration from occurring. The existing soils on site have a hydrologic soil group rating of C. The existing site is a vacant lot with various vegetation growing around site. The site and applicable offsite areas are divided into two (2) drainage basins which includes the Existing site, and an offsite are that runs onto the site. An Existing Drainage Area Map and HydroCAD Modeling and hydrographs can be found in **Appendix 2** of this report.

Existing Basins

The **Existing Condition** consists of the entire 15.76-acre site, and generally drains from Southwest corner to the northwest end of the site. At this point it reaches the onsite wetland that takes it from the site which is the ultimate discharge point.

The **Offsite area** is an approximately 1.624-acre area that drains from golf road , and offsite grass areas south of the site. This water discharges onto the site and takes the water to the ultimate discharge point north of the site.

POST-DEVELOPMENT CONDITIONS

The proposed development is 15.76 acres and includes an approximately 65,700 SF senior living facility, with parking as well as landscaping.

The site and surrounding contributing areas under post-development conditions will be split into five (5) drainage basins. 4 (4) basins are located onsite and drain to either the site bmp's or are undetained. While one (1) basin is an offsite tributary area previously described in this report. The offsite basin has the same tributary area, but Tc have been modified to account for the new flow path. In order to meet the stormwater performance standards, a Bio-Retention basin will be utilized. Wetlands previously described will remain in the post development condition and left undisturbed.

A Proposed Hydrology exhibit has been prepared (see **Appendix 3**). Due to the topography, the outermost areas around the perimeter of the site will be undetained and discharged to the existing wetland. These areas have been accounted for to meet WDNR and City of Pewaukee Stormwater Regulations.

Proposed Basins

The **Offsite basin** has been described in the Pre-Development portion of this report. The basin is still ultimately being routed through the site and discharging to the existing wetland which is located to the North of the site.

Proposed Site: is the entire 67,500 S.F in addition to onsite grass, and pavement that runs through storm sewer, or overland flow and discharges into the Bio-retention Pond.

Grass Swale: is 4.206 acres of grass that flow to the proposed Bio-retention via a swale on the west side of the site.

Undetained Grass: consists of approximately 1.30 acres of the proposed landscape areas that are undetained and left untreated.

Undetained Undisturbed Grass: This is described as the area west of the site that will be untreated but hasn't been disturbed thus keeping the original curve number established as the pre-development curve number of 70 rather than 74 as is denoted in the proposed conditon.

ANALYSIS METHODS

HydroCAD® (Version 10.00) software has been used to analyze stormwater characteristics for this stormwater management plan. HydroCAD uses the accepted TR-55 methodology for determining peak discharge runoff rates. Rainfall depths for the 1-year, 2-year, 10-year and 100-year storm events are 2.39, 2.70, 3.82 and 6.21 inches in accordance with Pewaukee city code, and using MSE-3 for rainfall distribution.

TSS reduction characteristics for the proposed water quality facilities were determined using WinSLAMM® (Version 10.1) Source Loading and Management Model. Rainfall file used for analysis was "Milwaukee 69", and using the winter dates from December 6 – March 28.

SUMMARY OF RESULTS

Existing Conditions

As previously discussed, the site can generally be divided into two existing drainage basins.

Existing Drainage Data

Area	Area (ac)	CN	Tc (min)	Peak Flows 1-year (cfs)	Peak Flows 2-year (cfs)	Peak Flows 10-year (cfs)	Peak Flows 100-year (cfs)
Existing Condition	15.760	70	21.5	5.28	7.89	19.43	50.22
Offsite	1.624	82	35.0	1.19	1.50	2.72	5.52
Existing Total	**17.384**	**-**	**-**	**6.31**	**9.14**	**21.67**	**54.53**

Proposed Conditions

Proposed Drainage Data

Area	Area (ac)	C N	Tc (min)	Peak Flows 1-year (cfs)	Peak Flows 2-year (cfs)	Peak Flows 10-year (cfs)	Peak Flows 100-year (cfs)
Proposed Site	7.800	84	6.0*	14.46	17.84	30.63	58.91
Grass Swale	4.260	74	8.8	3.35	4.66	9.92	22.94
Offsite	1.624	82	24.7	1.45	1.83	3.32	6.71
Undetained Undisturbed Grass	2.400	70	21.0	0.82	1.22	3.00	7.74
Undetained grass	1.300	74	6.0*	1.19	1.63	3.41	7.80
Proposed Total before detention	17.384	-	-	21.27	27.18	50.28	104.1
Proposed Total After Detention	**17.384**	**-**	**-**	**1.41**	**2.04**	**9.29**	**46.03**

* A Tc of 6.0 min is used if the actual computed Tc is less than the minimum allowable Tc of 6.0 min per TR 55.

Basin Data –Bio-Retention Basin

Pond	Pond Bottom Elev.	Peak W.S. Elev. 1-year	Peak W.S. Elev. 2-year	Peak W.S. Elev. 10-year	Peak W.S. Elev. 100-year	Spillway Elev.	Pond Top Elev.
1	881.00	882.16	882.42	882.75	883.55	884.00	885.00

The modeling indicates that the Wet Pond will detain the flows so that the peak discharge for the 1,2,10 & 100-year storm will not exceed existing discharge rates.

Runoff Water Quality

Post-development water quality will be obtained in the Bio-retention Basin. Since this site will be considered a new development, 80% TSS removal rates are required.

Water Quality Summary

Area/Pond	Pounds of TSS Generated	Pounds of TSS Remaining	Pounds Removal	Percent Removal
Total Site	2568	480.7	2087.3	**81.28%**

The Bio-Retention Basin will remove in excess of the minimum TSS required to achieve the TSS removal goals.

Infiltration

The soils are composed of lean clay, which have poor infiltration rates. Per NR 151.12(5(c)) this site will be exempted from the requirements to install infiltration devices.

Protective Areas

No wetlands or floodplains are disturbed on the site. A Wetland delineation can be found in **Appendix 5** of the report.

CONCLUSION

The stormwater management features for the development have been designed to comply with Village, and WDNR regulations. This includes water quality & rate attenuation. The proposed Bio-Retention Basin will serve to meet and exceed all requirements. Maintenance is expected to occur on a regular basis to maintain a functional stormwater facility. An agreement with the Village of Pewaukee will be executed to ensure this occurs.

APPENDIX 1
MAPS, DETAILS

MAP WAUKESHA county

Waukesha County GIS Map



Legend

- Civil Division Boundary
- Parks
- Assessment Data
- Environmental Corridors 2
  - Water
  - Isolated Natural Resource A
  - Isolated Natural Resource A
  - Primary Env. Corridor
  - Primary Env. Corridor Water
  - Secondary Env. Corridor
  - Secondary Env. Corridor Wa
- Parcels
- Plats
- Retired Parcels
- Retired Plats
- Municipal Boundary_2K
- FacilitySites_2K_Labels
- Lots_2K
  - Lot
  - Unit
  - General Common Element
  - Outlot
- SimultaneousConveyance
  - Assessor Plat
  - CSM
  - Condominium
  - Subdivision
- Cartoline_2K
  - <all other values>
  - EA-Easement_Line
  - PL-DA
  - PL-Extended_Tie_line
  - PL-Meander_Line
  - PL-Note
  - PL-Tie
  - PL-Tie_Line
- Road Centerlines_2K
- Railroad_2K
- TaxParcel_2K

0 449.73 Feet

The information and depictions herein are for informational purposes and Waukesha County specifically disclaims accuracy in this reproduction and specifically admonishes and advises that if specific and precise accuracy is required, the same should be determined by procurement of certified maps, surveys, plats, Flood Insurance Studies, or other official means. Waukesha County will not be responsible for any damages which result from third party use of the information and depictions herein, or for use which ignores this warning.

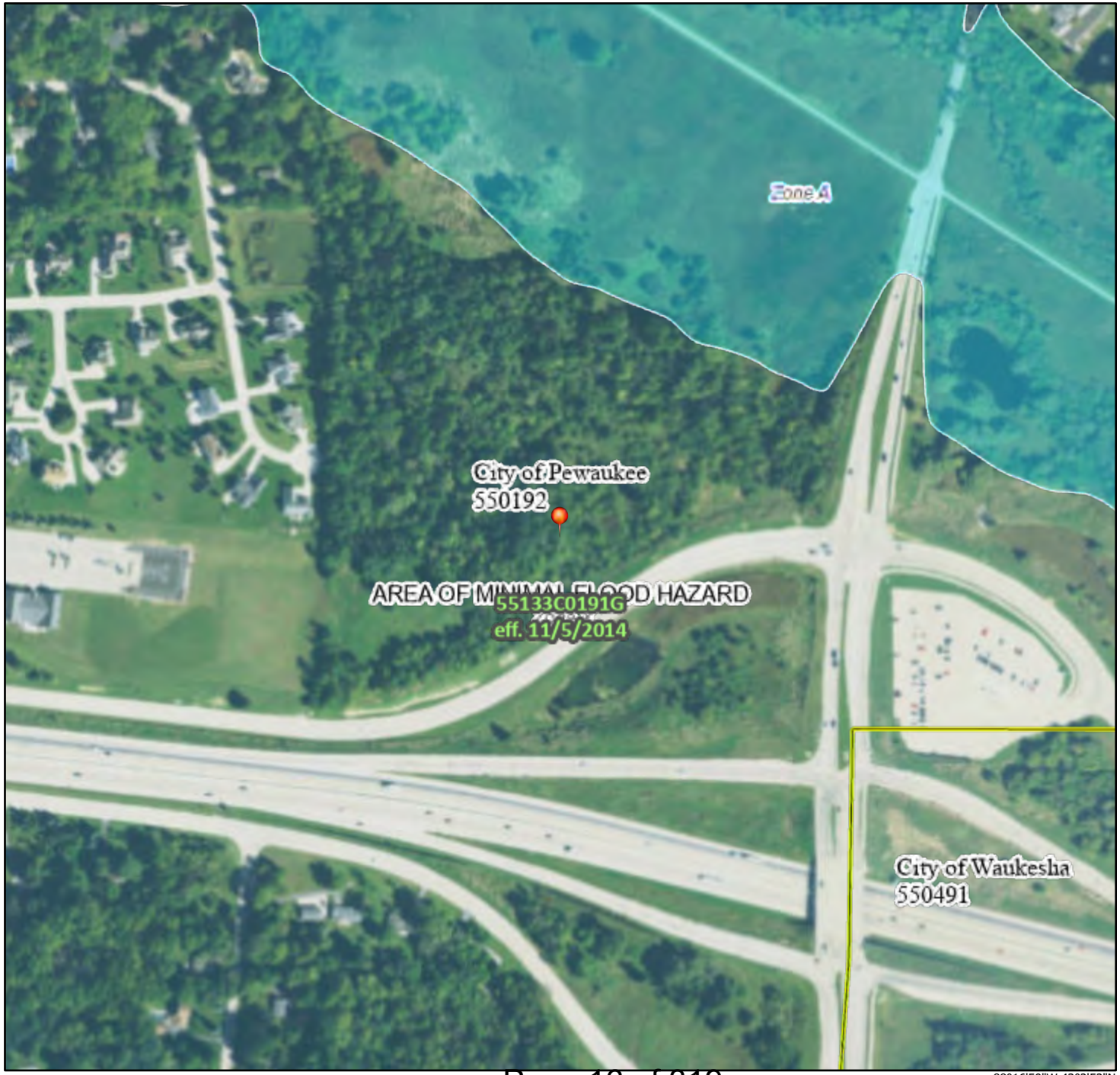
Notes:

Printed: 12/27/2021

National Flood Hazard Layer FIRMette

FEMA

88°17'37"W 43°3'19"N



88°16'59"W 43°2'52"N

0 250 500 1,000 1,500 2,000 Feet 1:6,000

Basemap: USGS National Map: Orthoimagery: Data refreshed October, 2020

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 Cross Sections with 1% Annual Chance
- 17.5 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 12/27/2021 at 12:30 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.

MAP WAUKESHA county

Waukesha County GIS Map



Legend

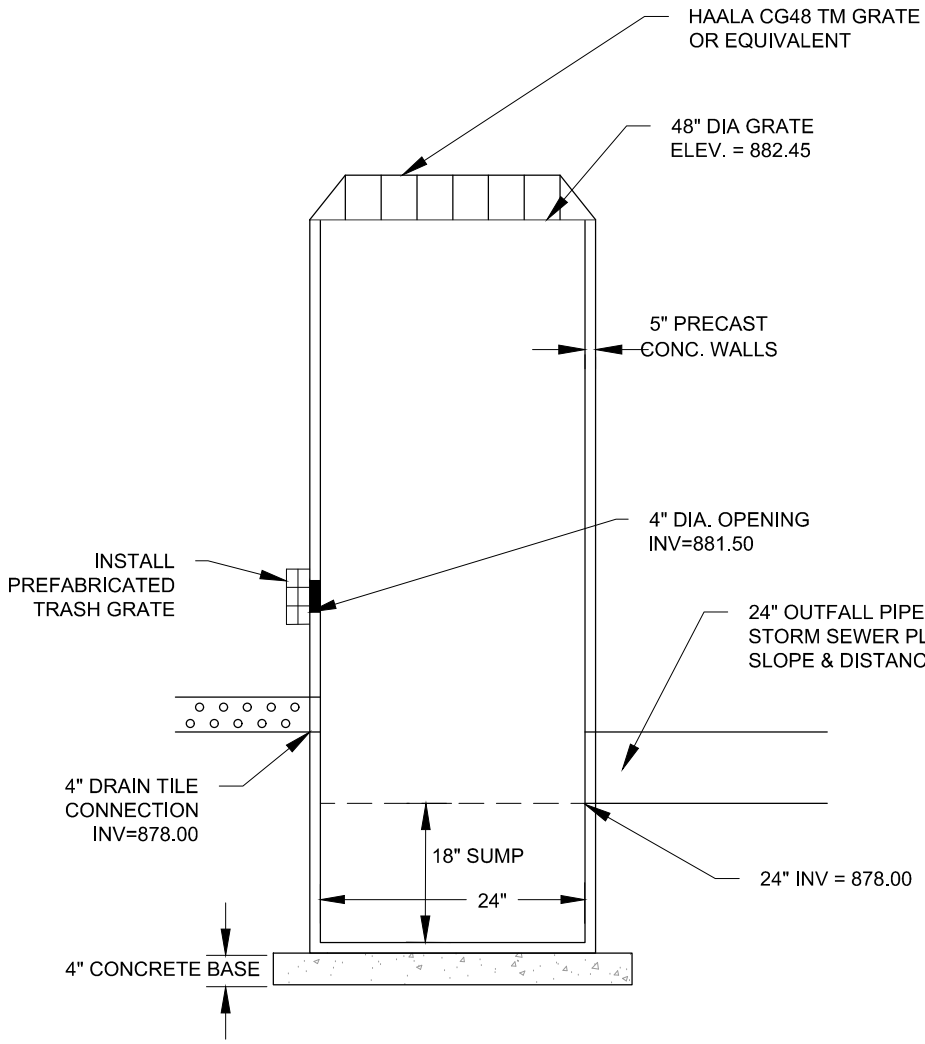
- Civil Division Boundary
- Parks
- Assessment Data
- Parcels
- Plats
- Retired Parcels
- Retired Plats
- Index Contours
  - Index Contour
  - Index Depression
- Municipal Boundary_2K
- FacilitySites_2K_Labels
- Lots_2K
  - Lot
  - Unit
  - General Common Element
  - Outlot
- SimultaneousConveyance
  - Assessor Plat
  - CSM
  - Condominium
  - Subdivision
- Cartoline_2K
  - <all other values>
  - EA-Easement_Line
  - PL-DA
  - PL-Extended_Tie_line
  - PL-Meander_Line
  - PL-Note
  - PL-Tie
  - PL-Tie_Line
- Road Centerlines_2K
- Railroad_2K
- TaxParcel_2K
- Waterbodies_2K_Labels
- Waterlines_2K_Labels
- Municipal Boundary_5K

0 224.86 Feet

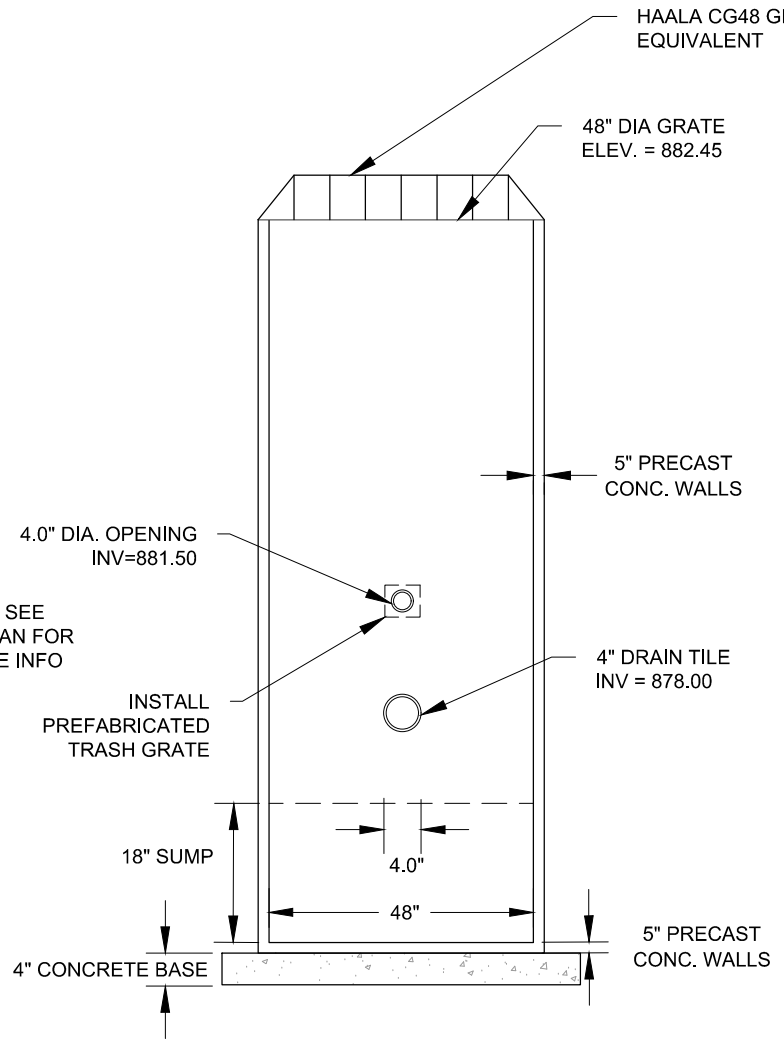
The information and depictions herein are for informational purposes and Waukesha County specifically disclaims accuracy in this reproduction and specifically admonishes and advises that if specific and precise accuracy is required, the same should be determined by procurement of certified maps, surveys, plats, Flood Insurance Studies, or other official means. Waukesha County will not be responsible for any damages which result from third party use of the information and depictions herein, or for use which ignores this warning.

Notes:

Printed: 12/27/2021

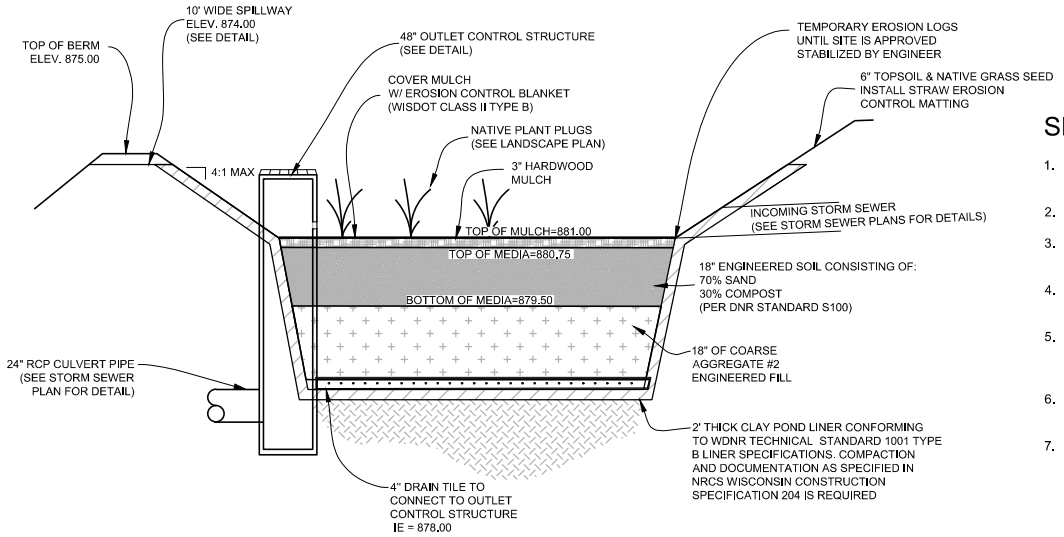


SIDE VIEW



FRONT VIEW

BIO-RETENTION OUTLET CONTROL STRUCTURE DETAIL



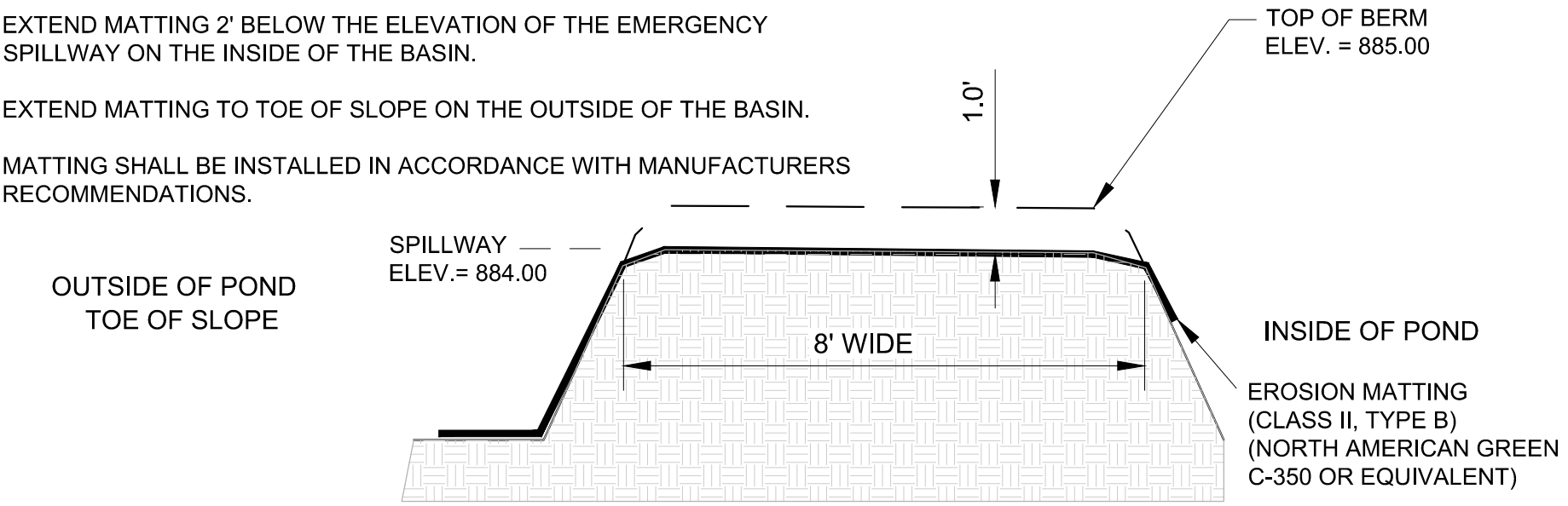
SPECIFICATIONS:

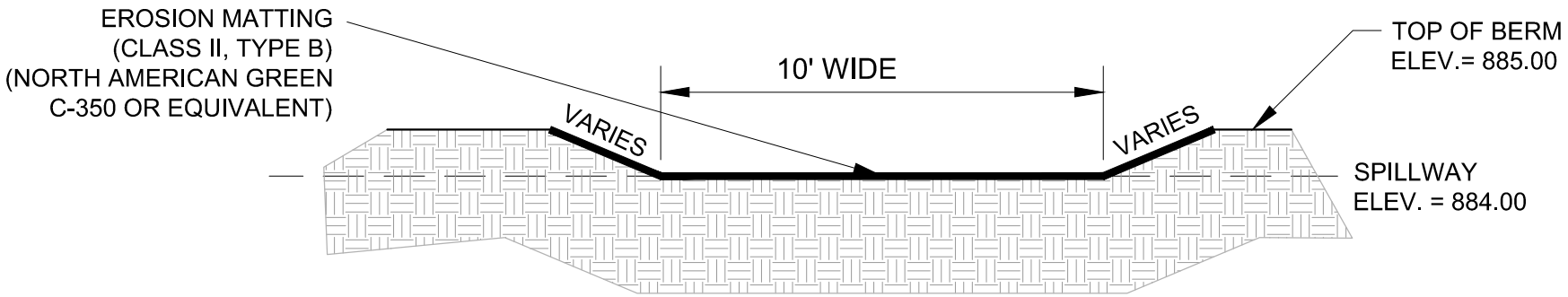
1. BASIN TO BE USED AS SEDIMENT CONTROL DEVICE DURING CONSTRUCTION (SEE GRADING PLAN AND EROSION CONTROL PLAN SITE SEQUENCING AND BIO RETENTION OUTLET CONTROL STRUCTURE FOR DETAILS)
2. DO NOT USE HEAVY EQUIPMENT IN THE BASIN.
3. DO NOT PLACE TOPSOIL, MEDIA, MULCH, OR PLANTS UNTIL AFTER THE PAVING OPERATIONS ARE COMPLETE AND THE SITE IS STABILIZED.
4. PRIOR TO COMPLETING THE GARDEN, REMOVE ANY SEDIMENT THAT HAS ACCUMULATED AND REMOVE FINAL FOOT AND LOOSEN BOTTOM SOIL PRIOR TO PLACEMENT OF ANY FINISH MATERIALS.
5. ONCE THE ENGINEERED SOIL OR TOPSOIL IS PLACED, THE SURFACE SHALL BE COVERED WITH A VARIOUS AREAS OF PLANTINGS AND/OR SEEDING AS SPECIFIED ON THE LANDSCAPE PLAN. HARDWOOD MULCH MAY NOT BE USED WITHIN 30' OF THE OUTLET TO AVOID WASHOUTS. DECORATIVE 6" STONE SHALL BE USED INSTEAD.
6. EROSION CONTROL MATTING SHALL BE ANCHORED, OVERLAPPED, STAKED AND ENTRENCHED PER THE MANUFACTURER'S RECOMMENDATIONS.
7. CONTRACTOR TO PROVIDE A COPY OF ALL GEOTECHNICAL REPORTS AND DATA PERTAINING TO THE PONDS TO THE ENGINEER FOR APPROVAL. ENGINEER SHALL SUBMIT COPIES TO THE CITY FOR APPROVAL ALONG WITH THE RECORD DRAWINGS.

BIO-RETENTION DETAIL

NOTES:

1. EXTEND MATTING 2' BELOW THE ELEVATION OF THE EMERGENCY SPILLWAY ON THE INSIDE OF THE BASIN.
2. EXTEND MATTING TO TOE OF SLOPE ON THE OUTSIDE OF THE BASIN.
3. MATTING SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURERS RECOMMENDATIONS.





BIO-RETENTION EMERGENCY SPILLWAY

APPENDIX 2
PRE-DEVELOPMENT CONDITIONS RATE ATTENTUATION

THE COURTYARD AT PEWAUKEE EXISTING HYDROLOGY

01/24/2023

PINNACLE ENGINEERING GROUP
20725 WATERTOWN ROAD | SUITE 100 | BROOKFIELD, WI 53186 | WWW.PINNACLE-ENGR.COM |

PLAN | DESIGN | DELIVER **PEG JOB#** 1338.10

Z:\PROJECTS\2018\1338.10-WI\CAD\EXHIBITS\1338.10 EXISTING HYDROLOGY.DWG 1/24/2023 2:41 PM

OWNER: LAKE PEWAUKEE SANITARY DISTRICT

N87°00'50"E 1326.21'

NW CORNER, SE 1/4 SEC. 19, T7N, R19E (FOUND CONC. MON. W/ BRASS CAP)

N87°00'50"E 2652.43'
NORTH LINE OF THE SE 1/4 SEC. 19, T7N, R19E
((R) 1325.67' PER PLAT OF OAK SPRINGS SOUTH)

EXISTING BUILDING

1326.215'

NE CORNER, SE 1/4 SEC. 19, T7N, R19E (FOUND CONC. MON. W/ BRASS CAP)
N=388,833.26, E=2,458,246.85 (WISCONSIN STATE PLANE CO-ORDINATE SYSTEM, SOUTH ZONE)
P.O.B.

OWNER: WISCONSIN ELECTRIC POWER COMPANY UNPLATTED LANDS

100 YEAR FLOOD PLAIN PER FEMA MAP NO. 55133C0191G (GRAPHIC PLOTTING ONLY)

WETLANDS DELINEATED BY DAVE MEYER OF WETLAND & WATERWAY CONSULTING, LLC. IN SEPTEMBER 2018

OUTLOT 2 OAK SPRINGS SOUTH

LAKEFIELD DRIVE (60' PUBLIC R.O.W.)

LOT 32 OAK SPRINGS SOUTH

LOT 31 OAK SPRINGS SOUTH

LOT 30 OAK SPRINGS SOUTH

LOT 29 OAK SPRINGS SOUTH

TAX KEY NO. PWC 0940-999-001
1,235,817 SQ. FT.
28.3705 ACRES

707 L.F OF SHALLOW CONCENTRATED FLOW @ S= 5.23%
TC = 10.3 MIN

1197 L.F OF SHALLOW CONCENTRATED FLOW @ S= 3.66%
TC = 20.9 MIN

EXISTING CONDITION: 15.76 AC
PAVEMENT: 0.00 AC
GRASS: 15.76 AC
ROOF: 0.00 AC
TC: 21.5 MIN

100 L.F OF SHEET FLOW @ S=12.50%
TC = 11.2 MIN

OFFSITE: 1.624 AC
PAVEMENT: 0.527 AC
GRASS: 1.097 AC
ROOF: 0.00 AC
TC: 35.0 MIN

100 L.F OF SHEET FLOW @ S=1.00%
TC = 14.1 MIN

PARCEL 1 C.S.M. NO. 9263

CONCRETE CURB
ASPHALT PAVEMENT
CONCRETE CURB
ASPHALT PAVEMENT
ASPHALT

N00°24'46"W 1255.2'
((R) N00°25'03"W PER PLAT OF OAK SPRINGS SOUTH & C.S.M. NO. 9263)

S22°17'34"W 224.08'

MEADOWBROOK ROAD COUNTY TRUNK HIGHWAY "G" (VARIABLE PUBLIC R.O.W.)

EXISTING RIGHT-OF-WAY LINE

REFERENCE LINE MEADOWBROOK ROAD - COUNTY TRUNK HIGHWAY G PER STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION INTERSTATE HIGHWAY 94 R/W PROJECT NUMBER 1065-10-20 4.06

S00°27'04"E 321

S50°25'48"W 1035.63'

S72°59'32"W 454.49'

STONE WALL

ASPHALT PAVEMENT

GOLF ROAD COUNTY TRUNK HIGHWAY "DR"

REFERENCE LINE GOLF ROAD PER STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION INTERSTATE HIGHWAY 94 R/W PROJECT NUMBER 1065-10-20 4.06

EXISTING RIGHT-OF-WAY LINE

GRAVEL
ASPHALT PAVEMENT
CONCRETE CURB

INTERSTATE HIGHWAY "94" (VARIABLE PUBLIC R.O.W.)

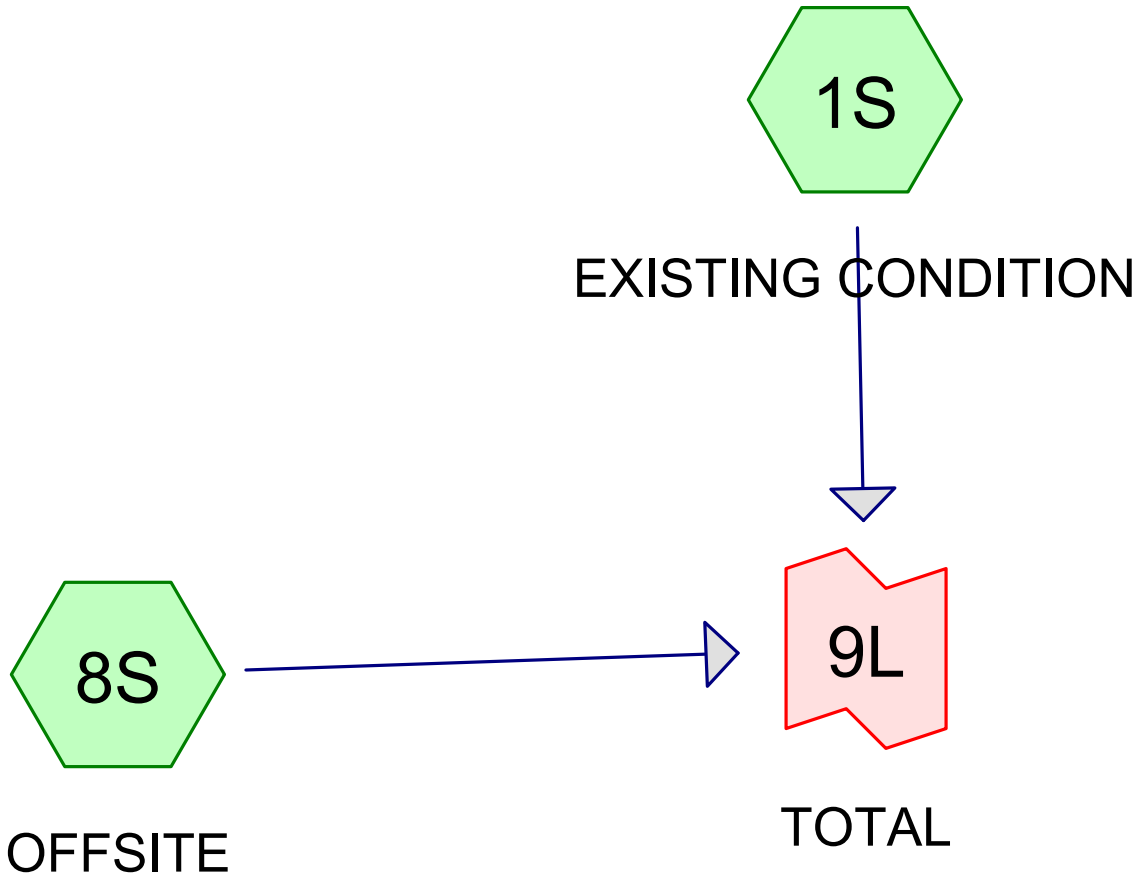
EAST 1/2 OF SEC. 19, T7N, R19E (S53.14')

EAST LINE OF THE SE 1/4 SEC. 19, T7N, R19E S00°27'04"E 2652.91'

NORTH

GRAPHICAL SCALE (FEET)

0 1" = 150' 300'



Subcat Reach Pond Link

Routing Diagram for 2021-12-27 HYDROCAD
Prepared by Pinnacle Engineering Group, Printed 1/24/2023
HydroCAD® 10.20-2g s/n 07894 © 2022 HydroCAD Software Solutions LLC

Rainfall Events Listing

Event#	Event Name	Storm Type	Curve	Mode	Duration (hours)	B/B	Depth (inches)	AMC
1	1- YEAR EVENT	MSE 24-hr	3	Default	24.00	1	2.39	2
2	2- YEAR EVENT	MSE 24-hr	3	Default	24.00	1	2.70	2
3	10- YEAR EVENT	MSE 24-hr	3	Default	24.00	1	3.82	2
4	100- YEAR EVENT	MSE 24-hr	3	Default	24.00	1	6.21	2

Area Listing (selected nodes)

Area (acres)	CN	Description (subcatchment-numbers)
1.097	74	>75% Grass cover, Good, HSG C (8S)
0.527	98	PAVEMENT (8S)
15.760	70	SOIL GROUP C PRE-DEVELOPMENT CURVE NUMBER (1S)
17.384	**71**	**TOTAL AREA**

Time span=0.00-72.00 hrs, dt=0.05 hrs, 1441 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment1S: EXISTING CONDITION Runoff Area=15.760 ac 0.00% Impervious Runoff Depth=0.40"
Flow Length=807' Tc=21.5 min CN=70 Runoff=5.28 cfs 0.530 af

Subcatchment8S: OFFSITE Runoff Area=1.624 ac 32.45% Impervious Runoff Depth=0.92"
Flow Length=1,297' Tc=35.0 min CN=82 Runoff=1.19 cfs 0.124 af

Link 9L: TOTAL Inflow=6.31 cfs 0.655 af
Primary=6.31 cfs 0.655 af

Total Runoff Area = 17.384 ac Runoff Volume = 0.655 af Average Runoff Depth = 0.45"
96.97% Pervious = 16.857 ac 3.03% Impervious = 0.527 ac

Summary for Subcatchment 1S: EXISTING CONDITION

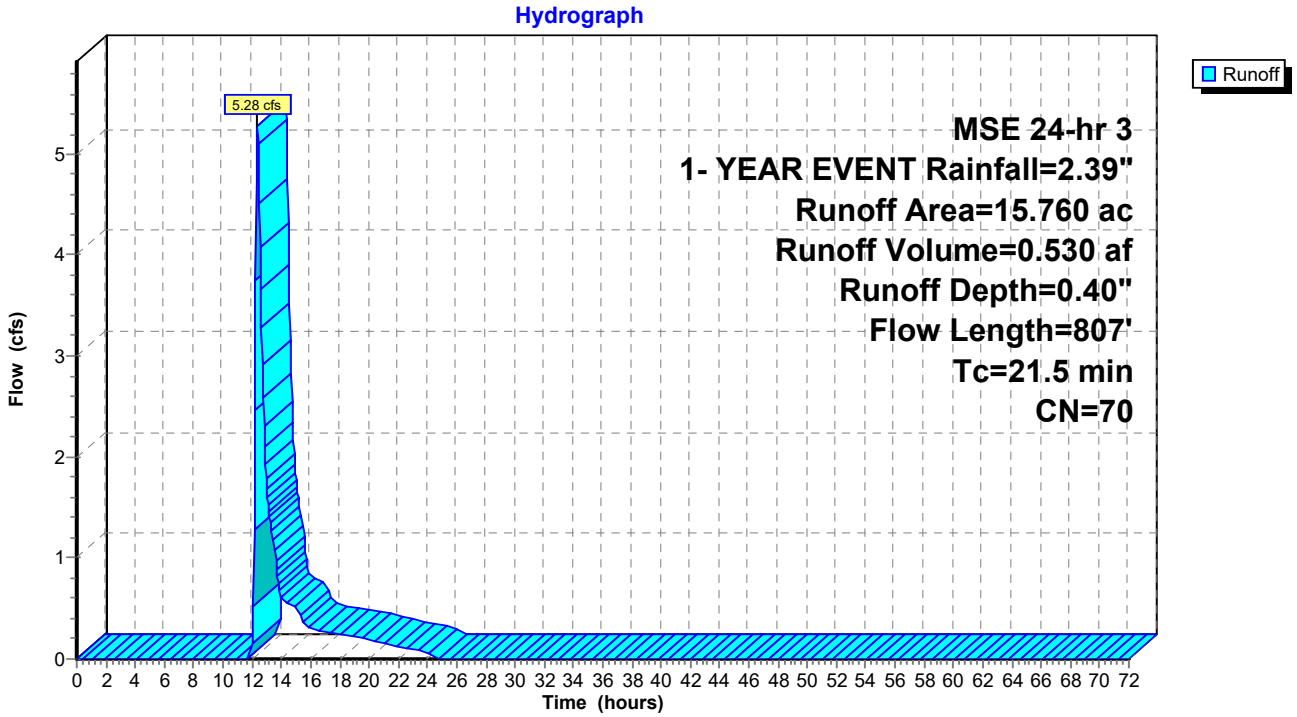
Runoff = 5.28 cfs @ 12.38 hrs, Volume= 0.530 af, Depth= 0.40"
Routed to Link 9L : TOTAL

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
MSE 24-hr 3 1- YEAR EVENT Rainfall=2.39"

	Area (ac)	CN	Description
*	15.760	70	SOIL GROUP C PRE-DEVELOPMENT CURVE NUMBER
	15.760		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
11.2	100	0.1250	0.15		**Sheet Flow, SHEET FLOW** Woods: Light underbrush n= 0.400 P2= 2.70"
10.3	707	0.0523	1.14		**Shallow Concentrated Flow, SHALLOW CONCETRATED FLOW** Woodland Kv= 5.0 fps
21.5	807	Total			

Subcatchment 1S: EXISTING CONDITION



Summary for Subcatchment 8S: OFFSITE

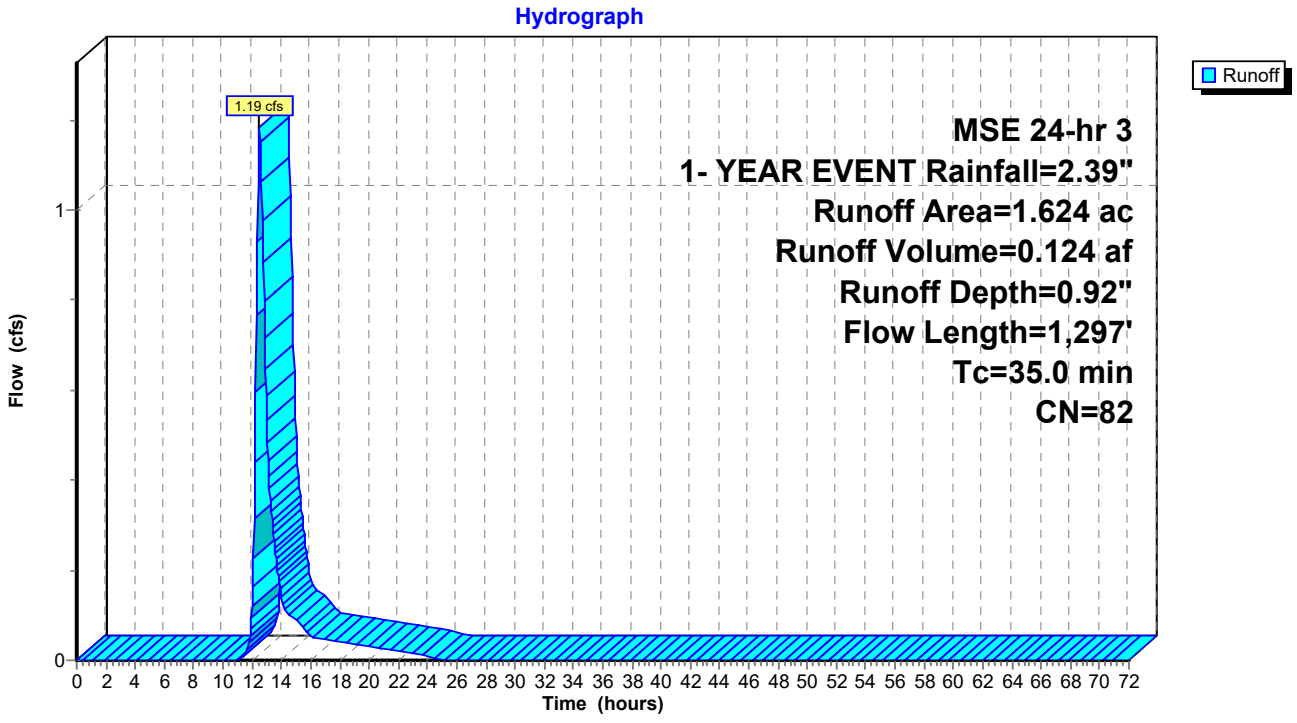
Runoff = 1.19 cfs @ 12.52 hrs, Volume= 0.124 af, Depth= 0.92"
Routed to Link 9L : TOTAL

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
MSE 24-hr 3 1- YEAR EVENT Rainfall=2.39"

	Area (ac)	CN	Description
*	0.527	98	PAVEMENT
	1.097	74	>75% Grass cover, Good, HSG C
	1.624	82	Weighted Average
	1.097		67.55% Pervious Area
	0.527		32.45% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
14.1	100	0.0100	0.12		**Sheet Flow, SHEET FLOW** Grass: Short n= 0.150 P2= 2.70"
20.9	1,197	0.0366	0.96		**Shallow Concentrated Flow, SHALLOW CONCENTRATED FLOW** Woodland Kv= 5.0 fps
35.0	1,297	Total			

Subcatchment 8S: OFFSITE

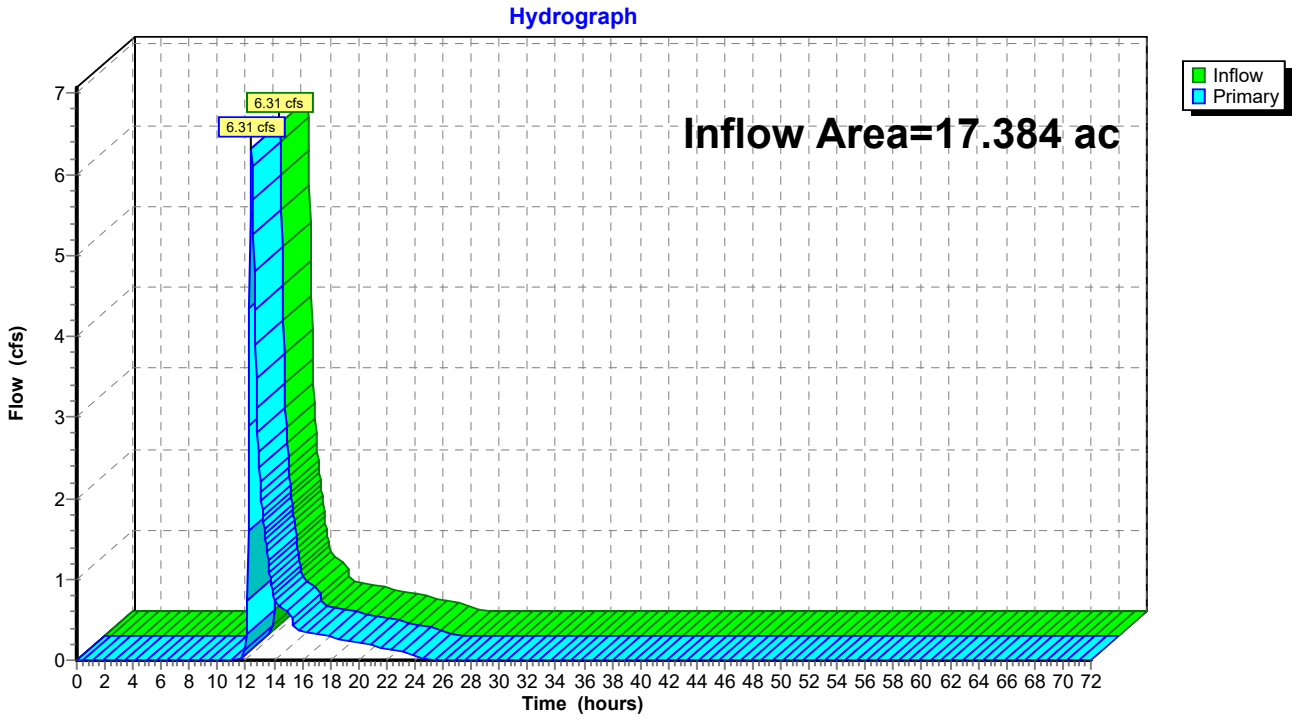


Summary for Link 9L: TOTAL

Inflow Area = 17.384 ac, 3.03% Impervious, Inflow Depth = 0.45" for 1- YEAR EVENT event
Inflow = 6.31 cfs @ 12.40 hrs, Volume= 0.655 af
Primary = 6.31 cfs @ 12.40 hrs, Volume= 0.655 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

Link 9L: TOTAL



Time span=0.00-72.00 hrs, dt=0.05 hrs, 1441 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment1S: EXISTING CONDITION Runoff Area=15.760 ac 0.00% Impervious Runoff Depth=0.55"
Flow Length=807' Tc=21.5 min CN=70 Runoff=7.89 cfs 0.728 af

Subcatchment8S: OFFSITE Runoff Area=1.624 ac 32.45% Impervious Runoff Depth=1.15"
Flow Length=1,297' Tc=35.0 min CN=82 Runoff=1.50 cfs 0.155 af

Link 9L: TOTAL Inflow=9.14 cfs 0.883 af
Primary=9.14 cfs 0.883 af

Total Runoff Area = 17.384 ac Runoff Volume = 0.883 af Average Runoff Depth = 0.61"
96.97% Pervious = 16.857 ac 3.03% Impervious = 0.527 ac

Summary for Subcatchment 1S: EXISTING CONDITION

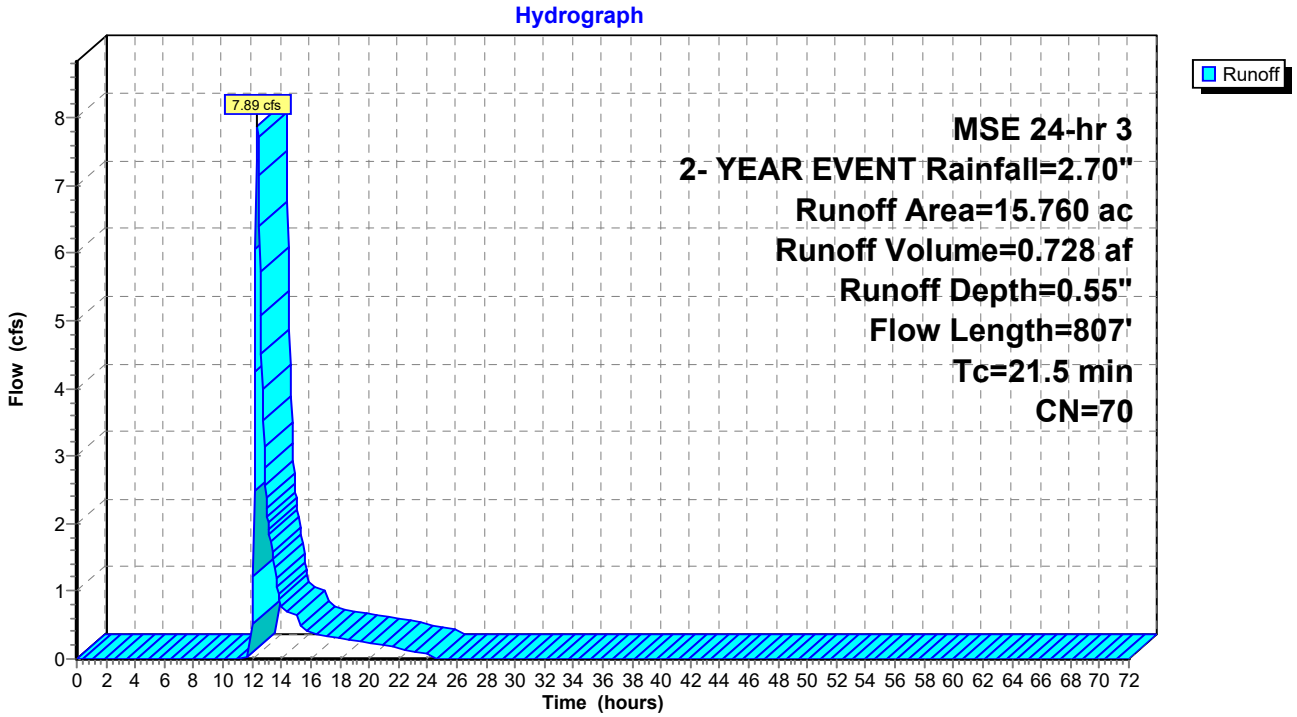
Runoff = 7.89 cfs @ 12.36 hrs, Volume= 0.728 af, Depth= 0.55"
Routed to Link 9L : TOTAL

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
MSE 24-hr 3 2- YEAR EVENT Rainfall=2.70"

	Area (ac)	CN	Description
*	15.760	70	SOIL GROUP C PRE-DEVELOPMENT CURVE NUMBER
	15.760		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
11.2	100	0.1250	0.15		**Sheet Flow, SHEET FLOW** Woods: Light underbrush n= 0.400 P2= 2.70"
10.3	707	0.0523	1.14		**Shallow Concentrated Flow, SHALLOW CONCETRATED FLOW** Woodland Kv= 5.0 fps
21.5	807	Total			

Subcatchment 1S: EXISTING CONDITION



Summary for Subcatchment 8S: OFFSITE

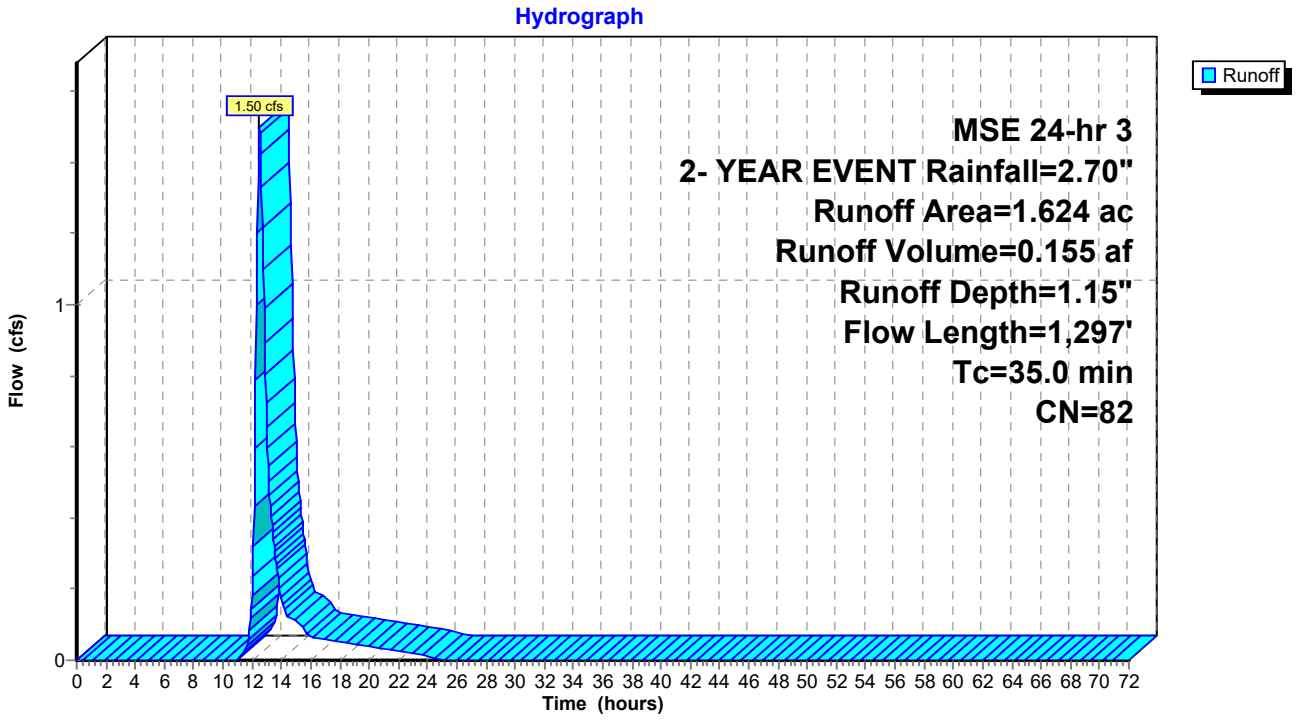
Runoff = 1.50 cfs @ 12.51 hrs, Volume= 0.155 af, Depth= 1.15"
Routed to Link 9L : TOTAL

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
MSE 24-hr 3 2- YEAR EVENT Rainfall=2.70"

	Area (ac)	CN	Description
*	0.527	98	PAVEMENT
	1.097	74	>75% Grass cover, Good, HSG C
	1.624	82	Weighted Average
	1.097		67.55% Pervious Area
	0.527		32.45% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
14.1	100	0.0100	0.12		**Sheet Flow, SHEET FLOW** Grass: Short n= 0.150 P2= 2.70"
20.9	1,197	0.0366	0.96		**Shallow Concentrated Flow, SHALLOW CONCENTRATED FLOW** Woodland Kv= 5.0 fps
35.0	1,297	Total			

Subcatchment 8S: OFFSITE

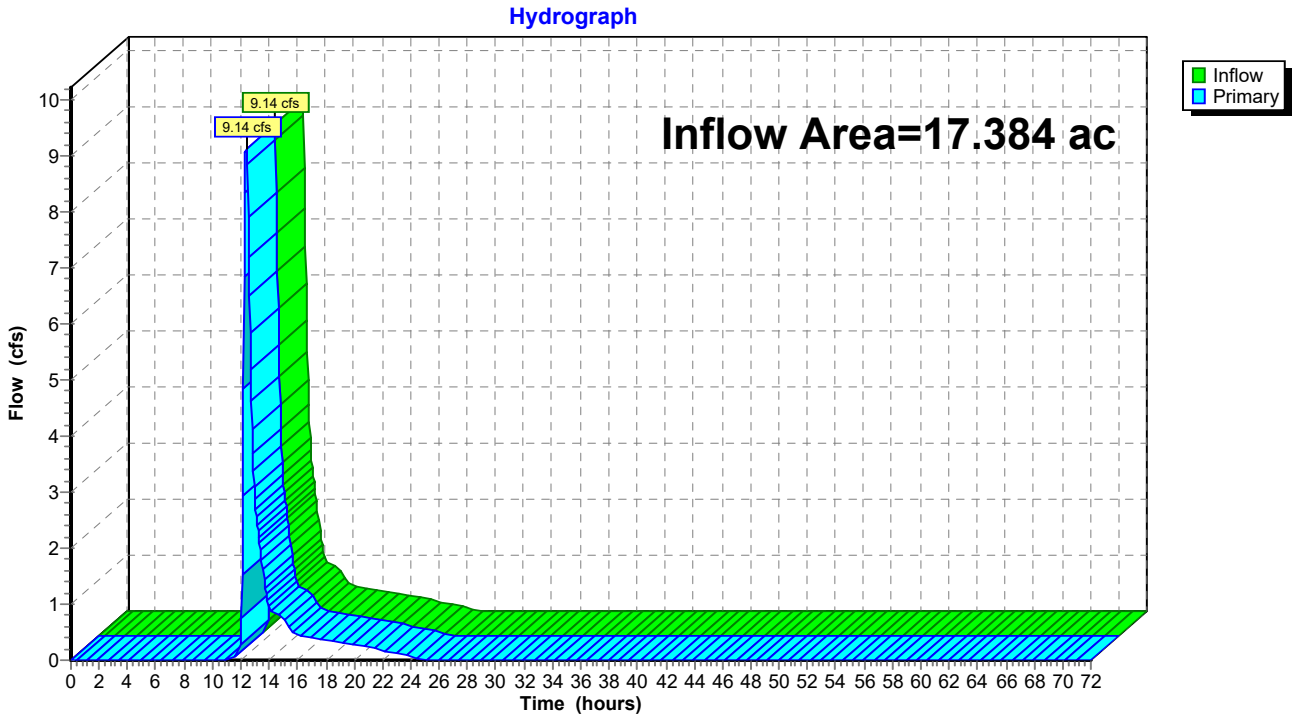


Summary for Link 9L: TOTAL

Inflow Area = 17.384 ac, 3.03% Impervious, Inflow Depth = 0.61" for 2- YEAR EVENT event
Inflow = 9.14 cfs @ 12.38 hrs, Volume= 0.883 af
Primary = 9.14 cfs @ 12.38 hrs, Volume= 0.883 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

Link 9L: TOTAL



Time span=0.00-72.00 hrs, dt=0.05 hrs, 1441 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment1S: EXISTING CONDITION Runoff Area=15.760 ac 0.00% Impervious Runoff Depth=1.21"
Flow Length=807' Tc=21.5 min CN=70 Runoff=19.43 cfs 1.591 af

Subcatchment8S: OFFSITE Runoff Area=1.624 ac 32.45% Impervious Runoff Depth=2.05"
Flow Length=1,297' Tc=35.0 min CN=82 Runoff=2.72 cfs 0.277 af

Link 9L: TOTAL Inflow=21.67 cfs 1.868 af
Primary=21.67 cfs 1.868 af

Total Runoff Area = 17.384 ac Runoff Volume = 1.868 af Average Runoff Depth = 1.29"
96.97% Pervious = 16.857 ac 3.03% Impervious = 0.527 ac

Summary for Subcatchment 1S: EXISTING CONDITION

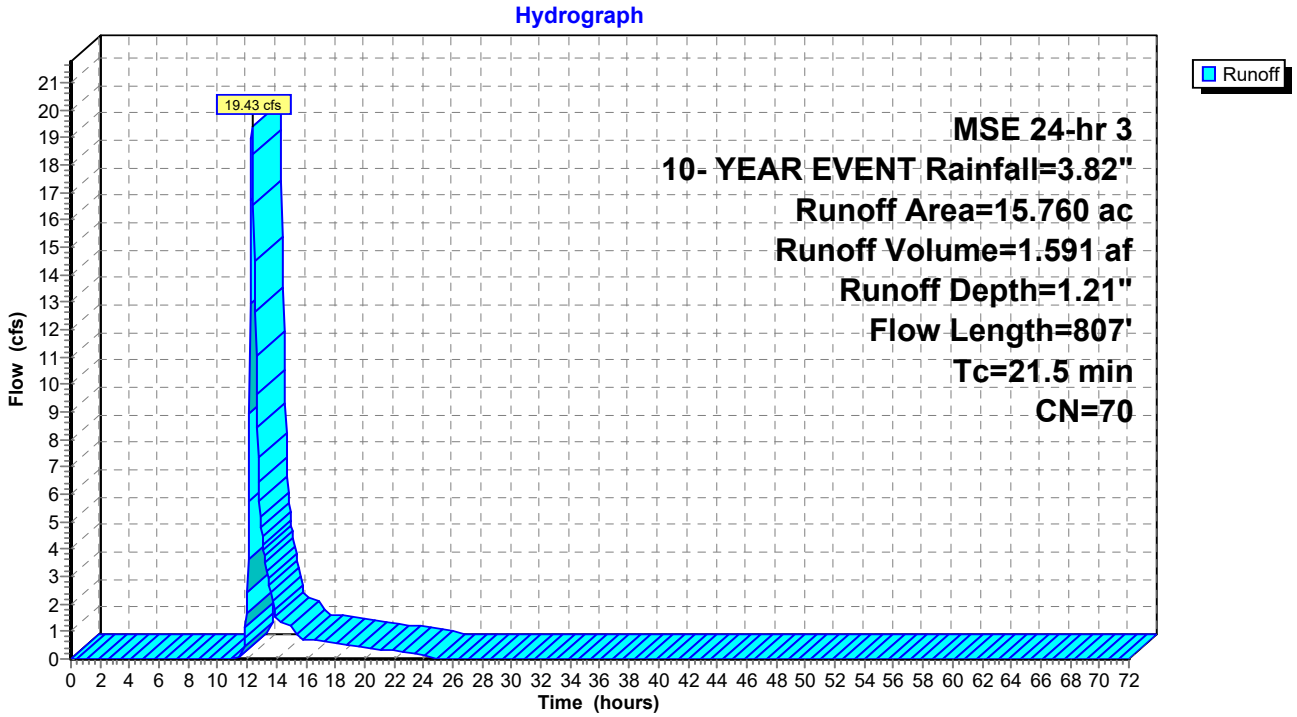
Runoff = 19.43 cfs @ 12.34 hrs, Volume= 1.591 af, Depth= 1.21"
Routed to Link 9L : TOTAL

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
MSE 24-hr 3 10- YEAR EVENT Rainfall=3.82"

	Area (ac)	CN	Description
*	15.760	70	SOIL GROUP C PRE-DEVELOPMENT CURVE NUMBER
	15.760		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
11.2	100	0.1250	0.15		**Sheet Flow, SHEET FLOW** Woods: Light underbrush n= 0.400 P2= 2.70"
10.3	707	0.0523	1.14		**Shallow Concentrated Flow, SHALLOW CONCETRATED FLOW** Woodland Kv= 5.0 fps
21.5	807	Total			

Subcatchment 1S: EXISTING CONDITION



Summary for Subcatchment 8S: OFFSITE

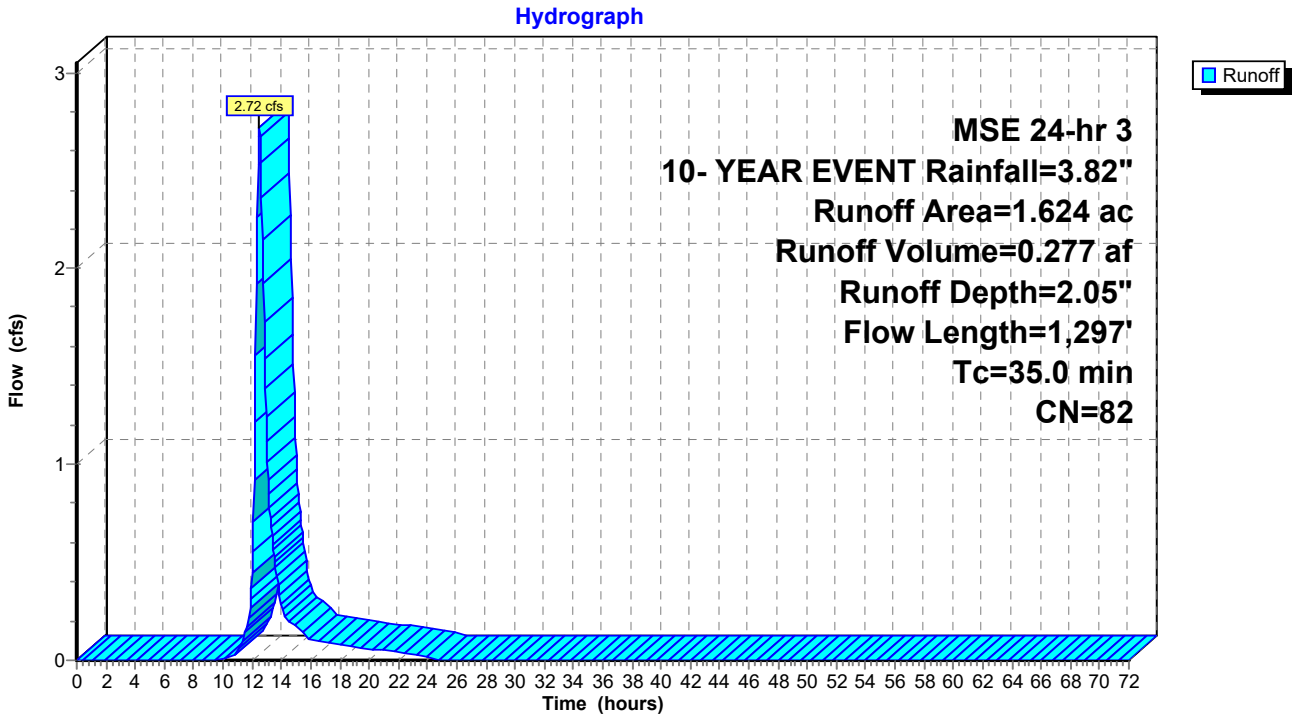
Runoff = 2.72 cfs @ 12.50 hrs, Volume= 0.277 af, Depth= 2.05"
Routed to Link 9L : TOTAL

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
MSE 24-hr 3 10- YEAR EVENT Rainfall=3.82"

	Area (ac)	CN	Description
*	0.527	98	PAVEMENT
	1.097	74	>75% Grass cover, Good, HSG C
	1.624	82	Weighted Average
	1.097		67.55% Pervious Area
	0.527		32.45% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
14.1	100	0.0100	0.12		**Sheet Flow, SHEET FLOW** Grass: Short n= 0.150 P2= 2.70"
20.9	1,197	0.0366	0.96		**Shallow Concentrated Flow, SHALLOW CONCENTRATED FLOW** Woodland Kv= 5.0 fps
35.0	1,297	Total			

Subcatchment 8S: OFFSITE

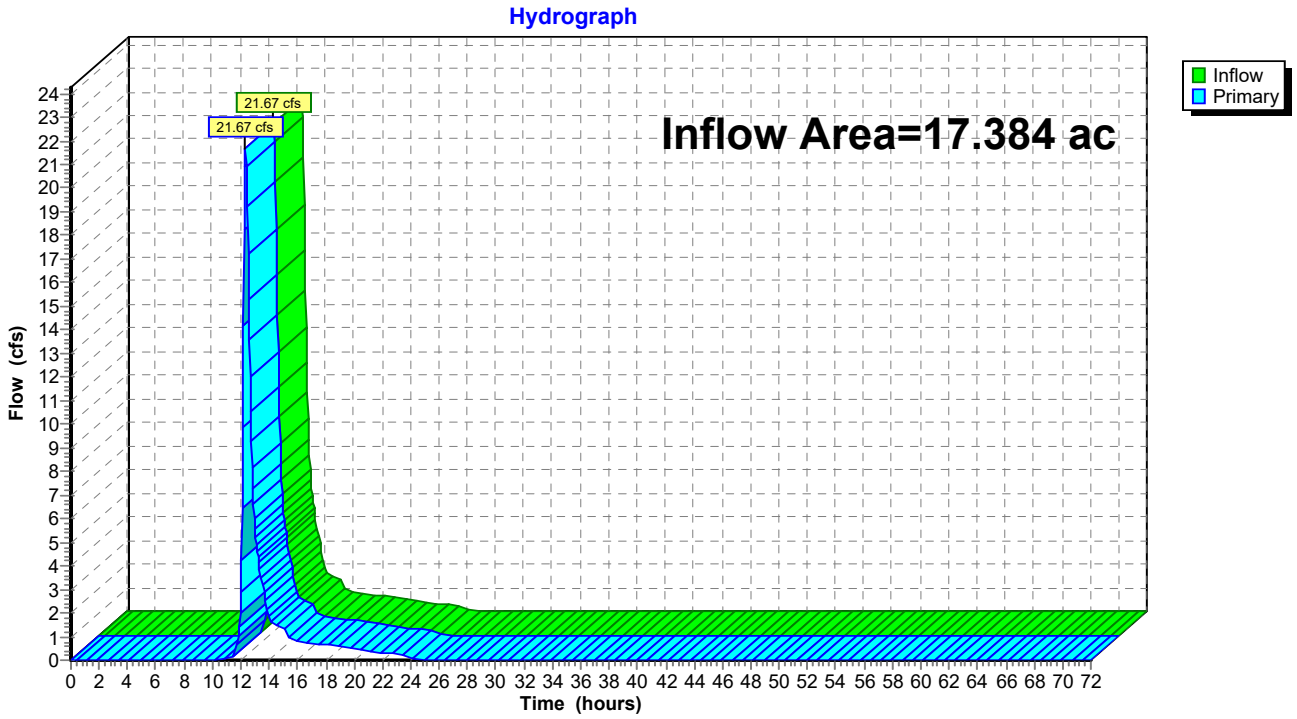


Summary for Link 9L: TOTAL

Inflow Area = 17.384 ac, 3.03% Impervious, Inflow Depth = 1.29" for 10- YEAR EVENT event
Inflow = 21.67 cfs @ 12.35 hrs, Volume= 1.868 af
Primary = 21.67 cfs @ 12.35 hrs, Volume= 1.868 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

Link 9L: TOTAL



Time span=0.00-72.00 hrs, dt=0.05 hrs, 1441 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment1S: EXISTING CONDITION Runoff Area=15.760 ac 0.00% Impervious Runoff Depth=2.97"
Flow Length=807' Tc=21.5 min CN=70 Runoff=50.22 cfs 3.904 af

Subcatchment8S: OFFSITE Runoff Area=1.624 ac 32.45% Impervious Runoff Depth=4.18"
Flow Length=1,297' Tc=35.0 min CN=82 Runoff=5.52 cfs 0.566 af

Link 9L: TOTAL Inflow=54.53 cfs 4.470 af
Primary=54.53 cfs 4.470 af

Total Runoff Area = 17.384 ac Runoff Volume = 4.470 af Average Runoff Depth = 3.09"
96.97% Pervious = 16.857 ac 3.03% Impervious = 0.527 ac

Summary for Subcatchment 1S: EXISTING CONDITION

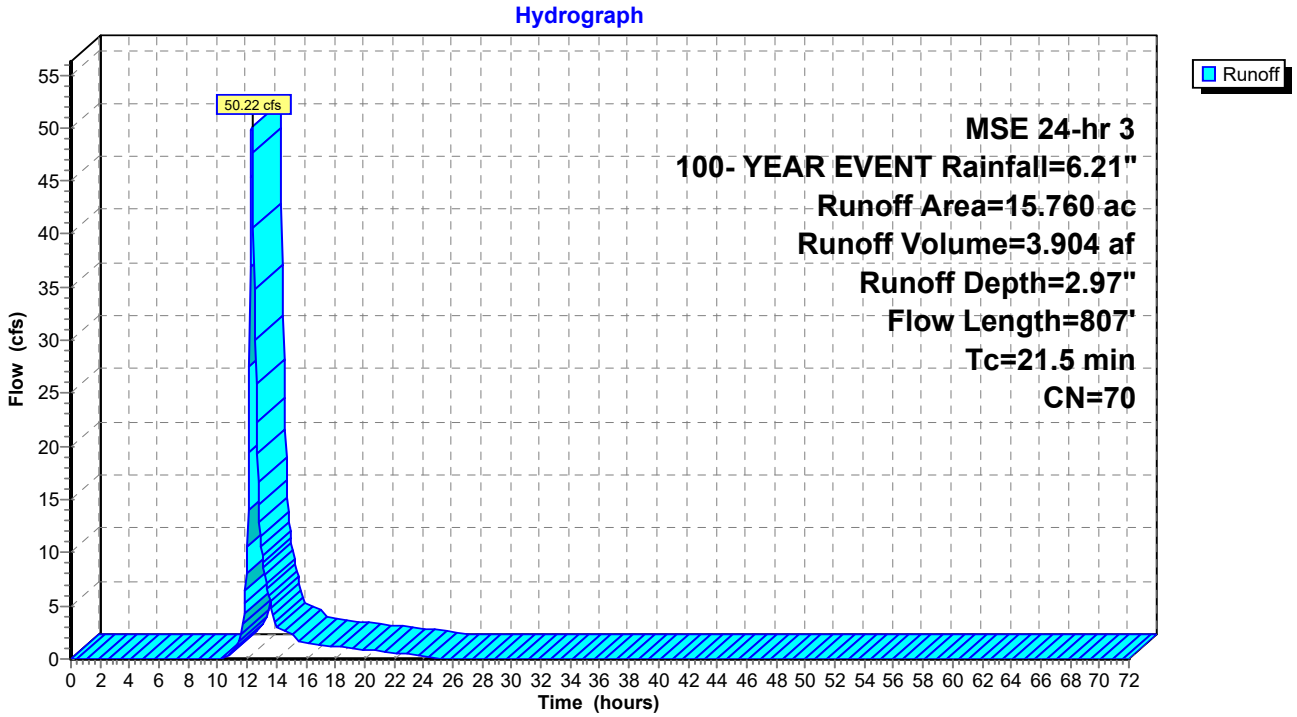
Runoff = 50.22 cfs @ 12.32 hrs, Volume= 3.904 af, Depth= 2.97"
Routed to Link 9L : TOTAL

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
MSE 24-hr 3 100- YEAR EVENT Rainfall=6.21"

	Area (ac)	CN	Description
*	15.760	70	SOIL GROUP C PRE-DEVELOPMENT CURVE NUMBER
	15.760		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
11.2	100	0.1250	0.15		**Sheet Flow, SHEET FLOW** Woods: Light underbrush n= 0.400 P2= 2.70"
10.3	707	0.0523	1.14		**Shallow Concentrated Flow, SHALLOW CONCETRATED FLOW** Woodland Kv= 5.0 fps
21.5	807	Total			

Subcatchment 1S: EXISTING CONDITION



Summary for Subcatchment 8S: OFFSITE

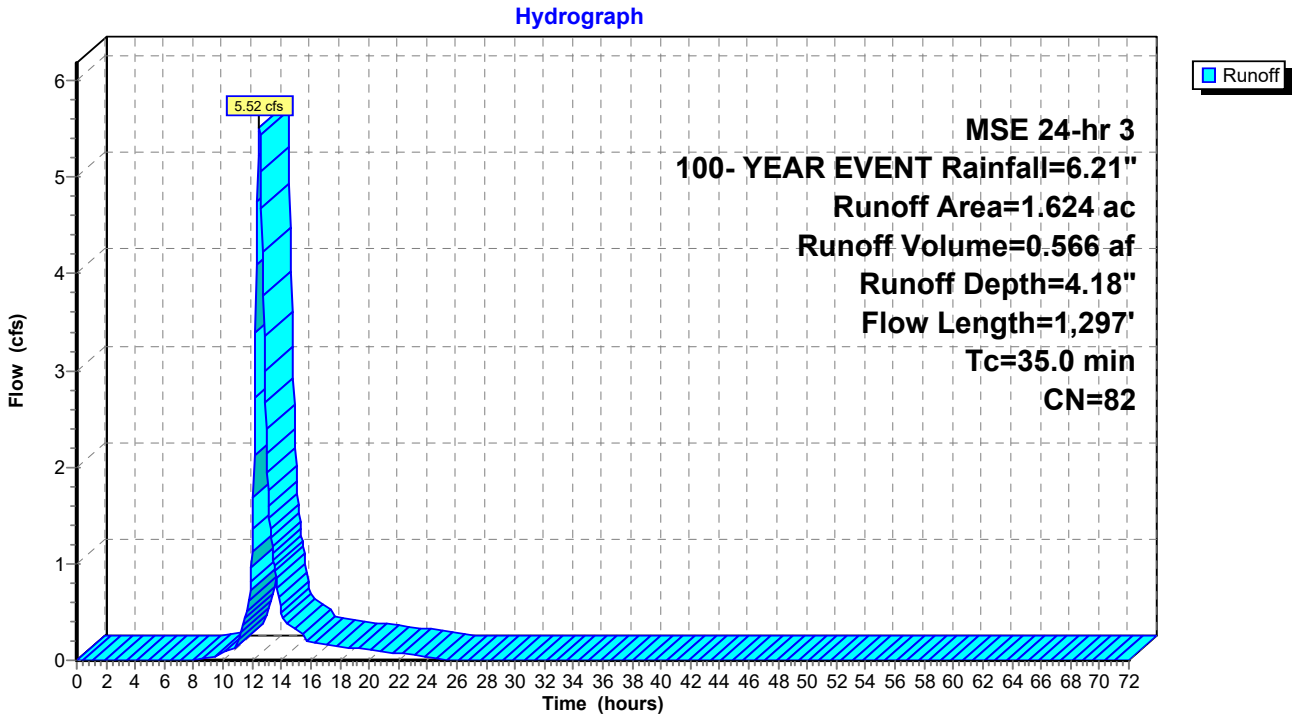
Runoff = 5.52 cfs @ 12.49 hrs, Volume= 0.566 af, Depth= 4.18"
Routed to Link 9L : TOTAL

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
MSE 24-hr 3 100- YEAR EVENT Rainfall=6.21"

	Area (ac)	CN	Description
*	0.527	98	PAVEMENT
	1.097	74	>75% Grass cover, Good, HSG C
	1.624	82	Weighted Average
	1.097		67.55% Pervious Area
	0.527		32.45% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
14.1	100	0.0100	0.12		**Sheet Flow, SHEET FLOW** Grass: Short n= 0.150 P2= 2.70"
20.9	1,197	0.0366	0.96		**Shallow Concentrated Flow, SHALLOW CONCENTRATED FLOW** Woodland Kv= 5.0 fps
35.0	1,297	Total			

Subcatchment 8S: OFFSITE

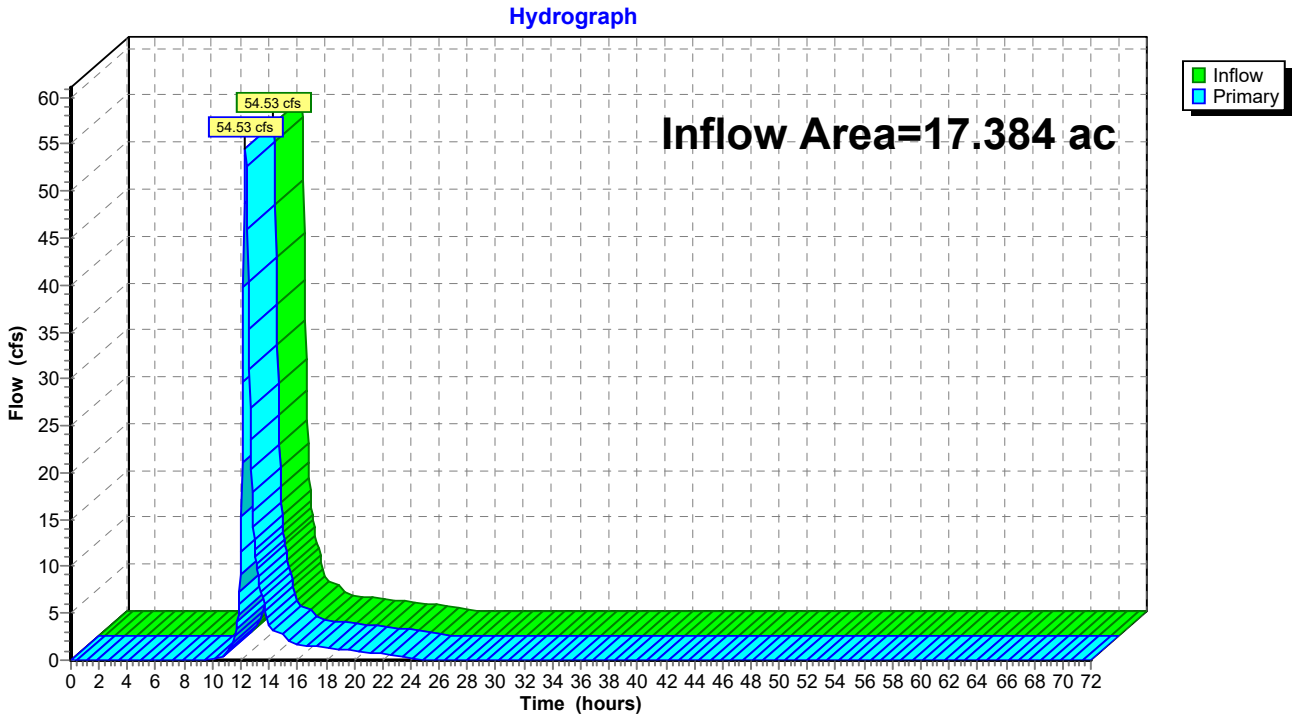


Summary for Link 9L: TOTAL

Inflow Area = 17.384 ac, 3.03% Impervious, Inflow Depth = 3.09" for 100- YEAR EVENT event
Inflow = 54.53 cfs @ 12.33 hrs, Volume= 4.470 af
Primary = 54.53 cfs @ 12.33 hrs, Volume= 4.470 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

Link 9L: TOTAL



APPENDIX 3
POST-DEVELOPMENT CONDITIONS RATE ATTENTUATION – CITY CODE

100 YEAR FLOOD PLAIN PER FEMA MAP NO. 551333C0191G (GRAPHIC PLOTTING ONLY)

WETLANDS DELINEATED BY DAVE MEYER OF WETLAND & WATERWAY CONSULTING, LLC. IN SEPTEMBER 2018

OUTLOT 2 OAK SPRINGS SOUTH

LAKEFIELD DRIVE (60' PUBLIC R.O.W.)

LOT 32 OAK SPRINGS SOUTH

LOT 31 OAK SPRINGS SOUTH

LOT 30 OAK SPRINGS SOUTH

LOT 29 OAK SPRINGS SOUTH

PARCEL 1 C.S.M. NO. 9263

BIORENTION BASIN

PROPOSED BUILDING 67,500± SF FFE=890.00

CONCRETE CURB

ASPHALT

ASPHALT PAVEMENT

ASPHALT

CONCRETE CURB

GRAVEL

ASPHALT PAVEMENT

CONCRETE CURB

INTERSTATE HIGHWAY "94" (VARIABLE PUBLIC R.O.W.) (FORMERLY KNOWN AS STATE HIGHWAY "30")

REFERENCE LINE INTERSTATE HIGHWAY 94 PER STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION INTERSTATE HIGHWAY 94 R/W PROJECT NUMBER 1065-10-20 4.06

MEADOWBROOK ROAD COUNTY TRUNK HIGHWAY "G" (VARIABLE PUBLIC R.O.W.)

REFERENCE LINE MEADOWBROOK ROAD - COUNTY TRUNK HIGHWAY G PER STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION INTERSTATE HIGHWAY 94 R/W PROJECT NUMBER 1065-10-20 4.06

REFERENCE LINE GOLF ROAD PER STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION INTERSTATE HIGHWAY 94 R/W PROJECT NUMBER 1065-10-20 4.06

GOLF ROAD COUNTY TRUNK HIGHWAY "DR"

ASPHALT PAVEMENT

EAST LINE OF THE SE 1/4 SEC. 19, T7N, R19E S00°27'04"E 2652.91'

N00°25'03"W PER PLAT OF OAK SPRINGS SOUTH & C.S.M. NO. 9263)

UNDETAINED GRASS: 1.30 AC
PAVEMENT: 0.00 AC
GRASS: 1.30 AC
ROOF: 0.00 AC
TC: 6.0 MIN

PROPOSED SITE: 7.80 AC
PAVEMENT: 1.86 AC
GRASS: 4.39 AC
ROOF: 1.55 AC
TC: 6.0 MIN

677 L.F OF SHALLOW CONCENTRATED FLOW @ S=5.02%
TC = 10.1 MIN

UNDETAINED UNDISTURBED GRASS: 2.40 AC
PAVEMENT: 0.000 AC
GRASS: 2.40 AC
ROOF: 0.00 AC
TC: 21.0 MIN

643 L.F OF SHALLOW CONCENTRATED FLOW @ S=3.42%
TC = 3.9 MIN

100 L.F OF SHEET FLOW @ S=13.50%
TC = 10.9 MIN

100 L.F OF SHEET FLOW @ S=14.00%
TC = 4.9 MIN

GRASS SWALE: 4.260 AC
PAVEMENT: 0.000 AC
GRASS: 4.260 AC
ROOF: 0.00 AC
TC: 8.8 MIN

OFFSITE: 1.624 AC
PAVEMENT: 0.527 AC
GRASS: 1.097 AC
ROOF: 0.00 AC
TC: 35.0 MIN

1,430 L.F OF SHEET FLOW @ S=2.40%
TC = 10.6 MIN

100 L.F OF SHEET FLOW @ S=1.00%
TC = 14.1 MIN

NORTH

GRAPHICAL SCALE (FEET)

0 1" = 150' 300'

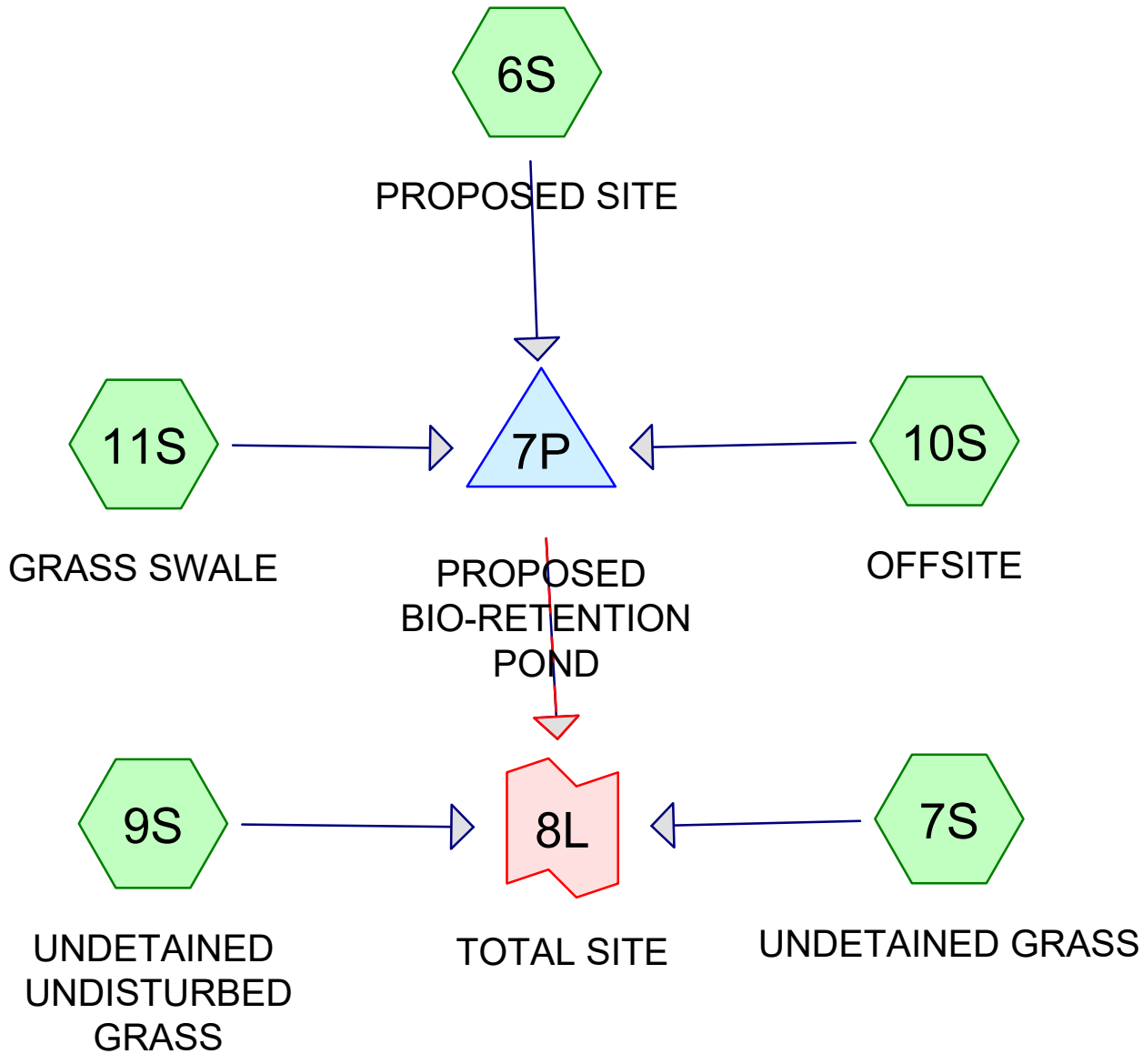
Z:\PROJECTS\2018\1338.10-WI\CAD\EXHIBITS\1338.10 PROPOSED HYDROLOGY.DWG 1/24/2023 2:00 PM

THE COURTYARD AT PEWAUKEE PROPOSED HYDROLOGY

01/24/2023

PINNACLE ENGINEERING GROUP 20725 WATERTOWN ROAD | SUITE 100 | BROOKFIELD, WI 53186 | WWW.PINNACLE-ENGR.COM |

PLAN | DESIGN | DELIVER **PEG JOB#** 1338.10



Subcat Reach Pond Link

Routing Diagram for 2021-12-27 HYDROCAD
Prepared by Pinnacle Engineering Group, Printed 1/25/2023
HydroCAD® 10.20-2g s/n 07894 © 2022 HydroCAD Software Solutions LLC

Rainfall Events Listing

Event#	Event Name	Storm Type	Curve	Mode	Duration (hours)	B/B	Depth (inches)	AMC
1	1- YEAR EVENT	MSE 24-hr	3	Default	24.00	1	2.39	2
2	2- YEAR EVENT	MSE 24-hr	3	Default	24.00	1	2.70	2
3	10- YEAR EVENT	MSE 24-hr	3	Default	24.00	1	3.82	2
4	100- YEAR EVENT	MSE 24-hr	3	Default	24.00	1	6.21	2

Area Listing (selected nodes)

Area (acres)	CN	Description (subcatchment-numbers)
5.357	74	>75% Grass cover, Good, HSG C (10S, 11S)
1.550	98	BUILDING (6S)
5.690	74	GRASS (6S, 7S)
2.387	98	PAVEMENT (6S, 10S)
2.400	70	PRE DEVELOPMENT GRASS (9S)
17.384	**79**	**TOTAL AREA**

Ground Covers (selected nodes)

HSG-A (acres)	HSG-B (acres)	HSG-C (acres)	HSG-D (acres)	Other (acres)	Total (acres)	Ground Cover	Subcatchment Numbers
0.000	0.000	5.357	0.000	0.000	5.357	>75% Grass cover, Good	10S, 11S
0.000	0.000	0.000	0.000	1.550	1.550	BUILDING	6S
0.000	0.000	0.000	0.000	5.690	5.690	GRASS	6S, 7S
0.000	0.000	0.000	0.000	2.387	2.387	PAVEMENT	6S, 10S
0.000	0.000	0.000	0.000	2.400	2.400	PRE DEVELOPMENT GRASS	9S
0.000	**0.000**	**5.357**	**0.000**	**12.027**	**17.384**	**TOTAL AREA**	

Time span=0.00-72.00 hrs, dt=0.05 hrs, 1441 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment6S: PROPOSED SITE Runoff Area=7.800 ac 43.72% Impervious Runoff Depth=1.03"
Tc=6.0 min CN=84 Runoff=14.46 cfs 0.670 af

Subcatchment7S: UNDETAINED GRASS Runoff Area=1.300 ac 0.00% Impervious Runoff Depth=0.55"
Tc=6.0 min CN=74 Runoff=1.19 cfs 0.059 af

Subcatchment9S: UNDETAINED Runoff Area=2.400 ac 0.00% Impervious Runoff Depth=0.40"
Flow Length=777' Tc=21.0 min CN=70 Runoff=0.82 cfs 0.081 af

Subcatchment10S: OFFSITE Runoff Area=1.624 ac 32.45% Impervious Runoff Depth=0.92"
Flow Length=1,583' Tc=24.7 min CN=82 Runoff=1.45 cfs 0.124 af

Subcatchment11S: GRASS SWALE Runoff Area=4.260 ac 0.00% Impervious Runoff Depth=0.55"
Flow Length=743' Tc=8.8 min CN=74 Runoff=3.35 cfs 0.194 af

Pond 7P: PROPOSED BIO-RETENTION Peak Elev=882.16' Storage=33,377 cf Inflow=18.13 cfs 0.989 af
Primary=0.30 cfs 0.630 af Secondary=0.00 cfs 0.000 af Outflow=0.30 cfs 0.630 af

Link 8L: TOTAL SITE Inflow=1.41 cfs 0.770 af
Primary=1.41 cfs 0.770 af

Total Runoff Area = 17.384 ac Runoff Volume = 1.129 af Average Runoff Depth = 0.78"
77.35% Pervious = 13.447 ac 22.65% Impervious = 3.937 ac

Summary for Subcatchment 6S: PROPOSED SITE

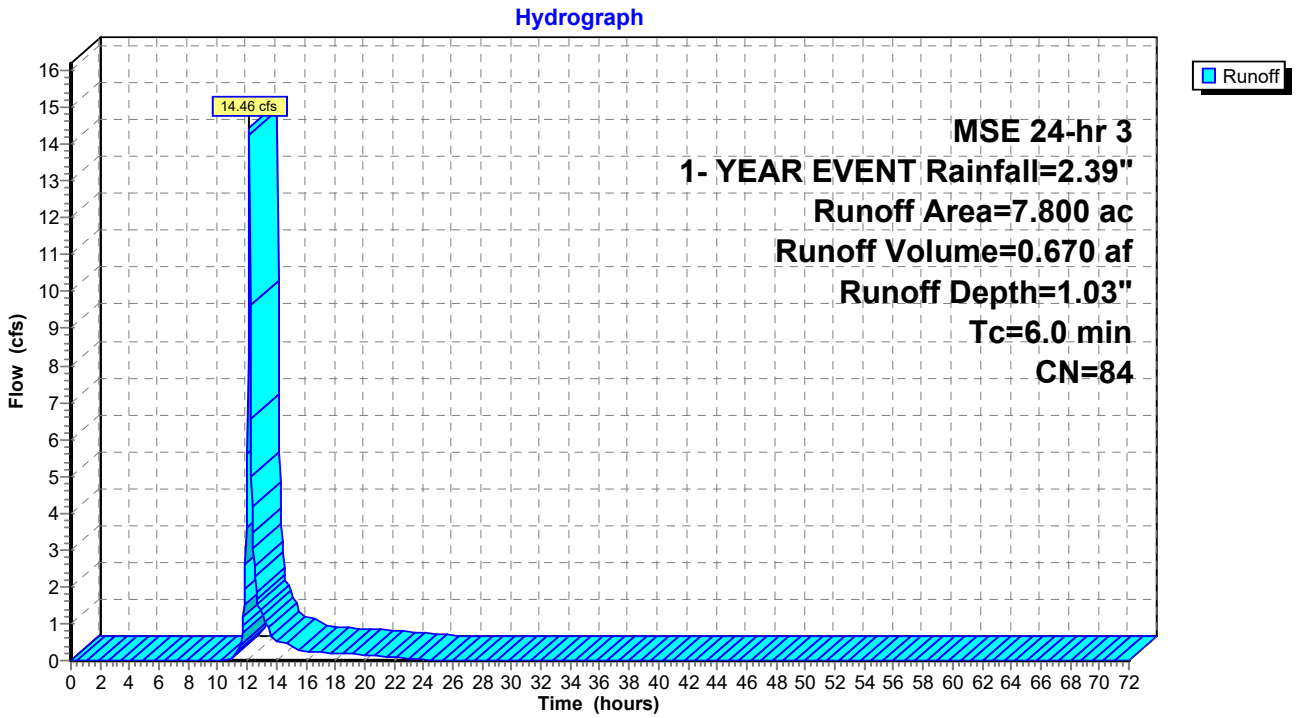
Runoff = 14.46 cfs @ 12.14 hrs, Volume= 0.670 af, Depth= 1.03"
Routed to Pond 7P : PROPOSED BIO-RETENTION POND

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
MSE 24-hr 3 1- YEAR EVENT Rainfall=2.39"

	Area (ac)	CN	Description
*	1.550	98	BUILDING
*	1.860	98	PAVEMENT
*	4.390	74	GRASS
	7.800	84	Weighted Average
	4.390		56.28% Pervious Area
	3.410		43.72% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry, MINIMUM TC 6**

Subcatchment 6S: PROPOSED SITE



Summary for Subcatchment 7S: UNDETAINED GRASS

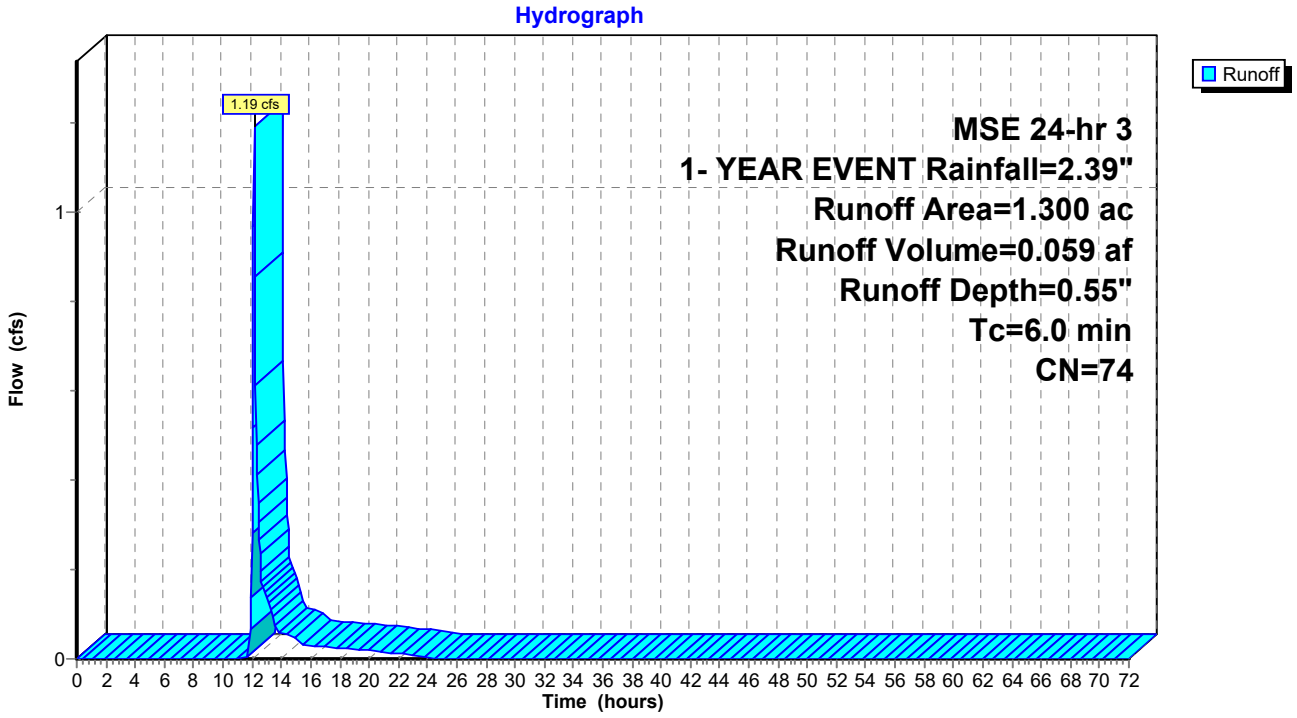
Runoff = 1.19 cfs @ 12.14 hrs, Volume= 0.059 af, Depth= 0.55"
Routed to Link 8L : TOTAL SITE

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
MSE 24-hr 3 1- YEAR EVENT Rainfall=2.39"

	Area (ac)	CN	Description
*	1.300	74	GRASS
	1.300		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry, MINIMUM TC**

Subcatchment 7S: UNDETAINED GRASS



Summary for Subcatchment 9S: UNDETAINED UNDISTURBED GRASS

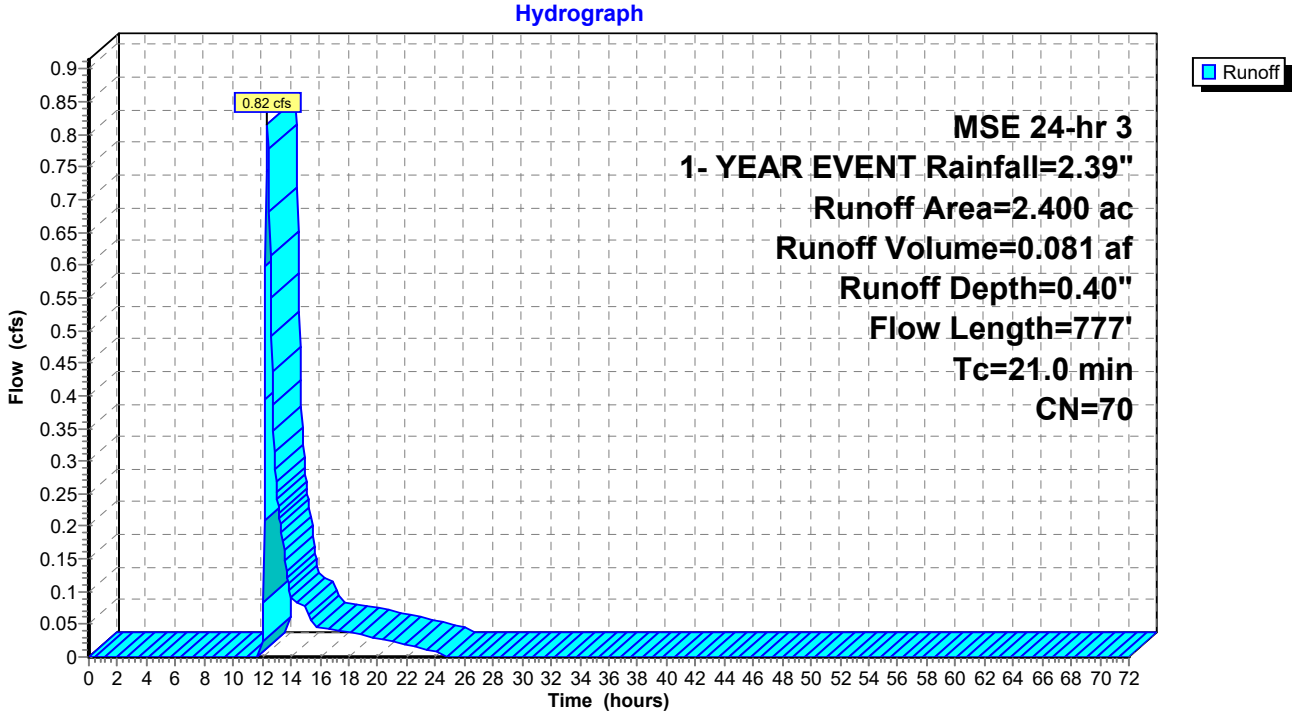
Runoff = 0.82 cfs @ 12.37 hrs, Volume= 0.081 af, Depth= 0.40"
Routed to Link 8L : TOTAL SITE

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
MSE 24-hr 3 1- YEAR EVENT Rainfall=2.39"

	Area (ac)	CN	Description
*	2.400	70	PRE DEVELOPMENT GRASS
	2.400		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.9	100	0.1350	0.15		**Sheet Flow, SHEET FLOW** Woods: Light underbrush n= 0.400 P2= 2.70"
10.1	677	0.0502	1.12		**Shallow Concentrated Flow, SHALLOW FLOW** Woodland Kv= 5.0 fps
21.0	777	Total			

Subcatchment 9S: UNDETAINED UNDISTURBED GRASS



Summary for Subcatchment 10S: OFFSITE

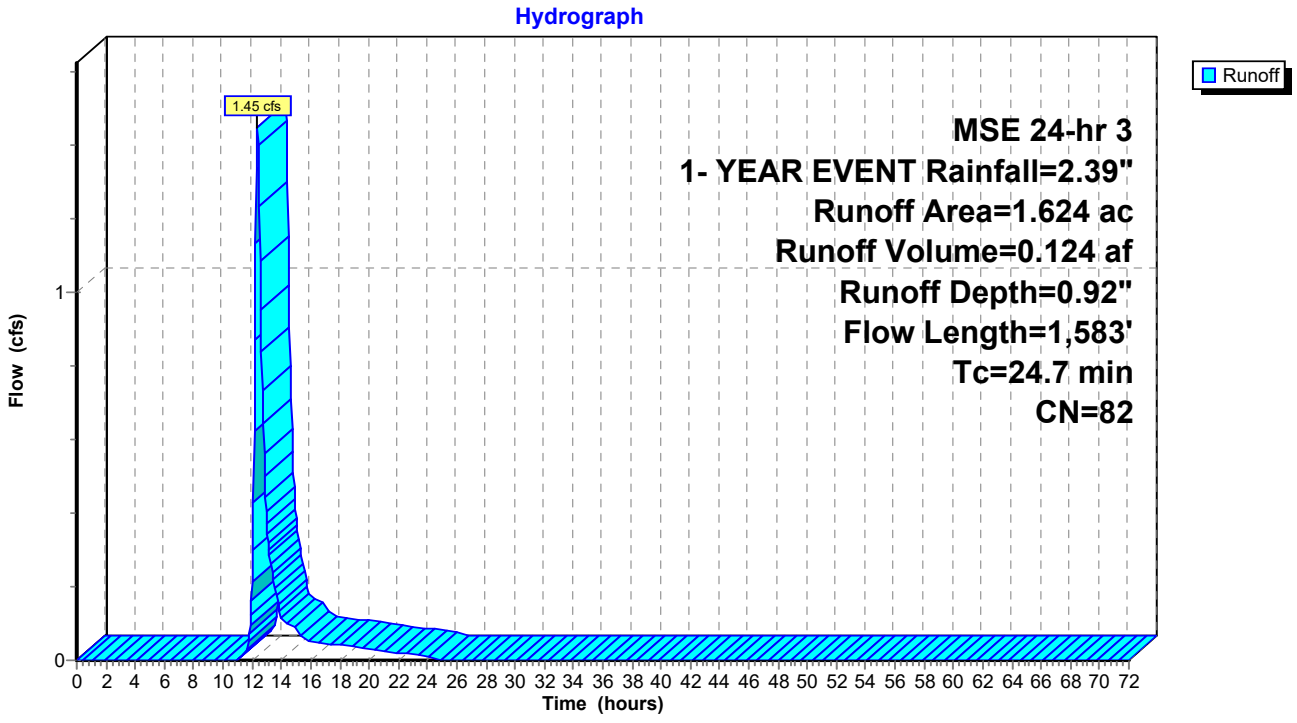
Runoff = 1.45 cfs @ 12.37 hrs, Volume= 0.124 af, Depth= 0.92"
Routed to Pond 7P : PROPOSED BIO-RETENTION POND

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
MSE 24-hr 3 1- YEAR EVENT Rainfall=2.39"

	Area (ac)	CN	Description
*	0.527	98	PAVEMENT
	1.097	74	>75% Grass cover, Good, HSG C
	1.624	82	Weighted Average
	1.097		67.55% Pervious Area
	0.527		32.45% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
14.1	100	0.0100	0.12		**Sheet Flow, SHEET FLOW** Grass: Short n= 0.150 P2= 2.70"
10.6	1,483	0.0240	2.32		**Shallow Concentrated Flow, SHALLOW CONTRATED FLOW** Grassed Waterway Kv= 15.0 fps
24.7	1,583	Total			

Subcatchment 10S: OFFSITE



Summary for Subcatchment 11S: GRASS SWALE

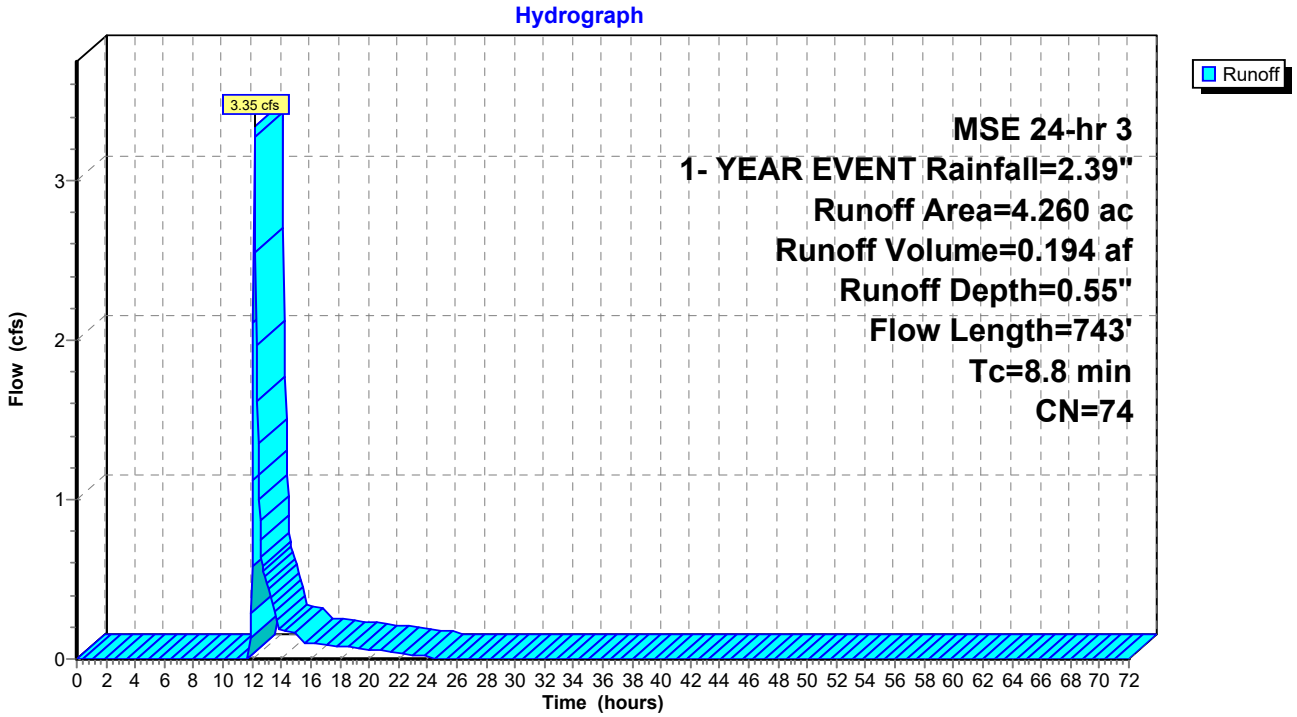
Runoff = 3.35 cfs @ 12.18 hrs, Volume= 0.194 af, Depth= 0.55"
Routed to Pond 7P : PROPOSED BIO-RETENTION POND

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
MSE 24-hr 3 1- YEAR EVENT Rainfall=2.39"

Area (ac)	CN	Description
4.260	74	>75% Grass cover, Good, HSG C
4.260		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.9	100	0.1400	0.34		**Sheet Flow, SHEET FLOW** Grass: Short n= 0.150 P2= 2.70"
3.9	643	0.0342	2.77		**Shallow Concentrated Flow, SHALLOW FLOW** Grassed Waterway Kv= 15.0 fps
8.8	743	Total			

Subcatchment 11S: GRASS SWALE



Summary for Pond 7P: PROPOSED BIO-RETENTION POND

Inflow Area = 13.684 ac, 28.77% Impervious, Inflow Depth = 0.87" for 1- YEAR EVENT event
Inflow = 18.13 cfs @ 12.14 hrs, Volume= 0.989 af
Outflow = 0.30 cfs @ 18.70 hrs, Volume= 0.630 af, Atten= 98%, Lag= 393.4 min
Primary = 0.30 cfs @ 18.70 hrs, Volume= 0.630 af
Routed to Link 8L : TOTAL SITE
Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
Routed to Link 8L : TOTAL SITE

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 882.16' @ 18.70 hrs Surf.Area= 31,638 sf Storage= 33,377 cf

Plug-Flow detention time= 994.4 min calculated for 0.629 af (64% of inflow)
Center-of-Mass det. time= 907.7 min (1,731.9 - 824.2)

Volume	Invert	Avail.Storage	Storage Description
#1	881.00'	143,322 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

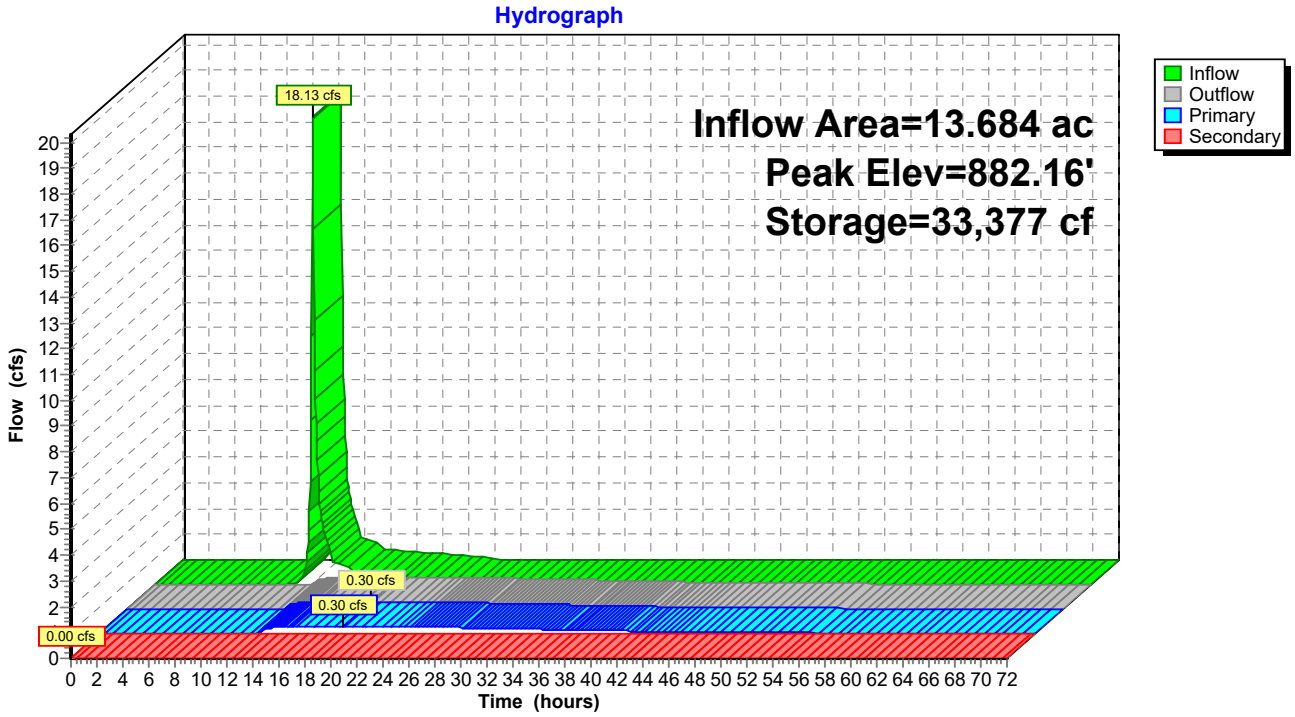
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
881.00	25,830	0	0
885.00	45,831	143,322	143,322

Device	Routing	Invert	Outlet Devices
#1	Primary	878.00'	**24.0" Round Culvert** L= 98.3' RCP, end-section conforming to fill, Ke= 0.500 Inlet / Outlet Invert= 878.00' / 875.00' S= 0.0305 '/' Cc= 0.900 n= 0.013, Flow Area= 3.14 sf
#2	Device 1	881.50'	**4.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#3	Device 1	882.45'	**48.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#4	Secondary	884.00'	**10.0' long x 8.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.43 2.54 2.70 2.69 2.68 2.68 2.66 2.64 2.64 2.64 2.65 2.65 2.66 2.66 2.68 2.70 2.74

Primary OutFlow Max=0.30 cfs @ 18.70 hrs HW=882.16' (Free Discharge)
└**1=Culvert** (Passes 0.30 cfs of 26.90 cfs potential flow)
├**2=Orifice/Grate** (Orifice Controls 0.30 cfs @ 3.39 fps)
└**3=Orifice/Grate** (Controls 0.00 cfs)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=881.00' (Free Discharge)
└**4=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond 7P: PROPOSED BIO-RETENTION POND

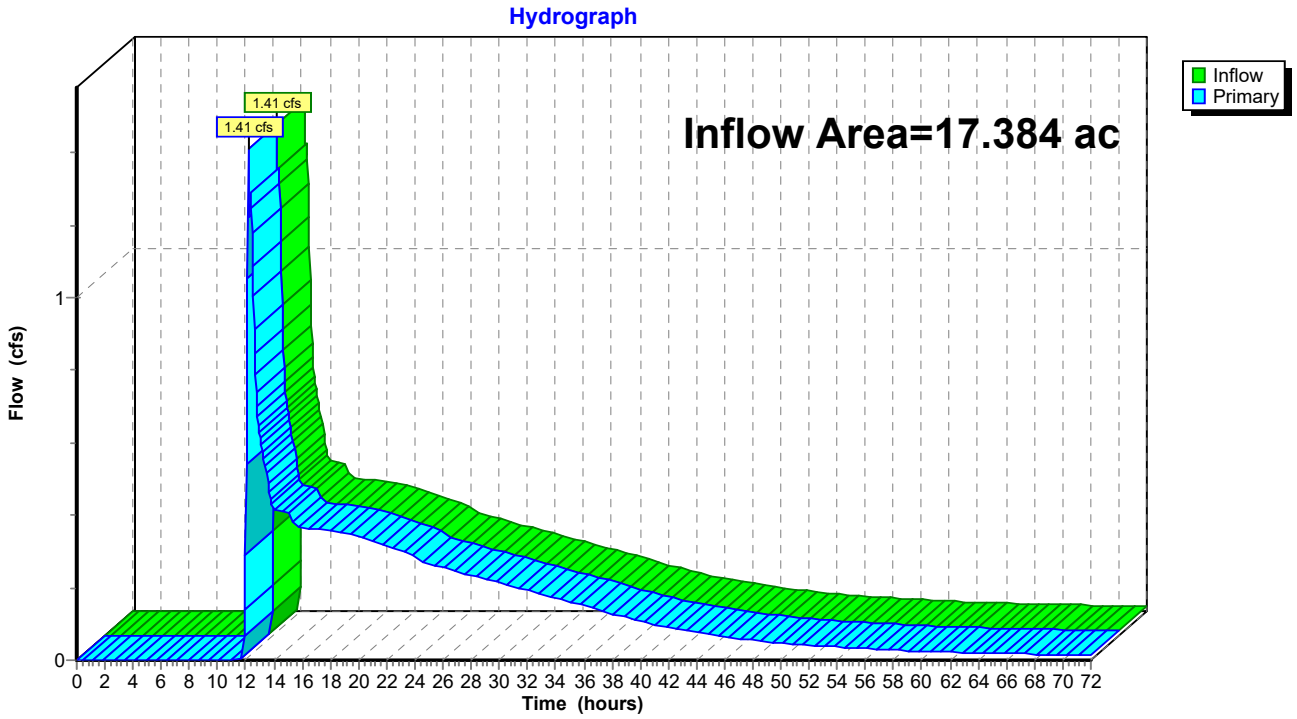


Summary for Link 8L: TOTAL SITE

Inflow Area = 17.384 ac, 22.65% Impervious, Inflow Depth > 0.53" for 1- YEAR EVENT event
Inflow = 1.41 cfs @ 12.16 hrs, Volume= 0.770 af
Primary = 1.41 cfs @ 12.16 hrs, Volume= 0.770 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

Link 8L: TOTAL SITE



Time span=0.00-72.00 hrs, dt=0.05 hrs, 1441 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment6S: PROPOSED SITE Runoff Area=7.800 ac 43.72% Impervious Runoff Depth=1.27"
Tc=6.0 min CN=84 Runoff=17.84 cfs 0.828 af

Subcatchment7S: UNDETAINED GRASS Runoff Area=1.300 ac 0.00% Impervious Runoff Depth=0.72"
Tc=6.0 min CN=74 Runoff=1.63 cfs 0.078 af

Subcatchment9S: UNDETAINED Runoff Area=2.400 ac 0.00% Impervious Runoff Depth=0.55"
Flow Length=777' Tc=21.0 min CN=70 Runoff=1.22 cfs 0.111 af

Subcatchment10S: OFFSITE Runoff Area=1.624 ac 32.45% Impervious Runoff Depth=1.15"
Flow Length=1,583' Tc=24.7 min CN=82 Runoff=1.83 cfs 0.155 af

Subcatchment11S: GRASS SWALE Runoff Area=4.260 ac 0.00% Impervious Runoff Depth=0.72"
Flow Length=743' Tc=8.8 min CN=74 Runoff=4.66 cfs 0.257 af

Pond 7P: PROPOSED BIO-RETENTION Peak Elev=882.42' Storage=41,869 cf Inflow=22.92 cfs 1.240 af
Primary=0.37 cfs 0.871 af Secondary=0.00 cfs 0.000 af Outflow=0.37 cfs 0.871 af

Link 8L: TOTAL SITE Inflow=2.04 cfs 1.061 af
Primary=2.04 cfs 1.061 af

Total Runoff Area = 17.384 ac Runoff Volume = 1.429 af Average Runoff Depth = 0.99"
77.35% Pervious = 13.447 ac 22.65% Impervious = 3.937 ac

Summary for Subcatchment 6S: PROPOSED SITE

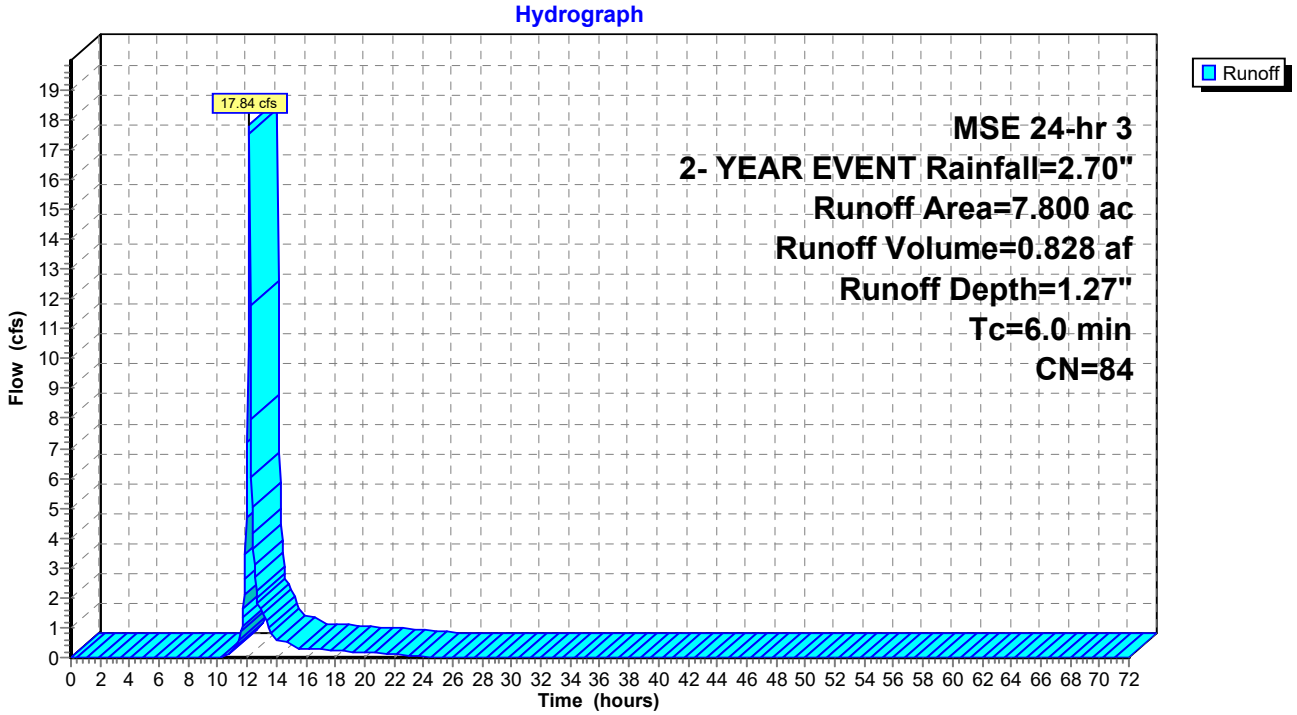
Runoff = 17.84 cfs @ 12.14 hrs, Volume= 0.828 af, Depth= 1.27"
Routed to Pond 7P : PROPOSED BIO-RETENTION POND

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
MSE 24-hr 3 2- YEAR EVENT Rainfall=2.70"

	Area (ac)	CN	Description
*	1.550	98	BUILDING
*	1.860	98	PAVEMENT
*	4.390	74	GRASS
	7.800	84	Weighted Average
	4.390		56.28% Pervious Area
	3.410		43.72% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry, MINIMUM TC 6**

Subcatchment 6S: PROPOSED SITE



Summary for Subcatchment 7S: UNDETAINED GRASS

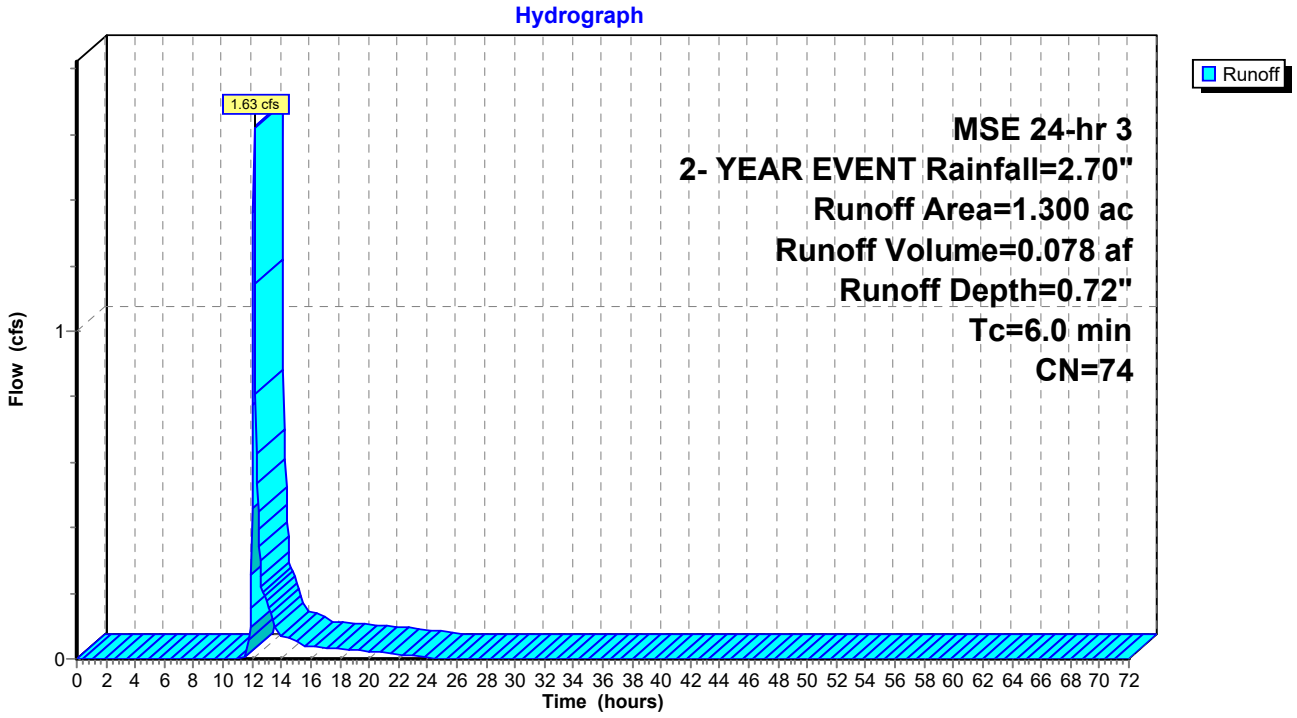
Runoff = 1.63 cfs @ 12.14 hrs, Volume= 0.078 af, Depth= 0.72"
Routed to Link 8L : TOTAL SITE

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
MSE 24-hr 3 2- YEAR EVENT Rainfall=2.70"

	Area (ac)	CN	Description
*	1.300	74	GRASS
	1.300		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry, MINIMUM TC**

Subcatchment 7S: UNDETAINED GRASS



Summary for Subcatchment 9S: UNDETAINED UNDISTURBED GRASS

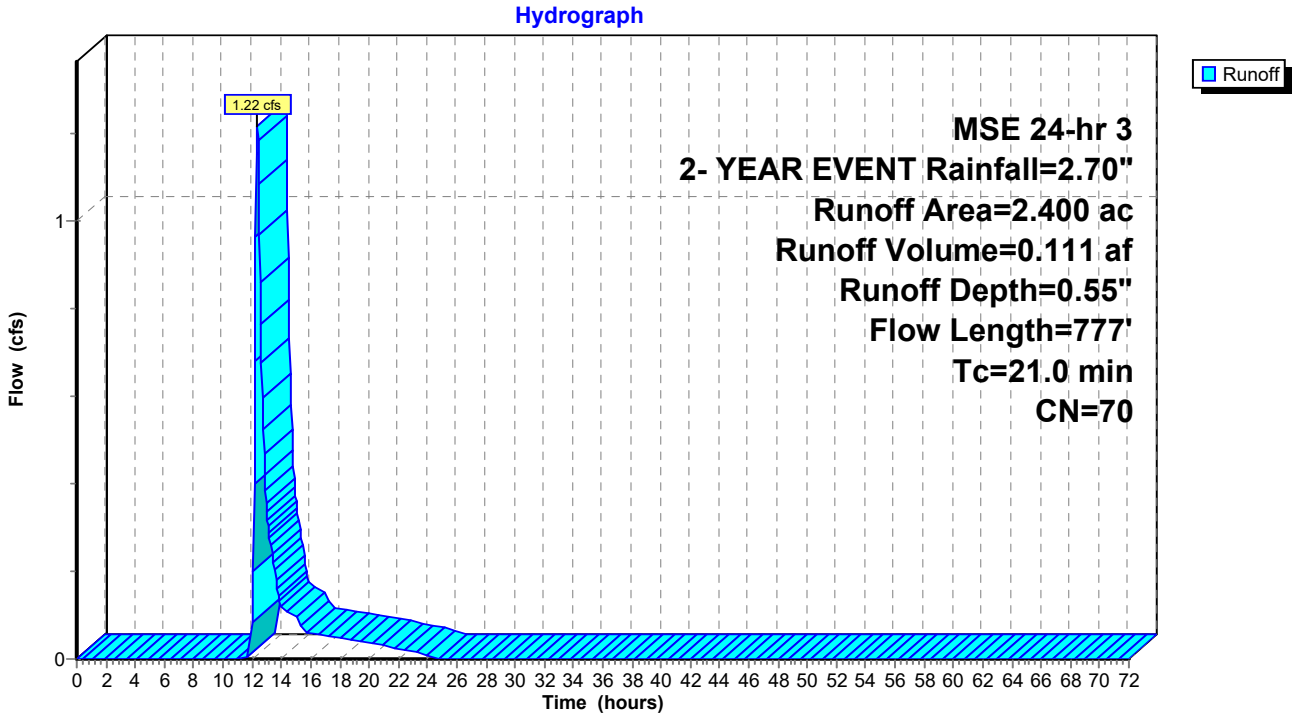
Runoff = 1.22 cfs @ 12.36 hrs, Volume= 0.111 af, Depth= 0.55"
Routed to Link 8L : TOTAL SITE

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
MSE 24-hr 3 2- YEAR EVENT Rainfall=2.70"

	Area (ac)	CN	Description
*	2.400	70	PRE DEVELOPMENT GRASS
	2.400		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.9	100	0.1350	0.15		**Sheet Flow, SHEET FLOW** Woods: Light underbrush n= 0.400 P2= 2.70"
10.1	677	0.0502	1.12		**Shallow Concentrated Flow, SHALLOW FLOW** Woodland Kv= 5.0 fps
21.0	777	Total			

Subcatchment 9S: UNDETAINED UNDISTURBED GRASS



Summary for Subcatchment 10S: OFFSITE

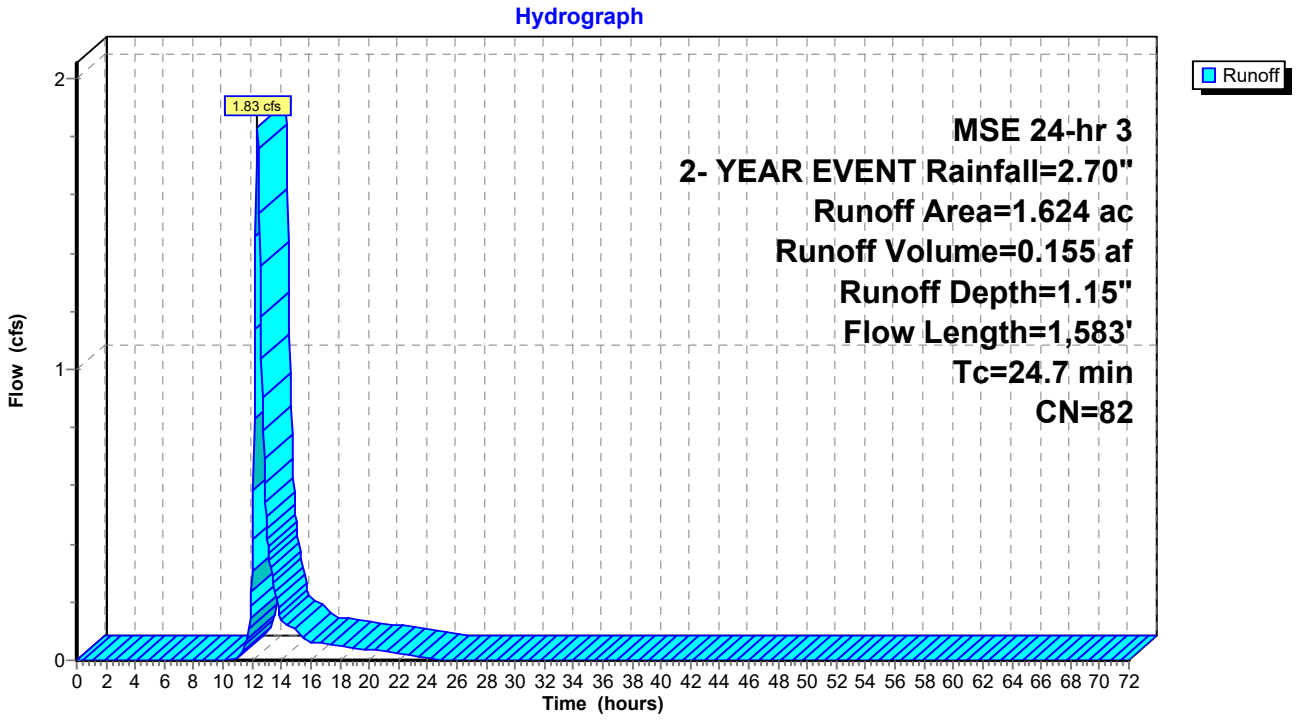
Runoff = 1.83 cfs @ 12.37 hrs, Volume= 0.155 af, Depth= 1.15"
Routed to Pond 7P : PROPOSED BIO-RETENTION POND

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
MSE 24-hr 3 2- YEAR EVENT Rainfall=2.70"

	Area (ac)	CN	Description
*	0.527	98	PAVEMENT
	1.097	74	>75% Grass cover, Good, HSG C
	1.624	82	Weighted Average
	1.097		67.55% Pervious Area
	0.527		32.45% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
14.1	100	0.0100	0.12		**Sheet Flow, SHEET FLOW** Grass: Short n= 0.150 P2= 2.70"
10.6	1,483	0.0240	2.32		**Shallow Concentrated Flow, SHALLOW CONTRATED FLOW** Grassed Waterway Kv= 15.0 fps
24.7	1,583	Total			

Subcatchment 10S: OFFSITE



Summary for Subcatchment 11S: GRASS SWALE

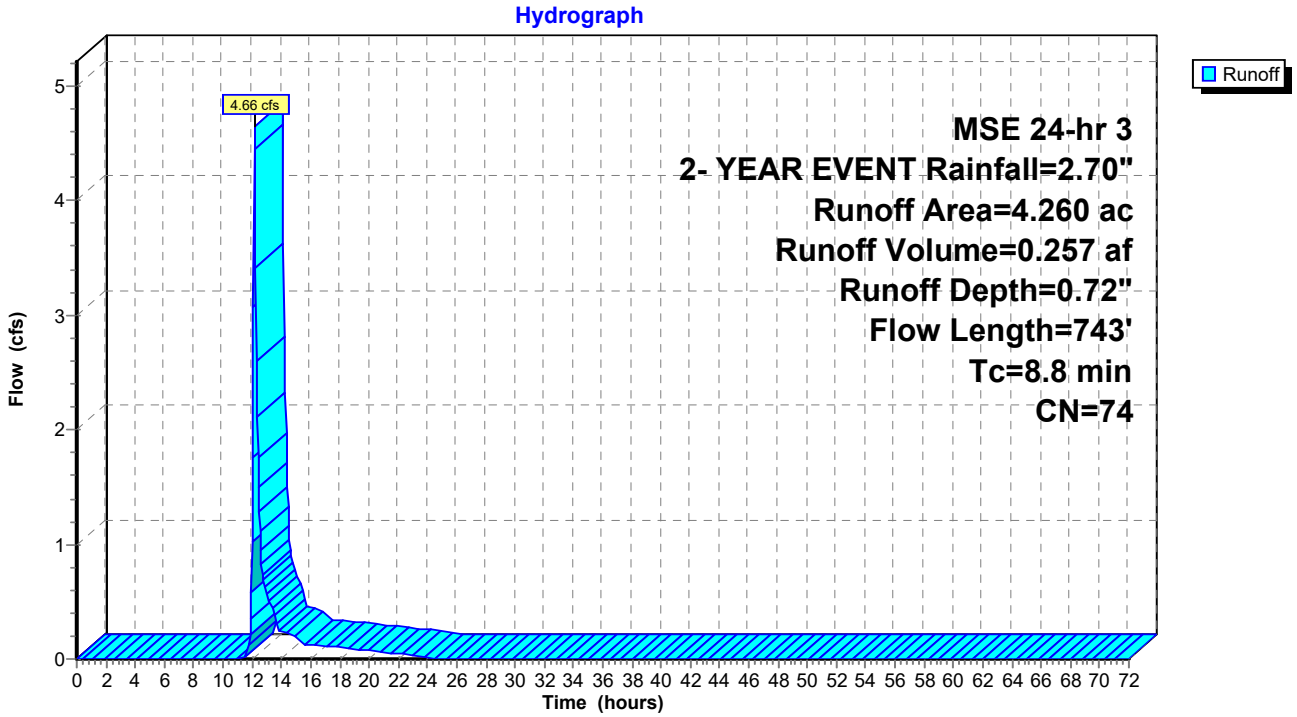
Runoff = 4.66 cfs @ 12.17 hrs, Volume= 0.257 af, Depth= 0.72"
Routed to Pond 7P : PROPOSED BIO-RETENTION POND

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
MSE 24-hr 3 2- YEAR EVENT Rainfall=2.70"

Area (ac)	CN	Description
4.260	74	>75% Grass cover, Good, HSG C
4.260		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.9	100	0.1400	0.34		**Sheet Flow, SHEET FLOW** Grass: Short n= 0.150 P2= 2.70"
3.9	643	0.0342	2.77		**Shallow Concentrated Flow, SHALLOW FLOW** Grassed Waterway Kv= 15.0 fps
8.8	743	Total			

Subcatchment 11S: GRASS SWALE



Summary for Pond 7P: PROPOSED BIO-RETENTION POND

Inflow Area = 13.684 ac, 28.77% Impervious, Inflow Depth = 1.09" for 2- YEAR EVENT event
Inflow = 22.92 cfs @ 12.14 hrs, Volume= 1.240 af
Outflow = 0.37 cfs @ 18.48 hrs, Volume= 0.871 af, Atten= 98%, Lag= 380.2 min
Primary = 0.37 cfs @ 18.48 hrs, Volume= 0.871 af
Routed to Link 8L : TOTAL SITE
Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
Routed to Link 8L : TOTAL SITE

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 882.42' @ 18.48 hrs Surf.Area= 32,953 sf Storage= 41,869 cf

Plug-Flow detention time= 1,064.8 min calculated for 0.871 af (70% of inflow)
Center-of-Mass det. time= 984.1 min (1,803.6 - 819.5)

Volume	Invert	Avail.Storage	Storage Description
#1	881.00'	143,322 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

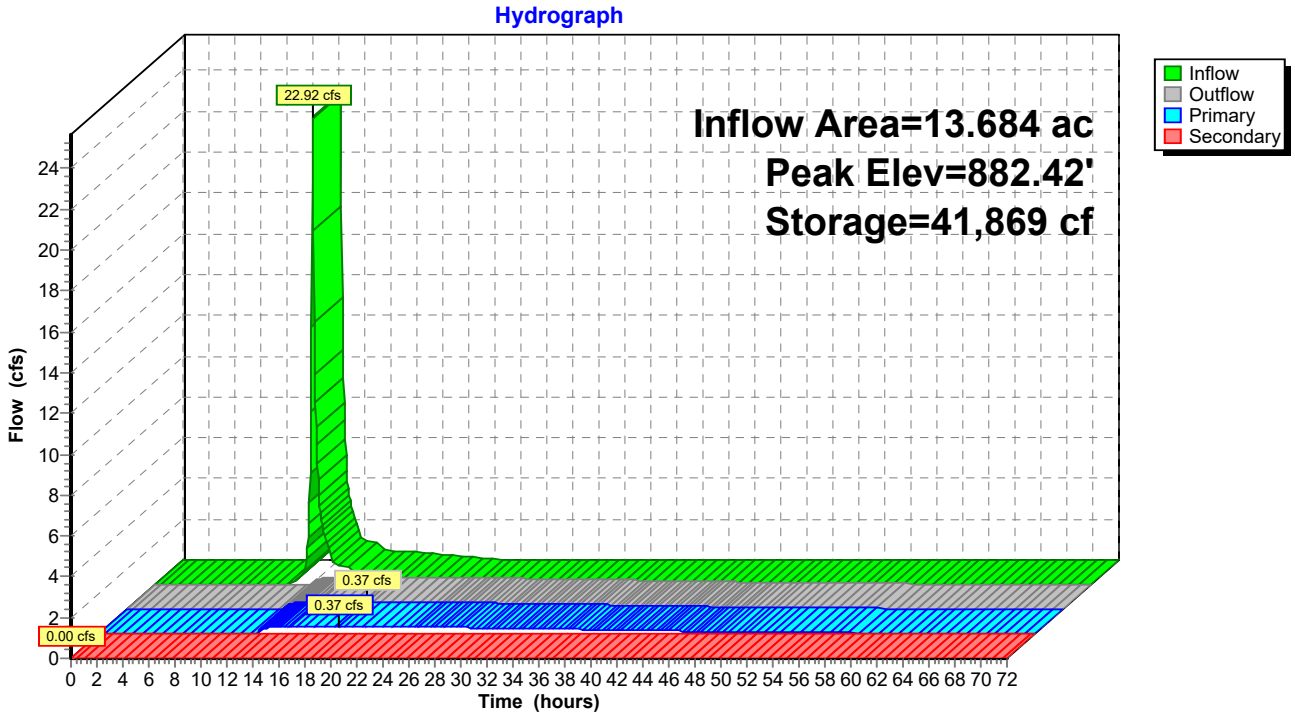
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
881.00	25,830	0	0
885.00	45,831	143,322	143,322

Device	Routing	Invert	Outlet Devices
#1	Primary	878.00'	**24.0" Round Culvert** L= 98.3' RCP, end-section conforming to fill, Ke= 0.500 Inlet / Outlet Invert= 878.00' / 875.00' S= 0.0305 '/' Cc= 0.900 n= 0.013, Flow Area= 3.14 sf
#2	Device 1	881.50'	**4.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#3	Device 1	882.45'	**48.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#4	Secondary	884.00'	**10.0' long x 8.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.43 2.54 2.70 2.69 2.68 2.68 2.66 2.64 2.64 2.64 2.65 2.65 2.66 2.66 2.68 2.70 2.74

Primary OutFlow Max=0.37 cfs @ 18.48 hrs HW=882.42' (Free Discharge)
└**1=Culvert** (Passes 0.37 cfs of 27.99 cfs potential flow)
├**2=Orifice/Grate** (Orifice Controls 0.37 cfs @ 4.19 fps)
└**3=Orifice/Grate** (Controls 0.00 cfs)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=881.00' (Free Discharge)
└**4=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond 7P: PROPOSED BIO-RETENTION POND

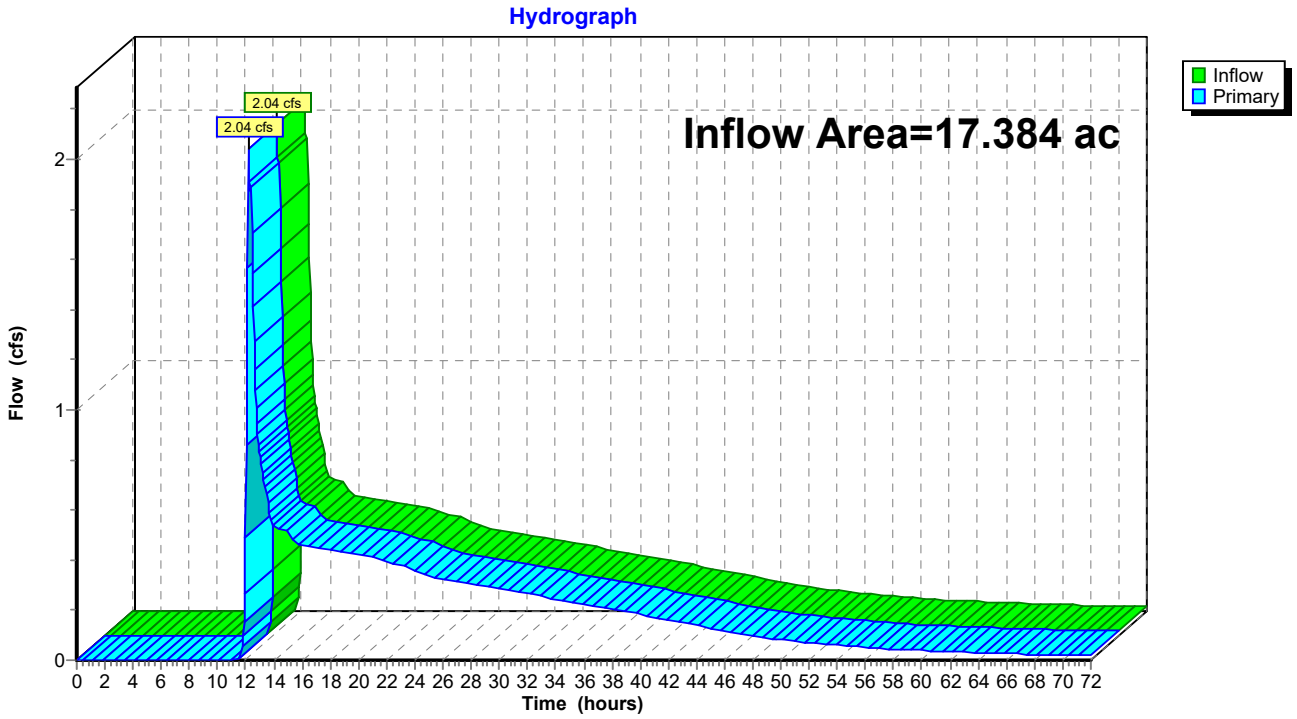


Summary for Link 8L: TOTAL SITE

Inflow Area = 17.384 ac, 22.65% Impervious, Inflow Depth > 0.73" for 2- YEAR EVENT event
Inflow = 2.04 cfs @ 12.16 hrs, Volume= 1.061 af
Primary = 2.04 cfs @ 12.16 hrs, Volume= 1.061 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

Link 8L: TOTAL SITE



Time span=0.00-72.00 hrs, dt=0.05 hrs, 1441 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment6S: PROPOSED SITE Runoff Area=7.800 ac 43.72% Impervious Runoff Depth=2.21"
Tc=6.0 min CN=84 Runoff=30.63 cfs 1.439 af

Subcatchment7S: UNDETAINED GRASS Runoff Area=1.300 ac 0.00% Impervious Runoff Depth=1.47"
Tc=6.0 min CN=74 Runoff=3.41 cfs 0.159 af

Subcatchment9S: UNDETAINED Runoff Area=2.400 ac 0.00% Impervious Runoff Depth=1.21"
Flow Length=777' Tc=21.0 min CN=70 Runoff=3.00 cfs 0.242 af

Subcatchment10S: OFFSITE Runoff Area=1.624 ac 32.45% Impervious Runoff Depth=2.05"
Flow Length=1,583' Tc=24.7 min CN=82 Runoff=3.32 cfs 0.277 af

Subcatchment11S: GRASS SWALE Runoff Area=4.260 ac 0.00% Impervious Runoff Depth=1.47"
Flow Length=743' Tc=8.8 min CN=74 Runoff=9.92 cfs 0.520 af

Pond 7P: PROPOSED BIO-RETENTION Peak Elev=882.75' Storage=52,726 cf Inflow=41.53 cfs 2.236 af
Primary=7.07 cfs 1.865 af Secondary=0.00 cfs 0.000 af Outflow=7.07 cfs 1.865 af

Link 8L: TOTAL SITE Inflow=9.29 cfs 2.265 af
Primary=9.29 cfs 2.265 af

Total Runoff Area = 17.384 ac Runoff Volume = 2.637 af Average Runoff Depth = 1.82"
77.35% Pervious = 13.447 ac 22.65% Impervious = 3.937 ac

Summary for Subcatchment 6S: PROPOSED SITE

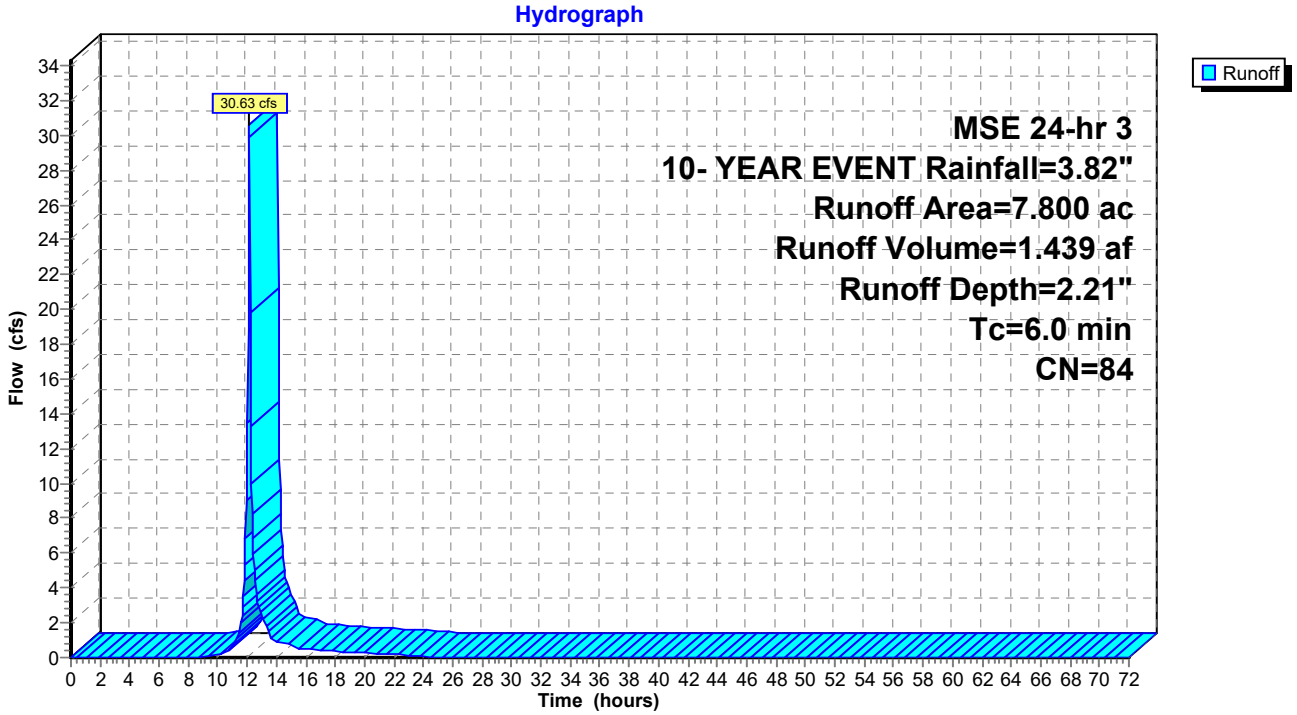
Runoff = 30.63 cfs @ 12.13 hrs, Volume= 1.439 af, Depth= 2.21"
Routed to Pond 7P : PROPOSED BIO-RETENTION POND

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
MSE 24-hr 3 10- YEAR EVENT Rainfall=3.82"

	Area (ac)	CN	Description
*	1.550	98	BUILDING
*	1.860	98	PAVEMENT
*	4.390	74	GRASS
	7.800	84	Weighted Average
	4.390		56.28% Pervious Area
	3.410		43.72% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry, MINIMUM TC 6**

Subcatchment 6S: PROPOSED SITE



Summary for Subcatchment 7S: UNDETAINED GRASS

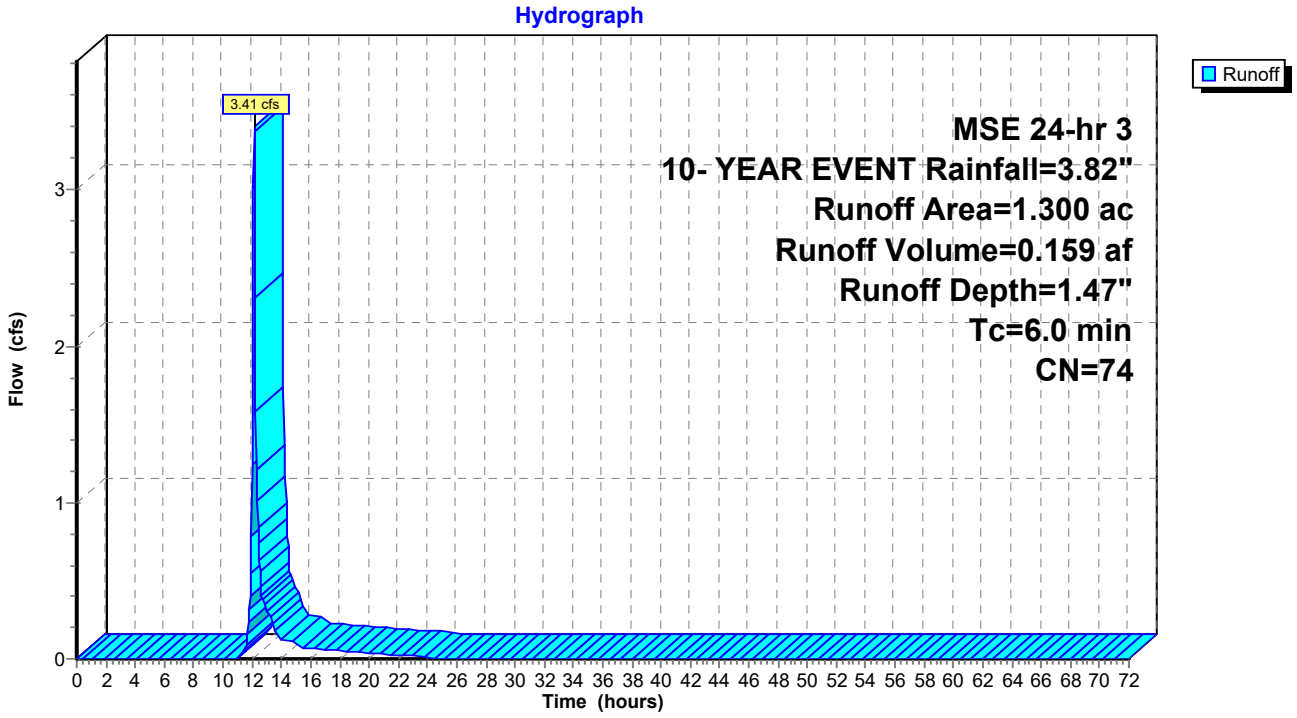
Runoff = 3.41 cfs @ 12.14 hrs, Volume= 0.159 af, Depth= 1.47"
Routed to Link 8L : TOTAL SITE

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
MSE 24-hr 3 10- YEAR EVENT Rainfall=3.82"

	Area (ac)	CN	Description
*	1.300	74	GRASS
	1.300		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry, MINIMUM TC**

Subcatchment 7S: UNDETAINED GRASS



Summary for Subcatchment 9S: UNDETAINED UNDISTURBED GRASS

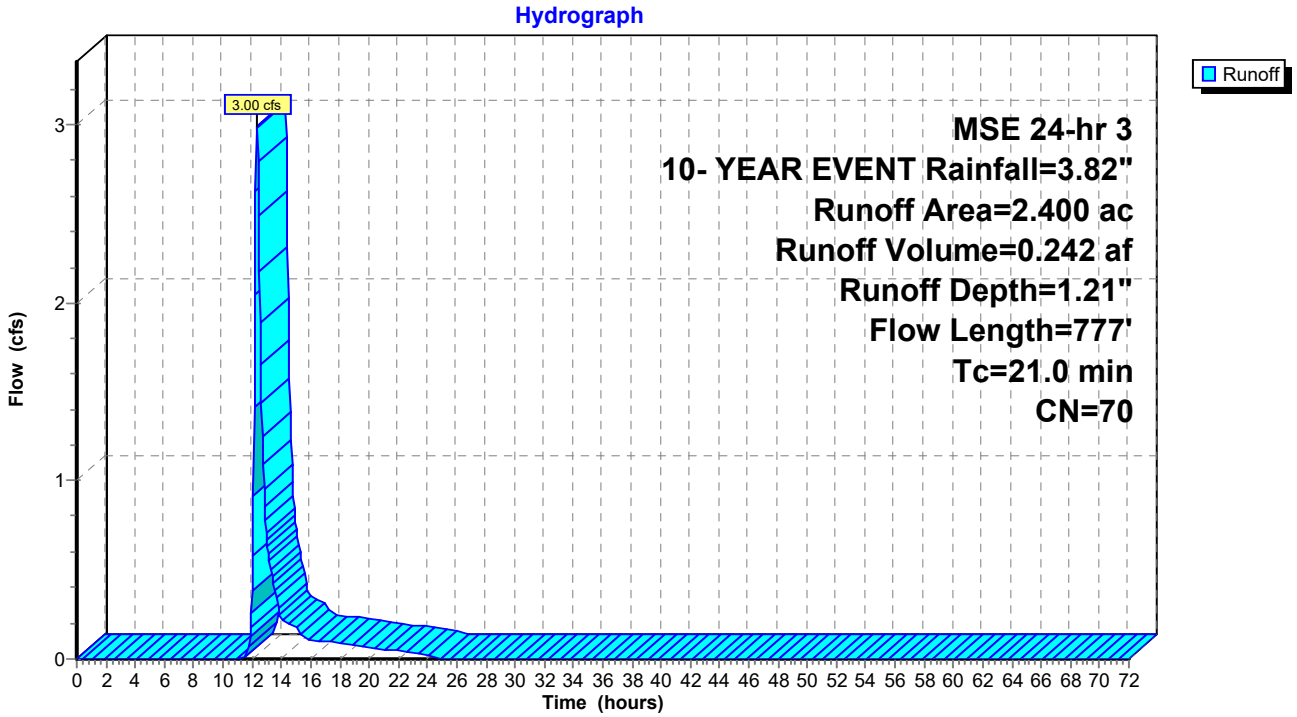
Runoff = 3.00 cfs @ 12.33 hrs, Volume= 0.242 af, Depth= 1.21"
Routed to Link 8L : TOTAL SITE

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
MSE 24-hr 3 10- YEAR EVENT Rainfall=3.82"

	Area (ac)	CN	Description
*	2.400	70	PRE DEVELOPMENT GRASS
	2.400		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.9	100	0.1350	0.15		**Sheet Flow, SHEET FLOW** Woods: Light underbrush n= 0.400 P2= 2.70"
10.1	677	0.0502	1.12		**Shallow Concentrated Flow, SHALLOW FLOW** Woodland Kv= 5.0 fps
21.0	777	Total			

Subcatchment 9S: UNDETAINED UNDISTURBED GRASS



Summary for Subcatchment 10S: OFFSITE

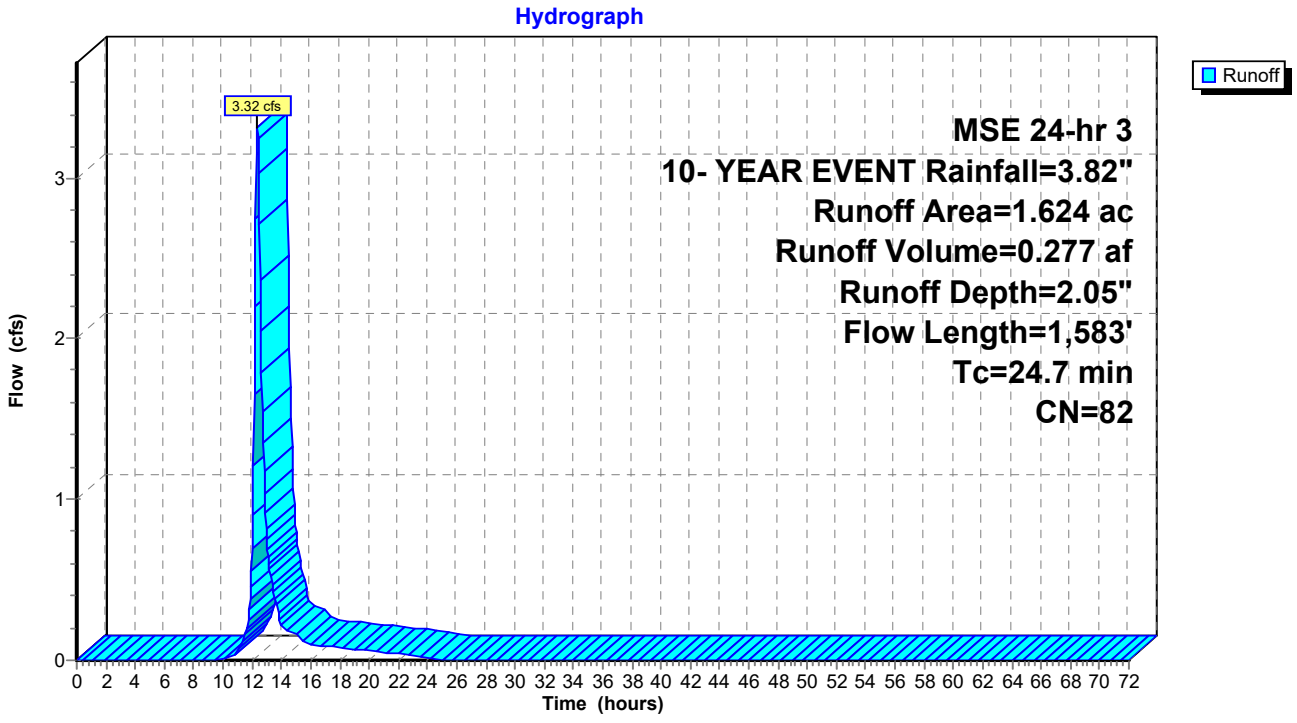
Runoff = 3.32 cfs @ 12.36 hrs, Volume= 0.277 af, Depth= 2.05"
Routed to Pond 7P : PROPOSED BIO-RETENTION POND

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
MSE 24-hr 3 10- YEAR EVENT Rainfall=3.82"

	Area (ac)	CN	Description
*	0.527	98	PAVEMENT
	1.097	74	>75% Grass cover, Good, HSG C
	1.624	82	Weighted Average
	1.097		67.55% Pervious Area
	0.527		32.45% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
14.1	100	0.0100	0.12		**Sheet Flow, SHEET FLOW** Grass: Short n= 0.150 P2= 2.70"
10.6	1,483	0.0240	2.32		**Shallow Concentrated Flow, SHALLOW CONTRATED FLOW** Grassed Waterway Kv= 15.0 fps
24.7	1,583	Total			

Subcatchment 10S: OFFSITE



Summary for Subcatchment 11S: GRASS SWALE

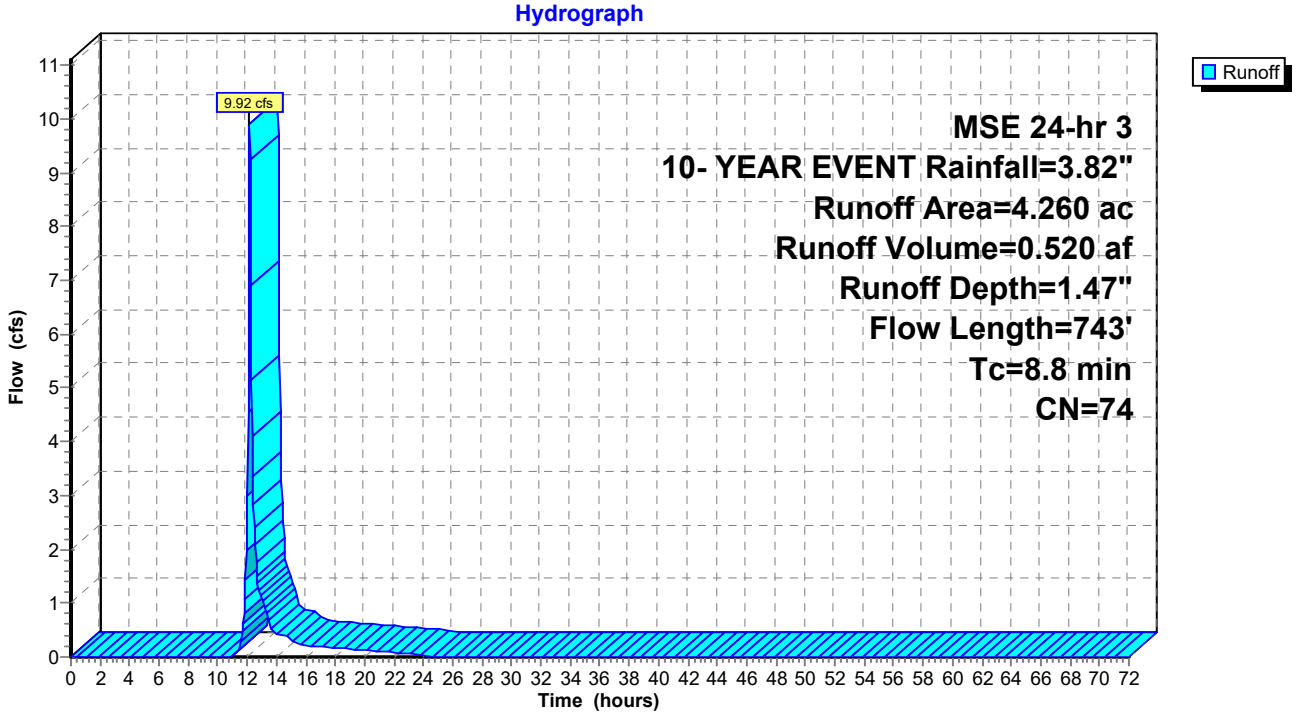
Runoff = 9.92 cfs @ 12.17 hrs, Volume= 0.520 af, Depth= 1.47"
Routed to Pond 7P : PROPOSED BIO-RETENTION POND

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
MSE 24-hr 3 10- YEAR EVENT Rainfall=3.82"

Area (ac)	CN	Description
4.260	74	>75% Grass cover, Good, HSG C
4.260		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.9	100	0.1400	0.34		**Sheet Flow, SHEET FLOW** Grass: Short n= 0.150 P2= 2.70"
3.9	643	0.0342	2.77		**Shallow Concentrated Flow, SHALLOW FLOW** Grassed Waterway Kv= 15.0 fps
8.8	743	Total			

Subcatchment 11S: GRASS SWALE



Summary for Pond 7P: PROPOSED BIO-RETENTION POND

Inflow Area = 13.684 ac, 28.77% Impervious, Inflow Depth = 1.96" for 10- YEAR EVENT event
Inflow = 41.53 cfs @ 12.14 hrs, Volume= 2.236 af
Outflow = 7.07 cfs @ 12.62 hrs, Volume= 1.865 af, Atten= 83%, Lag= 28.9 min
Primary = 7.07 cfs @ 12.62 hrs, Volume= 1.865 af
Routed to Link 8L : TOTAL SITE
Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
Routed to Link 8L : TOTAL SITE

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 882.75' @ 12.62 hrs Surf.Area= 34,561 sf Storage= 52,726 cf

Plug-Flow detention time= 593.0 min calculated for 1.865 af (83% of inflow)
Center-of-Mass det. time= 533.7 min (1,341.3 - 807.7)

Volume	Invert	Avail.Storage	Storage Description
#1	881.00'	143,322 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

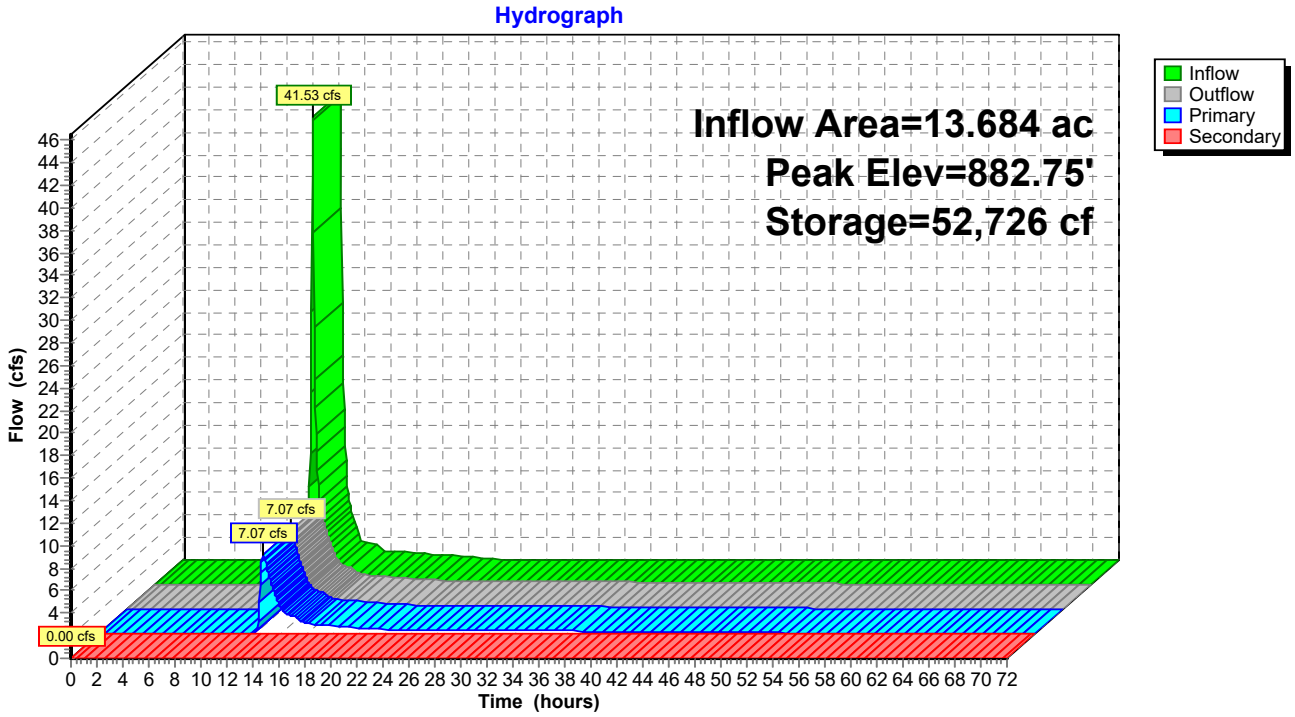
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
881.00	25,830	0	0
885.00	45,831	143,322	143,322

Device	Routing	Invert	Outlet Devices
#1	Primary	878.00'	**24.0" Round Culvert** L= 98.3' RCP, end-section conforming to fill, Ke= 0.500 Inlet / Outlet Invert= 878.00' / 875.00' S= 0.0305 '/' Cc= 0.900 n= 0.013, Flow Area= 3.14 sf
#2	Device 1	881.50'	**4.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#3	Device 1	882.45'	**48.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#4	Secondary	884.00'	**10.0' long x 8.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.43 2.54 2.70 2.69 2.68 2.68 2.66 2.64 2.64 2.64 2.65 2.65 2.66 2.66 2.68 2.70 2.74

Primary OutFlow Max=7.03 cfs @ 12.62 hrs HW=882.75' (Free Discharge)
└**1=Culvert** (Passes 7.03 cfs of 29.27 cfs potential flow)
├**2=Orifice/Grate** (Orifice Controls 0.44 cfs @ 5.00 fps)
└**3=Orifice/Grate** (Weir Controls 6.60 cfs @ 1.78 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=881.00' (Free Discharge)
└**4=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond 7P: PROPOSED BIO-RETENTION POND

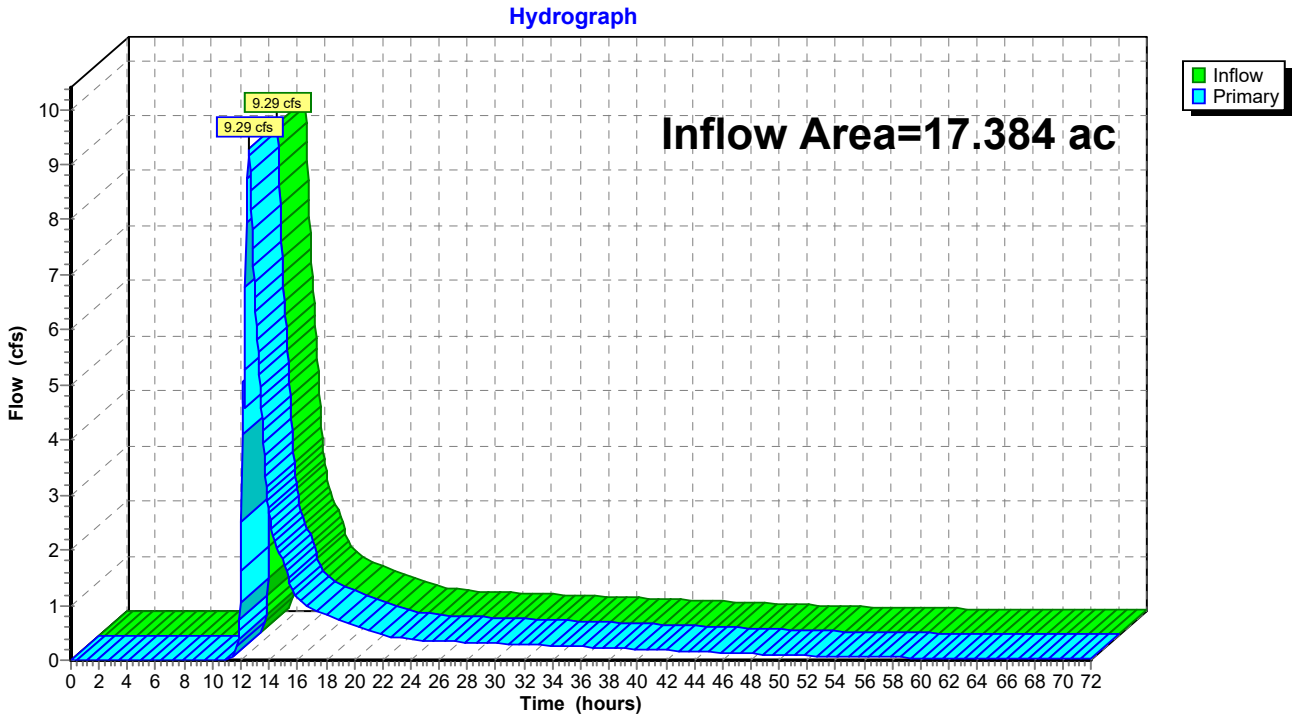


Summary for Link 8L: TOTAL SITE

Inflow Area = 17.384 ac, 22.65% Impervious, Inflow Depth > 1.56" for 10- YEAR EVENT event
Inflow = 9.29 cfs @ 12.55 hrs, Volume= 2.265 af
Primary = 9.29 cfs @ 12.55 hrs, Volume= 2.265 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

Link 8L: TOTAL SITE



Time span=0.00-72.00 hrs, dt=0.05 hrs, 1441 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment6S: PROPOSED SITE Runoff Area=7.800 ac 43.72% Impervious Runoff Depth=4.39"
Tc=6.0 min CN=84 Runoff=58.91 cfs 2.856 af

Subcatchment7S: UNDETAINED GRASS Runoff Area=1.300 ac 0.00% Impervious Runoff Depth=3.36"
Tc=6.0 min CN=74 Runoff=7.80 cfs 0.364 af

Subcatchment9S: UNDETAINED Runoff Area=2.400 ac 0.00% Impervious Runoff Depth=2.97"
Flow Length=777' Tc=21.0 min CN=70 Runoff=7.74 cfs 0.595 af

Subcatchment10S: OFFSITE Runoff Area=1.624 ac 32.45% Impervious Runoff Depth=4.18"
Flow Length=1,583' Tc=24.7 min CN=82 Runoff=6.71 cfs 0.566 af

Subcatchment11S: GRASS SWALE Runoff Area=4.260 ac 0.00% Impervious Runoff Depth=3.36"
Flow Length=743' Tc=8.8 min CN=74 Runoff=22.94 cfs 1.194 af

Pond 7P: PROPOSED BIO-RETENTION Peak Elev=883.55' Storage=82,090 cf Inflow=84.17 cfs 4.615 af
Primary=32.26 cfs 4.242 af Secondary=0.00 cfs 0.000 af Outflow=32.26 cfs 4.242 af

Link 8L: TOTAL SITE Inflow=42.63 cfs 5.201 af
Primary=42.63 cfs 5.201 af

Total Runoff Area = 17.384 ac Runoff Volume = 5.574 af Average Runoff Depth = 3.85"
77.35% Pervious = 13.447 ac 22.65% Impervious = 3.937 ac

Summary for Subcatchment 6S: PROPOSED SITE

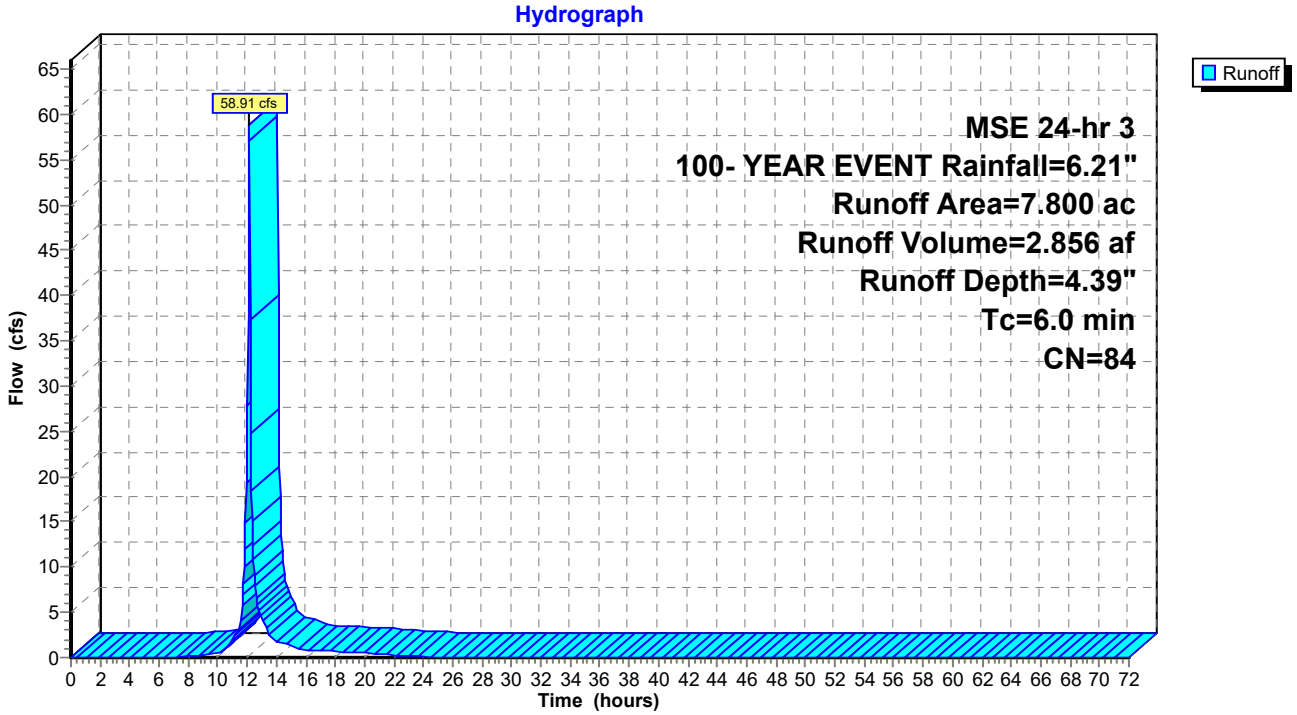
Runoff = 58.91 cfs @ 12.13 hrs, Volume= 2.856 af, Depth= 4.39"
Routed to Pond 7P : PROPOSED BIO-RETENTION POND

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
MSE 24-hr 3 100- YEAR EVENT Rainfall=6.21"

	Area (ac)	CN	Description
*	1.550	98	BUILDING
*	1.860	98	PAVEMENT
*	4.390	74	GRASS
	7.800	84	Weighted Average
	4.390		56.28% Pervious Area
	3.410		43.72% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry, MINIMUM TC 6**

Subcatchment 6S: PROPOSED SITE



Summary for Subcatchment 7S: UNDETAINED GRASS

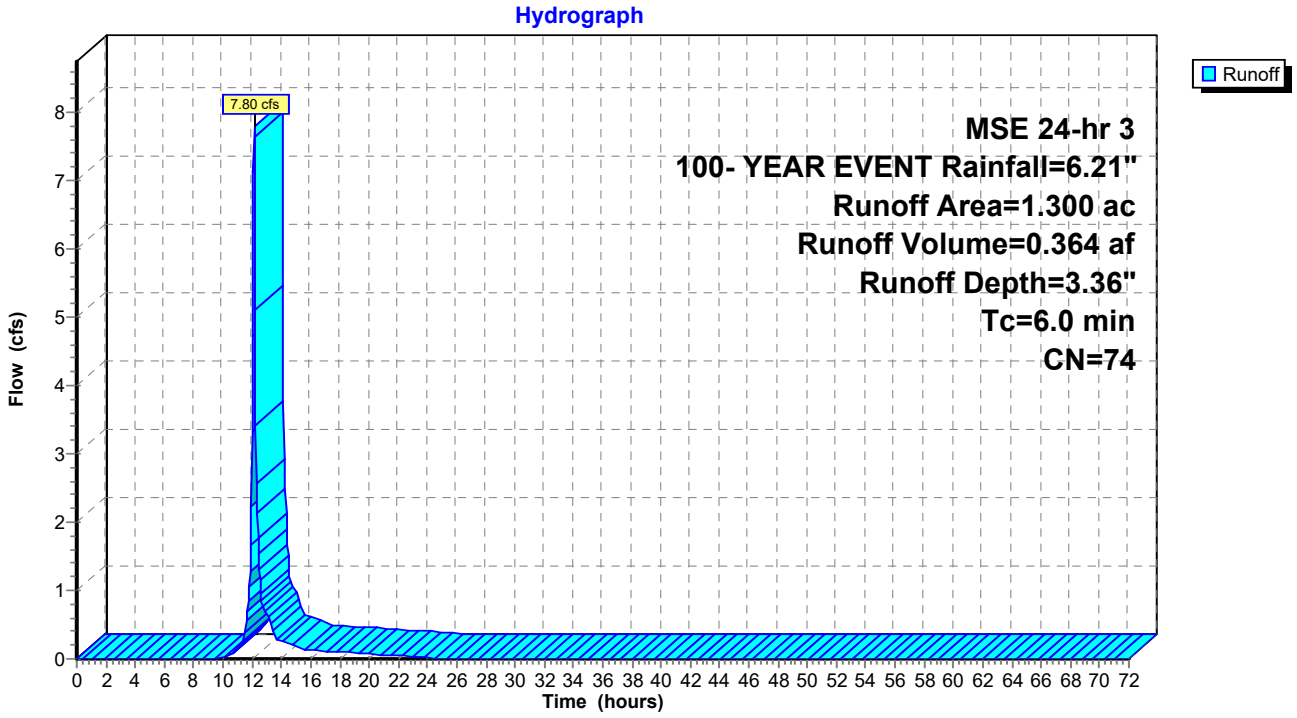
Runoff = 7.80 cfs @ 12.13 hrs, Volume= 0.364 af, Depth= 3.36"
Routed to Link 8L : TOTAL SITE

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
MSE 24-hr 3 100- YEAR EVENT Rainfall=6.21"

	Area (ac)	CN	Description
*	1.300	74	GRASS
	1.300		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry, MINIMUM TC**

Subcatchment 7S: UNDETAINED GRASS



Summary for Subcatchment 9S: UNDETAINED UNDISTURBED GRASS

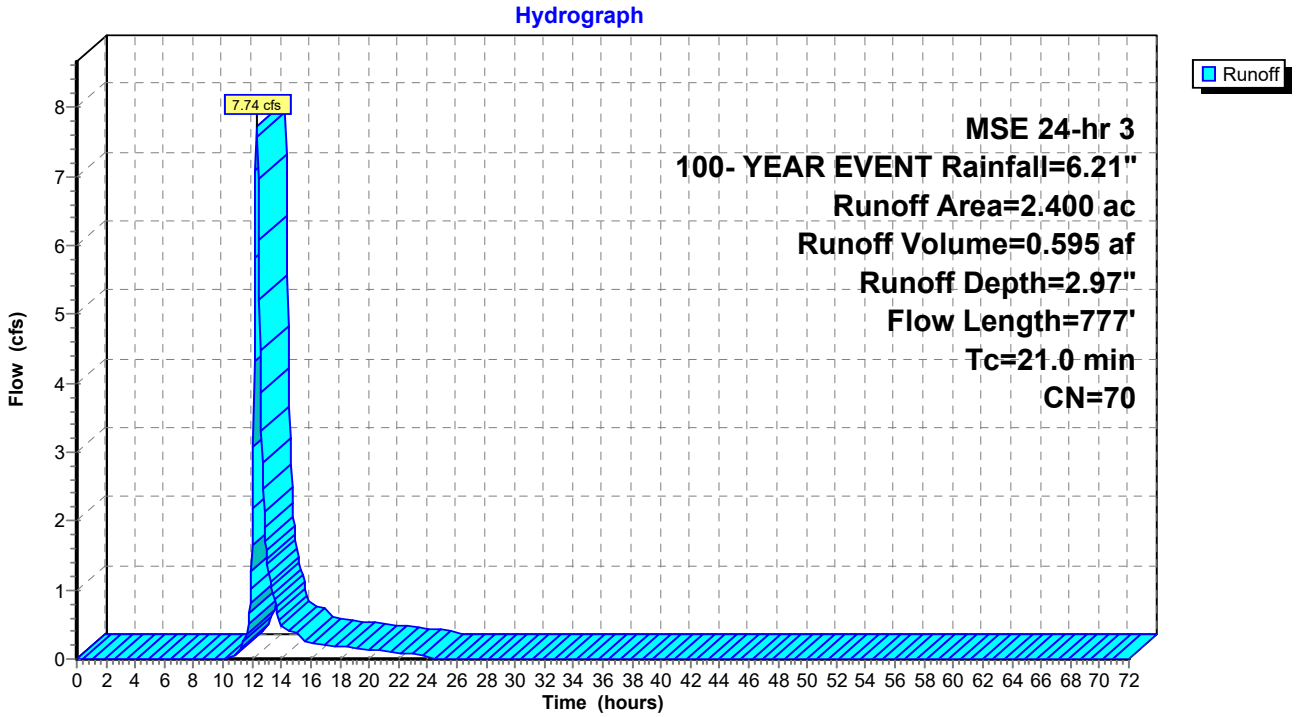
Runoff = 7.74 cfs @ 12.32 hrs, Volume= 0.595 af, Depth= 2.97"
Routed to Link 8L : TOTAL SITE

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
MSE 24-hr 3 100- YEAR EVENT Rainfall=6.21"

	Area (ac)	CN	Description
*	2.400	70	PRE DEVELOPMENT GRASS
	2.400		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.9	100	0.1350	0.15		**Sheet Flow, SHEET FLOW** Woods: Light underbrush n= 0.400 P2= 2.70"
10.1	677	0.0502	1.12		**Shallow Concentrated Flow, SHALLOW FLOW** Woodland Kv= 5.0 fps
21.0	777	Total			

Subcatchment 9S: UNDETAINED UNDISTURBED GRASS



Summary for Subcatchment 10S: OFFSITE

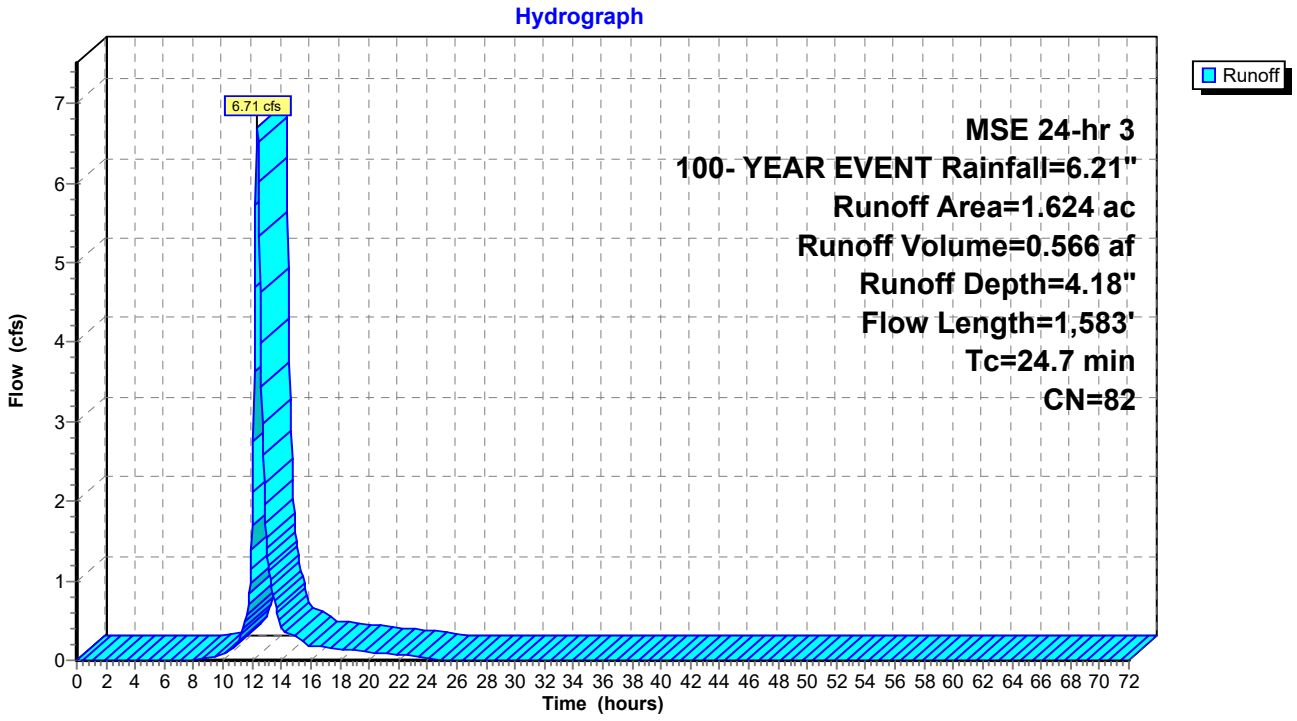
Runoff = 6.71 cfs @ 12.35 hrs, Volume= 0.566 af, Depth= 4.18"
Routed to Pond 7P : PROPOSED BIO-RETENTION POND

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
MSE 24-hr 3 100- YEAR EVENT Rainfall=6.21"

	Area (ac)	CN	Description
*	0.527	98	PAVEMENT
	1.097	74	>75% Grass cover, Good, HSG C
	1.624	82	Weighted Average
	1.097		67.55% Pervious Area
	0.527		32.45% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
14.1	100	0.0100	0.12		**Sheet Flow, SHEET FLOW** Grass: Short n= 0.150 P2= 2.70"
10.6	1,483	0.0240	2.32		**Shallow Concentrated Flow, SHALLOW CONTRATED FLOW** Grassed Waterway Kv= 15.0 fps
24.7	1,583	Total			

Subcatchment 10S: OFFSITE



Summary for Subcatchment 11S: GRASS SWALE

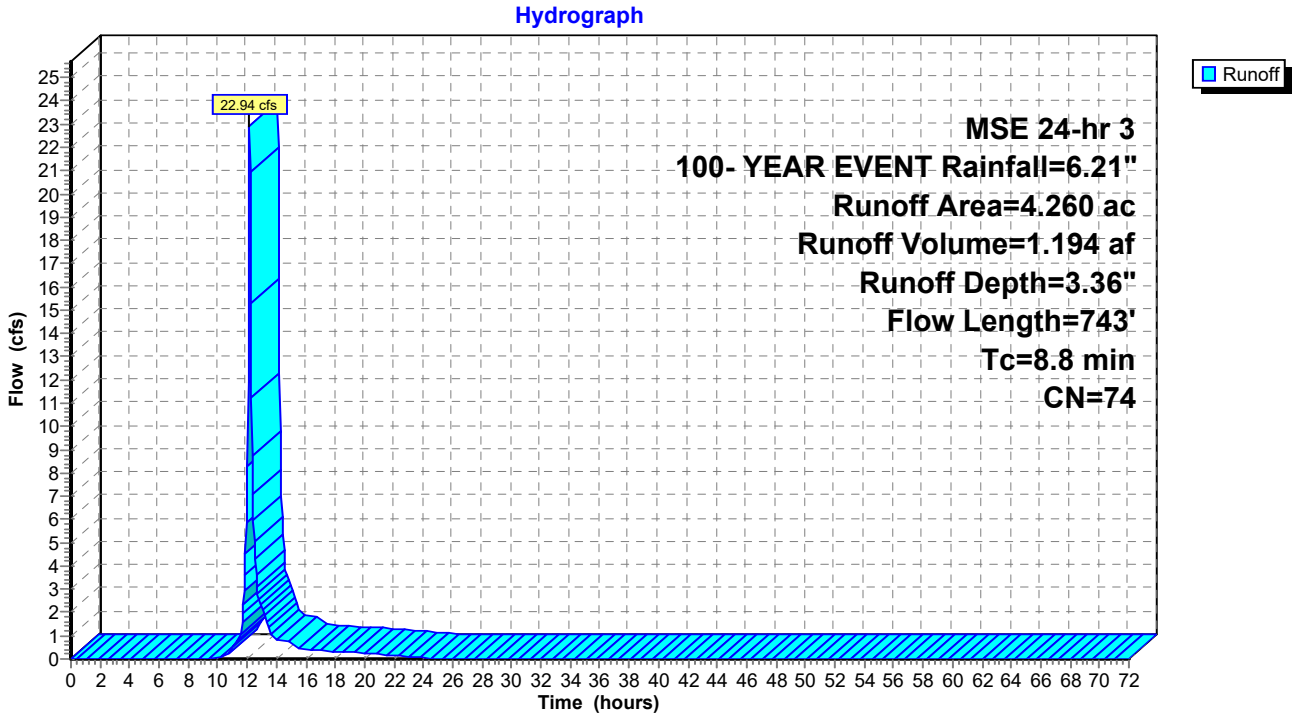
Runoff = 22.94 cfs @ 12.16 hrs, Volume= 1.194 af, Depth= 3.36"
Routed to Pond 7P : PROPOSED BIO-RETENTION POND

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
MSE 24-hr 3 100- YEAR EVENT Rainfall=6.21"

Area (ac)	CN	Description
4.260	74	>75% Grass cover, Good, HSG C
4.260		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.9	100	0.1400	0.34		**Sheet Flow, SHEET FLOW** Grass: Short n= 0.150 P2= 2.70"
3.9	643	0.0342	2.77		**Shallow Concentrated Flow, SHALLOW FLOW** Grassed Waterway Kv= 15.0 fps
8.8	743	Total			

Subcatchment 11S: GRASS SWALE



Summary for Pond 7P: PROPOSED BIO-RETENTION POND

Inflow Area = 13.684 ac, 28.77% Impervious, Inflow Depth = 4.05" for 100- YEAR EVENT event
Inflow = 84.17 cfs @ 12.14 hrs, Volume= 4.615 af
Outflow = 32.26 cfs @ 12.34 hrs, Volume= 4.242 af, Atten= 62%, Lag= 11.8 min
Primary = 32.26 cfs @ 12.34 hrs, Volume= 4.242 af
Routed to Link 8L : TOTAL SITE
Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
Routed to Link 8L : TOTAL SITE

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 883.55' @ 12.34 hrs Surf.Area= 38,576 sf Storage= 82,090 cf

Plug-Flow detention time= 293.1 min calculated for 4.239 af (92% of inflow)
Center-of-Mass det. time= 258.7 min (1,052.3 - 793.6)

Volume	Invert	Avail.Storage	Storage Description
#1	881.00'	143,322 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

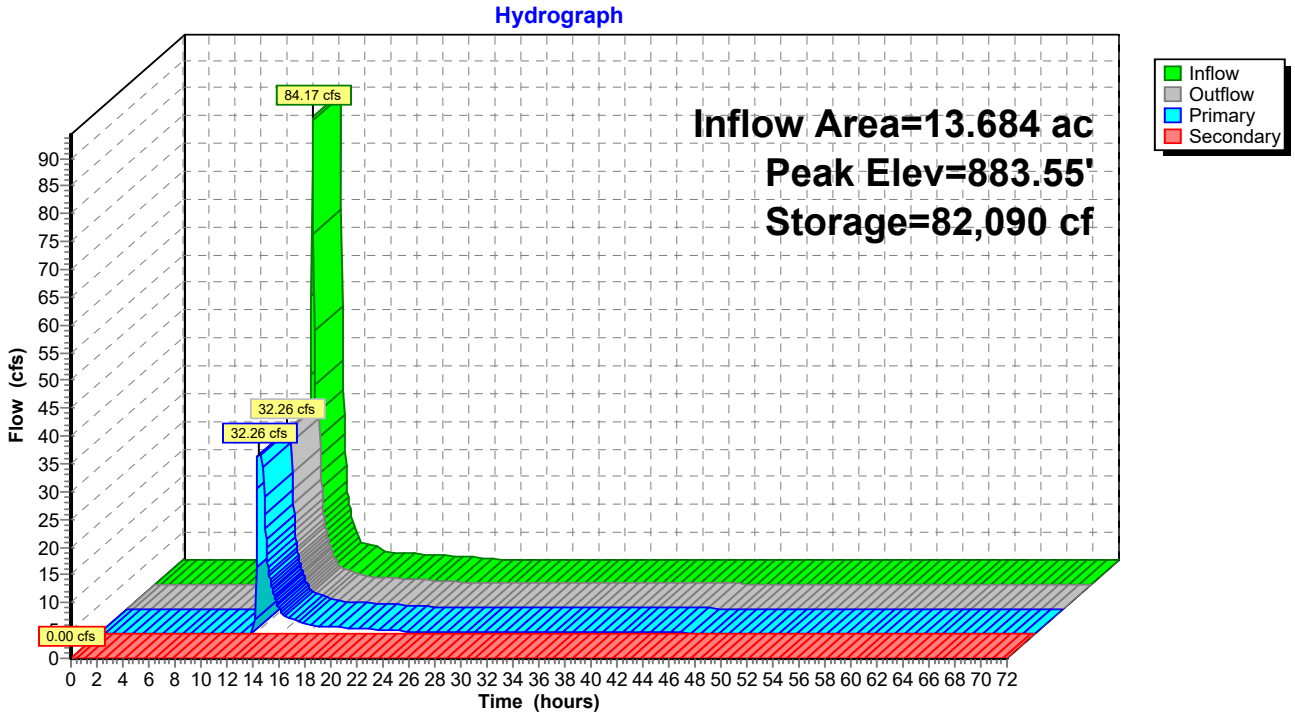
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
881.00	25,830	0	0
885.00	45,831	143,322	143,322

Device	Routing	Invert	Outlet Devices
#1	Primary	878.00'	**24.0" Round Culvert** L= 98.3' RCP, end-section conforming to fill, Ke= 0.500 Inlet / Outlet Invert= 878.00' / 875.00' S= 0.0305 '/' Cc= 0.900 n= 0.013, Flow Area= 3.14 sf
#2	Device 1	881.50'	**4.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#3	Device 1	882.45'	**48.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#4	Secondary	884.00'	**10.0' long x 8.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.43 2.54 2.70 2.69 2.68 2.68 2.66 2.64 2.64 2.64 2.65 2.65 2.66 2.66 2.68 2.70 2.74

Primary OutFlow Max=32.25 cfs @ 12.34 hrs HW=883.55' (Free Discharge)
└**1=Culvert** (Inlet Controls 32.25 cfs @ 10.27 fps)
├**2=Orifice/Grate** (Passes < 0.58 cfs potential flow)
└**3=Orifice/Grate** (Passes < 47.20 cfs potential flow)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=881.00' (Free Discharge)
└**4=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond 7P: PROPOSED BIO-RETENTION POND

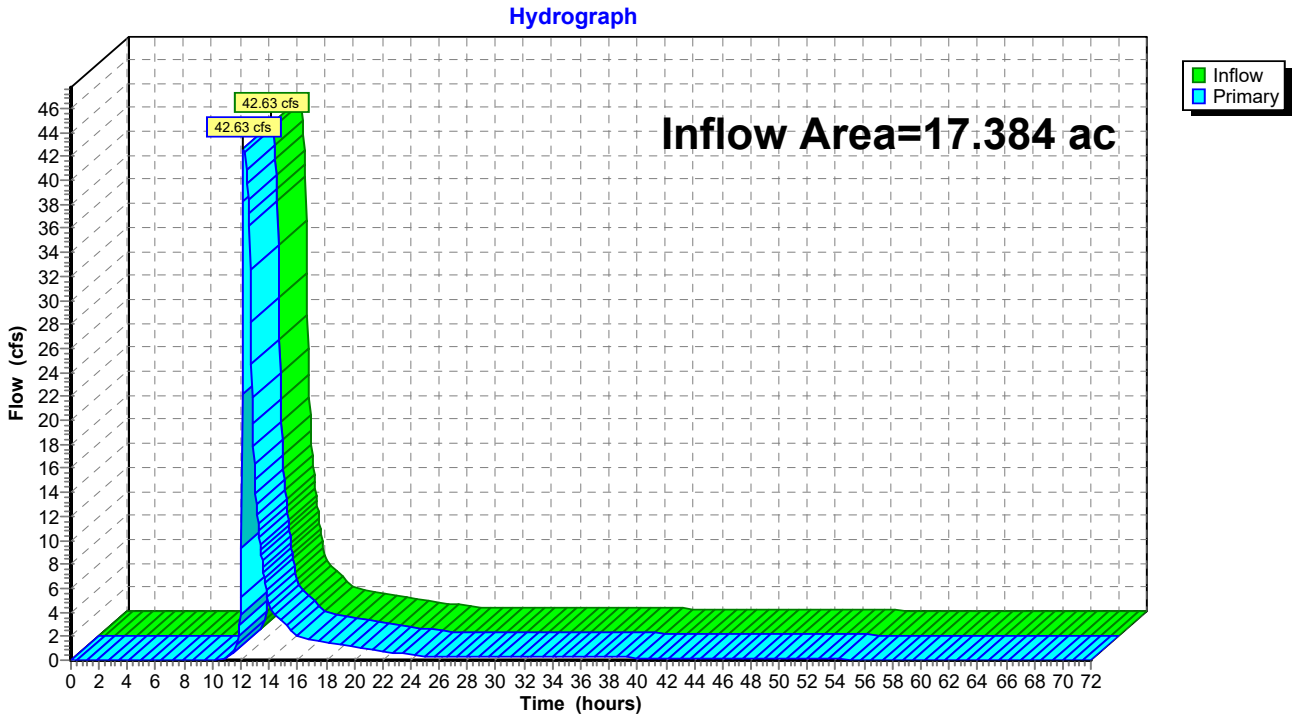


Summary for Link 8L: TOTAL SITE

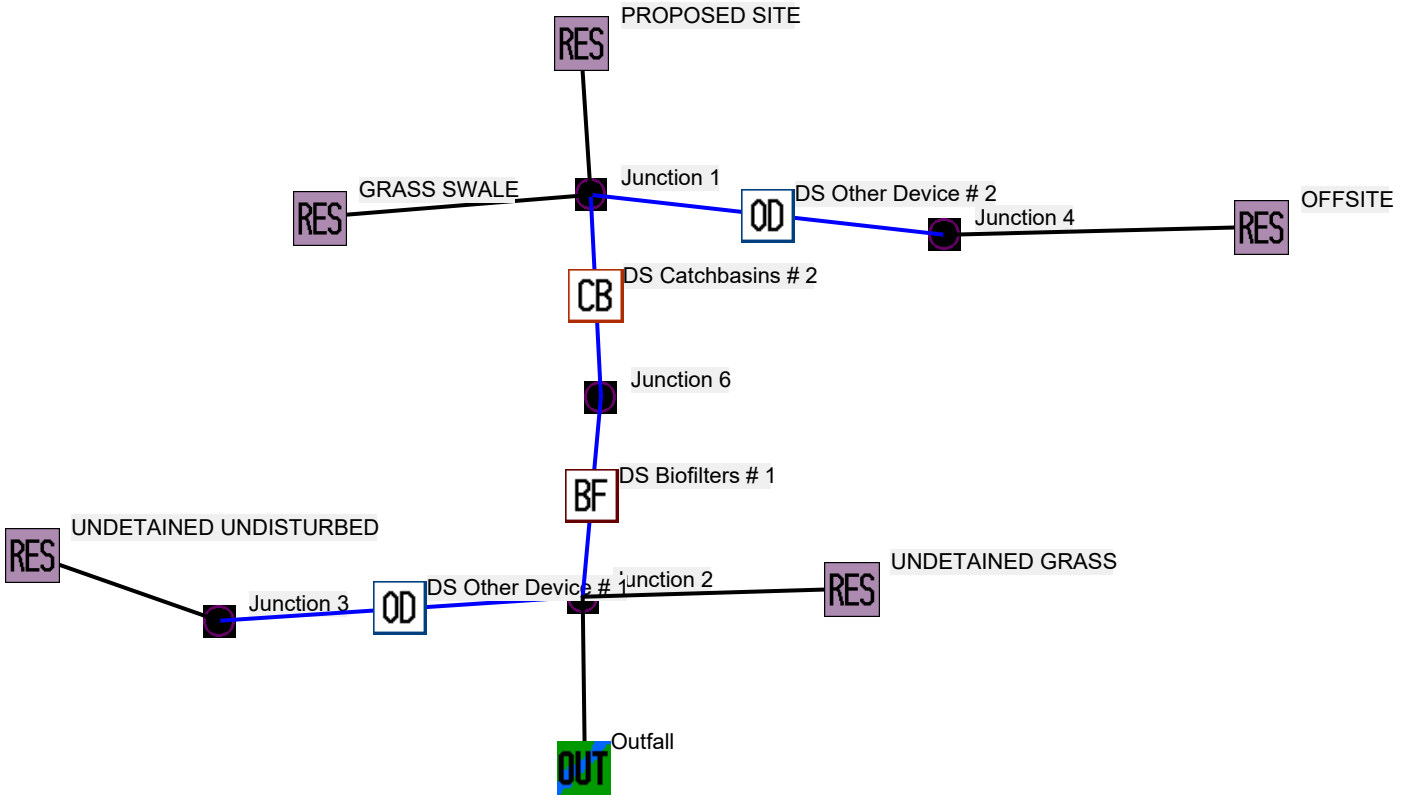
Inflow Area = 17.384 ac, 22.65% Impervious, Inflow Depth > 3.59" for 100- YEAR EVENT event
Inflow = 42.63 cfs @ 12.20 hrs, Volume= 5.201 af
Primary = 42.63 cfs @ 12.20 hrs, Volume= 5.201 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

Link 8L: TOTAL SITE



APPENDIX 4
POST-DEVELOPMENT CONDITIONS (WATER QUALITY)


PROPOSED SITE
RES
GRASS SWALE
RES
Junction 1
OD
DS Other Device # 2
Junction 4
RES
OFFSITE
CB
DS Catchbasins # 2
Junction 6
BF
DS Biofilters # 1
UNDETAINED UNDISTURBED
RES
Junction 3
OD
DS Other Device # 1
Junction 2
RES
UNDETAINED GRASS
OUT
Outfall

Data file name: Z:\Projects\2018\1338.10-WI\DESIGN\SWMP\SLAMM\2023-01-19 winslamm.mdb
WinSLAMM Version 10.4.1
Rain file name: C:\WinSLAMM Files\Rain Files\WI Milwaukee 69.RAN
Particulate Solids Concentration file name: C:\WinSLAMM Files\v10.1 WI_AVG01.pscx
Runoff Coefficient file name: C:\WinSLAMM Files\WI_SL06 Dec06.rsvx
Residential Street Delivery file name: C:\WinSLAMM Files\WI_Res and Other Urban Dec06.std
Institutional Street Delivery file name: C:\WinSLAMM Files\WI_Com Inst Indust Dec06.std
Commercial Street Delivery file name: C:\WinSLAMM Files\WI_Com Inst Indust Dec06.std
Industrial Street Delivery file name: C:\WinSLAMM Files\WI_Com Inst Indust Dec06.std
Other Urban Street Delivery file name: C:\WinSLAMM Files\WI_Res and Other Urban Dec06.std
Freeway Street Delivery file name: C:\WinSLAMM Files\Freeway Dec06.std
Apply Street Delivery Files to Adjust the After Event Load Street Dirt Mass Balance: False
Pollutant Relative Concentration file name: C:\WinSLAMM Files\WI_GEO03.ppdx
Source Area PSD and Peak to Average Flow Ratio File: C:\WinSLAMM Files\NURP Source Area PSD Files.csv
Cost Data file name:
If Other Device Pollutant Load Reduction Values = 1, Off-site Pollutant Loads are Removed from Pollutant Load % Reduction calculations
Seed for random number generator: -42
Study period starting date: 01/05/69 Study period ending date: 12/31/69
Start of Winter Season: 12/06 End of Winter Season: 03/28
Date: 01-25-2023 Time: 10:53:47
Site information:

LU# 1 - Residential: PROPOSED SITE Total area (ac): 7.800
     1 - Roofs 1: 1.550 ac. Pitched Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
     13 - Paved Parking 1: 1.860 ac. Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
     51 - Small Landscaped Areas 1: 4.390 ac. Normal Clayey Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

LU# 2 - Residential: GRASS SWALE Total area (ac): 4.260
     51 - Small Landscaped Areas 1: 4.260 ac. Normal Clayey Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

LU# 3 - Residential: UNDETAINED GRASS Total area (ac): 1.300
     51 - Small Landscaped Areas 1: 1.300 ac. Normal Clayey Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

LU# 4 - Residential: UNDETAINED UNDISTURBED   Total area (ac): 2.400
     51 - Small Landscaped Areas 1: 2.400 ac.   Normal Silty   Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

LU# 5 - Residential: OFFSITE   Total area (ac): 1.624
     13 - Paved Parking 1: 0.527 ac.   Connected   Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
     51 - Small Landscaped Areas 1: 1.097 ac.   Normal Silty   Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

Control Practice 1: Biofilter CP# 1 (DS) - DS Biofilters # 1
1. Top area (square feet) = 45831
2. Bottom aea (square feet) = 25830
3. Depth (ft): 7
4. Biofilter width (ft) - for Cost Purposes Only: 10
5. Infiltration rate (in/hr) = 0.04
6. Random infiltration rate generation? No
7. Infiltration rate fraction (side): 0.001
8. Infiltration rate fraction (bottom): 1
9. Depth of biofilter that is rock filled (ft) 1.5
10. Porosity of rock filled volume = 0.35
11. Engineered soil infiltration rate: 3.6
12. Engineered soil depth (ft) = 1.5
13. Engineered soil porosity = 0.4
14. Percent solids reduction due to flow through engineered soil = 80
15. Biofilter peak to average flow ratio = 3.8
16. Number of biofiltration control devices = 1
17. Particle size distribution file: Not needed - calculated by program
18. Initial water surface elevation (ft): 0

Soil Data Soil Type Fraction in Eng. Soil
User-Defined Soil Type 1.000

Biofilter Outlet/Discharge Characteristics:
Outlet type: Broad Crested Weir
1. Weir crest length (ft): 10
2. Weir crest width (ft): 8
3. Height of datum to bottom of weir opening: 6
Outlet type: Vertical Stand Pipe
1. Stand pipe diameter (ft): 4
2. Stand pipe height above datum (ft): 5
Outlet type: Surface Discharge Pipe
1. Surface discharge pipe outlet diameter (ft): 0.33
2. Pipe invert elevation above datum (ft): 3.5
3. Number of surface pipe outlets: 1
Outlet type: Drain Tile/Underdrain
1. Underdrain outlet diameter (ft): 0.33
2. Invert elevation above datum (ft): 0

3. Number of underdrain outlets: 1

Control Practice 2: Other Device CP# 1 (DS) - DS Other Device # 1
Fraction of drainage area served by device (ac) = 1.00
Particulate Concentration reduction fraction = 1.00
Filterable Concentration reduction fraction = 1.00
Runoff volume reduction fraction = 0

Control Practice 3: Other Device CP# 2 (DS) - DS Other Device # 2
Fraction of drainage area served by device (ac) = 1.00
Particulate Concentration reduction fraction = 1.00
Filterable Concentration reduction fraction = 1.00
Runoff volume reduction fraction = 0

Control Practice 4: Catchbasin Cleaning CP# 1 (DS) - DS Catchbasins # 2
1. Fraction of area served by catchbasins = 1.00
2. Number of catchbasins = 4
3. Average sump depth below catchbasin outlet invert (feet) = 2
4. Depth of sediment in catchbasin sump at beginning of study period (ft) = 0
5. Typical outlet pipe diameter (ft) = 1
6. Typical outlet pipe Mannings n = 0.012
7. Typical outlet pipe slope (ft/ft) = 0.005
8. Typical catchbasin sump surface area (square feet) = 12.6
9. Total catchbasin depth (feet) = 6
10. Inflow hydrograph peak to average flow ratio = 3.8
11. Leakage rate through sump bottom (in/hr) = 0
12. Catchbasin Critical Particle Size File Name: Not needed - calculated by program
13. Catchbasin cleaning frequency: Annually

SLAMM for Windows Version 10.4.1
(c) Copyright Robert Pitt and John Voorhees 2019, All Rights Reserved

Data file name: Z:\Projects\2018\1338.10-WI\DESIGN\SWMP\SLAMM\2023-01-19 winslamm.mdb
WinSLAMM Version 10.4.1
Rain file name: C:\WinSLAMM Files\Rain Files\WI Milwaukee 69.RAN
Particulate Solids Concentration file name: C:\WinSLAMM Files\v10.1 WI_AVG01.pscx
Runoff Coefficient file name: C:\WinSLAMM Files\WI_SL06 Dec06.rsvx
Pollutant Relative Concentration file name: C:\WinSLAMM Files\WI_GEO03.ppdx
Residential Street Delivery file name: C:\WinSLAMM Files\WI_Res and Other Urban Dec06.std
Institutional Street Delivery file name: C:\WinSLAMM Files\WI_Com Inst Indust Dec06.std
Commercial Street Delivery file name: C:\WinSLAMM Files\WI_Com Inst Indust Dec06.std
Industrial Street Delivery file name: C:\WinSLAMM Files\WI_Com Inst Indust Dec06.std
Other Urban Street Delivery file name: C:\WinSLAMM Files\WI_Res and Other Urban Dec06.std
Freeway Street Delivery file name: C:\WinSLAMM Files\Freeway Dec06.std
Apply Street Delivery Files to Adjust the After Event Load Street Dirt Mass Balance: False
Source Area PSD and Peak to Average Flow Ratio File: C:\WinSLAMM Files\NURP Source Area PSD Files.csv
Cost Data file name:
If Other Device Pollutant Load Reduction Values = 1, Off-site Pollutant Loads are Removed from Pollutant Load % Reduction calculations
Seed for random number generator: -42
Study period starting date: 01/05/69 Study period ending date: 12/31/69
Start of Winter Season: 12/06 End of Winter Season: 03/28
Model Run Start Date: 01/05/69 Model Run End Date: 12/31/69
Date of run: 01-25-2023 Time of run: 10:51:37
Total Area Modeled (acres): 17.384
Years in Model Run: 0.99

	Runoff Volume (cu ft)	Percent Runoff Volume Reduction	Particulate Solids Conc. (mg/L)	Particulate Solids Yield (lbs)	Percent Particulate Solids Reduction
Total of all Land Uses without Controls:	426764	-	96.38	2568	-
Outfall Total with Controls:	338311	20.73%	22.76	480.7	81.28%
Annualized Total After Outfall Controls:	343010			487.4	

APPENDIX 5
GEOTECH AND WETLAND REPORT

CGC, Inc.
Construction • Geotechnical
Consulting Engineering/Testing

July 2, 2019
CM19076

Mr. Jim Forester
1520 LLC
1405 Capitol Drive
Pewaukee, WI 53072

Re: Stormwater Evaluation
Proposed Golf Road Development
NWC Golf Road and Meadowbrook Road
Pewaukee, Wisconsin

Dear Mr. Forester:

Construction • Geotechnical Consultants, Inc. (CGC) has completed the subsurface exploration for the proposed Golf Road development at the above-noted property in Pewaukee, Wisconsin. The purpose of this exploration was to evaluate the subsurface conditions across the site and to provide recommendations regarding the infiltration properties of the soils on the property. An electronic copy of this report is provided for your use. An additional electronic copy was forwarded to Mr. Tony Zanon with Pinnacle Engineering Group (Pinnacle).

PROJECT DESCRIPTION

The subject site is located at the northwest corner of the intersection of Golf Road (CTH DR) and Meadowbrook Road (CTH G), in the City of Pewaukee, Wisconsin. We understand the overall project will consist of construction of sixteen (16) 2- to 4-unit buildings, a community building (42 beds) and a clubhouse with associated roadways, drive lanes and surface parking lots. In addition, the development is proposed to contain three (3) stormwater management basins along the northern edges of the site. Details regarding the infiltration basins, including bottom elevations, was not known at the time of this report. The scope of services for this report was to evaluate the soils at the planned three (3) stormwater management basins for infiltration purposes. In addition, in accordance with the request of the City of Pewaukee, an evaluation of the infiltration characteristics across the overall site for possible additional infiltration areas was performed.

Existing site grades across the property slope from the southwest corner of the property (between about EL 925 to 930 ft) down to the north/northeast to about EL 860 ft in the northeast portion of the property (within an existing wetland area). The site is generally much lower in elevation than Golf Road to the south and Meadowbrook Road to the east, but generally level with the neighboring residential properties located to the west. Based on information provided by Pinnacle, the ground surface elevations at the soil boring locations within the currently planned stormwater management basins (Borings 1 through 6) range between EL 874.0 to 878.3 ft. The ground surface elevations at the remaining borings range between EL 883.9 to 887.0 ft at Borings 7 through 11 (drilled within the

336 S. Curtis Road
West Allis, WI 53214
Telephone: 414/443-2000
FAX: 414/443-2099

central portion of the site) and between EL 902.1 and 929.6 ft at Borings 12 through 17 (drilled in the higher elevation southwest portion of the site).

EXPLORATION PROGRAM

A. Exploration Program

Seventeen (17) Standard Penetration Test (SPT) soil borings were drilled for this exploration to depths ranging from about 2.5 to 12 ft below existing site grades. The borings were drilled at locations staked in the field by Pinnacle Engineering Group (Pinnacle). The borings were scheduled to be drilled to depths ranging from 10 to 18 ft below existing site grades; however, only Borings 15 through 17, drilled in the higher elevation southwest portion of the site, were drilled to the planned depth of 12 ft. Borings 1 through 14 were terminated shallower than planned, at depths ranging from 2.5 to 10 ft, due to auger refusal on probable bedrock. The borings were drilled on May 20, 2019 by GeoServe, Inc (under subcontract to CGC, Inc.) using an all-terrain vehicle (ATV) mounted Geoprobe drill rig equipped with hollow-stem augers and an automatic SPT hammer. The ground surface elevations were provided by Pinnacle. Specific procedures used for drilling and sampling within the borings are described in Appendix A. The approximate boring locations are shown in plan on the Soil Boring Location Map enclosed in Appendix B.

Representative samples of the subsoils were collected during the field exploration for classification and laboratory testing. The soils were classified by a geotechnical engineer using the Unified Soil Classification System (USCS), and in accordance with the descriptive procedures, terminology and interpretations presented by the *USDA - NRCS Field Book for Describing and Sampling Soils* (version 2.0, dated September 2002). Pocket penetrometer readings were obtained on intact cohesive samples recovered during the exploration, where appropriate, to aid in the evaluation of their shear strength properties. Natural moisture content determination testing was completed on representative samples of the clayey soils. In addition, five (5) grain-size tests to determine the percentage of fine soil particles (i.e., silt and clay) passing the No. 200 sieve (P-200) were performed on representative samples of the more granular soils encountered in the southwest portion of the site (Borings 12, 13, 14, 16 and 17). Laboratory test results are presented on the individual logs. The final logs and Soil and Site Evaluation-Storm form prepared by the engineer per the USCS and USDA procedures are presented in Appendices B and C, respectively.

SITE CONDITIONS

A. Surface Conditions

The proposed development area is depicted on the Soil Boring Location Map attached in Appendix B. Neighboring properties include residences to the west, a bike/pedestrian trail to the

north, Meadowbrook Road to the east and Golf Road to the south. The site is currently vacant and overall heavily wooded, with the exception of an existing wetland area located to the north/northeast portion of the site. Based on review of topography information obtained from the Waukesha County GIS Mapping website and spot grades at the test boring locations, provided by Pinnacle, the site grades slope from the southwest corner of the site (between about EL 925 to 930 ft) down to the northern portion of the planned development area (between about EL 874 to 878 ft).

A review of historical aerial photographs, dated between 1941 and 2017, was performed using the Waukesha County GIS Mapping System and Google Earth to assist in establishing the past history of the site. Based on that review, the site appears to have been undeveloped and vacant throughout that time period. However, in the 1941 through 1963 aerial photographs, a possible gravel pit area is evident in the southwestern corner of the site. Between 1970 and 2000 the possible gravel pit area appears to have grown over with vegetation. However, in 2005, the possible gravel pit area appears to have been cleared, and generally remained that way through the 2017 aerial photograph.

B. Regional Geology

Pedological mapping of the project area obtained from the USDA Web *Soil Survey for Milwaukee and Waukesha Counties, Wisconsin* is shown on the Soil Survey Map included in Appendix B. Surficial soil deposits (i.e., upper 5± ft) vary across the project site within the planned development areas. Soils within the development areas in the central and northern portions of the site consist of Hochheim loam (HmB), Knowles silt loam (KwB), Lamartine silt loam (LmB) and Theresa silt loam (ThB) and are generally described as silt loam, loam, clay loam, sandy clay loam and/or gravelly clay loam soils which are underlain by loam, sandy loam, gravelly loam, gravelly sandy loam and/or loam. An exception was within the Knowles silt loam area where bedrock is indicated to be at depths of about 27 to 31 in.

Soils within the development areas in the west-central and southwest portions of the site consist of Casco loam (CeB and CeC2), Fox silt loam (FsB), Hochheim loam (HmD2) and Loamy land (Lu) with a small area indicated as Gravel pit (GP) along the west property line. These soils are generally described as loam, clay loam, silt loam, silty clay loam soils to depths of about 15 to 31 in., underlain by very gravelly to extremely gravelly coarse sand, stratified sand to gravel and/or gravelly loam.

The following Table 1 presents a summary of the properties of the predominant Casco, Fox, Hochheim, Knowles, Lamartine and Theresa soil series mapped within the planned development limits.

Table 1
Summary of Soil Series

Soil Name	Drainage Characteristics	Description	Depth to Seasonally High-Water Table (in)
Casco loam (CeB, CeC2)	Somewhat excessively drained	Loamy alluvium over calcareous, stratified sand and gravelly outwash	>72
Fox silt loam (FsB)	Well-drained	Loess over loamy till glaciofluvial deposits over sandy and gravelly outwash	>72
Hochheim loam (HmB, HmC2 and HmD2)	Well-drained	Loamy till over calcareous, dense loamy till	>72
Knowles silt loam (KwB)	Well-drained	Loess over loamy till over dolomite bedrock	>72
Lamartine silt loam (LmB)	Somewhat poorly-drained	Loess over loamy till	20 (Dec. through May)
Theresa silt loam (ThB)	Well-drained	Thin loess over calcareous, dense loamy till	>72

Note: Reference - USDA Soil Conservation Service Web *Soil Survey of Milwaukee and Waukesha Counties, Wisconsin.*

C. Subsurface Conditions

With few exceptions, the exploration program completed on the subject site reveals a somewhat variable soil profile beneath roughly the northern and southern portions of the site. A summary of the conditions encountered in the borings performed in the northern portion of the site and those encountered in the southern portion of the site are included as follows:

Northern Borings (Borings 1 through 11):

- Surface materials consist of about 9 to 14 in. of ***topsoil*** consisting of dark brown to black organic clay; underlain by
- Natural ***lean clay*** generally with trace sand and gravel extending to depths ranging from about 2 ft to 4.5 ft; underlain by
- Possible ***weathered bedrock*** extending to depths of about 2.5 to 6.5 ft, where auger refusal on probable ***bedrock*** was encountered.

Exceptions to the above-described generalized soil conditions were encountered as follows:

- Natural lean clay soils were not encountered at Boring 4, where the surficial 9 in. of topsoil was underlain by possible weathered bedrock.

- Natural ***clayey silt*** with variable organic materials were encountered below the surface topsoil at Borings 5 and 6 to depths of about 2.5 and 2 ft, respectively.

- Natural ***sandy clay*** with trace gravel was encountered at Boring 9 between depths of about 3 to 4.5 ft.

- Natural ***sandy clayey silt*** with some gravel was encountered at Boring 10 between depths of about 3 to 6 ft.

Southern Borings (Borings 12 through 17):

- Surface materials consist of about 8 to 14 in. of ***topsoil*** consisting of dark brown to black organic clay; underlain by

- Natural ***lean clay to silty clay*** generally with trace to some sand and gravel extending to depths ranging from about 2 ft to 6 ft; underlain by

- Natural ***clayey silt*** with some sand and gravel to depths ranging from about 6.5 to at least 12 ft at Borings 12, 14 and 15 or natural ***fine to coarse sand to sand gravel*** to depths of about 6.5 ft at Boring 13 to 12 ft, the maximum depth explored, at Borings 16 and 17; underlain by

- ***Weathered bedrock*** extending to a depth of about 9 ft, the maximum depth explored, at Boring 13 or probable bedrock at depths of about 10 and 10.5 ft at Borings 12 and 14, respectively, where auger refusal was encountered.

Exceptions to the above-described generalized soil conditions were encountered as follows:

- Natural lean clay to silty clay soils were not encountered at Boring 16.

- The silty clay soils observed to a depth of about 3 ft underlain by the sand and gravel soils to a depth of about 5 ft at Boring 17 were classified as ***possible fill***.

The encountered cohesive ***natural lean clay, silty clay to clayey silt*** soils exhibited unconfined compressive strengths (as measured with a hand penetrometer) ranging from 0.5 to 2.5 tons per square foot (tsf) which corresponds to a medium stiff to very stiff consistency. Natural moisture

testing performed on representative samples of the natural clayey soils indicated the natural moisture contents range between about 5 to 37 percent (typically 21 to 33 percent). The natural ***sand to sand gravel*** soils exhibited SPT N-values ranging from 8 to 39 blows per foot (bpf) which corresponds to a loose to dense condition. The possible weathered bedrock materials exhibited SPT N-values ranging from 40 to 89 bpf which corresponds to dense to very dense conditions. Auger refusal at Borings 1 through 14 was encountered at depths ranging from 2.5 to 10.5 ft, which corresponds to between about EL 870 to 896.1 ft.

The results of the P200 testing on representative samples collected from the granular soil layers encountered in Borings 12 (6.5 to 8 ft), 13 (5.5 to 7.5 ft), 14 (2 to 6 ft) and 17 (5 to 12 ft) indicated the soils had fines (i.e., silt and clay particles) contents ranging from 1.9 to 17.7 percent. The results of the P200 testing on the sand and gravel sample from Boring 16 (3.5 to 5 ft) indicated the sample had no fines content (P200 = 0 percent). Results of the laboratory testing program are presented on the logs in Appendix B.

D. Groundwater Conditions

Free groundwater was encountered within Borings 9, 13 and 14 ft at depths ranging from about 4.5 to 6.5 ft below existing site grade during the drilling operations; however, no free water was encountered upon completion of drilling. No free water was encountered within the remaining borings either during or upon completion of drilling. We anticipate the water encountered at Borings 9, 13 and 14 represents perched water above and/or within the possible weathered bedrock/bedrock surface. Based on the general lack of free water and soil coloration, we anticipate the long-term water table was at depths greater than those explored at the boring locations. However, considering the presence of the wetland area in the northerly portion of the site and the relatively shallow depth to bedrock, we anticipate the lower elevations portions of the site are subject to relatively shallow and/or ponded water conditions at least seasonally. Groundwater levels can be expected to fluctuate based on seasonal variations in precipitation, infiltration, evapotranspiration, and other factors.

More detailed information regarding the subsurface and groundwater conditions is presented on the soil boring logs contained in Appendix B.

SITE EVALUATION AND RECOMMENDATIONS

A. Stormwater Design Considerations

Based on the variable conditions encountered in the northern and southern portions of the site, a discussion of the infiltration characteristics encountered in each area are provided in the following paragraphs.

1. Northern Area (Borings 1 through 11)

The soils encountered in Borings 1 through 11 consist of predominantly silty clay, silty clay loam, sandy clay and sandy clay loam extending to depths ranging from about 9 to 72 inches where weathered bedrock and/or sound bedrock was encountered. It is our opinion that the silty clay, silty clay loam, sandy clay and sandy clay loam soils encountered in the areas of Borings 1 through 11 have a very limited capacity for infiltration of stormwater through the use of infiltration devices. Therefore, based on the soil classifications at Borings 1 through 11 and guidelines in the current Wisconsin DNR *Technical Standard* 1002, this area of the site should be eligible for *exemption* under Chapter NR 151 Wis. Adm. Code guidelines, in our opinion.

Should infiltration be performed in the lower elevation northern portion of the site, the following parameters should be considered for design of infiltration features in the area of Borings 1 through 11:

Infiltration Potential: The following infiltration parameters were estimated using Table 2 of the WDNR Conservation Practice Standard 1002, *Site Evaluation for Storm Water Infiltration*. The estimated infiltration rates are as follows:

- Silty clay loam (SiCL) 0.04 in./hr.
- Sandy clay (SC) 0.04 in/hr.
- Silty clay (SIC) 0.07 in./hr.
- Sandy clay loam (SCL) 0.11 in/hr.

Note that the infiltration rates should be considered approximate since they are merely based on soil texture and do not account for in-place soil density and other factors, which will affect the infiltration rate.

Groundwater: Groundwater was encountered in Boring 9 at a depth of about 4.5 ft while drilling and is anticipated to represent perched water above the anticipated bedrock surface, encountered at a depth of about 5 ft. The long-term groundwater table is estimated to be below the depths explored, however, the lower elevation areas of the site are considered to be susceptible to a relatively shallow water table considering the shallow bedrock depths and the adjacent wetland area. Groundwater levels should be expected to fluctuate, as previously discussed.

Bedrock: Auger refusal on probable bedrock was encountered within Borings 1 through 11 at depths ranging from about 2.5 to 6.5 ft.

2. Southern Area (Borings 12 through 17)

The soils encountered in Borings 12 through 17 consist of a combination of silty clay, silty clay loam, sandy clay loam and sandy loam extending to depths ranging from about 10 to at least 12 ft at Borings 12 and 15, respectively, and to depths ranging from about 2 to 6 ft at Borings 13, 14, 16 and 17. Below depths of about 2 to 6 ft at Borings 13, 14, 16 and 17, sand, gravelly sand and gravelly to very gravelly loamy sand was encountered at Boring 13 to a depth of about 6.5 ft, at Boring 14 to a depth of about 6 ft, and at Borings 16 and 17 to at least a depth of 12 ft, the maximum depth explored. Weathered and/or sound bedrock was encountered at Borings 12 through 14 at depths ranging from about 9 to 10.5 ft. It is our opinion that the sand, gravelly sand and gravelly to very gravelly loamy sand soils encountered at Borings 13, 14, 16 and 17 have a high potential for infiltration. The silty clay, silty clay loam, sandy clay loam and sandy loam soils encountered at Borings 12 and 15 are considered to have a lower limited capacity for infiltration of stormwater through the use of infiltration devices

Therefore, we recommend the following parameters be considered for design of infiltration features in the area of Borings 12 through 17:

Infiltration Potential: The following infiltration parameters were estimated using Table 2 of the WDNR Conservation Practice Standard 1002, *Site Evaluation for Storm Water Infiltration*. The estimated infiltration rates are as follows:

- Silty clay loam (SiCL) 0.04 in./hr.
- Silty clay (SIC) 0.07 in./hr.
- Sandy clay loam (SCL) 0.11 in/hr.
- Sandy loam (SL) 0.50 in/hr.
- Loamy sand (LS) 1.63 in/hr.
- Sand (S) 3.60 in/hr.

Note that the infiltration rates should be considered approximate since they are merely based on soil texture and do not account for in-place soil density and other factors, which will affect the infiltration rate.

Groundwater: Groundwater was encountered in Borings 13 and 14 at a depth of about 6.5 ft while drilling and is anticipated to represent perched water above the anticipated weathered bedrock/bedrock surface, encountered at depths of about 6.5 to 10.5 ft. The long-term groundwater table at Borings 15 through 17 is estimated to be below the depth explored of 12 ft. Groundwater levels should be expected to fluctuate, as previously discussed.

Bedrock: Auger refusal on probable bedrock was encountered within Borings 12 through 14 at depths ranging from about 9 to 10.5 ft. No bedrock was encountered within Borings 15 through 17 to the maximum depth of the borings, 12 ft.

During construction of the proposed buildings and related site work, appropriate erosion control measures should be provided to prevent eroded soil from contaminating potential infiltration areas. Where appropriate, basin design should include pretreatment to remove fine-grained soils (silt/clay) from stormwater prior to entering the infiltration area(s). Additionally, a regular maintenance plan should be developed to remove silt/clay soils that may accumulate in the bottom of the basins over time. Failure to adequately control fine-grained soils from entering the infiltration area(s) or failure to regularly remove fine-grained soils that accumulate at the base of the basins will likely cause the basin to fail. Refer to WDNR Conservation Practice Standard 1002 and NR 151 for additional information.

The Soil and Site Evaluation-Storm form prepared by the Certified Soil Tester per USDA procedures is presented in Appendix C.

* * * * *

It has been a pleasure to serve you on this project. We trust this information is satisfactory for preliminary assessment of the site and for general planning purposes. Additional information regarding the recommendations presented in this report are discussed in Appendix D. If you have any questions or need additional consultation, please contact us.

Sincerely,

CGC, Inc.

Paul J. Giese, P.E., C.S.T.
Consulting Professional

Nathan I. Springstead, P.E., C.S.T.
Project Engineer

Encl: Appendix A - Field Exploration
Appendix B - Soil Survey Map
Soil Boring Location Map
Logs of Test Borings (17)
Log of Test Boring - General Notes
Unified Soil Classification System
Appendix C - Soil and Site Evaluation - Storm Form (Borings 1 through 17)
Appendix D - Document Qualifications

cc: Mr. Tony Zanon (Pinnacle Engineering Group)

APPENDIX A

FIELD EXPLORATION

APPENDIX A

FIELD EXPLORATION

Seventeen (17) Standard Penetration Test (SPT) soil borings were drilled for this exploration to depths ranging from about 2.5 to 12ft below existing site grades. The borings were drilled at locations staked in the field by Pinnacle Engineering Group (Pinnacle). The borings were scheduled to be drilled to depths ranging from 10 to 18 ft below existing site grades; however, the majority of the borings were terminated at shallower depths than planned due to auger refusal on possible bedrock. The borings were drilled on May 20, 2019 by GeoServe, Inc (under subcontract to CGC, Inc.) using an all-terrain vehicle (ATV) mounted Geoprobe drill rig equipped with hollow-stem augers and an automatic SPT hammer. The ground surface elevations were provided by Pinnacle. The approximate boring locations are shown in plan on the Soil Boring Location Map enclosed in Appendix B.

Soil samples were obtained at 2.5-foot intervals to the boring termination depths. The soil samples were obtained in general accordance with specifications for standard penetration testing, ASTM D 1586. The specific procedures used for drilling and sampling are described below.

1. Boring Procedures between Samples

   The boring is extended downward, between samples, by a hollow-stem auger.

2. Standard Penetration Test and Split-Barrel Sampling of Soils
   (ASTM Designation: D 1586)

   This method consists of driving a 2-inch outside diameter split-barrel sampler using a 140-pound weight falling freely through a distance of 30 inches. The sampler is first seated 6 inches into the material to be sampled and then driven 12 inches. The number of blows required to drive the sampler the final 12 inches is recorded on the log of borings and is known as the Standard Penetration Resistance.

During the field exploration, the driller visually classified the soil and prepared a field log. *Field screening of the soil samples for possible environmental contaminants was not conducted by the drillers as environmental site assessment activities were not part of CGC's work scope.* Water level observations were made in each boring during and after drilling and are shown at the bottom of each boring log. Upon completion of drilling, the borings were backfilled with bentonite (where required) to satisfy WDNR regulations. The soil samples were delivered to our laboratory for visual classification and laboratory testing. The soil samples were visually classified by a geotechnical engineer/certified soil tester (CST) using the Unified Soil Classification System (USCS) and the United States Department of Agriculture (USDA) classification system. The final logs prepared by the engineer/CST and a description of the Unified Soil Classification System are presented in Appendix B and the Soil and Site Evaluation – Storm Form is enclosed in Appendix C.

APPENDIX B

SOIL SURVEY MAP
SOIL BORING LOCATION MAP
LOGS OF TEST BORINGS (17)
LOG OF TEST BORING - GENERAL NOTES
UNIFIED SOIL CLASSIFICATION SYSTEM



Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
CeB	Casco loam, 2 to 6 percent slopes	1.8	5.8%
CeC2	Casco loam, 6 to 12 percent slopes, eroded	3.2	10.1%
FsB	Fox silt loam, 2 to 6 percent slopes	2.9	9.2%
GP	Gravel pit	0.1	0.3%
HmB	Hochheim loam, 2 to 6 percent slopes	9.6	30.4%
HmC2	Hochheim loam, 6 to 12 percent slopes, eroded	0.1	0.4%
HmD2	Hochheim loam, 12 to 20 percent slopes, eroded	0.1	0.3%
HtA	Houghton muck, 0 to 2 percent slopes	2.7	8.5%
KwB	Knowles silt loam, 2 to 6 percent slopes	0.8	2.6%
LmB	Lamartine silt loam, 0 to 3 percent slopes	6.1	19.3%
Lu	Loamy land	1.0	3.2%
ThB	Theresa silt loam, 2 to 6 percent slopes	3.1	9.8%
Totals for Area of Interest		**31.7**	**100.0%**

Notes

1. Exhibit is an excerpt from the NRCS Soil Survey Website

Job No.		SOIL SURVEY MAP
CM19076	CGC, Inc.	GOLF ROAD DEVELOPMENT
Date:		NWC GOLF ROAD AND MEADOWBROOK ROAD
June 2019		PEWAUKEE, WISCONSIN



N

Reduced Scale

Legend

⌖ Denotes approximate location and number of soil borings.

Notes

1. Soil borings were conducted by GeoServe, Inc. (under subcontract with CGC, Inc.) on May 20, 2019.
2. Borings drilled at locations staked in the field by Pinnacle Engineering Group.
3. Base map is an excerpt of the *1338.00 BORINGs 04-24-19.pdf* drawing prepared and provided by Pinnacle Engineering Group.

Date: **June, 2019**	**CGC, Inc.**	**SOIL BORING LOCATION MAP** **GOLF ROAD DEVELOPMENT** **NWC GOLF ROAD AND MEADOWBROOK ROAD** **PEWAUKEE, WISCONSIN**
Job No. **CM19076**		

CGC Inc.

LOG OF TEST BORING

Project **Golf Road Development**
NWC Golf Road & Meadowbrook Road
Location **Pewaukee, Wisconsin**

Boring No. **1**
Surface Elevation (ft) **876.5**
Job No. **CM19076**
Sheet **1** of **1**

336 S. Curtis Rd, West Allis, WI 53214 (414) 443-2000, FAX (414) 443-2099

SAMPLE No.	TYPE	Rec (in.)	Moist	N	Depth (ft)	VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES qu (qa) (tsf)	W	LL	PL	P200
						14" Dark Brown to Black Clayey TOPSOIL					
1		12	M	18		Stiff, Brown Lean CLAY; Trace Sand and Gravel (CL)	(1.5)	33.1			
						Possible WEATHERED BEDROCK (Light Brown Fine to Coarse Sand and Gravel)					
2		14	M	89							
					5	End of Boring & Refusal at 5 ft on Possible Bedrock Backfilled with Auger Cuttings					
					10						
					15						
					20						

WATER LEVEL OBSERVATIONS

While Drilling ▽ **NW** Upon Completion of Drilling **NW**
Time After Drilling
Depth to Water ▼
Depth to Cave in

The stratification lines represent the approximate boundary between soil types and the transition may be gradual.

GENERAL NOTES

Start **5/20/19** End **5/20/19**
Driller **GeoServe** Chief **Eddie** Rig **Geoprobe 7822**
Logger **Matt** Editor **PJG**
Drill Method **2.25" HSA**

CGC Inc.

LOG OF TEST BORING

Project **Golf Road Development**
NWC Golf Road & Meadowbrook Road
Location **Pewaukee, Wisconsin**

Boring No. **2**
Surface Elevation (ft) **878.3**
Job No. **CM19076**
Sheet **1** of **1**

336 S. Curtis Rd, West Allis, WI 53214 (414) 443-2000, FAX (414) 443-2099

SAMPLE No.	TYPE	Rec (in.)	Moist	N	Depth (ft)	VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES qu (qa) (tsf)	W	LL	PL	P200
						14" Dark Brown to Black Clayey TOPSOIL					
1		6	M	7		Stiff, Brown Lean CLAY; Trace Sand and Gravel (CL)	(1.5)	24.1			
						Possible WEATHERED BEDROCK (Light Brown Fine to Coarse Sand and Gravel)					
2		6	M	50/2"		End of Boring & Refusal at 3.7 ± ft on Possible Bedrock Backfilled with Auger Cuttings					
					5						
					10						
					15						
					20						

WATER LEVEL OBSERVATIONS

While Drilling ▽ **NW** Upon Completion of Drilling **NW**
Time After Drilling
Depth to Water ▼
Depth to Cave in

The stratification lines represent the approximate boundary between soil types and the transition may be gradual.

GENERAL NOTES

Start **5/20/19** End **5/20/19**
Driller **GeoServe** Chief **Eddie** Rig **Geoprobe**
Logger **Matt** Editor **PJG** **7822**
Drill Method **2.25" HSA**

CGC Inc.

LOG OF TEST BORING

Project **Golf Road Development**
NWC Golf Road & Meadowbrook Road
Location **Pewaukee, Wisconsin**

Boring No. **3**
Surface Elevation (ft) **878.0**
Job No. **CM19076**
Sheet **1** of **1**

336 S. Curtis Rd, West Allis, WI 53214 (414) 443-2000, FAX (414) 443-2099

SAMPLE					VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES				
No.	TYPE	Rec (in.)	Moist	N	Depth (ft)		qu (qa) (tsf)	W	LL	PL	P200
						12" Dark Brown to Black Clayey TOPSOIL					
1		16	M	54		Very Stiff, Brown Lean CLAY; Trace Sand and Gravel (CL)	(2.5)				
						Possible WEATHERED BEDROCK (Light Brown Fine to Coarse Sand and Gravel)					
2			M	50		End of Boring & Refusal at 4 ft on Possible Weathered Bedrock Backfilled with Auger Cuttings					
					5						
					10						
					15						
					20						

WATER LEVEL OBSERVATIONS

While Drilling ▽ **NW** Upon Completion of Drilling **NW**
Time After Drilling
Depth to Water ▼
Depth to Cave in

The stratification lines represent the approximate boundary between soil types and the transition may be gradual.

GENERAL NOTES

Start **5/20/19** End **5/20/19**
Driller **GeoServe** Chief **Eddie** Rig **Geoprobe 7822**
Logger **Matt** Editor **PJG**
Drill Method **2.25" HSA**

CGC Inc.

LOG OF TEST BORING

Project **Golf Road Development**
NWC Golf Road & Meadowbrook Road
Location **Pewaukee, Wisconsin**

Boring No. **4**
Surface Elevation (ft) **878.0**
Job No. **CM19076**
Sheet **1** of **1**

336 S. Curtis Rd, West Allis, WI 53214 (414) 443-2000, FAX (414) 443-2099

SAMPLE					VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES				
No.	TYPE	Rec (in.)	Moist	N	Depth (ft)		qu (qa) (tsf)	W	LL	PL	P200
						9" Black Clayey TOPSOIL					
1		6	M	50		Possible WEATHERED BEDROCK (Light Brown Fine to Coarse Sand and Gravel)					
					5	End of Boring & Refusal at 2.5 ft on Possible Bedrock Backfilled with Auger Cuttings					
					10						
					15						
					20						

WATER LEVEL OBSERVATIONS

While Drilling ▽ **NW** Upon Completion of Drilling **NW**
Time After Drilling
Depth to Water ▼
Depth to Cave in

The stratification lines represent the approximate boundary between soil types and the transition may be gradual.

GENERAL NOTES

Start **5/20/19** End **5/20/19**
Driller **GeoServe** Chief **Eddie** Rig **Geoprobe 7822**
Logger **Matt** Editor **PJG**
Drill Method **2.25" HSA**

CGC Inc.

LOG OF TEST BORING

Project **Golf Road Development**
NWC Golf Road & Meadowbrook Road
Location **Pewaukee, Wisconsin**

Boring No. **5**
Surface Elevation (ft) **874.0**
Job No. **CM19076**
Sheet **1** of **1**

336 S. Curtis Rd, West Allis, WI 53214 (414) 443-2000, FAX (414) 443-2099

SAMPLE No.	TYPE	Rec (in.)	Moist	N	Depth (ft)	VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES qu (qa) (tsf)	W	LL	PL	P200
						12" Dark Brown to Black Clayey TOPSOIL					
1		8	M	5		Loose, Dark Brown Clayey SILT; Little Organic Material (CL-ML)	(0.5)	30.6			
						Possible WEATHERED BEDROCK (Light Brown Fine to Coarse Sand and Gravel)					
2		4	M	50							
					5	End of Boring & Refusal at 4 ft on Possible Bedrock Backfilled with Auger Cuttings					
					10						
					15						
					20						

WATER LEVEL OBSERVATIONS

While Drilling ▽ **NW** Upon Completion of Drilling **NW**
Time After Drilling
Depth to Water ▼
Depth to Cave in

The stratification lines represent the approximate boundary between soil types and the transition may be gradual.

GENERAL NOTES

Start **5/20/19** End **5/20/19**
Driller **GeoServe** Chief **Eddie** Rig **Geoprobe**
Logger **Matt** Editor **PJG** **7822**
Drill Method **2.25" HSA**

CGC Inc.

LOG OF TEST BORING

Project **Golf Road Development**
NWC Golf Road & Meadowbrook Road
Location **Pewaukee, Wisconsin**

Boring No. **6**
Surface Elevation (ft) **876.6**
Job No. **CM19076**
Sheet **1** of **1**

336 S. Curtis Rd, West Allis, WI 53214 (414) 443-2000, FAX (414) 443-2099

SAMPLE No.	TYPE	Rec (in.)	Moist	N	Depth (ft)	VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES qu (qa) (tsf)	W	LL	PL	P200
						10" Dark Brown to Black Clayey TOPSOIL					
1		16	M	5		Medium Stiff to Stiff, Black Organic Clayey SILT (OL)	(1.0)	30.5			
						Stiff, Brown Silty CLAY; Some Sand and Gravel (CL)					
2		4	M	50		Possible WEATHERED BEDROCK (Light Brown Fine to Coarse Sand and Gravel)		23.7			
					5	End of Boring & Refusal at 4 ft on Possible Bedrock Backfilled with Auger Cuttings					
					10						
					15						
					20						

WATER LEVEL OBSERVATIONS

While Drilling ▽ **NW** Upon Completion of Drilling **NW**
Time After Drilling
Depth to Water ▼
Depth to Cave in

The stratification lines represent the approximate boundary between soil types and the transition may be gradual.

GENERAL NOTES

Start **5/20/19** End **5/20/19**
Driller **GeoServe** Chief **Eddie** Rig **Geoprobe**
Logger **Matt** Editor **PJG** **7822**
Drill Method **2.25" HSA**

CGC Inc.

LOG OF TEST BORING

Project **Golf Road Development**
NWC Golf Road & Meadowbrook Road
Location **Pewaukee, Wisconsin**

Boring No. **7**
Surface Elevation (ft) **884.9**
Job No. **CM19076**
Sheet **1** of **1**

336 S. Curtis Rd, West Allis, WI 53214 (414) 443-2000, FAX (414) 443-2099

SAMPLE					VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES				
No.	TYPE	Rec (in.)	Moist	N	Depth (ft)		qu (qa) (tsf)	W	LL	PL	P200
						10" Black Clayey TOPSOIL					
1		10	M	4		Stiff to Very Stiff, Brown Mottled Lean CLAY; Trace Sand and Gravel (CL)	(2.0)	24.0			
2		16	M	49	5	Possible WEATHERED BEDROCK (Brown Gray Fine to Coarse Sand and Gravel)					
						End of Boring at 5.5 ft on Possible Bedrock Backfilled with Auger Cuttings					
					10						
					15						
					20						

WATER LEVEL OBSERVATIONS

While Drilling ▽ **NW** Upon Completion of Drilling **NW**
Time After Drilling
Depth to Water ▼
Depth to Cave in

The stratification lines represent the approximate boundary between soil types and the transition may be gradual.

GENERAL NOTES

Start **5/20/19** End **5/20/19**
Driller **GeoServe** Chief **Eddie** Rig **Geoprobe**
Logger **Matt** Editor **PJG** **7822**
Drill Method **2.25" HSA**

CGC Inc.

LOG OF TEST BORING

Project **Golf Road Development**
NWC Golf Road & Meadowbrook Road
Location **Pewaukee, Wisconsin**

Boring No. **8**
Surface Elevation (ft) **883.4**
Job No. **CM19076**
Sheet **1** of **1**

336 S. Curtis Rd, West Allis, WI 53214 (414) 443-2000, FAX (414) 443-2099

SAMPLE No.	TYPE	Rec (in.)	Moist	N	Depth (ft)	VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES qu (qa) (tsf)	W	LL	PL	P200
						12" Black Clayey TOPSOIL					
1		12	M	5		Stiff, Brown Mottled Lean CLAY; Trace Sand and Gravel (CL)	(1.5)	27.5			
2			M	50		Possible WEATHERED BEDROCK (Light Brown Fine to Coarse Sand and Gravel)					
					5	End of Boring & Refusal at 3.7 ft on Possible Bedrock Backfilled with Auger Cuttings					
					10						
					15						
					20						

WATER LEVEL OBSERVATIONS

While Drilling ▽ **NW** Upon Completion of Drilling **NW**
Time After Drilling
Depth to Water ▼
Depth to Cave in

The stratification lines represent the approximate boundary between soil types and the transition may be gradual.

GENERAL NOTES

Start **5/20/19** End **5/20/19**
Driller **GeoServe** Chief **Eddie** Rig **Geoprobe 7822**
Logger **Matt** Editor **PJG**
Drill Method **2.25" HSA**

CGC Inc.

LOG OF TEST BORING

Project **Golf Road Development**
NWC Golf Road & Meadowbrook Road
Location **Pewaukee, Wisconsin**

Boring No. **9**
Surface Elevation (ft) **885.8**
Job No. **CM19076**
Sheet **1** of **1**

336 S. Curtis Rd, West Allis, WI 53214 (414) 443-2000, FAX (414) 443-2099

SAMPLE					VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES				
No.	TYPE	Rec (in.)	Moist	N	Depth (ft)		qu (qa) (tsf)	W	LL	PL	P200
						12" Dark Brown to Black Clayey TOPSOIL					
1		12	M	6		Medium Stiff to Stiff, Brown Lean CLAY; Trace Sand and Gravel (CL)	(1.0)	36.8			
2		14	M/W	56		Dense, Light Brown Sandy CLAY; Trace Gravel (CL)		10.1			
					5	Possible WEATHERED BEDROCK (Light Brown Fine to Coarse Sand and Gravel)					
						End of Boring & Refusal at 5 ft on Possible Bedrock Backfilled with Auger Cuttings					
					10						
					15						
					20						

WATER LEVEL OBSERVATIONS

While Drilling ▽ **4.5'** Upon Completion of Drilling **NW**
Time After Drilling
Depth to Water ▼
Depth to Cave in

The stratification lines represent the approximate boundary between soil types and the transition may be gradual.

GENERAL NOTES

Start **5/20/19** End **5/20/19**
Driller **GeoServe** Chief **Eddie** Rig **Geoprobe 7822**
Logger **Matt** Editor **PJG**
Drill Method **2.25" HSA**

CGC Inc.

LOG OF TEST BORING

Project **Golf Road Development**
NWC Golf Road & Meadowbrook Road
Location **Pewaukee, Wisconsin**

Boring No. **10**
Surface Elevation (ft) **887.0**
Job No. **CM19076**
Sheet **1** of **1**

336 S. Curtis Rd, West Allis, WI 53214 (414) 443-2000, FAX (414) 443-2099

SAMPLE					VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES				
No.	TYPE	Rec (in.)	Moist	N	Depth (ft)		qu (qa) (tsf)	W	LL	PL	P200
						12" Black Clayey TOPSOIL					
1		14	M	5		Stiff to Very Stiff, Brown Mottled Lean CLAY; Trace Sand and Gravel (CL)	(2.0)	22.1			
2		18	M	17		Medium Dense, Light Brown Sandy Clayey SILT; Some Fine to Coarse Gravel (CL-ML)		7.7			
					5						
3		2	M	50		Possible WEATHERED BEDROCK (Light Brown Fine to Coarse Sand and Gravel)					
						End of Boring & Refusal at 6.5 ft on Possible Bedrock Backfilled with Auger Cuttings					
					10						
					15						
					20						

WATER LEVEL OBSERVATIONS

While Drilling ▽ **NW** Upon Completion of Drilling **NW**
Time After Drilling
Depth to Water ▼
Depth to Cave in

The stratification lines represent the approximate boundary between soil types and the transition may be gradual.

GENERAL NOTES

Start **5/20/19** End **5/20/19**
Driller **GeoServe** Chief **Eddie** Rig **Geoprobe 7822**
Logger **Matt** Editor **PJG**
Drill Method **2.25" HSA**

CGC Inc.

LOG OF TEST BORING

Project **Golf Road Development**
NWC Golf Road & Meadowbrook Road
Location **Pewaukee, Wisconsin**

Boring No. **11**
Surface Elevation (ft) **885.3**
Job No. **CM19076**
Sheet **1** of **1**

336 S. Curtis Rd, West Allis, WI 53214 (414) 443-2000, FAX (414) 443-2099

SAMPLE No.	TYPE	Rec (in.)	Moist	N	Depth (ft)	VISUAL CLASSIFICATION and Remarks	qu (qa) (tsf)	W	LL	PL	P200
						12" Dark Brown to Black Clayey TOPSOIL					
1		12	M	7		Stiff, Brown Mottled Lean CLAY; Trace Sand and Gravel (CL)	(1.5)	23.6			
2			M	50		Possible WEATHERED BEDROCK (Light Brown Fine to Coarse Sand and Gravel)		23.0			
					5	End of Boring & Refusal at 4 ft on Possible Bedrock Backfilled with Auger Cuttings					
					10						
					15						
					20						

WATER LEVEL OBSERVATIONS

While Drilling ▽ **NW** Upon Completion of Drilling **NW**
Time After Drilling
Depth to Water ▼
Depth to Cave in

The stratification lines represent the approximate boundary between soil types and the transition may be gradual.

GENERAL NOTES

Start **5/20/19** End **5/20/19**
Driller **GeoServe** Chief **Eddie** Rig **Geoprobe**
Logger **Matt** Editor **PJG** **7822**
Drill Method **2.25" HSA**

CGC Inc.

LOG OF TEST BORING

Project **Golf Road Development**
NWC Golf Road & Meadowbrook Road
Location **Pewaukee, Wisconsin**

Boring No. **12**
Surface Elevation (ft) **904.4**
Job No. **CM19076**
Sheet **1** of **1**

336 S. Curtis Rd, West Allis, WI 53214 (414) 443-2000, FAX (414) 443-2099

SAMPLE No.	TYPE	Rec (in.)	Moist	N	Depth (ft)	VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES qu (qa) (tsf)	W	LL	PL	P200
					0	10" Dark Brown Clayey TOPSOIL					
1		16	M	5		Stiff to Very Stiff, Brown Lean CLAY; Trace Sand and Gravel (CL)	(2.0)	20.9			
2		16	M	8	5	Stiff, Brown Clayey SILT; Some Fine to Coarse Sand and Gravel (CL-ML)	(1.5)	4.8			
3		8	M	42		Dense, Brown Fine SAND; Some Silt and Fine to Coarse Gravel (SM)					17.7
4		16	M	67	10	Very Dense, Brown Clayey SILT; Little to Some Fine to Coarse Gravel (CL-ML)					
						End of Boring & Refusal at 10 ft on Probable Bedrock Backfilled with Bentonite Chips					
					15						
					20						

WATER LEVEL OBSERVATIONS

While Drilling ▽ **NW** Upon Completion of Drilling **NW**
Time After Drilling
Depth to Water ▼
Depth to Cave in

The stratification lines represent the approximate boundary between soil types and the transition may be gradual.

GENERAL NOTES

Start **5/20/19** End **5/20/19**
Driller **GeoServe** Chief **Eddie** Rig **Geoprobe**
Logger **Matt** Editor **PJG** **7822**
Drill Method **2.25" HSA**

CGC Inc.

LOG OF TEST BORING

Project **Golf Road Development**
NWC Golf Road & Meadowbrook Road
Location **Pewaukee, Wisconsin**

Boring No. **13**
Surface Elevation (ft) **905.1**
Job No. **CM19076**
Sheet **1** of **1**

336 S. Curtis Rd, West Allis, WI 53214 (414) 443-2000, FAX (414) 443-2099

SAMPLE No.	TYPE	Rec (in.)	Moist	N	Depth (ft)	VISUAL CLASSIFICATION and Remarks	qu (qa) (tsf)	W	LL	PL	P200
						13" ± Dark Brown to Black Clayey TOPSOIL					
1		18	M	4		Medium Stiff to Stiff, Reddish Brown Silty CLAY; Some Fine Sand (CL)	(1.75)	15.3			
2		18	M	8			(1.0)				
					5	Loose, Brown Fine SAND; Trace Silt and Gravel (SP)					6.8
3		16	W	50	▽	Possible WEATHERED BEDROCK (Gray Fine to Coarse Crushed Gravel)					
4		2	M	50							
					10	End of Boring & Refusal at 9 ft on Possible Bedrock Backfilled with Auger Cuttings					
					15						
					20						

WATER LEVEL OBSERVATIONS

While Drilling ▽ **6.5'** Upon Completion of Drilling **NW**
Time After Drilling
Depth to Water ▼
Depth to Cave in

The stratification lines represent the approximate boundary between soil types and the transition may be gradual.

GENERAL NOTES

Start **5/20/19** End **5/20/19**
Driller **GeoServe** Chief **Eddie** Rig **Geoprobe 7822**
Logger **Matt** Editor **PJG**
Drill Method **2.25" HSA**

CGC Inc.

LOG OF TEST BORING

Project **Golf Road Development**
NWC Golf Road & Meadowbrook Road
Location **Pewaukee, Wisconsin**

Boring No. **14**
Surface Elevation (ft) **902.1**
Job No. **CM19076**
Sheet **1** of **1**

336 S. Curtis Rd, West Allis, WI 53214 (414) 443-2000, FAX (414) 443-2099

SAMPLE No.	TYPE	Rec (in.)	Moist	N	Depth (ft)	VISUAL CLASSIFICATION and Remarks	qu (qa) (tsf)	W	LL	PL	P200
						10" Black Clayey TOPSOIL					
1		12	M	11		Medium Stiff to Stiff, Brown Lean CLAY; Some Fine to Coarese Sand and Gravel (CL)	(1.0)	21.4			
						Dense, Brown Fine to Coarse SAND & GRAVEL; Some Silt, Possible Cobbles and/or Boulders (SM-GM)					
2		16	M	33							12.2
					5						
3		12	W	26	▽	Medium Dense to Dense, Brown Clayey SILT; Some Fine to Coarse Sand and Gravel (CL-ML)		8.3			
4		4	W	39							
					10	End of Boring & Auger Refusal at 10.5 ft on Possible Bedrock Backfilled with Bentonite Chips					
					15						
					20						

WATER LEVEL OBSERVATIONS

While Drilling ▽ **6.5'** Upon Completion of Drilling **NW**
Time After Drilling
Depth to Water ▼
Depth to Cave in

The stratification lines represent the approximate boundary between soil types and the transition may be gradual.

GENERAL NOTES

Start **5/20/19** End **5/20/19**
Driller **GeoServe** Chief **Eddie** Rig **Geoprobe 7822**
Logger **Matt** Editor **PJG**
Drill Method **2.25" HSA**

CGC Inc.

LOG OF TEST BORING

Project **Golf Road Development**
NWC Golf Road & Meadowbrook Road
Location **Pewaukee, Wisconsin**

Boring No. **15**
Surface Elevation (ft) **924.2**
Job No. **CM19076**
Sheet **1** of **1**

336 S. Curtis Rd, West Allis, WI 53214 (414) 443-2000, FAX (414) 443-2099

SAMPLE No.	TYPE	Rec (in.)	Moist	N	Depth (ft)	VISUAL CLASSIFICATION and Remarks	qu (qa) (tsf)	W	LL	PL	P200
						14" Dark Brown to Black Clayey TOPSOIL					
1		18	M	2		Stiff, Brown Lean CLAY; Trace Sand and Gravel, Trace Fine Roots (CL)	(1.5)	24.4			
2		18	M	8			(2.5)	19.2			
					5						
3		16	M	7		Loose to Medium Dense, Brown Mottled Clayey SILT; Some Sand, Trace Gravel (CL-ML)		9.8			
4		6	M	21				11.4			
					10						
5		14	M	21							
						End of Boring at 12 ft Backfilled with Bentonite Chips					
					15						
					20						

WATER LEVEL OBSERVATIONS

While Drilling ▽ **NW** Upon Completion of Drilling **NW**
Time After Drilling
Depth to Water ▼
Depth to Cave in

The stratification lines represent the approximate boundary between soil types and the transition may be gradual.

GENERAL NOTES

Start **5/20/19** End **5/20/19**
Driller **GeoServe** Chief **Eddie** Rig **Geoprobe 7822**
Logger **Matt** Editor **PJG**
Drill Method **2.25" HSA**

CGC Inc.

LOG OF TEST BORING

Project **Golf Road Development**
NWC Golf Road & Meadowbrook Road
Location **Pewaukee, Wisconsin**

Boring No. **16**
Surface Elevation (ft) **920.0**
Job No. **CM19076**
Sheet **1** of **1**

336 S. Curtis Rd, West Allis, WI 53214 (414) 443-2000, FAX (414) 443-2099

SAMPLE					VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES				
No.	TYPE	Rec (in.)	Moist	N	Depth (ft)		qu (qa) (tsf)	W	LL	PL	P200
						8" TOPSOIL (Dark Brown Organic Silty Sand)					
1		12	M	18		Medium Dense, Brown Fine to Coarse SAND & GRAVEL (SP-GP)					
2		14	M	16							0.0
3		16	M	37	5	Medium Dense to Dense, Brown Fine to Coarse SAND & GRAVEL; Possible Cobbles/Boulders (SP-GP)					
4		10	M	27							
5		16	M	39	10	Dense, Brown Fine to Coarse SAND; Some Fine to Coarse Gravel, Trace Silt (SP-GP)					
						End of Boring at 12 ft Backfilled with Bentonite Chips					
					15						
					20						

WATER LEVEL OBSERVATIONS

While Drilling ▽ **NW** Upon Completion of Drilling **NW**
Time After Drilling
Depth to Water ▼
Depth to Cave in

The stratification lines represent the approximate boundary between soil types and the transition may be gradual.

GENERAL NOTES

Start **5/20/19** End **5/20/19**
Driller **GeoServe** Chief **Eddie** Rig **Geoprobe**
Logger **Matt** Editor **PJG** **7822**
Drill Method **2.25" HSA**

CGC Inc.

LOG OF TEST BORING

Project **Golf Road Development**
NWC Golf Road & Meadowbrook Road
Location **Pewaukee, Wisconsin**

Boring No. **17**
Surface Elevation (ft) **929.6**
Job No. **CM19076**
Sheet **1** of **1**

336 S. Curtis Rd, West Allis, WI 53214 (414) 443-2000, FAX (414) 443-2099

SAMPLE No.	TYPE	Rec (in.)	Moist	N	Depth (ft)	VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES qu (qa) (tsf)	W	LL	PL	P200
						9" TOPSOIL (Dark Brown Organic Clayey Topsoil)					
1		12	M	13		Stiff to Very Stiff, Brown Silty CLAY; Some Sand and Gravel (CL) (POSSIBLE FILL)	(2.0)				
2		12	M	8		Loose, Brown Fine to Coarse SAND & GRAVEL (SP-GP) (POSSIBLE FILL)					
3		12	M	10	5	Loose to Medium Dense, Brown Fine SAND; Trace Fine Gravel, Trace Silt (SP)					1.9
4		12	M	15							
5		12	M	17	10						
						End of Boring at 12 ft Backfilled with Bentonite Chips					
					15						
					20						

WATER LEVEL OBSERVATIONS

	While Drilling	Upon Completion of Drilling		
Time After Drilling				
Depth to Water				▼
Depth to Cave in				

NW **NW**

The stratification lines represent the approximate boundary between soil types and the transition may be gradual.

GENERAL NOTES

Start **5/20/19** End **5/20/19**
Driller **GeoServe** Chief **Eddie** Rig **Geoprobe**
Logger **Matt** Editor **PJG** **7822**
Drill Method **2.25" HSA**

CGC, Inc.

LOG OF TEST BORING

General Notes

Descriptive Soil Classification

GRAIN SIZE TERMINOLOGY

Soil Fraction	Particle Size	U.S. Standard Sieve Size
Boulders	Larger than 12"	Larger than 12"
Cobbles	3" to 12"	3" to 12"
Gravel: Coarse	3/4" to 3"	3/4" to 3"
Fine	4.76 mm to 3/4"	#4 to 3/4"
Sand: Coarse	2.00 mm to 4.76 mm	#10 to #4
Medium	0.42 to mm to 2.00 mm	#40 to #10
Fine	0.074 mm to 0.42 mm	#200 to #40
Silt	0.005 mm to 0.074 mm	Smaller than #200
Clay	Smaller than 0.005 mm	Smaller than #200

Plasticity characteristics differentiate between silt and clay.

GENERAL TERMINOLOGY

Physical Characteristics
Color, moisture, grain shape, fineness, etc.,
Major Constituents
Clay, silt, sand, gravel
Structure
Laminated, varved, fibrous, stratified, cemented, fissured, etc.
Geologic Origin
Glacial, alluvial, eolian, residual, etc.

RELATIVE DENSITY

Term	"N" Value
Very Loose	0-4
Loose	4-10
Medium Dense	10-30
Dense	30-50
Very Dense	Over 50

RELATIVE PROPORTIONS OF OF COHESIONLESS SOILS

Proportional Term	Defining Range by Percentage of Weight
Trace	0%-5%
Little	5%-12%
Some	12%-35%
And	35%-50%

CONSISTENCY

Term	q_u-tons/sq. ft.
Very Soft	0.0 to 0.25
Soft	0.25 to 0.50
Medium	0.50 to 1.0
Stiff	1.0 to 2.0
Very Stiff	2.0 to 4.0
Hard	Over 4.0

ORGANIC CONTENT BY COMBUSTION METHOD

Soil Description	Loss on Ignition
Non Organic	Less than 4%
Organic Silt/Clay	4-12%
Sedimentary Peat	12-50%
Fibrous and Woody Peat	More than 50%

PLASTICITY

Term	Plastic Index
None to Slight	0-4
Slight	5-7
Medium	8-22
High to Very High	Over 22

The penetration resistance, N, is the summation of the number of blows required to effect two successive 6" penetrations of the 2" split-barrel sampler. The sampler is driven with a 140 lb. weight falling 30" and is seated to a depth of 6" before commencing the standard penetration test.

SYMBOLS

DRILLING AND SAMPLING

CS--Continuous Sampling
RC--Rock Coring: Size AW, BW, NW, 2"W
RQD--Rock Quality Designator
RB--Rock Bit
FT--Fish Tail
DC--Drove Casing
C--Casing: Size 2 1/2", NW, 4", HW
CW--Clear Water
DM--Drilling Mud
HSA--Hollow Stem Auger
FA--Flight Auger
HA--Hand Auger
COA--Clean-Out Auger
SS--2" Diameter Split-Barrel Sample
2ST--2" Diameter Thin-Walled Tube Sample
3ST--3" Diameter Thin-Walled Tube Sample
PT--3" Diameter Piston Tube Sample
AS--Auger Sample
WS--Wash Sample
PTS--Peat Sample
PS--Pitcher Sample
NR--No Recovery
S--Sounding
PMT--Borehole Pressuremeter Test
VS--Vane Shear Test
WPT--Water Pressure Test

LABORATORY TESTS

q_a--Penetrometer Reading, tons/sq. ft.
q_u--Unconfined Strength, tons/sq. ft.
W--Moisture Content, %
LL--Liquid Limit, %
PL--Plastic Limit, %
SL--Shrinkage Limit, %
LI--Loss on Ignition, %
D--Dry Unit Weight, lbs/cu. ft.
pH--Measure of Soil Alkalinity or Acidity
FS--Free Swell, %

WATER LEVEL MEASUREMENT

▽ --Water Level at time shown
NW--No Water Encountered
WD--While Drilling
BCR--Before Casing Removal
ACR--After Casing Removal
CW--Caved and Wet
CM--Caved and Moist

Note: Water level measurements shown on the boring logs represent conditions at the time indicated and may not reflect static levels, especially in cohesive soils.

CGC, Inc.

Madison - Milwaukee

UNIFIED SOIL CLASSIFICATION SYSTEM

UNIFIED SOIL CLASSIFICATION AND SYMBOL CHART

COARSE-GRAINED SOILS (more than 50% of material is larger than No. 200 sieve size.)			
GRAVELS More than 50% of coarse fraction larger than No. 4 sieve size	Clean Gravels (Less than 5% fines)	GW	Well-graded gravels, gravel-sand mixtures, little or no fines
		GP	Poorly-graded gravels, gravel-sand mixtures, little or no fines
	Gravels with fines (More than 12% fines)	GM	Silty gravels, gravel-sand-silt mixtures
		GC	Clayey gravels, gravel-sand-clay mixtures
SANDS 50% or more of coarse fraction smaller than No. 4 sieve size	Clean Sands (Less than 5% fines)	SW	Well-graded sands, gravelly sands, little or no fines
		SP	Poorly graded sands, gravelly sands, little or no fines
	Sands with fines (More than 12% fines)	SM	Silty sands, sand-silt mixtures
		SC	Clayey sands, sand-clay mixtures
FINE-GRAINED SOILS (50% or more of material is smaller than No. 200 sieve size.)			
SILTS AND CLAYS Liquid limit less than 50%		ML	Inorganic silts and very fine sands, rock flour, silty of clayey fine sands or clayey silts with slight plasticity
		CL	Inorganic clays of low to medium plasticity, gravelly clays, sandy clays, silty clays, lean clays
		OL	Organic silts and organic silty clays of low plasticity
SILTS AND CLAYS Liquid limit 50% or greater		MH	Inorganic silts, micaceous or diatomaceous fine sandy or silty soils, elastic silts
		CH	Inorganic clays of high plasticity, fat clays
		OH	Organic clays of medium to high plasticity, organic silts
HIGHLY ORGANIC SOILS		PT	Peat and other highly organic soils

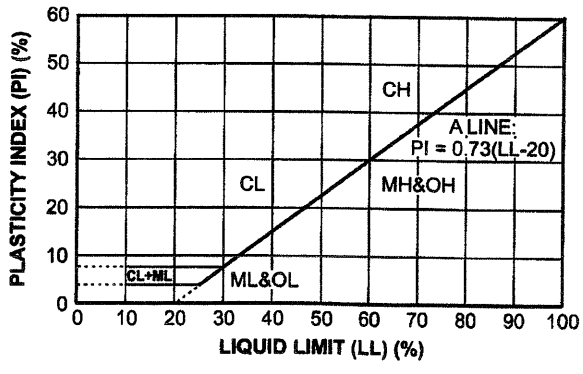
LABORATORY CLASSIFICATION CRITERIA

GW	$C_u = \frac{D_{60}}{D_{10}}$ greater than 4; $C_c = \frac{D_{30}}{D_{10} \times D_{60}}$ between 1 and 3	
GP	Not meeting all gradation requirements for GW	
GM	Atterberg limits below "A" line or P.I. less than 4	Above "A" line with P.I. between 4 and 7 are borderline cases requiring use of dual symbols
GC	Atterberg limits above "A" line with P.I. greater than 7	
SW	$C_u = \frac{D_{60}}{D_{10}}$ greater than 4; $C_c = \frac{D_{30}}{D_{10} \times D_{60}}$ between 1 and 3	
SP	Not meeting all gradation requirements for GW	
SM	Atterberg limits below "A" line or P.I. less than 4	Limits plotting in shaded zone with P.I. between 4 and 7 are borderline cases requiring use of dual symbols.
SC	Atterberg limits above "A" line with P.I. greater than 7	

Determine percentages of sand and gravel from grain-size curve. Depending on percentage of fines (fraction smaller than No. 200 sieve size), coarse-grained soils are classified as follows:

Less than 5 percent ..... GW, GP, SW, SP
More than 12 percent ..... GM, GC, SM, SC
5 to 12 percent ..... Borderline cases requiring dual symbols

PLASTICITY CHART



APPENDIX C

SOIL AND SITE EVALUATION - STORM FORM
(BORINGS 1 THROUGH 17)

Wisconsin Department of Commerce
Division of Safety and Buildings

SOIL AND SITE EVALUATION - STORM

In accordance with SPS 382.365, 385, Wis. Adm. Code, and WDNR Standard 1002

Attach complete site plan on paper not less than 8 1/2 x 11 inches in size. Plan must include, but not limited to: vertical and horizontal reference point (BM), direction and percent slope, scale or dimensions, north arrow, and BM referenced to nearest road.

Please print all information.

Personal information you provide may be used for secondary purposes (Privacy Law, s.15.04 (1) (m)).

County	Waukesha
Parcel I.D.	PWC 0940999001
Review by	**Date**

Property Owner		**Property Location**	Golf Road
Robert J. Stenz Family Trust c/o Aimee Petrovsky		**Govt. Lot**	E 1/2 SE 1/4 S 19 T 7 N 19 E
Property Owner's Mailing Address		**Lot #** / **Block #** / **Subd. Name or CSM#**	
2371 Jacob Row			
City / **State** / **Zip Code** / **Phone Number**		[X] **City** [ ] **Village** [ ] **Town**	**Nearest Road**
Lake Havasu City	AZ 86404-9536	Pewaukee	Meadowbrook Road

Drainage area: _____ [ ] sq. ft. [ ] acres

Test Site Suitable for (check all that apply) [ ] Site not suitable

[ ] Bioretention [ ] Subsurface Dispersal System

[ ] Reuse [ ] Irrigation [ ] Other _____

Hydraulic Application Test Method

[X] Morphological Evaluation

[ ] Double-Ring Infiltrometer

[ ] Other (Specify)_____

Soil Moisture

Date of soil borings: 5/20/19

USDA-NRCS WETS Value:

[ ] Dry = 1

[X] Normal = 2

[ ] Wet = 3

1 **Obs. #** [X] Boring [ ] Pit **Ground Surface Elev.** 876.5 ft **Elevation of limiting factor** 874.5 ft

Horizon	Depth in.	Dominant Color Munsell	Redox Description Qu. Sz. Cont. Color	Texture	Structure Gr. Sz. Sh.	Consistence	Boundary	% Rock Frag.	% Fines	Hydraulic App. Rate Inches/Hr
1	0-14	10YR3/4		SICL	1mabk	mfr	c	<5	>60	0.04
2	14-24	10YR4/3		SIC	2mabk	mfi	g	<5	>60	0.07
3	24-60	Weathered Bedrock					-	-	-	

Comments: No free water encountered during or upon completion of drilling.

2 **Obs. #** [X] Boring [ ] Pit **Ground Surface Elev.** 878.3 ft **Elevation of limiting factor** 875.3 ft

Horizon	Depth in.	Dominant Color Munsell	Redox Description Qu. Sz. Cont. Color	Texture	Structure Gr. Sz. Sh.	Consistence	Boundary	% Rock Frag.	% Fines	Hydraulic App. Rate Inches/Hr
1	0-14	10YR3/2		SICL	2mabk	mfr	c	<5	>60	0.04
2	14-36	10YR4/3		SIC	2mabk	mfi	g	<5	>60	0.07
3	36-44.5	Weathered Bedrock					-	-	-	

Comments: No free water encountered during or upon completion of drilling.

CST/PSS Name (Please Print)	**Signature**	**CST Number**
Paul J. Giese, CST	Paul J. Giese	41442
Address	**Date Evaluation Conducted**	**Telephone Number**
336 S. Curtis Road, West Allis, WI 53214	6/21/19	(414) 443-2000

SBD-10793 (R.01/17)

19076 Soil & Site Eval.xls

Property Owner Robert J. Stenz Family Trust c/o Aimee Petrovsky **Parcel ID#** PWC 0940999001 **Page** 2 **of** 6

3 **Obs. #** [X] Boring [ ] Pit **Ground Surface Elev.** 878.0 ft **Elevation of limiting factor** 875.0 ft

Horizon	Depth in.	Dominant Color Munsell	Redox Description Qu. Sz. Cont. Color	Texture	Structure Gr. Sz. Sh.	Consistence	Boundary	% Rock Frag.	% Fines	Hydraulic App. Rate Inches/Hr
1	0-12	10YR3/2		SICL	1mabk	mfr	c	<5	>60	0.04
2	12-36	10YR4/3		SIC	1mabk	mfi	g	<5	>60	0.07
3	36-48	Weathered Bedrock					-	-	-	

Comments: No free water encountered during or upon completion of drilling.

4 **Obs. #** [X] Boring [ ] Pit **Ground Surface Elev.** 876.0 ft **Elevation of limiting factor** 875.3 ft

Horizon	Depth in.	Dominant Color Munsell	Redox Description Qu. Sz. Cont. Color	Texture	Structure Gr. Sz. Sh.	Consistence	Boundary	% Rock Frag.	% Fines	Hydraulic App. Rate Inches/Hr
1	0-9	10YR3/2		SICL	1mabk	mfr	c	<5	>60	0.04
2	9-30	Weathered Bedrock								

Comments: No free water encountered during or upon completion of drilling.

5 **Obs. #** [X] Boring [ ] Pit **Ground Surface Elev.** 874.0 ft **Elevation of limiting factor** 871.5 ft

Horizon	Depth in.	Dominant Color Munsell	Redox Description Qu. Sz. Cont. Color	Texture	Structure Gr. Sz. Sh.	Consistence	Boundary	% Rock Frag.	% Fines	Hydraulic App. Rate Inches/Hr
1	0-12	10YR3/2		SICL	1mabk	mfr	c	<5	>60	0.04
2	12-30	10YR3/2		SICL	2mabk	mfr	g	<5	>60	0.04
3	30-48	Weathered Bedrock								

Comments: No free water encountered during or upon completion of drilling.

Property Owner: Robert J. Stenz Family Trust c/o Aimee Petrovsky Parcel ID#: PWC 0940999001 Page 3 of 6

6 Obs. # [X] Boring [ ] Pit Ground Surface Elev. 876.6 ft Elevation of limiting factor 873.1 ft

Horizon	Depth in.	Dominant Color Munsell	Redox Description Qu. Sz. Cont. Color	Texture	Structure Gr. Sz. Sh.	Consistence	Boundary	% Rock Frag.	% Fines	Hydraulic App. Rate Inches/Hr
1	0-10	10YR3.2		SICL	1mabk	mfr	c	<5	>60	0.04
2	10-24	10YR2/2		SICL	1mabk	mfr	g	<5	>60	0.04
3	24-42	10YR5/4		SIC	2mabk	mfi	g	<5	>60	0.07
4	42-48	Weathered Bedrock								

Comments: No free water encountered during or upon completion of drilling.

7 Obs. # [X] Boring [ ] Pit Ground Surface Elev. 884.9 ft Elevation of limiting factor 884.1 ft

Horizon	Depth in.	Dominant Color Munsell	Redox Description Qu. Sz. Cont. Color	Texture	Structure Gr. Sz. Sh.	Consistence	Boundary	% Rock Frag.	% Fines	Hydraulic App. Rate Inches/Hr
1	0-10	10YR3/2		SICL	1mabk	mfr	c	<5	>60	0.04
2	10-54	10YR4/3	f1f 10YR4/6	SIC	0m	mfi	g	<15	>60	0.07
3	54-66	Weathered Bedrock								

Comments: No free water encountered during or upon completion of drilling.

8 Obs. # [X] Boring [ ] Pit Ground Surface Elev. 883.4 ft Elevation of limiting factor 882.4 ft

Horizon	Depth in.	Dominant Color Munsell	Redox Description Qu. Sz. Cont. Color	Texture	Structure Gr. Sz. Sh.	Consistence	Boundary	% Rock Frag.	% Fines	Hydraulic App. Rate Inches/Hr
1	0-12	10YR3/2		SICL	1mabk	mfr	c	<5	>60	0.04
2	12-42	10YR4/3	f1f 10YR4/6	SIC	0m	mfi	g	<15	>60	0.07
3	42-44.5	Weathered Bedrock								

Comments: No free water encountered during or upon completion of drilling.

Property Owner Robert J. Stenz Family Trust c/o Aimee Petrovsky **Parcel ID#** PWC 0940999001 **Page** 4 **of** 6

9 **Obs. #** [X] **Boring** [ ] **Pit** **Ground Surface Elev.** 885.8 ft **Elevation of limiting factor** 881.3 ft

Horizon	Depth in.	Dominant Color Munsell	Redox Description Qu. Sz. Cont. Color	Texture	Structure Gr. Sz. Sh.	Consistence	Boundary	% Rock Frag.	% Fines	Hydraulic App. Rate Inches/Hr
1	0-12	10YR3/2		SICL	1mabk	mfr	c	<5	>60	0.04
2	12-36	10YR4/3		SIC	0m	mfi	g	<15	>60	0.07
3	36-54	10YR7/4		SC	1mabk	mfr	g	<15	>60	0.04
4	54-60	Weathered Bedrock								

Comments: Water encountered at 4.5 ft while drilling. No free water upon completion of drilling.

10 **Obs. #** [X] **Boring** [ ] **Pit** **Ground Surface Elev.** 887.0 ft **Elevation of limiting factor** 886.0 ft

Horizon	Depth in.	Dominant Color Munsell	Redox Description Qu. Sz. Cont. Color	Texture	Structure Gr. Sz. Sh.	Consistence	Boundary	% Rock Frag.	% Fines	Hydraulic App. Rate Inches/Hr
1	0-12	10YR4/2		SICL	1mabk	mfr	c	<5	>60	0.04
2	12-36	10YR4/3	f2d 10YR3/4	SIC	0m	mfi	g	<5	>60	0.07
3	36-72	10YR7/4		SCL	2mabk	mfr	g	<5	>60	0.11
4	72-78	Weathered Bedrock								

Comments: No free water encountered during or upon completion of drilling.

11 **Obs. #** [X] **Boring** [ ] **Pit** **Ground Surface Elev.** 885.3 ft **Elevation of limiting factor** 884.3 ft

Horizon	Depth in.	Dominant Color Munsell	Redox Description Qu. Sz. Cont. Color	Texture	Structure Gr. Sz. Sh.	Consistence	Boundary	% Rock Frag.	% Fines	Hydraulic App. Rate Inches/Hr
1	0-12	10YR3/2		SICL	1mabk	mfr	c	<5	>60	0.04
2	12-42	10YR4/3	f1d 10YR3/4	SIC	0m	mfi	g	<15	>60	0.07
3	42-48	Weathered Bedrock								

Comments: No free water encountered during or upon completion of drilling.

Property Owner Robert J. Stenz Family Trust c/o Aimee Petrovsky **Parcel ID#** PWC 0940999001 **Page** 5 **of** 6

12 **Obs. #** [X] **Boring** [ ] **Pit** **Ground Surface Elev.** 904.4 ft **Elevation of limiting factor** 894.4 ft

Horizon	Depth in.	Dominant Color Munsell	Redox Description Qu. Sz. Cont. Color	Texture	Structure Gr. Sz. Sh.	Consistence	Boundary	% Rock Frag.	% Fines	Hydraulic App. Rate Inches/Hr
1	0-10	10YR4/2		SICL	2mabk	mfr	c	<5	>60	0.04
2	10-48	10YR4/4		SIC	0m	mvfi	g	<5	>60	0.07
3	48-78	10YR5/4		GRSCL	1mabk	mfr	g	15-35	-	0.11
4	78-96	10YR5/4		GRSL	0f-cgr	mfr	g	15.6	17.7	0.50
5	96-120	10YR5/4		SICL	2mabk	mfi	g	<15	>60	0.04
6	@ 120	Bedrock								

Comments: No free water encountered during or upon completion of drilling.

13 **Obs. #** [X] **Boring** [ ] **Pit** **Ground Surface Elev.** 905.1 ft **Elevation of limiting factor** 898.6 ft

Horizon	Depth in.	Dominant Color Munsell	Redox Description Qu. Sz. Cont. Color	Texture	Structure Gr. Sz. Sh.	Consistence	Boundary	% Rock Frag.	% Fines	Hydraulic App. Rate Inches/Hr
1	0-13	10YR3/2		SICL	2mabk	mfr	c	<5	>60	0.04
2	13-54	7.5YR4/4		SCL	2mabk	mfi	g	<5	>60	0.11
3	54-78	10YR5/4		S	0fgr	mfr	g	0.9	6.8	3.60
4	78-108	Weathered Bedrock								

Comments: Water observed at 6.5 ± ft while drilling.

14 **Obs. #** [X] **Boring** [ ] **Pit** **Ground Surface Elev.** 902.1 ft **Elevation of limiting factor** 891.6 ft

Horizon	Depth in.	Dominant Color Munsell	Redox Description Qu. Sz. Cont. Color	Texture	Structure Gr. Sz. Sh.	Consistence	Boundary	% Rock Frag.	% Fines	Hydraulic App. Rate Inches/Hr
1	0-10	10YR3/2		SICL	2mabk	mfr	c	<5	>60	0.04
2	10-24	10YR4/3		SIC	1mabk	mfi	g	<15	>60	0.07
3	24-72	10YR5/4		VGRLS	0f-cgr	mfr	g	46.0	12.2	1.63
4	72-126	10YR5/4		GRSICL	0f-cgr	mfr		15-35	-	0.04
5	@ 126	Bedrock								

Comments: Water observed at 6.5 ± ft while drilling.

Property Owner Robert J. Stenz Family Trust c/o Aimee Petrovsky **Parcel ID#** PWC 0940999001 **Page** 6 **of** 6

15 **Obs. #** [X] Boring [ ] Pit **Ground Surface Elev.** 924.2 ft **Elevation of limiting factor** <912.2 ft

Horizon	Depth in.	Dominant Color Munsell	Redox Description Qu. Sz. Cont. Color	Texture	Structure Gr. Sz. Sh.	Consistence	Boundary	% Rock Frag.	% Fines	Hydraulic App. Rate Inches/Hr
1	0-14	10YR3/2		SICL	1mabk	mfr	c	<5	>60	0.04
2	14-72	10YR5/4		SIC	2mabk	mfi	g	<5	>60	0.07
3	72-144	10YR5/4		SL	`0f-cgr	mfr	-	<15	>60	0.50

Comments: No free water encountered during or upon completion of drilling.

16 **Obs. #** [X] Boring [ ] Pit **Ground Surface Elev.** 920.0 ft **Elevation of limiting factor** <908.0 ft

Horizon	Depth in.	Dominant Color Munsell	Redox Description Qu. Sz. Cont. Color	Texture	Structure Gr. Sz. Sh.	Consistence	Boundary	% Rock Frag.	% Fines	Hydraulic App. Rate Inches/Hr
1	0-8	10YR3/3		SICL	1mabk	mfr	c	<5	>60	0.04
2	8-72	10YR4/4		VGRS	0f-cgr	mfr	-	48.0	0.0	3.60
3	72-120	10YR6/3		VGRS	0f-cgr	mfr	-	35-65	-	3.60
4	120-144	10YR4/4		GRLS	0f-cgr	mfr	-	15-35	-	1.63

Comments: No free water encountered during or upon completion of drilling.

17 **Obs. #** [X] Boring [ ] Pit **Ground Surface Elev.** 929.6 ft **Elevation of limiting factor** <917.6 ft

Horizon	Depth in.	Dominant Color Munsell	Redox Description Qu. Sz. Cont. Color	Texture	Structure Gr. Sz. Sh.	Consistence	Boundary	% Rock Frag.	% Fines	Hydraulic App. Rate Inches/Hr
1	0-9	10YR4/2		SICL	1mabk	mfr	c	<5	>60	0.04
2	9-36	10YR4/3		SICL	2mabk	mfi	g	<15	>60	0.04
3	36-60	10YR6/3		GRS	0f-cgr	mfr	g	15-35	-	3.60
4	60-144	10YR5/4		S	0fgr	mfr	-	<5		3.60

Comments: No free water encountered during or upon completion of drilling.

APPENDIX D

DOCUMENT QUALIFICATIONS

APPENDIX D
DOCUMENT QUALIFICATIONS

I. GENERAL RECOMMENDATIONS/LIMITATIONS

CGC, Inc. should be provided the opportunity for a general review of the final design and specifications to confirm that earthwork and foundation requirements have been properly interpreted in the design and specifications. CGC should be retained to provide soil engineering services during excavation and subgrade preparation. This will allow us to observe that construction proceeds in compliance with the design concepts, specifications and recommendations, and also will allow design changes to be made in the event that subsurface conditions differ from those anticipated prior to the start of construction. CGC does not assume responsibility for compliance with the recommendations in this report unless we are retained to provide construction testing and observation services.

This report has been prepared in accordance with generally accepted soil and foundation engineering practices and no other warranties are expressed or implied. The opinions and recommendations submitted in this report are based on interpretation of the subsurface information revealed by the test borings indicated on the location plan. The report does not reflect potential variations in subsurface conditions between or beyond these borings. Therefore, variations in soil conditions can be expected between the boring locations and fluctuations of groundwater levels may occur with time. The nature and extent of the variations may not become evident until construction.

II. IMPORTANT INFORMATION ABOUT YOUR GEOTECHNICAL ENGINEERING REPORT

Geotechnical engineers structure their services to meet the specific needs of their clients. A geotechnical engineering study conducted for a civil engineer may not fulfill the needs of a construction contractor or even another civil engineer. Because each geotechnical engineering study is unique, each geotechnical engineering report is unique, prepared *solely* for the client. *No one except you* should rely on your geotechnical engineering report without first conferring with the geotechnical engineer who prepared it. *And no one - not even you* - should apply the report for any purpose or project except the one originally contemplated.

Serious problems have occurred because those relying on a geotechnical engineering report did not read it all. Do not rely on an executive summary. Do not read selected elements only.

A GEOTECHNICAL ENGINEERING REPORT IS BASED ON A UNIQUE SET OF PROJECT-SPECIFIC FACTORS

Geotechnical engineers consider a number of unique, project-specific factors when establishing the scope of a study. Typical factors include: the client's goals, objectives, and risk management preferences; the general nature of the structure involved, its size, and configuration; the location of the structure on the site; and other planned or existing site improvements, such as access roads, parking lots, and underground utilities. Unless the geotechnical engineer who conducted the study specifically indicates otherwise, *do not rely on a geotechnical engineering report* that was:

- not prepared for you,
- not prepared for your project,
- not prepared for the specific site explored, or
- completed before important project changes were made.

Typical changes that can erode the reliability of an existing geotechnical report include those that affect:

- the function of the proposed structure, as when it's changed from a parking garage to an office building, or from a light industrial plant to a refrigerated warehouse,
- elevation, configuration, location, orientation, or weight of the proposed structure,
- composition of the design team, or project ownership.

As a general rule, *always* inform your geotechnical engineer of project changes - even minor ones - and request an assessment of their impact. *CGC cannot accept responsibility or liability for problems that occur because our reports do not consider developments of which we were not informed.*

SUBSURFACE CONDITIONS CAN CHANGE

A geotechnical engineering report is based on conditions that existed at the time the study was performed. *Do not rely on a geotechnical engineering report* whose adequacy may have been affected by: the passage of time; by man-made events, such as construction on or adjacent to the site; or by natural events, such as floods, earthquakes, or groundwater fluctuations. *Always* contact the geotechnical engineer before applying the report to determine if it is still reliable. A minor amount of additional testing or analysis could prevent major problems.

MOST GEOTECHNICAL FINDINGS ARE PROFESSIONAL OPINIONS

Site exploration identifies subsurface conditions only at those points where subsurface tests are conducted or samples are taken. Geotechnical engineers review field and laboratory data and then apply their professional judgement to render an opinion about subsurface conditions throughout the site. Actual subsurface conditions may differ - sometimes significantly - from those indicated in your report. Retaining

the geotechnical engineer who developed your report to provide construction observation is the most effective method of managing the risks associated with unanticipated conditions.

A REPORT'S RECOMMENDATIONS ARE NOT FINAL

Do not over-rely on the construction recommendations included in your report. *Those recommendations are not final,* because geotechnical engineers develop them principally from judgement and opinion. Geotechnical engineers can finalize their recommendations only by observing actual subsurface conditions revealed during construction. *CGC cannot assume responsibility or liability for the report's recommendations if we do not perform construction observation.*

A GEOTECHNICAL ENGINEERING REPORT IS SUBJECT TO MISINTERPRETATION

Other design team members' misinterpretation of geotechnical engineering reports has resulted in costly problems. Lower that risk by having your geotechnical engineer confer with appropriate members of the design team after submitting the report. Also retain your geotechnical engineer to review pertinent elements of the design team's plans and specifications. Contractors can also misinterpret a geotechnical engineering report. Reduce that risk by having CGC participate in prebid and preconstruction conferences, and by providing construction observation.

DO NOT REDRAW THE ENGINEER'S LOGS

Geotechnical engineers prepare final boring and testing logs based upon their interpretation of field logs and laboratory data. To prevent errors or omissions, the logs included in a geotechnical engineering report should *never* be redrawn for inclusion in architectural or other design drawings. Only photographic or electronic reproduction is acceptable, *but recognize that separating logs from the report can elevate risk.*

GIVE CONTRACTORS A COMPLETE REPORT AND GUIDANCE

Some owners and design professionals mistakenly believe they can make contractors liable for unanticipated subsurface conditions by limiting what they provide for bid preparation. To help prevent costly problems, give contractors the complete geotechnical engineering report, *but* preface it with a clearly written letter of transmittal. In that letter, advise contractors that the report was not prepared for purposes of bid development and that the report's accuracy is limited;
encourage them to confer with the geotechnical engineer who prepared the report (a modest fee may be required) and/or to conduct additional study to obtain the specific types of information they need or prefer. A prebid conference can also be valuable. *Be sure contractors have sufficient time* to perform additional study. Only then might you be in a position to give contractors the best information available to you, while requiring them to at least share some of the financial responsibilities stemming from unanticipated conditions.

READ RESPONSIBILITY PROVISIONS CLOSELY

Some clients, design professionals, and contractors do not recognize that geotechnical engineering is far less exact than other engineering disciplines. This lack of understanding has created unrealistic expectations that have led to disappointments, claims, and disputes. To help reduce such risks, geotechnical engineers commonly include a variety of explanatory provisions in their reports. Sometimes labeled "limitations," many of these provisions indicate where geotechnical engineer's responsibilities begin and end, to help others recognize their own responsibilities and risks. Read these provisions closely. Ask questions. Your geotechnical engineer should respond fully and frankly.

GEOENVIRONMENTAL CONCERNS ARE NOT COVERED

The equipment, techniques, and personnel used to perform a *geoenvironmental* study differ significantly from those used to perform a *geotechnical* study. For that reason, a geotechnical engineering report does not usually relate any geoenvironmental findings, conclusions, or recommendations; e.g., about the likelihood of encountering underground storage tanks or regulated contaminants. *Unanticipated environmental problems have led to numerous project failures.* If you have not yet obtained your own geoenvironmental information, ask your geotechnical consultant for risk management guidance. *Do not rely on an environmental report prepared for someone else.*

RELY ON YOUR GEOTECHNICAL ENGINEER FOR ADDITIONAL ASSISTANCE

Membership in ASFE exposes geotechnical engineers to a wide array of risk management techniques that can be of genuine benefit for everyone involved with a construction project. Confer with CGC, a member of ASFE, for more information.

Modified and reprinted with permission from:

ASFE
8811 Colesville Road, Suite G 106
Silver Spring, MD 20910

THESE PLANS AND DESIGNS ARE COPYRIGHT PROTECTED AND MAY NOT BE USED IN WHOLE OR IN PART WITHOUT THE WRITTEN CONSENT OF PINNACLE ENGINEERING GROUP, LLC

www.pinnacle-engr.com

NORTH

GRAPHICAL SCALE (FEET)

0 1" = 80' 160'

UNPLATTED LANDS
OWNER: LAKE PEWAUKEE SANITARY DISTRICT

100 YEAR FLOOD PLAIN PER FEMA MAP NO. 55133C0191G (GRAPHIC PLOTTING ONLY)

WETLANDS DELINEATED BY DAVE MEYER OF WETLAND & WATERWAY CONSULTING, LLC. IN SEPTEMBER 2018

OUTLOT 2 (TO LAKE PEWAUKEE SANITARY DISTRICT)
493,678 SF (11.3333 AC)

OWNER: WISCONSIN ELECTRIC POWER COMPANY
UNPLATTED LANDS

MEADOWBROOK ROAD
COUNTY TRUNK HIGHWAY "G"
(VARIABLE PUBLIC R.O.W.)

OUTLOT 2
OAK SPRINGS SOUTH

LAKEFIELD DRIVE
(60' PUBLIC R.O.W.)

LOT 32
OAK SPRINGS SOUTH

LOT 31
OAK SPRINGS SOUTH

LOT 30
OAK SPRINGS SOUTH

LOT 29
OAK SPRINGS SOUTH

PARCEL 1
C.S.M. NO. 9263

OUTLOT 1
73,766 SF
(1.6934 AC)

PROP STORM WATER MANAGEMENT

OUTLOT 3
37,544 SF
(0.8619 AC)

PROP. RETAINING WALL
(3' MAX HEIGHT)
WALL FACES BLDG #3

COMMUNITY LIVING ARRANGEMENT
42 BEDS (EQUIVALENT TO 12 UNITS
(3.5 PEOPLE PER UNIT))

CLUB HOUSE

LOT 1
118,072 SF
(2.7106 AC)

LOT 2
29,349 SF
(0.6738 AC)

LOT 3
91,402 SF
(2.0983 AC)

LOT 4
62,706 SF
(1.4395 AC)

LOT 5
143,917 SF
(3.3039 AC)

LOT 6
81,354 SF
(1.8676 AC)

BLDG #1 4-UNITS
BLDG #2 4-UNITS
BLDG #3 4-UNITS
BLDG #4 4-UNITS
BLDG #5 4-UNITS
BLDG #6 2-UNITS
BLDG #7 2-UNITS
BLDG #8 2-UNITS
BLDG #9 4-UNITS
BLDG #10 4-UNITS
BLDG #11 2-UNITS
BLDG #12 2-UNITS
BLDG #13 2-UNITS
BLDG #14 2-UNITS
BLDG #15 4-UNITS
BLDG #16 4-UNITS

KwB
THB
HmB
FsB
CeD2
LgB
GP
CeB
HmD2

BOR 1 EL = 876.5 Refusal = 871.5
BOR 2 EL = 878.3 Refusal = 879.3
BOR 3 EL = 878.0 Refusal = 874.0
BOR 4 EL = 878.0 Refusal = 875.5
BOR 5 EL = 874.0 Refusal = 876.5
BOR 6 EL = 876.6 Refusal = 872.6
BOR 7 EL = 884.9 Refusal = 879.4
BOR 8 EL = 883.4 Refusal = 879.9
BOR 9 EL = 885.8 Refusal = 880.8
BOR 10 EL = 887.0 Refusal = 880.5
BOR 11 EL = 885.3 Refusal = 881.8
BOR 12 EL = 904.4 Refusal = 894.4
BOR 13 EL = 905.1 Refusal = 896.1
BOR 14 EL = 902.1 Refusal = 891.6
BOR 15 EL = 924.2
BOR 16 EL = 920.0
BOR 17 EL = 929.6

ONE ACCESS POINT ALLOWED 690.8'

GOLF ROAD
COUNTY TRUNK HIGHWAY "DR"

INTERSTATE HIGHWAY "94"
(VARIABLE PUBLIC R.O.W.)

NOTES:

1. ROBERT J. STENZ FAMILY TRUST PROPERTY, TAK KEY NUMBER PWC 0940999001 PART OF SE 1/4 SEC 19, T7N, R19E.
2. CURRENT CITY OF PEWAUKEE ZONING: A-1 (AGRICULTURAL), L-C (LOWLAND CONSERVANCY) AND F-1 (FLOODLAND)
3. 2050 LAND USE PLAN: LOW-MEDIUM DENSITY RESIDENTIAL (1/2 AC - 2 AC/DU), FLOODPLAINS, LOWLANDS, UPLAND CONSERVANCY AND NATURAL AREAS. PROPOSED LAND USE IS MEDIUM DENSITY RESIDENTIAL (6,500 SF - 1/2 AC/DU), FLOODPLAINS, LOWLANDS, UPLAND CONSERVANCY AND NATURAL AREAS.
4. PROPOSED TO BE REZONED TO FLOODLAND,LOWLAND CONSERVANCY AND MULTIPLE-FAMILY RESIDENTIAL DEVELOPMENT (RM-1 PUD)

SETBACKS	RM-1	RM-1 PUD	PROPOSED
STREET	35'	24.5'	24.5'
SIDEYARD	25'	17.5'	20' BETWEEN BUILDINGS
REAR	35'	24.5'	30'
FLOODPLAIN	75'	75'	75'
WETLAND	25'	25'	50' (DNR NR 151) & 25' (CITY)

AREA CALCULATIONS

1. Total lot area = total site area - LPSD area (outlot 2) - proposed public road right-of-way dedication
   Total site area = 1,235,817 square feet
   LPSD area (outlot 2) = 493,678 square feet
   Proposed public road right-of-way dedication = 104,028 sf
   Total lot area = 1,235,817 sf - 493,678 sf - 104,028 sf = **638,111 sf**
2. **Proposed impervious on site (outside of public road ROW) = 256,651 sf**
   Proposed impervious on site = 256,651 sf / 638,111 sf = **40.2 %** (max 60% per City requirements)
3. **Upland open space =** total lot area - impervious on site
   = 638,111 sf - 256,651 sf = **381,460 sf**
4. **Total open space =** 381,460 sf
   = 381,460 sf / 638,111 sf = **59.8% open space** (min 40% per City requirements)

DENSITY CALCULATIONS

Rm-1 = 6.0 du/net acre (allowed)
Net acre = Total lot area
Net acre = 638,111 sf = 14.6 acres
14.6 acres * 6 du/net acre = **87 units (allowed)**
Proposed 62 units
Proposed density = 62 units / 16.4 acres = **3.8 du/net acre**

TO OBTAIN LOCATIONS OF PARTICIPANTS UNDERGROUND FACILITIES BEFORE YOU DIG IN WISCONSIN

CALL DIGGERS HOTLINE
1-800-242-8511
TOLL FREE
WIS STATUTE 182(0750974) REQUIRES MIN. 3 WORK DAYS NOTICE BEFORE YOU EXCAVATE
MILW. AREA 259-1181

NOTE: The location and size of the underground structures and utilities shown hereon have been located to a reasonable degree of accuracy, but the Engineer and/or Surveyor does not guarantee their exact location or the location of others not shown.
Contact Diggers Hotline, Inc., Etc.

© COPYRIGHT 2018

SITE PLAN

DRAFTED: BR
DESIGNED: ASZ
REVIEWED: ASZ

PLAN I DESIGN I DELIVER
www.pinnacle-engr.com

PINNACLE ENGINEERING GROUP
ENGINEERING I NATURAL RESOURCES I SURVEYING

WISCONSIN OFFICE:
15850 W. BLUEMOUND ROAD
BROOKFIELD, WI 53005
(262) 754-8888
CHICAGO I MILWAUKEE : NATIONWIDE

STENZ PROPERTY

CITY OF PEWAUKEE, WAUKESHA CO., WISCONSIN

SITE PLAN

REVISIONS

PEG JOB No. 1338.00-WI ASZ
PEG PM
START DATE 04-05-19
SCALE 1" = 80'

SHEET
C-1
C-1

Z:\PROJECTS\2018\1338.00-WI\CAD\SHEETS\CONCEPT PLAN.DWG

Wetland & Waterway Consulting, LLC
Dave Meyer
S83 W23915 Artesian Avenue • Big Bend, WI 53103
262-719-4286 • Fax 262-364-2197
E-Mail • *dave@wetlandwi.com*

1-14-19

Mr. Jim Forester
1405 Capitol Dr.
Pewaukee WI 53072

Dear Mr. Forester:

Wetland & Waterway Consulting (WWC) has conducted a wetland delineation on property located in Sec.19, T7N, R19E, City of Pewaukee, Waukesha County. The delineation was conducted on 8-27-18 and 8-29-18 at your request. This site is under consideration for future development; therefore, location of the wetlands prior to construction is necessary. The purpose of the delineation was to identify and flag all wetlands within the boundaries identified on the attached maps.

Investigator

Dave Meyer, lead delineator, is an independent environmental consultant providing wetland delineations, environmental permitting services, site assessments, and planning advice. He obtained a master's degree in Natural Resources Management from Southern Illinois University-Carbondale in 1977. Mr. Meyer has held technical and administrative positions in wetland and water resources specialties with the Wisconsin Department of Natural Resources and the U.S. Army Corps of Engineers. He has satisfactorily completed the Reg IV Wetland Delineation training offered by the U.S. Army Corps of Engineers, the Advanced Wetland Delineation training conducted by the University of Wisconsin-LaCrosse in 2002 and 2007, the USACOE/WIDNR 1987 Wetland Delineation Manual Midwest Region Supplement Training in 2009, the USACOE/WIDNR 1987 Wetland Delineation Manual Northcentral/Northeast Region Supplement Training in 2010, the Basic Hydric Soil ID training conducted by the University of Wisconsin-LaCrosse in 2011, the Wetland Training Institute's Advanced Hydrology for Jurisdictional Determinations in 2016, and the SEWRPC Environmental Corridor Delineation Workshops in 2004 and 2015. Mr. Meyer is recognized by the Wisconsin Department of Natural Resources as an Assured Delineator.

Methods

The site visit was conducted according to the guidelines identified in the U.S. Army Corps of Engineers' 1987 manual and the Northcentral/Northeast Regional Supplement. The plot size used was a 30 foot radius circle for trees, shrub/saplings, and woody vines, and a 5 foot radius circle for herbaceous vegetation.

Sampling points were located in the areas that exhibited wetland characteristics as well as upland characteristics. Data was collected on the vegetation, soils, and hydrology at each sampling point. The wetlands were identified using the technical approach described in the USACOE 1987 Manual. The wetland boundary was flagged using breaks in topography, transitions between hydric and upland vegetation, identification of wetland hydrology, and the presence of hydric soils. Roadside ditches were identified if they displayed hydric vegetation. Flags were placed in the middle of the ditches at their beginning and ending points for the surveyor to locate. If the ditch was very long or had unusual bends or

turns in it, additional flags were placed within the central parts of the ditch to assist in its location. The flags were located in the field by a registered land surveyor and a wetland map was produced which identifies all flagged wetland complexes and ditches within the subject boundaries. Refer to the wetland map attached to the end of this report for locations.
Resources utilized in the investigation included the NRCS county soil survey, Wisconsin Wetland Inventory mapping, topo mapping, aerial photos, and county plat mapping. Significant literature consulted includes:

Curtis, John. 1971. The Vegetation of Wisconsin. University of Wisconsin Press, Madison, Wisconsin. 173 pp.

Eggers, Steve and Donald Reed. 2011. Wetland Plants and Plant Communities of Minnesota and Wisconsin – 3rd Edition. St. Paul District, U.S. Army Corps of Engineers, St. Paul, MN 478 pp.

Peterson, Roger and Margaret McKenny. 1968. A Field Guide to Wildflowers of Northeastern and Northcentral North America. Houghton Mifflin Company, Boston, Mass. 420 pp.

Swink, Floyd and Gerould Wilhelm. 1994. Plants of the Chicago Region. The Morton Arboretum, Lisle, Illinois. 921 pp.

Results and Discussion

* This approximately 28.37 acre vacant site is situated on the northwest corner of the intersection of Golf Road and CTH G in the City of Pewaukee.

The site consists of upland shrubby areas, upland meadow, stands of upland hardwood trees and shrubs, and wetlands. The parcel slopes from south to north at slopes of between 5% and 10% grades. The ROW on Golf Road and CTH G slopes down to the site at a 30%+ grade. No roadside ditches are present. Three culverts at the toe-of-slope (Photo E) on Golf Road regularly discharge storm water to the subject parcel. This discharge has caused three depressional channels to form that carry surface water downslope to the large wetland complex that occupies the northern portion of the property. The eastern-most of these three channels (DP #6) lies primarily to the south of the property boundary. Significant portions of the other two channels (DP #'s 8, 11, and 12) are on site but also continue offsite to the south to their junction with the culverts.

* This site has not been previously delineated.

* The soil types mapped within the project boundaries are Casco loam (CeB, CeC2), Fox silt loam (FsB), Gravel pit (GP), Hochheim loam (HmB, HmD2), Houghton muck (Ht), Knowles silt loam (KwB), Lamartine silt loam (LmB), Loamy Land (Lu), and Theresa silt loam (ThB).

* The Wisconsin Wetland Inventory map shows an S3/E2K complex occupying the northern portion of the site. This complex was found and flagged in the general location and configuration as shown on the WWI. In addition, the drainage channels described above were also flagged. These channels are directly connected to the larger complex.

*** The following wetland complex was flagged and is present on the parcel:**

The 8.89 acre wetland consists of a combination of wet meadow (DP #'s 1, 8, 11, 12), shallow water marsh (DP #'s 3 and 5), and stands of lowland hardwood trees and shrubs (DP #6) occupying a shallow depressional basin and/or shallow depressional channels in the northern and eastern parts of the property. Flags were placed around the topo breaks along the upper edges of the depressional basin and depressional channels which coordinated closely with discernable shifts in vegetation, hydrology, and soils from hydric to upland conditions. This complex extends offsite for undetermined distances to the north and south. This complex is considered a combination of "moderately susceptible" with a protective area of 50 feet for impervious surfaces and "less susceptible" with a protective area of 10% of the average wetland width ranging between not less than 10 feet and not more than 30 feet for impervious surfaces.

The vegetative, soil, and hydrology characteristics at each data point are described on the individual data sheets. Collectively, the data points show that the wet meadow areas are dominated by common buckthorn in the sapling/shrub stratum and reed canary grass, prairie cord grass, giant goldenrod, and devil's pitchfork in the herbaceous stratum. Soils meet the F3 and F6 indicators, and hydrology indicators of Surface Water, High Water Table, Saturation, Geomorphic Position, and/or the FAC-Neutral Test are present.

The shallow water marsh areas are dominated by narrowleaf cattail, reed canary grass, and giant goldenrod in the herbaceous stratum. Soils meet the A1 and F6 indicators and hydrology indicators of Geomorphic Position and the FAC-Neutral Test are present.

The lowland hardwood tree and shrub areas are dominated by American elm and Chinese elm in the tree stratum; common buckthorn in the sapling/shrub stratum; reed canary grass, devil's pitchfork, and common buckthorn in the herbaceous stratum; and riverbank grape in the woody vine stratum. Soils meet the F6 indicator and hydrology indicators of High Water Table, Saturation, Geomorphic Position, and the FAC-Neutral Test are present.

The adjacent upland data points (DP #'s 2, 4, 7, 9, 10, and 13) all describe stands of upland hardwood trees and shrubs. The vegetative, soil, and hydrology characteristics at each data point are described on the individual data sheets. Collectively, the upland areas are dominated in the tree stratum by shagbark hickory, black walnut, common buckthorn, green ash, and box elder; common buckthorn and honeysuckle in the sapling/shrub stratum; white snakeroot, common buckthorn, Kentucky bluegrass, false nettle, and Queen Anne's lace in the herbaceous stratum; and riverbank grape in the woody vine stratum. Neither soil nor the required hydrology indicators are present at any of these data points.

Additional Data Points

Three additional data points were located across the site in representative locations to demonstrate the absence of wetland characteristics at these locations.

Upland DP #14 is located in the southwest corner of the site in a grassy area dominated by Queen Anne's lace and Kentucky bluegrass in the herbaceous stratum. Neither soil nor the required hydrology indicators are present.

DP #15 is located in the west-central portion of the property in a stand of upland hardwood trees and shrubs dominated by northern red oak and black walnut in the tree stratum; common buckthorn in the sapling/shrub stratum; and periwinkle and stickseed in the herbaceous stratum. Neither soil nor the required hydrology indicators are present.

DP #16 is located in the center of the property in a stand of upland hardwood trees and shrubs dominated by American elm in the tree stratum; autumn olive in the sapling/shrub stratum; and prairie cordgrass, Queen Anne's lace, and bird's foot trefoil in the herbaceous stratum. Neither soil nor the required hydrology indicators are present.

Precipitation Data

Precipitation data from the websites of the USDA Natural Resource Conservation Service, the National Oceanic and Atmospheric Administration (NOAA), and Oconomowoc WETS station WI6200 was examined. This antecedent data was reviewed and considered while making determinations concerning the presence and/or absence of wetlands during the field investigation.

Because the antecedent precipitation was normal, direct observation of saturated soils, and even the possibility of standing water, was potentially anticipated, although not expected. Other primary indicators as well as the secondary indicators were also searched for.

Note that when a site is delineated in the second half of the month, the current month and the previous 2 months are taken into consideration.

Condition Value Dry = 1 Normal = 2 Wet = 3

	Month	Normal	3 yrs. In 10 less than	3 yrs. In 10 more than	Observed precip.	Condition dry, wet, normal	Condition value	Month weight value	Product of previous two columns
current month	August	4.52	3.14	5.38	9.03	wet	3	3	9
1st prior month	July	4.21	2.95	4.99	2.94	dry	1	2	2
2nd prior month	June	3.97	2.69	4.74	6.62	wet	3	1	3
								sum	14

If sum is	
6 - 9	drier than normal
10 - 14	normal
15 - 18	wetter than normal

Conclusion

Antecedent precipitation was normal.

Conclusion

The wetland lines staked in the field and referred to in this report are the best estimate of the wetland boundaries based on the conditions present at the time of delineation. The wetlands identified for this report may be subject to federal regulation under the jurisdiction of the U.S. Army Corps of Engineers, state regulation under the jurisdiction of Wisconsin DNR, and local jurisdiction under your local county, town, city, or village. Because this delineation was conducted by Mr. Meyer, an Assured Delineator, obtaining a concurrence letter from the Wisconsin Department of Natural Resources is not necessary. Concurrence with these wetland lines by the U.S. Army Corps of Engineers, however, must be obtained before undertaking any alterations or modifications of this property. Activities affecting wetlands or surface waters may require permits from the U.S. Army Corps of Engineers, the Wisconsin Department of Natural Resources, and local municipal authorities. The client must obtain authorization from all proper regulatory authorities before altering, modifying, or using the property. If the required authorizations are not obtained, Wetland & Waterway Consulting, LLC shall not be liable or responsible for any resulting damages.

Sincerely,

Dave Meyer

Attachments
1. Data points
2. Soil Survey maps
3. Wisconsin Wetland Inventory map
4. USGS topo map
5. Location map
6. Site photographs
7. Wetland boundary map

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

Project/Site: Golf Road City/County: Pewaukee Sampling Date: 8-27-18
Applicant/Owner: State: WI Sampling Point: #1 wet
Investigator(s): Meyer Section, Township, Range: Sec. 19 T7N R19E
Landform (hillslope, terrace, etc.): depressional basin Local relief (concave, convex, none): concave
Slope (%): 5 Lat.: Long.: Datum:
Soil Map Unit Name: Theresa silt loam ThB NWI Classification: S3/E2K
Are climatic/hydrologic conditions of the site typical for this time of the year? see report (If no, explain in remarks)
Are vegetation N, soil N, or hydrology N significantly disturbed? Are "normal
Are vegetation N, soil N, or hydrology N naturally problematic? circumstances" present? Y
(If needed, explain any answers in remarks)

SUMMARY OF FINDINGS

Hydrophytic vegetation present?	Y	Is the sampled area within a wetland?	Y
Hydric soil present?	Y		
Indicators of wetland hydrology present?	Y	If yes, optional wetland site ID:	

Remarks: (Explain alternative procedures here or in a separate report.)

HYDROLOGY

Primary Indicators (minimum of one is required; check all that apply)
- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)
- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ✓ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ✓ FAC-Neutral Test (D5)
- ___ Microtopographic Relief (D4)

Field Observations:

Surface water present?	Yes ___	No ✓	Depth (inches):		Indicators of wetland hydrology present? Y
Water table present?	Yes ___	No ✓	Depth (inches):		
Saturation present? (includes capillary fringe)	Yes ✓	No ___	Depth (inches):	14	

Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants

Sampling Point: 1

Tree Stratum	Plot Size ( )	Absolute % Cover	Dominant Species	Indicator Status
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				
		= Total Cover		

Sapling/Shrub Stratum	Plot Size ( )	Absolute % Cover	Dominant Species	Indicator Status
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				
		= Total Cover		

Herb Stratum	Plot Size ( )	Absolute % Cover	Dominant Species	Indicator Status
1 Solidago sigantea		50	✓	FACW
2				
3				
4 Spartina pectinata		60	✓	FACW
5				
6				
7 Urtica dioica		20		FAC
8				
9				
10 Aster novae-angliae		5		FACU
11				
12				
13				
14				
15				
		135 = Total Cover		

Woody Vine Stratum	Plot Size ( )	Absolute % Cover	Dominant Species	Indicator Status
1				
2				
3				
4				
5				
		= Total Cover		

50/20 Thresholds

	20%	50%
Tree Stratum		
Sapling/Shrub Stratum		
Herb Stratum		2
Woody Vine Stratum		

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across all Strata: 2 (B)

Percent of Dominant Species that are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index Worksheet

Total % Cover of:

OBL species	x 1 =		
FACW species	x 2 =		
FAC species	x 3 =		
FACU species	x 4 =		
UPL species	x 5 =		
Column totals	(A)		(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

- ✓ Rapid test for hydrophytic vegetation
- ✓ Dominance test is >50%
- Prevalence index is ≤3.0*
- Morphological adaptations* (provide supporting data in Remarks or on a separate sheet)
- Problematic hydrophytic vegetation* (explain)

*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic vegetation present? Y

Remarks: (Include photo numbers here or on a separate sheet)

SOIL **Sampling Point:** 1

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type*	Loc**	Texture	Remarks
0-9	10YR 4/1	90	10YR 4/4	10	C	M	Silt loam	
9-24	10YR 2/1	80	10YR 3/6	20	C	M	Silt loam	

*Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains
**Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators:

- ___ Histisol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Suface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) (**LRR R, MLRA 149B**)
- ___ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
- ___ Thin Dark Surface (S9) (**LRR R, MLRA 149B**
- ___ Loamy Mucky Mineral (F1) (**LRR K, L**)
- ___ Loamy Gleyed Matrix (F2)
- ✓ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils:

- ___ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**
- ___ Coast Prairie Redox (A16) (**LRR K, L, R**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
- ___ Dark Surface (S7) (**LRR K, L**
- ___ Polyvalue Below Surface (S8) (**LRR K, L**)
- ___ Thin Dark Surface (S9) (**LRR K, L**)
- ___ Iron-Manganese Masses (F12) (**LRR K, L, R**)
- ___ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
- ___ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

*Indicators of hydrophytic vegetation and weltand hydrology must be present, unless disturbed or problematic

Restrictive Layer (if observed):
Type: _____
Depth (inches): _____

Hydric soil present? Y

Remarks:

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

Project/Site: Golf Road City/County: Pewaukee Sampling Date: 8-27-18
Applicant/Owner: State: WI Sampling Point: #2 up
Investigator(s): Meyer Section, Township, Range: Sec. 19 T7N R19E
Landform (hillslope, terrace, etc.): hillslope Local relief (concave, convex, none): concave
Slope (%): 2 Lat.: Long.: Datum:
Soil Map Unit Name: Hochheim loam HmB NWI Classification: None
Are climatic/hydrologic conditions of the site typical for this time of the year? see rmks (If no, explain in remarks)
Are vegetation N, soil N, or hydrology N significantly disturbed? Are "normal
Are vegetation N, soil N, or hydrology N naturally problematic? circumstances" present? Y
(If needed, explain any answers in remarks)

SUMMARY OF FINDINGS

Hydrophytic vegetation present?	N	Is the sampled area within a wetland?	N
Hydric soil present?	N		
Indicators of wetland hydrology present?	N	If yes, optional wetland site ID:	

Remarks: (Explain alternative procedures here or in a separate report.)

HYDROLOGY

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Microtopographic Relief (D4)

Field Observations:

Surface water present?	Yes ___	No ✓	Depth (inches): ___
Water table present?	Yes ___	No ✓	Depth (inches): ___
Saturation present? (includes capillary fringe)	Yes ___	No ✓	Depth (inches): ___

Indicators of wetland hydrology present? N

Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants

Sampling Point: 2

Tree Stratum (Plot Size ( ))	Absolute % Cover	Dominant Species	Indicator Status
1 Carya ovata	20	✓	FACU
2			
3 Juglans nigra	50	✓	FACU
4			
5			
6			
7			
8			
9			
10			
	70 = Total Cover		

Sapling/Shrub Stratum (Plot Size ( ))	Absolute % Cover	Dominant Species	Indicator Status
1 Rhamnus cathartica	5	✓	FAC
2			
3			
4			
5			
6			
7			
8			
9			
10			
	5 = Total Cover		

Herb Stratum (Plot Size ( ))	Absolute % Cover	Dominant Species	Indicator Status
1 Ageratina altissima	100	✓	FACU
2			
3 Boehmeria cylindrica	5		OBL
4			
5			
6			
7			
8			
9			
10			
11			
12			
13			
14			
15			
	105 = Total Cover		

Woody Vine Stratum (Plot Size ( ))	Absolute % Cover	Dominant Species	Indicator Status
1			
2 Vitis riparia	10	✓	FAC
3			
4			
5			
	10 = Total Cover		

50/20 Thresholds

	20%	50%
Tree Stratum	1	1
Sapling/Shrub Stratum		1
Herb Stratum		1
Woody Vine Stratum		1

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across all Strata: 5 (B)

Percent of Dominant Species that are OBL, FACW, or FAC: 40 (A/B)

Prevalence Index Worksheet

Total % Cover of:

OBL species	x 1 =		
FACW species	x 2 =		
FAC species	x 3 =		
FACU species	x 4 =		
UPL species	x 5 =		
Column totals	(A)		(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

___ Rapid test for hydrophytic vegetation
___ Dominance test is >50%
___ Prevalence index is ≤3.0*
___ Morphogical adaptations* (provide supporting data in Remarks or on a separate sheet)
___ Problematic hydrophytic vegetation* (explain)

*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic vegetation present? N

Remarks: (Include photo numbers here or on a separate sheet)

SOIL **Sampling Point:** 2

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (Inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type*	Loc**	Texture	Remarks
0-14	10YR 3/2	100					Silt loam	
14-24	10YR 4/2	95	10YR 3/6	5	C	M	clay loam	

*Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains
**Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators:

- ___ Histisol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Suface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149B)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

*Indicators of hydrophytic vegetation and weltand hydrology must be present, unless disturbed or problematic

Restrictive Layer (if observed):
Type: _____
Depth (inches): _____

Hydric soil present? N

Remarks:

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

Project/Site: Golf Road City/County: Pewaukee Sampling Date: 8-27-18
Applicant/Owner: State: WI Sampling Point: #3 wet
Investigator(s): Meyer Section, Township, Range: Sec. 19 T7N R19E
Landform (hillslope, terrace, etc.): depressional basin Local relief (concave, convex, none): Concave
Slope (%): ~3 Lat.: Long.: Datum:
Soil Map Unit Name: Lamartine silt loam LmB NWI Classification: PSSJ/E2K
Are climatic/hydrologic conditions of the site typical for this time of the year? see report (If no, explain in remarks)
Are vegetation N, soil N, or hydrology N significantly disturbed? Are "normal
Are vegetation N, soil N, or hydrology N naturally problematic? circumstances" present? Y
(If needed, explain any answers in remarks)

SUMMARY OF FINDINGS

Hydrophytic vegetation present?	Y	Is the sampled area within a wetland?	Y
Hydric soil present?	Y		
Indicators of wetland hydrology present?	Y	If yes, optional wetland site ID:	

Remarks: (Explain alternative procedures here or in a separate report.)

HYDROLOGY

Primary Indicators (minimum of one is required; check all that apply)
- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)
- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ✓ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ✓ FAC-Neutral Test (D5)
- ___ Microtopographic Relief (D4)

Field Observations:

Surface water present?	Yes ___	No ✓	Depth (inches):		Indicators of wetland hydrology present? Y
Water table present?	Yes ___	No ✓	Depth (inches):		
Saturation present? (includes capillary fringe)	Yes ✓	No ___	Depth (inches):	19	

Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants

Sampling Point: 3

Tree Stratum	Plot Size ( )	Absolute % Cover	Dominant Species	Indicator Status
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				
		= Total Cover		

Sapling/Shrub Stratum	Plot Size ( )	Absolute % Cover	Dominant Species	Indicator Status
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				
		= Total Cover		

Herb Stratum	Plot Size ( )	Absolute % Cover	Dominant Species	Indicator Status
1	Typha angustifolia	50	/	OBL
2				
3				
4	Phalaris arundinacea	35	/	FACW
5				
6	Solidago gigantea	10	/	FACW
7				
8				
9	Verbena hastata	2		FACW
10				
11				
12				
13				
14				
15				
		147 = Total Cover		

Woody Vine Stratum	Plot Size ( )	Absolute % Cover	Dominant Species	Indicator Status
1				
2				
3				
4				
5				
		= Total Cover		

50/20 Thresholds

	20%	50%
Tree Stratum		
Sapling/Shrub Stratum		
Herb Stratum	1	2
Woody Vine Stratum		

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across all Strata: 3 (B)

Percent of Dominant Species that are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index Worksheet

Total % Cover of:

OBL species	x 1 =		
FACW species	x 2 =		
FAC species	x 3 =		
FACU species	x 4 =		
UPL species	x 5 =		
Column totals	(A)		(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

- ___ Rapid test for hydrophytic vegetation
- ✓ Dominance test is >50%
- ___ Prevalence index is ≤3.0*
- ___ Morphogical adaptations* (provide supporting data in Remarks or on a separate sheet)
- ___ Problematic hydrophytic vegetation* (explain)

*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic vegetation present? Y

Remarks: (Include photo numbers here or on a separate sheet)

SOIL **Sampling Point:** 3

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (Inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type*	Loc**	Texture	Remarks
0-7	10YR 3/1	95	10YR 3/6	5	C	M	Silt loam	
7-24	10YR 2/1	100					muck	

*Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains
**Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators:

- ✓ Histisol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Suface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) (**LRR R, MLRA 149B**)
- ___ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
- ___ Thin Dark Surface (S9) (**LRR R, MLRA 149B**
- ___ Loamy Mucky Mineral (F1) (**LRR K, L**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ✓ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils:

- ___ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**
- ___ Coast Prairie Redox (A16) (**LRR K, L, R**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
- ___ Dark Surface (S7) (**LRR K, L**
- ___ Polyvalue Below Surface (S8) (**LRR K, L**)
- ___ Thin Dark Surface (S9) (**LRR K, L**)
- ___ Iron-Manganese Masses (F12) (**LRR K, L, R**)
- ___ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
- ___ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

*Indicators of hydrophytic vegetation and weltand hydrology must be present, unless disturbed or problematic

Restrictive Layer (if observed):
Type: _____
Depth (inches): _____

Hydric soil present? Y

Remarks:

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

Project/Site: Golf Road City/County: Pewaukee Sampling Date: 8-27-18
Applicant/Owner: State: WI Sampling Point: #4 UP
Investigator(s): Meyer Section, Township, Range: Sec. 19 T7N R19E
Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): Convex
Slope (%): ~5 Lat.: Long.: Datum:
Soil Map Unit Name: Hochheim loam HmB NWI Classification: None
Are climatic/hydrologic conditions of the site typical for this time of the year? see remarks (If no, explain in remarks)
Are vegetation N, soil N, or hydrology N significantly disturbed? Are "normal
Are vegetation N, soil N, or hydrology N naturally problematic? circumstances" present? Y
(If needed, explain any answers in remarks)

SUMMARY OF FINDINGS

Hydrophytic vegetation present?	N	**Is the sampled area within a wetland?**	N
Hydric soil present?	N		
Indicators of wetland hydrology present?	N	If yes, optional wetland site ID:	

Remarks: (Explain alternative procedures here or in a separate report.)

HYDROLOGY

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Microtopographic Relief (D4)

Field Observations:

Surface water present?	Yes ___	No ✓	Depth (inches):	
Water table present?	Yes ___	No ✓	Depth (inches):	
Saturation present? (includes capillary fringe)	Yes ___	No ✓	Depth (inches):	

Indicators of wetland hydrology present? N

Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants

Sampling Point: 4

Tree Stratum	Plot Size ( )	Absolute % Cover	Dominant Species	Indicator Status
1 Juglans nigra		45	✓	FACU
2				
3				
4				
5				
6				
7				
8				
9				
10				
		45 =	Total Cover	

Sapling/Shrub Stratum	Plot Size ( )	Absolute % Cover	Dominant Species	Indicator Status
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				
		=	Total Cover	

Herb Stratum	Plot Size ( )	Absolute % Cover	Dominant Species	Indicator Status
1 Asclepias altissima		100	✓	FACU
2				
3				
4				
5 Boehmeria cylindrica		5		OBL
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				
		105 =	Total Cover	

Woody Vine Stratum	Plot Size ( )	Absolute % Cover	Dominant Species	Indicator Status
1				
2				
3				
4				
5				
		=	Total Cover	

50/20 Thresholds

	20%	50%
Tree Stratum		1
Sapling/Shrub Stratum		
Herb Stratum		1
Woody Vine Stratum		

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across all Strata: 2 (B)

Percent of Dominant Species that are OBL, FACW, or FAC: 0 (A/B)

Prevalence Index Worksheet

Total % Cover of:

OBL species	x 1 =		
FACW species	x 2 =		
FAC species	x 3 =		
FACU species	x 4 =		
UPL species	x 5 =		
Column totals	(A)		(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

- ___ Rapid test for hydrophytic vegetation
- ___ Dominance test is >50%
- ___ Prevalence Index is ≤3.0*
- ___ Morphogical adaptations* (provide supporting data in Remarks or on a separate sheet)
- ___ Problematic hydrophytic vegetation* (explain)

*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic vegetation present? N

Remarks: (Include photo numbers here or on a separate sheet)

SOIL **Sampling Point:** 4

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type*	Loc**	Texture	Remarks
0-15	10YR 3/2	100					Silt loam	
15-19	10YR 2/2	100					Silt loam	
19-24	10YR 2/1	100					Silt loam	

*Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains
**Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators:

- ___ Histisol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Suface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149B)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

*Indicators of hydrophytic vegetation and weltand hydrology must be present, unless disturbed or problematic

Restrictive Layer (if observed):
Type: _____
Depth (inches): _____

Hydric soil present? N

Remarks:

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

Project/Site: Golf Road City/County: Pewaukee Sampling Date: 8-27-18
Applicant/Owner: State: WI Sampling Point: #5 wet
Investigator(s): Meyer Section, Township, Range: Sec. 19 T7N R19E
Landform (hillslope, terrace, etc.): depressional basin Local relief (concave, convex, none): concave
Slope (%): ~5 Lat.: Long.: Datum:
Soil Map Unit Name: Lamartine silt loam Lm15 NWI Classification: S3/E2K
Are climatic/hydrologic conditions of the site typical for this time of the year? see rpt (If no, explain in remarks)
Are vegetation N, soil N, or hydrology N significantly disturbed? Are "normal
Are vegetation N, soil N, or hydrology N naturally problematic? circumstances" present? Y
(If needed, explain any answers in remarks)

SUMMARY OF FINDINGS

Hydrophytic vegetation present? Y Hydric soil present? Y Indicators of wetland hydrology present? Y	Is the sampled area within a wetland? Y If yes, optional wetland site ID:

Remarks: (Explain alternative procedures here or in a separate report.)

HYDROLOGY

Primary Indicators (minimum of one is required; check all that apply)
- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)
- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Microtopographic Relief (D4)

Field Observations:

Surface water present?	Yes ___	No ✓	Depth (inches):	
Water table present?	Yes ___	No ✓	Depth (inches):	
Saturation present? (includes capillary fringe)	Yes ✓	No ___	Depth (inches):	16

Indicators of wetland hydrology present? Y

Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants

Sampling Point: 5

Tree Stratum	Plot Size ( )	Absolute % Cover	Dominant Species	Indicator Status
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				
		= Total Cover		

Sapling/Shrub Stratum	Plot Size ( )	Absolute % Cover	Dominant Species	Indicator Status
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				
		= Total Cover		

Herb Stratum	Plot Size ( )	Absolute % Cover	Dominant Species	Indicator Status
1 Typha Shyustifolia		65	✓	OBL
2				
3				
4 Phalaris arundinacea		30	✓	FACW
5				
6				
7 Solidago Sigantea		35	✓	FACW
8				
9				
10				
11				
12				
13				
14				
15				
		130 = Total Cover		

Woody Vine Stratum	Plot Size ( )	Absolute % Cover	Dominant Species	Indicator Status
1				
2				
3				
4				
5				
		= Total Cover		

50/20 Thresholds

	20%	50%
Tree Stratum		
Sapling/Shrub Stratum		
Herb Stratum	2	1
Woody Vine Stratum		

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across all Strata: 3 (B)

Percent of Dominant Species that are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index Worksheet

Total % Cover of:

OBL species	x 1 =		
FACW species	x 2 =		
FAC species	x 3 =		
FACU species	x 4 =		
UPL species	x 5 =		
Column totals	(A)		(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

- ___ Rapid test for hydrophytic vegetation
- ✓ Dominance test is >50%
- ___ Prevalence index is ≤3.0*
- ___ Morphogical adaptations* (provide supporting data in Remarks or on a separate sheet)
- ___ Problematic hydrophytic vegetation* (explain)

*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic vegetation present? Y

Remarks: (Include photo numbers here or on a separate sheet)

SOIL **Sampling Point:** 5

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (Inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type*	Loc**	Texture	Remarks
0-11	10YR 3/1	90	10YR 4/6	10	C	M	Silt loam	
11-21	10YR 2/1	100					muck	

*Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains
**Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators:

- ✓ Histisol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Suface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ✓ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149B)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

*Indicators of hydrophytic vegetation and weltand hydrology must be present, unless disturbed or problematic

Restrictive Layer (if observed):
Type: _____
Depth (inches): _____

Hydric soil present? Y

Remarks:

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

Project/Site: Golf Road City/County: Pewaukee Sampling Date: 8-27-18
Applicant/Owner: State: WI Sampling Point: #6 West
Investigator(s): Meyer Section, Township, Range: Sec. 19 T7N R19E
Landform (hillslope, terrace, etc.): depressional basin Local relief (concave, convex, none): Concave
Slope (%): ~5 Lat.: Long.: Datum:
Soil Map Unit Name: Lamartine silt loam LmB NWI Classification: S3/E2K
Are climatic/hydrologic conditions of the site typical for this time of the year? see report (If no, explain in remarks)
Are vegetation N, soil N, or hydrology N significantly disturbed? Are "normal
Are vegetation N, soil N, or hydrology N naturally problematic? circumstances" present? Y
(If needed, explain any answers in remarks)

SUMMARY OF FINDINGS

Hydrophytic vegetation present?	Y	Is the sampled area within a wetland?	Y
Hydric soil present?	Y		
Indicators of wetland hydrology present?	Y	If yes, optional wetland site ID:	

Remarks: (Explain alternative procedures here or in a separate report.)

HYDROLOGY

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ✓ High Water Table (A2)
- ✓ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ✓ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ✓ FAC-Neutral Test (D5)
- ___ Microtopographic Relief (D4)

Field Observations:

Surface water present?	Yes	___	No	✓	Depth (inches):
Water table present?	Yes	✓	No	___	Depth (inches): 11
Saturation present? (includes capillary fringe)	Yes	✓	No	___	Depth (inches): surface

Indicators of wetland hydrology present? Y

Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants

Sampling Point: 6

Tree Stratum (Plot Size ( ))	Absolute % Cover	Dominant Species	Indicator Status
1 Ulmus americana	40	✓	FACW
2			
3			
4 Ulmus pumila	20	✓	FACU
5			
6			
7 Rhamnus cathartica	5		FAC
8			
9			
10			
	65	= Total Cover	

Sapling/Shrub Stratum (Plot Size ( ))	Absolute % Cover	Dominant Species	Indicator Status
1 Rhamnus cathartica	80	✓	FAC
2			
3			
4			
5			
6			
7			
8			
9			
10			
	80	= Total Cover	

Herb Stratum (Plot Size ( ))	Absolute % Cover	Dominant Species	Indicator Status
1 Rhamnus cathartica	30	✓	FAC
2			
3			
4 Phalaris arundinacea	20	✓	FACW
5			
6			
7 Urtica dioica	5		FAC
8			
9			
10 Bidens frondosa	40	✓	FACW
11			
12			
13 Scirpus atrovirens	5		OBL
14			
15			
	100	= Total Cover	

Woody Vine Stratum (Plot Size ( ))	Absolute % Cover	Dominant Species	Indicator Status
1			
2 Vitis riparia	5	✓	FAC
3			
4			
5			
	5	= Total Cover	

50/20 Thresholds

	20%	50%
Tree Stratum	1	1
Sapling/Shrub Stratum		1
Herb Stratum	1	2
Woody Vine Stratum		1

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 6 (A)

Total Number of Dominant Species Across all Strata: 7 (B)

Percent of Dominant Species that are OBL, FACW, or FAC: 86 (A/B)

Prevalence Index Worksheet

Total % Cover of:

OBL species	x 1 =		
FACW species	x 2 =		
FAC species	x 3 =		
FACU species	x 4 =		
UPL species	x 5 =		
Column totals	(A)		(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

- ___ Rapid test for hydrophytic vegetation
- ✓ Dominance test is >50%
- ___ Prevalence index is ≤3.0*
- ___ Morphogical adaptations* (provide supporting data in Remarks or on a separate sheet)
- ___ Problematic hydrophytic vegetation* (explain)

*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic vegetation present? Y

Remarks: (Include photo numbers here or on a separate sheet)

SOIL **Sampling Point:** 6

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type*	Loc**	Texture	Remarks
0-6	10YR 2/2	95	10YR 3/6	5	C	M	silt loam	
6-13	10YR 3/2	90	10YR 3/6	10	C	M	silt loam	
13-24	10YR 2/1	90	10YR 3/6	10	C	M	silt loam	

*Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains
**Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators:

- ___ Histisol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Suface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149B)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

*Indicators of hydrophytic vegetation and weltand hydrology must be present, unless disturbed or problematic

Restrictive Layer (if observed):
Type: _____
Depth (inches): _____

Hydric soil present? Y

Remarks:

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

Project/Site: Golf Road City/County: Pewaukee Sampling Date: 8-27-18
Applicant/Owner: State: WI Sampling Point: #7 UP
Investigator(s): Meyer Section, Township, Range: Sec. 19 T7N R19E
Landform (hillslope, terrace, etc.): hillslope Local relief (concave, convex, none): concave
Slope (%): ~10 Lat.: Long.: Datum:
Soil Map Unit Name: Hochheim silt loam HmB NWI Classification: None
Are climatic/hydrologic conditions of the site typical for this time of the year? see rpt (If no, explain in remarks)
Are vegetation N, soil N, or hydrology N significantly disturbed? Are "normal
Are vegetation N, soil N, or hydrology N naturally problematic? circumstances" present? Y
(If needed, explain any answers in remarks)

SUMMARY OF FINDINGS

Hydrophytic vegetation present?	Y	**Is the sampled area within a wetland?**	N
Hydric soil present?	N		
Indicators of wetland hydrology present?	N	If yes, optional wetland site ID:	

Remarks: (Explain alternative procedures here or in a separate report.)

HYDROLOGY

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ✓ FAC-Neutral Test (D5)
- ___ Microtopographic Relief (D4)

Field Observations:

Surface water present?	Yes ___	No ✓	Depth (inches): ___
Water table present?	Yes ___	No ✓	Depth (inches): ___
Saturation present? (includes capillary fringe)	Yes ___	No ✓	Depth (inches): ___

Indicators of wetland hydrology present? N

Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants

Sampling Point: 7

Tree Stratum (Plot Size ( ))	Absolute % Cover	Dominant Species	Indicator Status
1 Rhamnus cathartica	5	✓	FAC
2			
3			
4 Fraxinus pennsylvanica	10	✓	FACW
5			
6			
7 Acer negundo	10	✓	FAC
8			
9			
10			
	25	= Total Cover	

Sapling/Shrub Stratum (Plot Size ( ))	Absolute % Cover	Dominant Species	Indicator Status
1 Rhamnus cathartica	90	✓	FAC
2			
3			
4			
5			
6			
7			
8			
9			
10			
	90	= Total Cover	

Herb Stratum (Plot Size ( ))	Absolute % Cover	Dominant Species	Indicator Status
1 Rhamnus cathartica	25	✓	FAC
2			
3			
4			
5			
6			
7			
8			
9			
10			
11			
12			
13			
14			
15			
	25	= Total Cover	

Woody Vine Stratum (Plot Size ( ))	Absolute % Cover	Dominant Species	Indicator Status
1			
2 Vitis riparia	10	✓	FAC
3			
4			
5			
	10	= Total Cover	

50/20 Thresholds

	20%	50%
Tree Stratum	1	2
Sapling/Shrub Stratum		1
Herb Stratum		1
Woody Vine Stratum		1

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 6 (A)

Total Number of Dominant Species Across all Strata: 6 (B)

Percent of Dominant Species that are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index Worksheet

Total % Cover of:

OBL species	x 1 =		
FACW species	x 2 =		
FAC species	x 3 =		
FACU species	x 4 =		
UPL species	x 5 =		
Column totals	(A)		(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

- ___ Rapid test for hydrophytic vegetation
- ✓ Dominance test is >50%
- ___ Prevalence index is ≤3.0*
- ___ Morphogical adaptations* (provide supporting data in Remarks or on a separate sheet)
- ___ Problematic hydrophytic vegetation* (explain)

*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic vegetation present? Y

Remarks: (Include photo numbers here or on a separate sheet)

SOIL **Sampling Point:** 7

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (Inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type*	Loc**	Texture	Remarks
0-10	10YR2/2	100					silt loam	
10-24	10YR4/4	95	10YR4/6	5	C	M	Clay loam	

*Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains
**Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators:

- ___ Histisol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Suface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149B)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

*Indicators of hydrophytic vegetation and weltand hydrology must be present, unless disturbed or problematic

Restrictive Layer (If observed):
Type: _____
Depth (inches): _____

Hydric soil present? N

Remarks:

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

Project/Site: Golf Road City/County: Pewaukee Sampling Date: 8-29-18
Applicant/Owner: State: WI Sampling Point: #8 Wet
Investigator(s): Meyer Section, Township, Range: Sec. 19 T7N R19E
Landform (hillslope, terrace, etc.): depressional channel Local relief (concave, convex, none): concave
Slope (%): ≈3 Lat.: Long.: Datum:
Soil Map Unit Name: Hochheim silt loam HmB NWI Classification: None
Are climatic/hydrologic conditions of the site typical for this time of the year? see rmrk (If no, explain in remarks)
Are vegetation N, soil N, or hydrology N significantly disturbed? Are "normal
Are vegetation N, soil N, or hydrology N naturally problematic? circumstances" present? Y
(If needed, explain any answers in remarks)

SUMMARY OF FINDINGS

Hydrophytic vegetation present? Y Hydric soil present? Y Indicators of wetland hydrology present? Y	**Is the sampled area within a wetland?** Y If yes, optional wetland site ID:

Remarks: (Explain alternative procedures here or in a separate report.)

HYDROLOGY

Primary Indicators (minimum of one is required; check all that apply)
- ✓ Surface Water (A1)
- ✓ High Water Table (A2)
- ✓ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)
- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ✓ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ✓ FAC-Neutral Test (D5)
- ___ Microtopographic Relief (D4)

Field Observations:

Surface water present?	Yes ✓	No ___	Depth (inches): 2	
Water table present?	Yes ✓	No ___	Depth (inches): Surface	**Indicators of wetland hydrology present?** Y
Saturation present? (includes capillary fringe)	Yes ✓	No ___	Depth (inches): Surface	

Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants

Sampling Point: 8

Tree Stratum	Plot Size ( )	Absolute % Cover	Dominant Species	Indicator Status
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				
		= Total Cover		

Sapling/Shrub Stratum	Plot Size ( )	Absolute % Cover	Dominant Species	Indicator Status
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				
		= Total Cover		

Herb Stratum	Plot Size ( )	Absolute % Cover	Dominant Species	Indicator Status
1	Bidens frondosa	40	✓	FACW
2				
3	Phalaris arundinacea	60	✓	FACW
4				
5				
6	Solidago gigantea	5		FACW
7				
8				
9	Impatiens capensis	2		FACW
10				
11				
12				
13				
14				
15				
		107 = Total Cover		

Woody Vine Stratum	Plot Size ( )	Absolute % Cover	Dominant Species	Indicator Status
1				
2				
3				
4				
5				
		= Total Cover		

50/20 Thresholds

	20%	50%
Tree Stratum		
Sapling/Shrub Stratum		
Herb Stratum	1	1
Woody Vine Stratum		

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across all Strata: 2 (B)

Percent of Dominant Species that are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index Worksheet

Total % Cover of:

OBL species	x 1 =		
FACW species	x 2 =		
FAC species	x 3 =		
FACU species	x 4 =		
UPL species	x 5 =		
Column totals	(A)		(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

- ___ Rapid test for hydrophytic vegetation
- ✓ Dominance test is >50%
- ___ Prevalence index is ≤3.0*
- ___ Morphological adaptations* (provide supporting data in Remarks or on a separate sheet)
- ___ Problematic hydrophytic vegetation* (explain)

*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic vegetation present? Y

Remarks: (Include photo numbers here or on a separate sheet)

SOIL **Sampling Point:** 8

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (Inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type*	Loc**	Texture	Remarks
0-7	10YR3/1	100					silt loam	
7-17	10YR3/1	90	10YR4/6	10	C	M	silt loam	
17-24	10YR4/2	70	10YR4/6	30	C	M	clay loam	

*Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains
**Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators:

___ Histisol (A1)
___ Histic Epipedon (A2)
___ Black Histic (A3)
___ Hydrogen Sulfide (A4)
___ Stratified Layers (A5)
___ Depleted Below Dark Suface (A11)
___ Thick Dark Surface (A12)
___ Sandy Mucky Mineral (S1)
___ Sandy Gleyed Matrix (S4)
___ Sandy Redox (S5)
___ Stripped Matrix (S6)
___ Dark Surface (S7) **(LRR R, MLRA 149B)**
___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
___ Thin Dark Surface (S9) **(LRR R, MLRA 149B**
___ Loamy Mucky Mineral (F1) **(LRR K, L)**
___ Loamy Gleyed Matrix (F2)
___ Depleted Matrix (F3)
✓ Redox Dark Surface (F6)
___ Depleted Dark Surface (F7)
___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils:

___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B**
___ Coast Prairie Redox (A16) **(LRR K, L, R)**
___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
___ Dark Surface (S7) **(LRR K, L**
___ Polyvalue Below Surface (S8) **(LRR K, L)**
___ Thin Dark Surface (S9) **(LRR K, L)**
___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
___ Piedmont Floodplain Soils (F19) **(MLRA 149B)**
___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
___ Red Parent Material (TF2)
___ Very Shallow Dark Surface (TF12)
___ Other (Explain in Remarks)

*Indicators of hydrophytic vegetation and weltand hydrology must be present, unless disturbed or problematic

Restrictive Layer (if observed):
Type: _____
Depth (inches): _____

Hydric soil present? Y

Remarks:

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

Project/Site: Golf Road City/County: Pewaukee Sampling Date: 8-29-18
Applicant/Owner: State: WI Sampling Point: #9 UP
Investigator(s): Meyer Section, Township, Range: Sec. 19 T7N R19E
Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): Convex
Slope (%): ≈5 Lat.: Long.: Datum:
Soil Map Unit Name: Lamartine silt loam 6m B NWI Classification: None
Are climatic/hydrologic conditions of the site typical for this time of the year? see report (If no, explain in remarks)
Are vegetation N, soil N, or hydrology N significantly disturbed? Are "normal
Are vegetation N, soil N, or hydrology N naturally problematic? circumstances" present? Y
(If needed, explain any answers in remarks)

SUMMARY OF FINDINGS

Hydrophytic vegetation present?	Y	Is the sampled area within a wetland?	N
Hydric soil present?	N		
Indicators of wetland hydrology present?	N	If yes, optional wetland site ID:	

Remarks: (Explain alternative procedures here or in a separate report.)

HYDROLOGY

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Microtopographic Relief (D4)

Field Observations:

Surface water present?	Yes ___	No ✓	Depth (inches): ___
Water table present?	Yes ___	No ✓	Depth (inches): ___
Saturation present? (includes capillary fringe)	Yes ___	No ✓	Depth (inches): ___

Indicators of wetland hydrology present? N

Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants

Sampling Point: 9

Tree Stratum Plot Size ( )	Absolute % Cover	Dominant Species	Indicator Status
1 Acer negundo	15	—	FAC
2			
3			
4 Juglans nigra	25	/	FACW
5			
6			
7			
8			
9			
10			
	40 = Total Cover		

Sapling/Shrub Stratum Plot Size ( )	Absolute % Cover	Dominant Species	Indicator Status
1 Lonicera x bella	60	/	FACU
2			
3			
4 Rhamnus cathartica	15	/	FAC
5			
6			
7			
8			
9			
10			
	75 = Total Cover		

Herb Stratum Plot Size ( )	Absolute % Cover	Dominant Species	Indicator Status
1 Poa pratensis	20	/	FACU
2			
3			
4 Boehmeria cylindrica	80	/	OBL
5			
6			
7			
8			
9			
10			
11			
12			
13			
14			
15			
	100 = Total Cover		

Woody Vine Stratum Plot Size ( )	Absolute % Cover	Dominant Species	Indicator Status
1			
2			
3			
4			
5			
	= Total Cover		

50/20 Thresholds

	20%	50%
Tree Stratum	8	20
Sapling/Shrub Stratum	12	30
Herb Stratum	20	50
Woody Vine Stratum		

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across all Strata: 6 (B)

Percent of Dominant Species that are OBL, FACW, or FAC: 50 (A/B)

Prevalence Index Worksheet

Total % Cover of:

OBL species	80	x 1 =	80
FACW species		x 2 =	
FAC species	30	x 3 =	90
FACU species	105	x 4 =	420
UPL species		x 5 =	
Column totals	215 (A)		590 (B)

Prevalence Index = B/A = 2.74

Hydrophytic Vegetation Indicators:

- ___ Rapid test for hydrophytic vegetation
- ___ Dominance test is >50%
- ✓ Prevalence index is ≤3.0*
- ___ Morphogical adaptations* (provide supporting data in Remarks or on a separate sheet)
- ___ Problematic hydrophytic vegetation* (explain)

*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic vegetation present? N

Remarks: (Include photo numbers here or on a separate sheet)

SOIL **Sampling Point:** 9

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (Inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type*	Loc**	Texture	Remarks
0-13	10YR 3/2	100					Silt loam	
13-24	10YR 4/4	100					Clay loam	

*Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains
**Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators:

- ___ Histisol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Suface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149B)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

*Indicators of hydrophytic vegetation and weltand hydrology must be present, unless disturbed or problematic

Restrictive Layer (if observed):
Type: _____
Depth (inches): _____

Hydric soil present? A1

Remarks:

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

Project/Site: Golf Road City/County: Pewaukee Sampling Date: 8-29-18
Applicant/Owner: State: WI Sampling Point: #1041
Investigator(s): Meyer Section, Township, Range: Sec. 19 T7N R19E
Landform (hillslope, terrace, etc.): hillslope Local relief (concave, convex, none): Convex
Slope (%): ~5 Lat.: Long.: Datum:
Soil Map Unit Name: Lamartine silt loam LmB NWI Classification: None
Are climatic/hydrologic conditions of the site typical for this time of the year? see report (If no, explain in remarks)
Are vegetation N, soil N, or hydrology N significantly disturbed? Are "normal
Are vegetation N, soil N, or hydrology N naturally problematic? circumstances" present? Y
(If needed, explain any answers in remarks)

SUMMARY OF FINDINGS

Hydrophytic vegetation present?	N	**Is the sampled area within a wetland?**	N
Hydric soil present?	N		
Indicators of wetland hydrology present?	N	If yes, optional wetland site ID:	

Remarks: (Explain alternative procedures here or in a separate report.)

HYDROLOGY

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Microtopographic Relief (D4)

Field Observations:

Surface water present?	Yes ___	No ✓	Depth (inches):	
Water table present?	Yes ___	No ✓	Depth (inches):	
Saturation present? (includes capillary fringe)	Yes ___	No ✓	Depth (inches):	

Indicators of wetland hydrology present? N

Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants

Sampling Point: 10

Tree Stratum Plot Size ( )	Absolute % Cover	Dominant Species	Indicator Status
1 Acer negundo	10		FAC
2			
3			
4			
5			
6			
7			
8			
9			
10			
	10 = Total Cover		

Sapling/Shrub Stratum Plot Size ( )	Absolute % Cover	Dominant Species	Indicator Status
1 Rhamnus cathartica	25		FAC
2			
3			
4 Lonicera x bella	25		FACU
5			
6			
7			
8			
9			
10			
	50 = Total Cover		

Herb Stratum Plot Size ( )	Absolute % Cover	Dominant Species	Indicator Status
1 Daucus carota	60		UPL
2			
3			
4 Eutrochium dubium ssp.	2		FACW
5			
6			
7 Poa pratensis	25		FACU
8			
9			
10 Agrostis gigantea	5		FACU
11			
12			
13			
14			
15			
	92 = Total Cover		

Woody Vine Stratum Plot Size ( )	Absolute % Cover	Dominant Species	Indicator Status
1			
2			
3			
4			
5			
	= Total Cover		

50/20 Thresholds

	20%	50%
Tree Stratum		1
Sapling/Shrub Stratum		2
Herb Stratum	1	1
Woody Vine Stratum		

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across all Strata: 5 (B)

Percent of Dominant Species that are OBL, FACW, or FAC: 40 (A/B)

Prevalence Index Worksheet

Total % Cover of:

OBL species	x 1 =		
FACW species	x 2 =		
FAC species	x 3 =		
FACU species	x 4 =		
UPL species	x 5 =		
Column totals	(A)		(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

- ___ Rapid test for hydrophytic vegetation
- ___ Dominance test is >50%
- ___ Prevalence index is ≤3.0*
- ___ Morphological adaptations* (provide supporting data in Remarks or on a separate sheet)
- ___ Problematic hydrophytic vegetation* (explain)

*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic vegetation present? N

Remarks: (Include photo numbers here or on a separate sheet)

SOIL **Sampling Point:** 10

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (Inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type*	Loc**	Texture	Remarks
0-9	10YR 3/2	100					Silt loam	
9-24	10YR 4/4	100					Clay loam	

*Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains
**Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators:

- ___ Histisol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Suface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149B)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if observed):
Type: _____
Depth (inches): _____

Hydric soil present? N

Remarks:

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

Project/Site: Golf Road City/County: Pewaukee Sampling Date: 8-29-18
Applicant/Owner: State: WI Sampling Point: #11 wet
Investigator(s): Meyer Section, Township, Range: Sec. 19 T7N R19E
Landform (hillslope, terrace, etc.): depressional channel Local relief (concave, convex, none): concave
Slope (%): <3 Lat.: Long.: Datum:
Soil Map Unit Name: Lamartine silt loam Conn NWI Classification: None
Are climatic/hydrologic conditions of the site typical for this time of the year? see rpt (If no, explain in remarks)
Are vegetation N, soil N, or hydrology N significantly disturbed? Are "normal
Are vegetation N, soil N, or hydrology N naturally problematic? circumstances" present? Y
(If needed, explain any answers in remarks)

SUMMARY OF FINDINGS

Hydrophytic vegetation present? Y Hydric soil present? Y Indicators of wetland hydrology present? Y	Is the sampled area within a wetland? Y If yes, optional wetland site ID:

Remarks: (Explain alternative procedures here or in a separate report.)

HYDROLOGY

Primary Indicators (minimum of one is required; check all that apply)
- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)
- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ✓ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ✓ FAC-Neutral Test (D5)
- ___ Microtopographic Relief (D4)

Field Observations:

Surface water present?	Yes ___	No ✓	Depth (inches):
Water table present?	Yes ___	No ✓	Depth (inches):
Saturation present? (includes capillary fringe)	Yes ✓	No ___	Depth (inches): 17

Indicators of wetland hydrology present? Y

Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants

Sampling Point: 11

Tree Stratum	Plot Size ( )	Absolute % Cover	Dominant Species	Indicator Status
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				
		= Total Cover		

Sapling/Shrub Stratum	Plot Size ( )	Absolute % Cover	Dominant Species	Indicator Status
1	Rhamnus cathartica	40	/	FAC
2				
3				
4	Lonicera x bella	5		FACU
5				
6				
7				
8				
9				
10				
		45 = Total Cover		

Herb Stratum	Plot Size ( )	Absolute % Cover	Dominant Species	Indicator Status
1	Boehmeria cylindrica	15		OBL
2	Solidago sigulata	5		FACW
3				
4	Bidens frondosa	15		FACW
5				
6	Phalaris arundinacea	20	/	FACW
7				
8	Rhamnus cathartica	30	/	FAC
9				
10				
11				
12				
13				
14				
15				
		85 = Total Cover		

Woody Vine Stratum	Plot Size ( )	Absolute % Cover	Dominant Species	Indicator Status
1				
2				
3				
4				
5				
		= Total Cover		

50/20 Thresholds

	20%	50%
Tree Stratum		
Sapling/Shrub Stratum		1
Herb Stratum		2
Woody Vine Stratum		

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across all Strata: 3 (B)

Percent of Dominant Species that are OBL, FACW, or FAC: 66 (A/B)

Prevalence Index Worksheet

Total % Cover of:

OBL species	x 1 =		
FACW species	x 2 =		
FAC species	x 3 =		
FACU species	x 4 =		
UPL species	x 5 =		
Column totals	(A)		(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

- ___ Rapid test for hydrophytic vegetation
- ✓ Dominance test is >50%
- ___ Prevalence Index is ≤3.0*
- ___ Morphogical adaptations* (provide supporting data in Remarks or on a separate sheet)
- ___ Problematic hydrophytic vegetation* (explain)

*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic vegetation present? Y

Remarks: (Include photo numbers here or on a separate sheet)

SOIL **Sampling Point:** 11

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type*	Loc**	Texture	Remarks
0-4	10YR 2/2	100					Silt loam	
4-16	10YR 2/2	95	10YR 4/4	5	C	M	Silt loam	
16-24	10YR 4/4	100					clay loam	

*Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains
**Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators:

- ___ Histisol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Suface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ✓ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149B)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

*Indicators of hydrophytic vegetation and weltand hydrology must be present, unless disturbed or problematic

Restrictive Layer (if observed):
Type: _____
Depth (inches): _____

Hydric soil present? Y

Remarks:

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

Project/Site: Golf Road City/County: Pewaukee Sampling Date: 8-29-18
Applicant/Owner: State: WI Sampling Point: #12 wet
Investigator(s): Meyer Section, Township, Range: Sec. 19 T7N R19E
Landform (hillslope, terrace, etc.): depressional channel Local relief (concave, convex, none): Concave
Slope (%): ~2 Lat.: Long.: Datum:
Soil Map Unit Name: Hochheim Silt Loam Area B NWI Classification: None
Are climatic/hydrologic conditions of the site typical for this time of the year? see remarks (If no, explain in remarks)
Are vegetation N, soil N, or hydrology N significantly disturbed? Are "normal
Are vegetation N, soil N, or hydrology N naturally problematic? circumstances" present? Y
(If needed, explain any answers in remarks)

SUMMARY OF FINDINGS

Hydrophytic vegetation present? Y Hydric soil present? Y Indicators of wetland hydrology present? Y	Is the sampled area within a wetland? Y If yes, optional wetland site ID:

Remarks: (Explain alternative procedures here or in a separate report.)

HYDROLOGY

Primary Indicators (minimum of one is required; check all that apply)
- ___ Surface Water (A1)
- ✓ High Water Table (A2)
- ✓ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)
- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ✓ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ✓ FAC-Neutral Test (D5)
- ___ Microtopographic Relief (D4)

Field Observations:

Surface water present?	Yes	✓ No	✓	Depth (inches):
Water table present?	Yes	✓ No		Depth (inches): 3
Saturation present? (includes capillary fringe)	Yes	✓ No		Depth (inches): Surface

Indicators of wetland hydrology present? Y

Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants

Sampling Point: 12

Tree Stratum Plot Size ( )	Absolute % Cover	Dominant Species	Indicator Status
1			
2			
3			
4			
5			
6			
7			
8			
9			
10			
	= Total Cover		

Sapling/Shrub Stratum Plot Size ( )	Absolute % Cover	Dominant Species	Indicator Status
1 Rhamnus Cathartica	25	✓	FAC
2			
3			
4			
5			
6			
7			
8			
9			
10			
	25 = Total Cover		

Herb Stratum Plot Size ( )	Absolute % Cover	Dominant Species	Indicator Status
1 Bidens frondosa	55	✓	FACW
2			
3 Phalaris arundinacea	25	✓	FACW
4			
5 Typha angustifolia	20		OBL
6			
7			
8 Daucus Carota	2		UPL
9			
10			
11			
12			
13			
14			
15			
	102 = Total Cover		

Woody Vine Stratum Plot Size ( )	Absolute % Cover	Dominant Species	Indicator Status
1			
2			
3			
4			
5			
	= Total Cover		

50/20 Thresholds

	20%	50%
Tree Stratum		
Sapling/Shrub Stratum		1
Herb Stratum	1	1
Woody Vine Stratum		

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across all Strata: 3 (B)

Percent of Dominant Species that are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index Worksheet

Total % Cover of:

OBL species	x 1 =		
FACW species	x 2 =		
FAC species	x 3 =		
FACU species	x 4 =		
UPL species	x 5 =		
Column totals	(A)		(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

- ✓ Rapid test for hydrophytic vegetation
- Dominance test is >50%
- Prevalence index is ≤3.0*
- Morphological adaptations* (provide supporting data in Remarks or on a separate sheet)
- Problematic hydrophytic vegetation* (explain)

*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic vegetation present? Y

Remarks: (Include photo numbers here or on a separate sheet)

SOIL **Sampling Point:** 12

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (Inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type*	Loc**	Texture	Remarks
0-5	10YR 3/2	100					silt loam	
5-14	10YR 4/2	95	10YR 4/6	5	C	M	silt loam	
14-24	10YR 4/4	100					clay loam	

*Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains
**Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators:

- ___ Histisol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Suface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) (**LRR R, MLRA 149B**)
- ___ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
- ___ Thin Dark Surface (S9) (**LRR R, MLRA 149B**
- ___ Loamy Mucky Mineral (F1) (**LRR K, L**)
- ___ Loamy Gleyed Matrix (F2)
- ✓ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils:

- ___ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**
- ___ Coast Prairie Redox (A16) (**LRR K, L, R**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
- ___ Dark Surface (S7) (**LRR K, L**
- ___ Polyvalue Below Surface (S8) (**LRR K, L**)
- ___ Thin Dark Surface (S9) (**LRR K, L**)
- ___ Iron-Manganese Masses (F12) (**LRR K, L, R**)
- ___ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
- ___ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

*Indicators of hydrophytic vegetation and weltand hydrology must be present, unless disturbed or problematic

Restrictive Layer (if observed):
Type: _____
Depth (inches): _____

Hydric soil present? Y

Remarks:

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

Project/Site: Golf Road City/County: Pewaukee Sampling Date: 8-29-18
Applicant/Owner: State: WI Sampling Point: #15UP
Investigator(s): Meyer Section, Township, Range: Sec. 19 T7N R19E
Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): Concave
Slope (%): <10 Lat.: Long.: Datum:
Soil Map Unit Name: Lamartine silt loam, 6 to 12% slopes, eroded NWI Classification: None
Are climatic/hydrologic conditions of the site typical for this time of the year? See remarks (If no, explain in remarks)
Are vegetation N, soil N, or hydrology N significantly disturbed? Are "normal
Are vegetation N, soil N, or hydrology N naturally problematic? circumstances" present? Y
(If needed, explain any answers in remarks)

SUMMARY OF FINDINGS

Hydrophytic vegetation present?	N	**Is the sampled area within a wetland?**	N
Hydric soil present?	N		
Indicators of wetland hydrology present?	N	If yes, optional wetland site ID:	

Remarks: (Explain alternative procedures here or in a separate report.)

HYDROLOGY

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Microtopographic Relief (D4)

Field Observations:

Surface water present?	Yes ___	No ✓	Depth (inches): ___
Water table present?	Yes ___	No ✓	Depth (inches): ___
Saturation present? (includes capillary fringe)	Yes ___	No ✓	Depth (inches): ___

Indicators of wetland hydrology present? N

Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants

Sampling Point: 13

Tree Stratum	Plot Size ( )	Absolute % Cover	Dominant Species	Indicator Status
1	Juglans nigra	10	/	FACU
2				
3				
4				
5				
6				
7				
8				
9				
10				
		10	= Total Cover	

Sapling/Shrub Stratum	Plot Size ( )	Absolute % Cover	Dominant Species	Indicator Status
1	Rhamnus cathartica	45	/	FAC
2				
3				
4				
5				
6				
7				
8				
9				
10				
		45	= Total Cover	

Herb Stratum	Plot Size ( )	Absolute % Cover	Dominant Species	Indicator Status
1	Dancus carota	65		UPL
2				
3			/	
4	Poa pratensis	60		FACU
5				
6				
7	Erigeron annuus	2		FACU
8				
9				
10	Achillea millefolium	5		FACU
11				
12				
13				
14				
15				
		132	= Total Cover	

Woody Vine Stratum	Plot Size ( )	Absolute % Cover	Dominant Species	Indicator Status
1				
2				
3				
4				
5				
			= Total Cover	

50/20 Thresholds

	20%	50%
Tree Stratum		1
Sapling/Shrub Stratum		1
Herb Stratum		2
Woody Vine Stratum		

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across all Strata: 4 (B)

Percent of Dominant Species that are OBL, FACW, or FAC: 25 (A/B)

Prevalence Index Worksheet

Total % Cover of:

OBL species	x 1 =		
FACW species	x 2 =		
FAC species	x 3 =		
FACU species	x 4 =		
UPL species	x 5 =		
Column totals	(A)		(B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

- ___ Rapid test for hydrophytic vegetation
- ___ Dominance test is >50%
- ___ Prevalence index is ≤3.0*
- ___ Morphogical adaptations* (provide supporting data in Remarks or on s separate sheet)
- ___ Problematic hydrophytic vegetation* (explain)

*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic vegetation present? N

Remarks: (Include photo numbers here or on a separate sheet)

SOIL **Sampling Point:** 17

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (Inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type*	Loc**	Texture	Remarks
0-9	10YR3/2	100					Silt loam	
9-24	10YR4/4	100					Clay loam	

*Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains
**Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators:

- ___ Histisol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Suface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149B)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

*Indicators of hydrophytic vegetation and weltand hydrology must be present, unless disturbed or problematic

Restrictive Layer (if observed):
Type: _____
Depth (inches): _____

Hydric soil present? N

Remarks:

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

Project/Site: Golf Road City/County: Pewaukee Sampling Date: 8-29-18
Applicant/Owner: State: WI Sampling Point: #14UP
Investigator(s): Meyer Section, Township, Range: Sec. 19 T7N R19E
Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): Concave
Slope (%): 3 Lat.: Long.: Datum:
Soil Map Unit Name: Casco loam CeC2 NWI Classification: None
Are climatic/hydrologic conditions of the site typical for this time of the year? see report (If no, explain in remarks)
Are vegetation N, soil N, or hydrology N significantly disturbed? Are "normal
Are vegetation N, soil N, or hydrology N naturally problematic? circumstances" present? Y
(If needed, explain any answers in remarks)

SUMMARY OF FINDINGS

Hydrophytic vegetation present? N Hydric soil present? N Indicators of wetland hydrology present? N	Is the sampled area within a wetland? N If yes, optional wetland site ID:

Remarks: (Explain alternative procedures here or in a separate report.)

HYDROLOGY

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Microtopographic Relief (D4)

Field Observations:

Surface water present?	Yes ___	No /	Depth (inches): ___
Water table present?	Yes ___	No /	Depth (inches): ___
Saturation present? (includes capillary fringe)	Yes ___	No /	Depth (inches): ___

Indicators of wetland hydrology present? N

Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants

Sampling Point: 14

Tree Stratum	Plot Size ( )	Absolute % Cover	Dominant Species	Indicator Status
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				
		= Total Cover		

Sapling/Shrub Stratum	Plot Size ( )	Absolute % Cover	Dominant Species	Indicator Status
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				
		= Total Cover		

Herb Stratum	Plot Size ( )	Absolute % Cover	Dominant Species	Indicator Status
1	Daucus Carota	60		UPL
2				
3				
4	Poa pratensis	30	/	FACU
5				
6				
7	Lotus corniculatus	20		FACU
8				
9				
10				
11				
12				
13				
14				
15				
		110 = Total Cover		

Woody Vine Stratum	Plot Size ( )	Absolute % Cover	Dominant Species	Indicator Status
1				
2				
3				
4				
5				
		= Total Cover		

50/20 Thresholds

	20%	50%
Tree Stratum		
Sapling/Shrub Stratum		
Herb Stratum	1	1
Woody Vine Stratum		

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across all Strata: 2 (B)

Percent of Dominant Species that are OBL, FACW, or FAC: 0 (A/B)

Prevalence Index Worksheet

Total % Cover of:

OBL species	x 1 =		
FACW species	x 2 =		
FAC species	x 3 =		
FACU species	x 4 =		
UPL species	x 5 =		
Column totals	(A)		(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

- ___ Rapid test for hydrophytic vegetation
- ___ Dominance test is >50%
- ___ Prevalence index is ≤3.0*
- ___ Morphological adaptations* (provide supporting data in Remarks or on a separate sheet)
- ___ Problematic hydrophytic vegetation* (explain)

*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic vegetation present? No

Remarks: (Include photo numbers here or on a separate sheet)

SOIL **Sampling Point:** 14

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (Inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type*	Loc**	Texture	Remarks
0-6	10YR3/2	100					silt loam	
6-15	10YR5/3	100					silt loam	
15-24	10YR4/4	100					clay loam w/	10% gravel

*Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains
**Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators:

- ___ Histisol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Suface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149B)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

*Indicators of hydrophytic vegetation and weltand hydrology must be present, unless disturbed or problematic

Restrictive Layer (if observed):
Type: _____
Depth (inches): _____

Hydric soil present? N

Remarks:

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

Project/Site: Golf Road City/County: Pewaukee Sampling Date: 8-29-18
Applicant/Owner: State: WI Sampling Point: #15 GP
Investigator(s): Meyer Section, Township, Range: Sec. 19 T7N R19E
Landform (hillslope, terrace, etc.): hillslope Local relief (concave, convex, none): concave
Slope (%): ~10 Lat.: Long.: Datum:
Soil Map Unit Name: Fox silt loam, 2-6% NWI Classification: None
Are climatic/hydrologic conditions of the site typical for this time of the year? Yes (If no, explain in remarks)
Are vegetation N, soil N, or hydrology N significantly disturbed? Are "normal
Are vegetation N, soil N, or hydrology N naturally problematic? circumstances" present? Y
(If needed, explain any answers in remarks)

SUMMARY OF FINDINGS

Hydrophytic vegetation present? Y Hydric soil present? N Indicators of wetland hydrology present? Y	**Is the sampled area within a wetland?** N If yes, optional wetland site ID:

Remarks: (Explain alternative procedures here or in a separate report.)

HYDROLOGY

Primary Indicators (minimum of one is required; check all that apply)
- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)
- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Microtopographic Relief (D4)

Field Observations:
Surface water present? Yes ___ No ✓ Depth (inches): ___
Water table present? Yes ___ No ✓ Depth (inches): ___
Saturation present? Yes ___ No ✓ Depth (inches): ___
(includes capillary fringe)

Indicators of wetland hydrology present? N

Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants

Sampling Point: 15

Tree Stratum (Plot Size ( ))	Absolute % Cover	Dominant Species	Indicator Status
1 Quercus rubra	20	✓	FACU
2			
3			
4 Juglans nigra	15	✓	FACU
5			
6			
7 Prunus serotina	10		FACU
8			
9			
10 Acer negundo	10		FAC
	55 = Total Cover		

Sapling/Shrub Stratum (Plot Size ( ))	Absolute % Cover	Dominant Species	Indicator Status
1 Rhamnus cathartica	60	✓	FAC
2			
3			
4 Lonicera tatarica	5		FACU
5			
6			
7			
8			
9			
10			
	65 = Total Cover		

Herb Stratum (Plot Size ( ))	Absolute % Cover	Dominant Species	Indicator Status
1 Ageratina altissima	10		FACU
2			
3 Vinca minor	50	✓	UPL
4			
5 Verbena urticifolia	10		FAC
6			
7 Juncus dudleyi	5		FACW
8			
9 Circaea canadensis	5		FACU
10			
11 Hackelia virginiana	20	✓	FACU
12			
13			
14			
15			
	100 = Total Cover		

Woody Vine Stratum (Plot Size ( ))	Absolute % Cover	Dominant Species	Indicator Status
1			
2			
3			
4			
5			
	= Total Cover		

50/20 Thresholds

	20%	50%
Tree Stratum		2
Sapling/Shrub Stratum		1
Herb Stratum	1	1
Woody Vine Stratum		

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across all Strata: 5 (B)

Percent of Dominant Species that are OBL, FACW, or FAC: 20 (A/B)

Prevalence Index Worksheet

Total % Cover of:

OBL species	x 1 =		
FACW species	x 2 =		
FAC species	x 3 =		
FACU species	x 4 =		
UPL species	x 5 =		
Column totals	(A)		(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

- ___ Rapid test for hydrophytic vegetation
- ___ Dominance test is >50%
- ___ Prevalence index is ≤3.0*
- ___ Morphogical adaptations* (provide supporting data in Remarks or on a separate sheet)
- ___ Problematic hydrophytic vegetation* (explain)

*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic vegetation present? N

Remarks: (Include photo numbers here or on a separate sheet)

SOIL **Sampling Point:** 15

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (Inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type*	Loc**	Texture	Remarks
0-8	10YR 3/2	100					silt loam	
8-24	10YR 4/4	100					silt loam	

*Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains
**Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators:

- ___ Histisol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Suface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149B)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

*Indicators of hydrophytic vegetation and weltand hydrology must be present, unless disturbed or problematic

Restrictive Layer (if observed):
Type: _____
Depth (inches): _____

Hydric soil present? N

Remarks:

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

Project/Site: Golf Road City/County: Pewaukee Sampling Date: 8-29-18
Applicant/Owner: State: WI Sampling Point: #11, up
Investigator(s): Meyer Section, Township, Range: Sec. 19 T7N R19E
Landform (hillslope, terrace, etc.): hillslope Local relief (concave, convex, none): convex
Slope (%): 3 Lat.: Long.: Datum:
Soil Map Unit Name: Hochheim silt loam HmB NWI Classification: None
Are climatic/hydrologic conditions of the site typical for this time of the year? see rmk (If no, explain in remarks)
Are vegetation N, soil N, or hydrology N significantly disturbed? Are "normal
Are vegetation N, soil N, or hydrology N naturally problematic? circumstances" present? Y
(If needed, explain any answers in remarks)

SUMMARY OF FINDINGS

Hydrophytic vegetation present? N Hydric soil present? N Indicators of wetland hydrology present? N	**Is the sampled area within a wetland?** N If yes, optional wetland site ID:

Remarks: (Explain alternative procedures here or in a separate report.)

HYDROLOGY

Primary Indicators (minimum of one is required; check all that apply)
- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leeves (B9)
- ___ Aquatic Fauna (B13)
- ___ Mari Deposits (B15)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)
- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Microtopographic Relief (D4)

Field Observations:

Surface water present?	Yes ___	No ✓	Depth (inches):
Water table present?	Yes ___	No ✓	Depth (inches):
Saturation present? (includes capillary fringe)	Yes ___	No ✓	Depth (inches):

Indicators of wetland hydrology present? N

Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants

Sampling Point: 16

Tree Stratum (Plot Size ( ))	Absolute % Cover	Dominant Species	Indicator Status
1 Ulmus americana	10	✓	FACW
2			
3			
4			
5			
6			
7			
8			
9			
10			
	10 = Total Cover		

Sapling/Shrub Stratum (Plot Size ( ))	Absolute % Cover	Dominant Species	Indicator Status
1 Elaeagnus umbellata	20	✓	UPL
2			
3			
4			
5			
6			
7			
8			
9			
10			
	20 = Total Cover		

Herb Stratum (Plot Size ( ))	Absolute % Cover	Dominant Species	Indicator Status
1 Achillea millefolium	15		FACU
2			
3 Monarda fistulosa	20		FACU
4			
5 Lotus corniculatus	30	✓	FACU
6			
7 Daucus Carota	40	✓	UPL
8			
9 Poa pratensis	20		FACU
10			
11 Spartina pectinata	35	✓	FACW
12			
13			
14			
15			
	160 = Total Cover		

Woody Vine Stratum (Plot Size ( ))	Absolute % Cover	Dominant Species	Indicator Status
1			
2			
3			
4			
5			
	= Total Cover		

50/20 Thresholds

	20%	50%
Tree Stratum		1
Sapling/Shrub Stratum		1
Herb Stratum		3
Woody Vine Stratum		

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across all Strata: 5 (B)

Percent of Dominant Species that are OBL, FACW, or FAC: 40 (A/B)

Prevalence Index Worksheet

Total % Cover of:

OBL species	x 1 =		
FACW species	x 2 =		
FAC species	x 3 =		
FACU species	x 4 =		
UPL species	x 5 =		
Column totals	(A)		(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

___ Rapid test for hydrophytic vegetation

___ Dominance test is >50%

___ Prevalence index is ≤3.0*

___ Morphogical adaptations* (provide supporting data in Remarks or on a separate sheet)

___ Problematic hydrophytic vegetation* (explain)

*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic vegetation present? N

Remarks: (Include photo numbers here or on a separate sheet)

SOIL **Sampling Point:** 16

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (Inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type*	Loc**	Texture	Remarks
0-7	10YR 3/2	100					Silt loam	
7-16	10YR 5/3	100					Silt loam	
16-24	10YR 4/4	100					Clay loam	

*Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains
**Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators:

- ___ Histisol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Suface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149B)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

*Indicators of hydrophytic vegetation and weltand hydrology must be present, unless disturbed or problematic

Restrictive Layer (if observed):
Type: _____
Depth (inches): _____

Hydric soil present? N

Remarks:

Surface Water Data Viewer Map





Legend

- NRCS Wisconsin Soils
  - Soil Mapping Unit
  - Water
- Municipality
- State Boundaries
- County Boundaries
- Major Roads
  - Interstate Highway
  - State Highway
  - US Highway
- County and Local Roads
  - County HWY
  - Local Road
- Railroads
- Tribal Lands
- Rivers and Streams
- Intermittent Streams
- Lakes and Open water
- Index to EN_Image_Basemap_Leaf Off

Notes

0.1 0 0.06 0.1 Miles

NAD_1983_HARN_Wisconsin_TM

1: 3,960

DISCLAIMER: The information shown on these maps has been obtained from various sources, and are of varying age, reliability and resolution. These maps are not intended to be used for navigation, nor are these maps an authoritative source of information about legal land ownership or public access. No warranty, expressed or implied, is made regarding accuracy, applicability for a particular use, completeness, or legality of the information depicted on this map. For more information, see the DNR Legal Notices web page: http://dnr.wi.gov/legal/

Soil Map—Milwaukee and Waukesha Counties, Wisconsin



Map Scale: 1:3,260 if printed on A landscape (11" x 8.5") sheet.

Meters: 0 45 90 180 270

Feet: 0 150 300 600 900

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 16N WGS84

Report—Hydric Soil List - All Components

Hydric Soil List - All Components–WI602-Milwaukee and Waukesha Counties, Wisconsin					
Map symbol and map unit name	**Component/Local Phase**	**Comp. pct.**	**Landform**	**Hydric status**	**Hydric criteria met (code)**
CeB: Casco loam, 2 to 6 percent slopes	Casco	80-90	Outwash plains	No	—
	Fox	5-11	Outwash plains	No	—
	Boyer	5-9	Outwash plains	No	—
CeC2: Casco loam, 6 to 12 percent slopes, eroded	Casco-Eroded	80-90	Moraines	No	—
	Fox	5-11	Moraines	No	—
	Rodman	5-9	Moraines	No	—
FsB: Fox silt loam, 2 to 6 percent slopes	Fox	80-90	Outwash plains	No	—
	Casco	5-10	Outwash plains	No	—
	St. Charles-Gravelly substratum	5-10	Outwash plains	No	—
GP: Gravel pit	Pits-Gravel	99	—	Unranked	—
	Aquents	1	Depressions	Yes	2,3
HmB: Hochheim loam, 2 to 6 percent slopes	Hochheim	85-92	Drumlins	No	—
	Theresa	5-8	Drumlins	No	—
	Lamartine	3-7	Drumlins	No	—
HmD2: Hochheim loam, 12 to 20 percent slopes, eroded	Hochheim-Eroded	80-91	Drumlins	No	—
	Theresa	6-12	Drumlins	No	—
	Hochheim	3-8	Drumlins	No	—
HtA: Houghton muck, 0 to 2 percent slopes	Houghton-Muck	84-95	Depressions	Yes	1,2,3
	Houghton-Ponded	2-5	Depressions	Yes	1,3
	Palms	1-3	Lakebeds (relict)	Yes	1,3
	Adrian	1-3	Lakebeds (relict)	Yes	1,3
	Edwards	1-2	Depressions	Yes	1,3
	Willette-Muck	0-3	Depressions	Yes	1,3
KwB: Knowles silt loam, 2 to 6 percent slopes	Knowles	100	Ground moraines	No	—
LmB: Lamartine silt loam, 0 to 3 percent slopes	Lamartine	80-91	Interdrumlins	No	—
	Pella	6-11	Drainageways	Yes	2,3
	Ossian	3-9	Depressions	Yes	2,3
Lu: Loamy land	Loamy land	90	—	No	—
	Wetter soils		Depressions	Yes	2

Hydric Soil List - All Components–WI602-Milwaukee and Waukesha Counties, Wisconsin					
Map symbol and map unit name	**Component/Local Phase**	**Comp. pct.**	**Landform**	**Hydric status**	**Hydric criteria met (code)**
ThB: Theresa silt loam, 2 to 6 percent slopes	Theresa	80-92	Drumlins	No	—
	Hochheim	5-14	Drumlins	No	—
	Lamartine	3-6	Drumlins	No	—

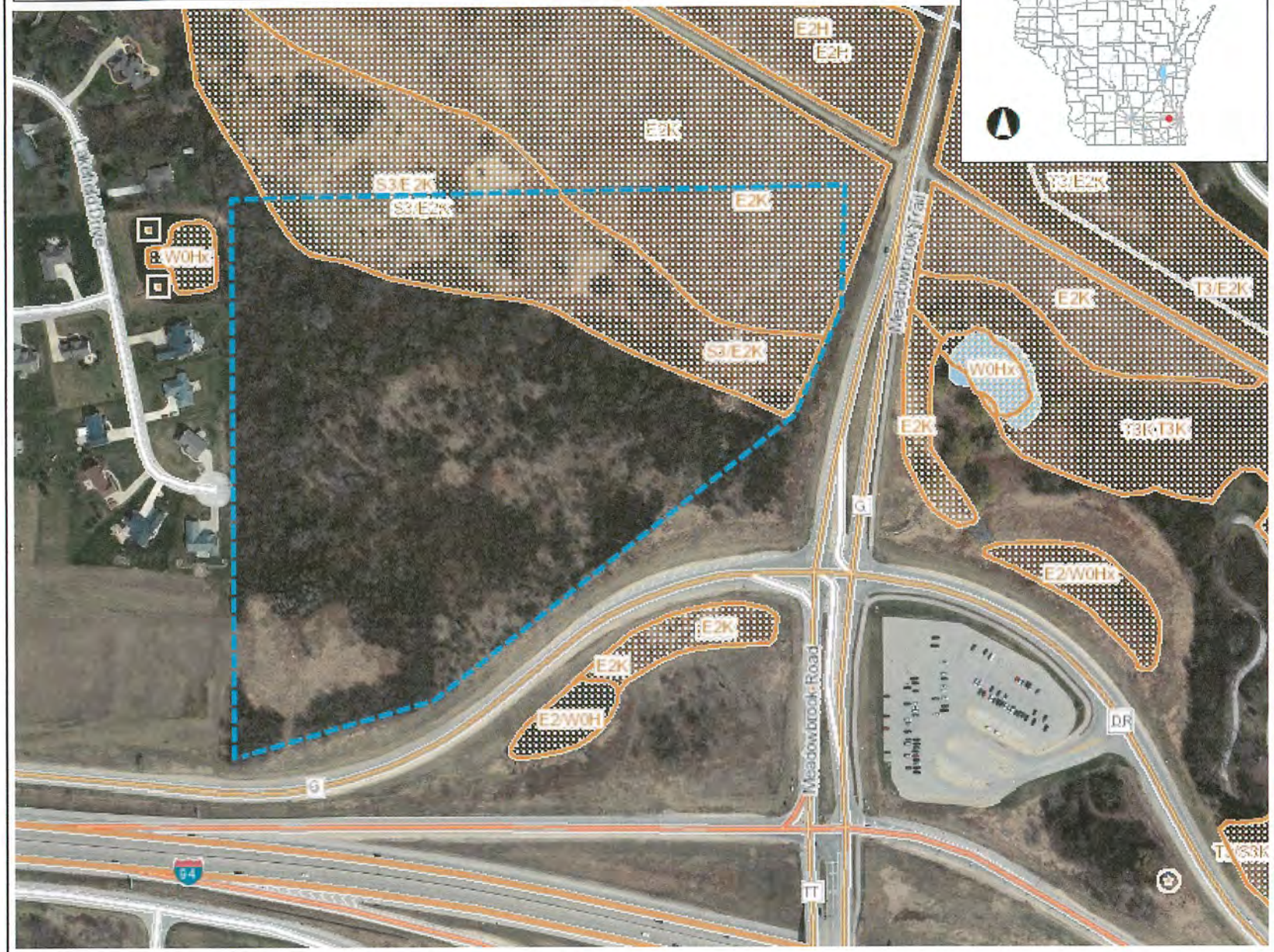
Data Source Information

Soil Survey Area: Milwaukee and Waukesha Counties, Wisconsin
Survey Area Data: Version 13, Oct 6, 2017

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
CeB	Casco loam, 2 to 6 percent slopes	1.6	5.7%
CeC2	Casco loam, 6 to 12 percent slopes, eroded	3.1	11.4%
FsB	Fox silt loam, 2 to 6 percent slopes	2.7	10.0%
GP	Gravel pit	0.1	0.2%
HmB	Hochheim loam, 2 to 6 percent slopes	9.4	34.1%
HmD2	Hochheim loam, 12 to 20 percent slopes, eroded	0.1	0.3%
HtA	Houghton muck, 0 to 2 percent slopes	2.0	7.2%
KwB	Knowles silt loam, 2 to 6 percent slopes	0.8	3.0%
LmB	Lamartine silt loam, 0 to 3 percent slopes	5.0	18.2%
Lu	Loamy land	0.7	2.7%
ThB	Theresa silt loam, 2 to 6 percent slopes	2.0	7.2%
Totals for Area of Interest		**27.6**	**100.0%**

Surface Water Data Viewer Map





Legend

- Wetland Identifications and Confirmations
- Wetland Class Points
  - Dammed pond
  - Excavated pond
  - Filled excavated pond
  - Filled/drained wetland
  - Wetland too small to delineate
- Filled Points
- Wetland Class Areas
  - Wetland
  - Upland
- Filled Areas
- Wetland Class Points
  - Dammed pond
  - Excavated pond
  - Filled excavated pond
  - Filled/drained wetland
  - Wetland too small to delineate
- Filled Points
- Wetland Class Areas
  - Wetland
  - Upland
- Filled Areas
- Municipality
- State Boundaries
- County Boundaries
- Major Roads
  - Interstate Highway
  - State Highway
  - US Highway
- County and Local Roads
  - County HWY
  - Local Road
- Railroads

Notes

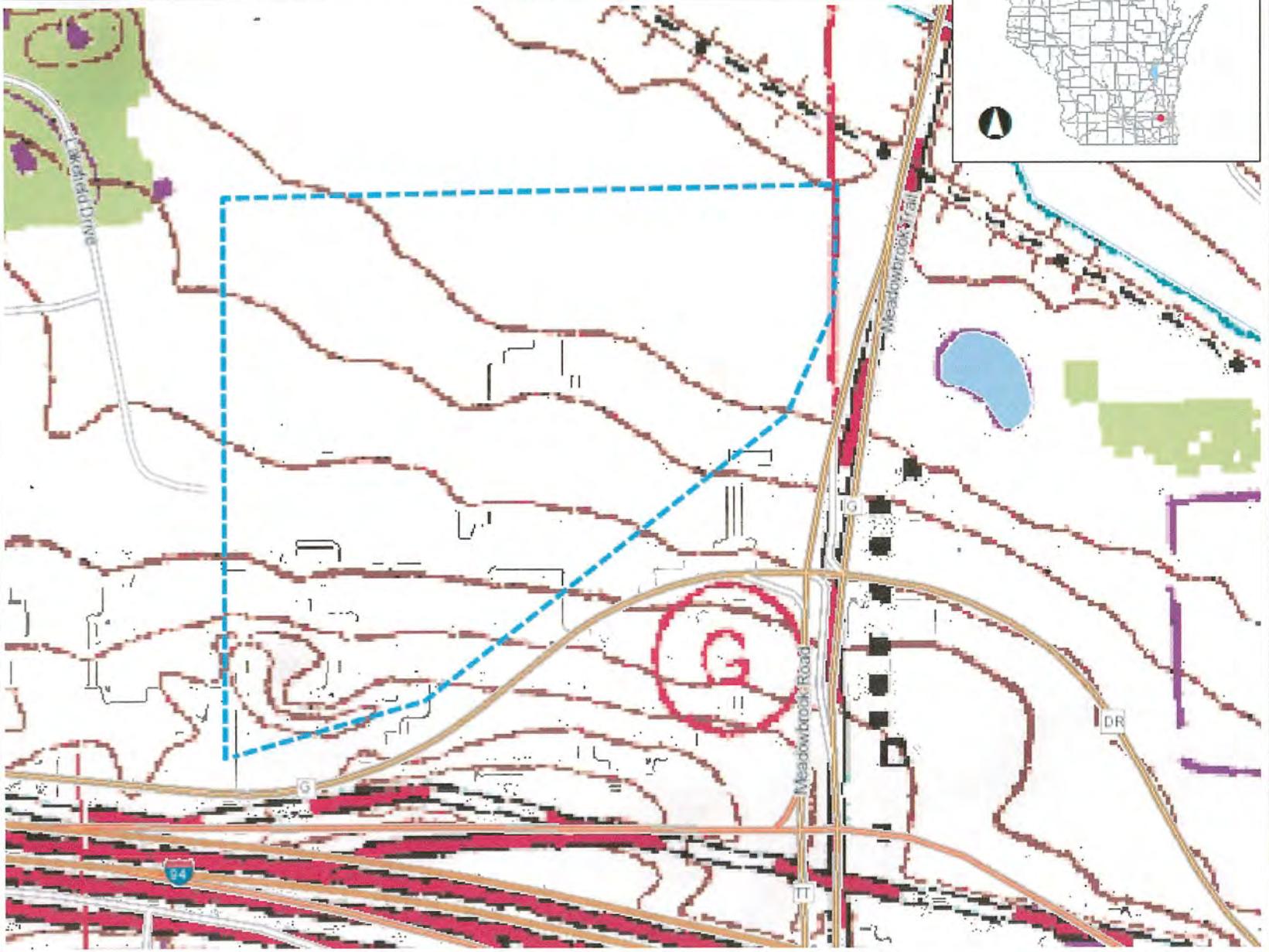
0.1 0 0.06 0.1 Miles

NAD_1983_HARN_Wisconsin_TM

1: 3,960

DISCLAIMER: The information shown on these maps has been obtained from various sources, and are of varying age, reliability and resolution. These maps are not intended to be used for navigation, nor are these maps an authoritative source of information about legal land ownership or public access. No warranty, expressed or implied, is made regarding accuracy, applicability for a particular use, completeness, or legality of the information depicted on this map. For more information, see the DNR Legal Notices web page: http://dnr.wi.gov/legal/

Surface Water Data Viewer Map





Legend

- Municipality
- State Boundaries
- County Boundaries
- Major Roads
  - Interstate Highway
  - State Highway
  - US Highway
- County and Local Roads
  - County HWY
  - Local Road
- Railroads
- Tribal Lands
- Rivers and Streams
- Intermittent Streams
- Lakes and Open water
- 24K USGS Quad Index - Level 7 - 16
- Index to EN_Image_Basemap_Leaf Off

Notes

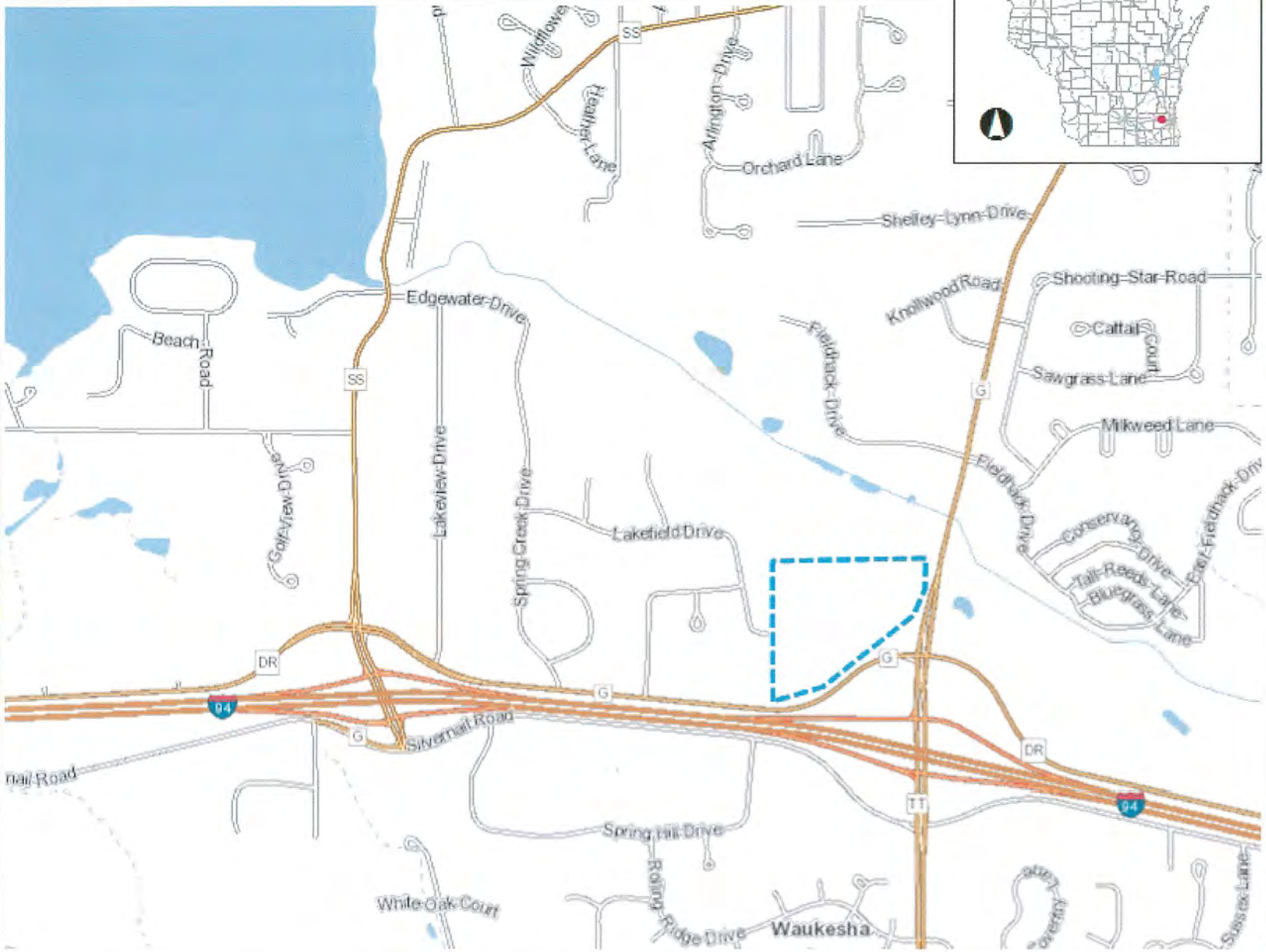
0.1 0 0.06 0.1 Miles

NAD_1983_HARN_Wisconsin_TM

1: 3,960

DISCLAIMER: The information shown on these maps has been obtained from various sources, and are of varying age, reliability and resolution. These maps are not intended to be used for navigation, nor are these maps an authoritative source of information about legal land ownership or public access. No warranty, expressed or implied, is made regarding accuracy, applicability for a particular use, completeness, or legality of the information depicted on this map. For more information, see the DNR Legal Notices web page: http://dnr.wi.gov/legal/

Surface Water Data Viewer Map



Legend

- Municipality
- State Boundaries
- County Boundaries
- Major Roads
  - Interstate Highway
  - State Highway
  - US Highway
- County and Local Roads
  - County HWY
  - Local Road
- Railroads
- Tribal Lands
- Rivers and Streams
- Intermittent Streams
- Lakes and Open water

Notes

0.5 0 0.25 0.5 Miles

NAD_1983_HARN_Wisconsin_TM

1: 15,840

DISCLAIMER: The information shown on these maps has been obtained from various sources, and are of varying age, reliability and resolution. These maps are not intended to be used for navigation, nor are these maps an authoritative source of information about legal land ownership or public access. No warranty, expressed or implied, is made regarding accuracy, applicability for a particular use, completeness, or legality of the information depicted on this map. For more information, see the DNR Legal Notices web page: http://dnr.wi.gov/legal/

PHOTOGRAPHS

Photo A.....Typical view of wetland complex at DP #'s 1, 3, and 5.

Photo B.....Typical view of upland conditions in the vicinity of DP #'s 2 and 4.

Photo C.....Typical view of upland drainage channels at DP #'s 8, 11, and 12.

Photo D.....Typical view of upland shrubby areas throughout the site.

Photo E.....One of the culverts that discharge to the depressional channels.

LEGAL DESCRIPTION:

All that part of the East 1/2 of the Southeast 1/4 of Section 19 in Township 7 North, Range 19 East, in the Town of Pewaukee, Waukesha County, Wisconsin lying North of the location of old State Highway No. 30, excepting and reserving therefrom 12.80 acres conveyed to Waukesha County for highway purposes by Warranty Deed recorded April 15, 1957 in Volume 736 of Deeds, Page 356 as Document No. 457247. Excepting therefrom those lands granted to the State of Wisconsin Department of Transportation described as Award of Damages recorded on July 1, 1999 as Document No. 2479003.
TAX KEY NO.: PWC 0940-999-001

LEGEND

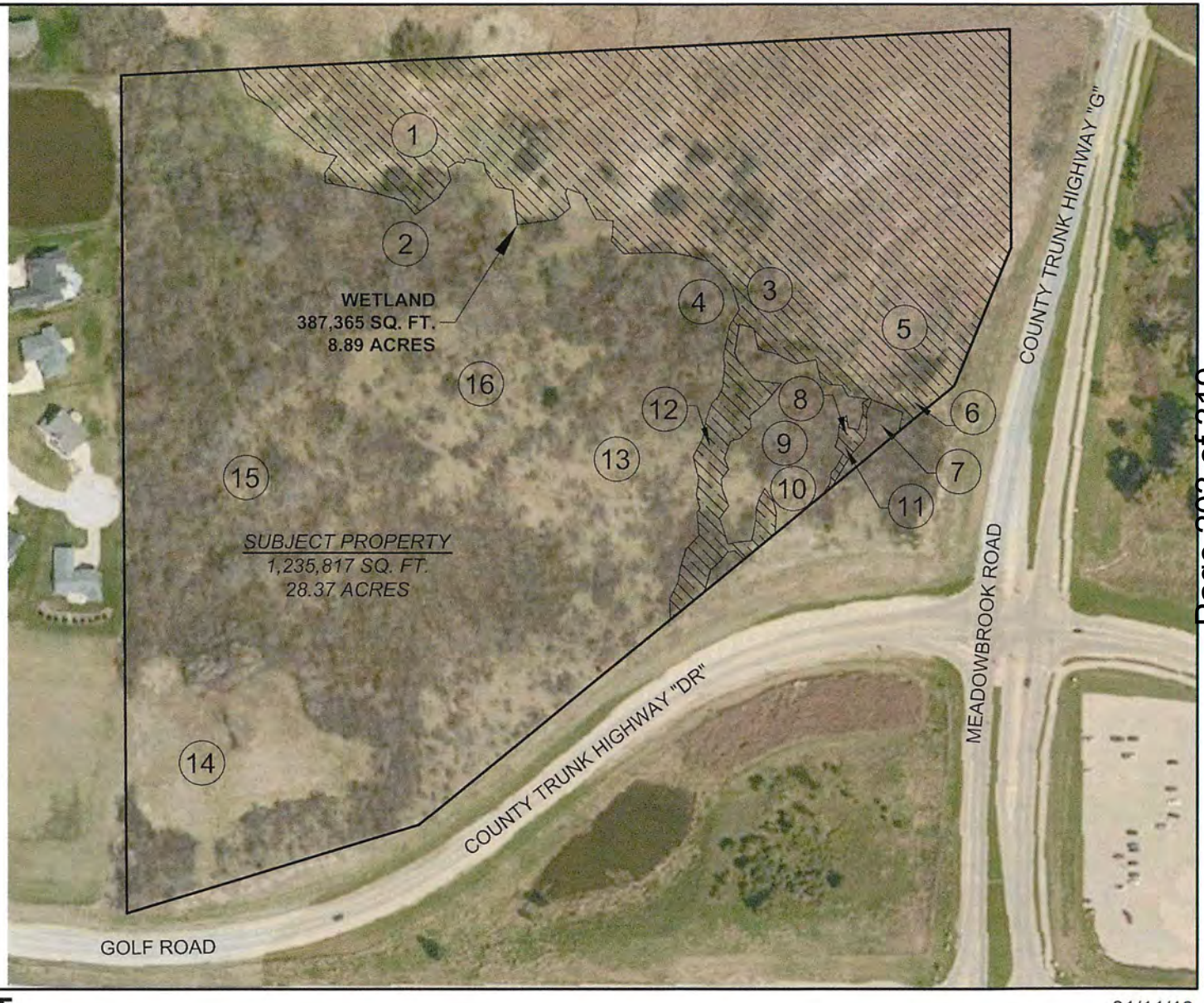
(1) = DATA POINT

WETLANDS DELINEATED BY
WETLAND & WATERWAY CONSULTING, LLC.
AUGUST 27 AND AUGUST 29, 2018

NORTH

GRAPHICAL SCALE (FEET)

0 1" = 150' 300'



WETLAND EXHIBIT

01/11/18

PINNACLE ENGINEERING GROUP
15850 W. BLUEMOUND ROAD | SUITE 210 | BROOKFIELD, WI 53005 | WWW.PINNACLE-ENGR.COM

PLAN | DESIGN | DELIVER

PEG JOB#1338.00

APPENDIX 6
CALCULATIONS

PINNACLE ENGINEERING GROUP
Plan | Design | Deliver
www.pinnacle-engr.com

STORM SEWER COMPUTATIONS
FOR
STENZ SENIOR LIVING

PEWAUKEE, WI

SHEET 1 OF 1
DESIGN BY: ACT
PROJECT NUMBER: 1338.10
DATE: 1/23/2023

DESIGN DATA

County: Waukesha **Design Storm:** 10 yr **Storm Duration:** 10 min **DESIGN INTENSITY (I):** 5.28 in/hr Intensity calculated using SEWRPC IDF equations.

STRUCTURE DATA			DRAINAGE AREA AND FLOW DATA (Flow is determined by Rational Method Q = CIA)				PIPE DATA				PIPE CAPACITY INFORMATION (Pipe capacity is determined by Manning's Equation $Q = 1.486/n\ AR^{2/3} S^{1/2}$)					ELEVATIONS		
Notes	Upstream Structure	Downstream Structure	Individual Acres A	Individual Coefficient C	Individual Flow Q (cfs)	Cumulative Flow (cfs)	Length (ft)	Diameter (in)	Slope (%)	Manning Coefficient	Required Drop (ft)	Actual Drop (ft)	Percent Full (%)	Actual Velocity (fps)	Max. Capacity (cfs)	Rim/Toc Up	Invert Up	Invert Down
	CB 1	CB 2	0.20	0.85	0.89	0.89	245.70	8	3.75	0.012	1.13	9.21	39%	6.45	2.63	901.15	898.31	889.10
	CB 2	CB 3	0.19	0.90	0.92	1.81	80.50	10	0.80	0.012	0.47	0.64	76%	4.37	2.28	893.00	889.10	888.45
	CB 3	CB 4	0.04	0.90	0.19	3.39	158.80	12	0.80	0.012	1.22	1.27	86%	5.01	3.71	891.10	884.95	883.68
	CB 4	CB 5	0.12	0.66	0.42	6.19	131.50	15	1.00	0.012	1.03	1.32	78%	6.44	7.53	887.94	883.68	882.37
	CB 5	ES 6	0.16	0.59	0.49	6.68	136.70	15	1.00	0.012	1.24	1.37	84%	6.49	7.53	886.57	882.37	881.00
100 YEAR	CB 7	CB 3	0.30	0.27	0.62	1.13	65.40	12	0.30	0.012	0.06	0.20	53%	2.74	2.27	888.18	885.15	884.95
	BC 14	CB 4	0.15	0.71	0.86	2.13	40.50	10	2.00	0.012	0.33	0.81	60%	6.51	3.61	890.00	884.49	883.68
100 YEAR	CB 8	CB 9	0.23	0.79	1.40	1.53	132.95	12	0.60	0.012	0.21	0.80	51%	3.83	3.22	888.15	884.73	883.93
100 YEAR	CB 9	CB 10	0.11	0.56	0.47	4.04	147.10	15	0.60	0.012	0.49	0.88	68%	4.84	5.83	888.72	883.93	883.05
100 YEAR	CB 10	MH 11	0.14	0.53	0.58	7.30	136.30	18	0.50	0.012	0.56	0.68	80%	5.16	8.66	887.54	883.05	882.36
100 YEAR	MH 11	MH 12	0.00	0.00	0.00	10.79	136.70	24	0.50	0.012	0.26	0.68	59%	5.82	18.64	888.89	882.36	881.68
100 YEAR	MH 12	ES 13	0.00	0.00	0.00	12.44	113.35	24	0.60	0.012	0.29	0.68	61%	6.44	20.42	889.12	881.68	881.00
	BC 15	MH 11	0.24	0.72	1.33	3.23	24.40	10	2.00	0.012	0.45	0.49	85%	7.01	3.61	890.00	882.85	882.36
	DS 1	MH 12	0.35	0.90	1.65	1.65	439.00	10	1.25	0.012	2.12	5.49	59%	5.13	2.85	890.00	887.17	881.68
100 YEAR	CB 9.1	CB 9	0.59	0.25	1.15	1.15	22.40	12	0.50	0.012	0.02	0.11	44%	3.33	2.94	887.04	884.04	883.93
100 YEAR	CB 10.1	CB 10	0.65	0.25	1.28	2.43	13.04	12	0.80	0.012	0.05	0.10	65%	4.76	3.71	887.44	883.15	883.05

APPENDIX 7
MAINTENANCE AGREEMENT

THESE PLANS AND DESIGNS ARE COPYRIGHT PROTECTED AND MAY NOT BE USED IN WHOLE OR IN PART WITHOUT THE WRITTEN CONSENT OF PINNACLE ENGINEERING GROUP, LLC

www.pinnacle-engr.com

ONSITE CIVIL ENGINEERING INFRASTRUCTURE PLANS

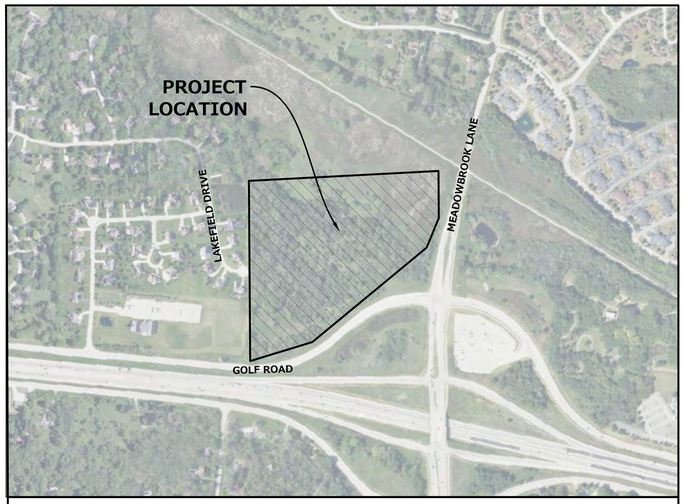
FOR

THE COURTYARD AT PEWAUKEE

GOLF RD & MEADOWBROOK LN

PLANS PREPARED
FOR

ANDEV GROUP, LLC
680 N. LAKE SHORE DR. UNIT 1103
CHICAGO, IL 60611



LOCATION MAP
SCALE: 1" = 500'

LEGEND

	EXISTING	PROPOSED
SANITARY SEWER MANHOLE		
STORM SEWER MANHOLE		
STORM SEWER AREA DRAIN		
STORM SEWER INLET (ROUND CASTING)		
STORM SEWER INLET (RECTANGULAR CASTING)		
PRECAST FLARED END SECTION		
CONCRETE HEADWALL		
VALVE VAULT		
VALVE BOX		
FIRE HYDRANT		
BUFFALO BOX		
CLEANOUT		
SANITARY SEWER		
FORCE MAIN		
STORM SEWER		
DRAIN TILE		
WATER MAIN	W	W
UTILITY CROSSING		
LIGHTING		
ELECTRICAL CABLE	E	E
OVERHEAD WIRES	OHW	OHW
CAUTION EXISTING UTILITIES NEARBY		CAUTION
ELECTRICAL TRANSFORMER OR PEDESTAL	E	
POWER POLE		
POWER POLE WITH LIGHT		
STREET SIGN		
GAS MAIN	G	G
TELEPHONE LINE	T	T
CONTOUR	749	749
SPOT ELEVATION	×(750.00)	×750.00
WETLANDS		
FLOODWAY		
FLOODPLAIN		
HIGH WATER LEVEL (HWL)		
NORMAL WATER LEVEL (NWL)		
DIRECTION OF SURFACE FLOW		
DITCH OR SWALE		
DIVERSION SWALE		
OVERFLOW RELIEF ROUTING		
TREE WITH TRUNK SIZE		
SOIL BORING		
TOPSOIL PROBE		
FENCE LINE, TEMPORARY SILT	SF	SF
FENCE LINE, WIRE		
FENCE LINE, CHAIN LINK OR IRON		
FENCE LINE, WOOD OR PLASTIC		
CONCRETE SIDEWALK		
CURB AND GUTTER		
DEPRESSED CURB		
REVERSE PITCH CURB & GUTTER		
EASEMENT LINE		

ABBREVIATIONS

BL	BASE LINE	NWL	NORMAL WATER LEVEL
C	LONG CHORD OF CURVE	PC	POINT OF CURVATURE
C & G	CURB AND GUTTER	PT	POINT OF TANGENCY
CB	CATCH BASIN	PVI	POINT OF VERTICAL INTERSECTION
CL	CENTERLINE	R	RADIUS
D	DEGREE OF CURVE	ROW	RIGHT-OF-WAY
EP	EDGE OF PAVEMENT	SAN	SANITARY SEWER
FF	FINISHED FLOOR	ST	STORM SEWER
FG	FINISHED GRADE	T	TANGENCY OF CURVE
FL	FLOW LINE	TB	TOP OF BANK
FP	FLOODPLAIN	TC	TOP OF CURB
FR	FRAME	TF	TOP OF FOUNDATION
FW	FLOODWAY	TP	TOP OF PIPE
HWL	HIGH WATER LEVEL	TS	TOP OF SIDEWALK
INV	INVERT	TW	TOP OF WALK
L	LENGTH OF CURVE	WM	WATER MAIN
MH	MANHOLE	Δ	INTERSECTION ANGLE
NTS	NOT TO SCALE		

GENERAL NOTES

1. THE INTENTION OF THE PLANS AND SPECIFICATIONS IS TO SET FORTH PERFORMANCE AND CONSTRUCTION MATERIAL STANDARDS FOR THE PROPER EXECUTION OF WORK. ALL WORKS CONTAINED WITHIN THE PLANS AND SPECIFICATIONS SHALL BE COMPLETED IN ACCORDANCE WITH ALL REQUIREMENTS FROM LOCAL, STATE, FEDERAL OR OTHER GOVERNING AGENCY'S LAWS, REGULATIONS, JURISDICTIONAL ORDINANCES/CODES/RULES/ETC., AND THE OWNER'S DIRECTION.
2. A GEOTECHNICAL REPORT DATED JULY 2, 2019 HAS BEEN PREPARED BY CONSTRUCTION GEOTECHNICAL CONSULTANTS, INC. FOR THE PROJECT SITE. THE DATA ON SUB-SURFACE SOIL CONDITIONS IS NOT INTENDED AS A REPRESENTATION OR WARRANTY OF THE CONTINUITY OF SUCH CONDITIONS BETWEEN BORINGS OR INDICATED SAMPLING LOCATIONS. IT SHALL BE EXPRESSLY UNDERSTOOD THAT OWNER WILL NOT BE RESPONSIBLE FOR ANY INTERPRETATIONS OR CONCLUSIONS DRAWN THERE FROM BY THE CONTRACTOR. DATA IS MADE AVAILABLE FOR THE CONVENIENCE OF THE CONTRACTOR. THE CONTRACTOR IS RESPONSIBLE FOR PERFORMING ANY ADDITIONAL SOILS INVESTIGATIONS THEY FEEL IS NECESSARY FOR THE PROPER EVALUATION OF THE SITE FOR PURPOSES OF PLANNING, BIDDING, OR CONSTRUCTING THE PROJECT AT NO ADDITIONAL COST TO THE OWNER.
3. THE CONTRACTOR IS RESPONSIBLE TO REVIEW AND UNDERSTAND ALL COMPONENTS OF THE PLANS AND SPECIFICATIONS, INCLUDING FIELD VERIFYING SOIL CONDITIONS, PRIOR TO SUBMISSION OF A BID PROPOSAL.
4. THE CONTRACTOR SHALL PROMPTLY REPORT ANY ERRORS OR AMBIGUITIES LEARNED AS PART OF THEIR REVIEW OF PLANS, SPECIFICATIONS, REPORTS AND FIELD INVESTIGATIONS.
5. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR THE COMPUTATION OF QUANTITIES AND WORK REQUIRED TO COMPLETE THIS PROJECT. THE CONTRACTOR'S BID SHALL BE BASED ON ITS OWN COMPUTATIONS AND IN NO SUCH INSTANCE RELY ON THE ENGINEER'S ESTIMATE.
6. QUESTIONS/CLARIFICATIONS WILL BE INTERPRETED BY ENGINEER/OWNER PRIOR TO THE AWARD OF CONTRACT. ENGINEER/OWNER WILL SUBMIT OFFICIAL RESPONSES IN WRITING. INTERPRETATIONS PRESENTED IN OFFICIAL RESPONSES SHALL BE BINDING ON ALL PARTIES ASSOCIATED WITH THE CONTRACT. IN NO WAY SHALL WORD-OF-MOUTH DIALOG CONSTITUTE AN OFFICIAL RESPONSE.
7. PRIOR TO START OF WORK, CONTRACTOR SHALL BE COMPLETELY FAMILIAR WITH ALL CONDITIONS OF THE SITE, AND SHALL ACCOUNT FOR CONDITIONS THAT AFFECT, OR MAY AFFECT CONSTRUCTION INCLUDING, BUT NOT LIMITED TO, LIMITATIONS OF WORK ACCESS, SPACE LIMITATIONS, OVERHEAD OBSTRUCTIONS, TRAFFIC PATTERNS, LOCAL REQUIREMENTS, ADJACENT ACTIVITIES, ETC. FAILURE TO CONSIDER SITE CONDITIONS SHALL NOT BE CAUSE FOR CLAIM OF JOB EXTRAS.
8. COMMENCEMENT OF CONSTRUCTION SHALL EXPLICITLY CONFIRM THAT THE CONTRACTOR HAS REVIEWED THE PLANS AND SPECIFICATIONS IN ENTIRETY AND CERTIFIES THAT THEIR SUBMITTED BID PROPOSAL CONTAINS PROVISIONS TO COMPLETE THE PROJECT, WITH THE EXCEPTION OF UNFORESEEN FIELD CONDITIONS; ALL APPLICABLE PERMITS HAVE BEEN OBTAINED; AND CONTRACTOR UNDERSTANDS ALL OF THE REQUIREMENTS OF THE PROJECT.
9. SHOULD ANY DISCREPANCIES OR CONFLICTS IN THE PLANS OR SPECIFICATIONS BE DISCOVERED AFTER THE AWARD OF CONTRACT, ENGINEER SHALL BE NOTIFIED IN WRITING IMMEDIATELY AND CONSTRUCTION OF ITEMS AFFECTED BY THE DISCREPANCIES/CONFLICTS SHALL NOT COMMENCE, OR CONTINUE, UNTIL A WRITTEN RESPONSE FROM ENGINEER/OWNER IS DISTRIBUTED. IN THE EVENT OF A CONFLICT BETWEEN REFERENCED CODES, STANDARDS, SPECIFICATIONS AND PLANS, THE ONE ESTABLISHING THE MOST STRINGENT REQUIREMENTS SHALL BE FOLLOWED.
10. THE CONTRACTOR SHALL, AT ITS OWN EXPENSE, OBTAIN ALL NECESSARY PERMITS AND LICENSES TO COMPLETE THE PROJECT. OBTAINING PERMITS, OR DELAYS, IS NOT CAUSE FOR DELAY OF THE CONTRACT OR SCHEDULE. CONTRACTOR SHALL COMPLY WITH ALL PERMIT REQUIREMENTS.
11. THE CONTRACTOR SHALL NOTIFY ALL INTERESTED GOVERNING AGENCIES, UTILITY COMPANIES AFFECTED BY THIS CONSTRUCTION PROJECT, AND DIGGER'S HOTLINE IN ADVANCE OF CONSTRUCTION TO COMPLY WITH ALL JURISDICTIONAL ORDINANCES/CODES/RULES/ETC., PERMIT STIPULATIONS, AND OTHER APPLICABLE STANDARDS.
12. SAFETY IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR. THE CONTRACTOR SHALL BE RESPONSIBLE TO INITIATE, INSTITUTE, ENFORCE, MAINTAIN, AND SUPERVISE ALL SAFETY PRECAUTIONS AND JOB SITE SAFETY PROGRAMS IN CONNECTION WITH THE WORK.
13. CONTRACTOR SHALL KEEP THE JOBSITE CLEAN AND ORDERLY AT ALL TIMES. ALL LOCATIONS OF THE SITE SHALL BE KEPT IN A WORKING MANNER SUCH THAT DEBRIS IS REMOVED CONTINUOUSLY AND ALL RESPECTIVE CONTRACTORS OPERATE UNDER GENERAL "GOOD HOUSEKEEPING."
14. THE CONTRACTOR SHALL INDEMNIFY THE OWNER, ENGINEER, AND THEIR AGENTS FROM ALL LIABILITY INVOLVED WITH THE CONSTRUCTION, INSTALLATION, AND TESTING OF THE WORK ON THIS PROJECT.

INDEX OF SHEETS

C-1	COVER SHEET
C-2	GENERAL NOTES
C-3	EXISTING CONDITIONS & DEMO OVERVIEW
C-4	EXISTING CONDITIONS & DEMO PLAN
C-5	EXISTING CONDITIONS & DEMO PLAN
C-6	SITE DIMENSIONAL & PAVING OVERVIEW
C-7	SITE DIMENSIONAL & PAVING PLAN
C-8	SITE DIMENSIONAL & PAVING PLAN
C-9	GRADING & EROSION CONTROL OVERVIEW
C-10	GRADING & EROSION CONTROL PLAN
C-11	GRADING & EROSION CONTROL PLAN
C-12	STORM SEWER OVERVIEW
C-13	STORM SEWER PLAN
C-14	STORM SEWER PLAN
C-15	SANITARY & WATERMAIN OVERVIEW
C-16	SANITARY & WATERMAIN PLAN
C-17	CONSTRUCTION DETAILS
C-18	CONSTRUCTION DETAILS

PROJECT TEAM CONTACTS

CIVIL ENGINEER:
MARK SEIDL, P.E.
PINNACLE ENGINEERING GROUP
20725 WATERTOWN ROAD, SUITE 100
BROOKFIELD, WI 53186
MAIN: (262) 754-8888
E-MAIL: mseidl@pinnacle-engr.com

SURVEYOR:
JOHN KONOPACKI, P.L.S.
PINNACLE ENGINEERING GROUP
20725 WATERTOWN RD, SUITE 100
BROOKFIELD, WI 53186
MAIN: (262) 754-8888
E-MAIL: john.konopacki@pinnacle-engr.com

APPLICANT/OWNER:
MICHAEL D. SAMUELS
ANDEV GROUP, LLC
680 N. LAKE SHORE DR. UNIT 1103
CHICAGO, IL 60611
MAIN: (847) 361-8600
E-MAIL: mdsamuels@gmail.com

CITY ENGINEER:
MAGDELENE WAGNER, P.E.
CITY ENGINEER/DIRECTOR OF PUBLIC WORKS
CITY OF PEWAUKEE
W240N3065 PEWAUKEE RD
PEWAUKEE, WI 53072
MAIN: (262) 691-0804

ARCHITECT:
ANDREW IVERSON
GANTHER CONSTRUCTION ARCHITECTURE, INC
4825 COUNTY ROAD A, OSHKOSH, WI 54901
MAIN: (920) 426-4774
E-MAIL: AIVERSON@GANTHER.COM

CITY PLANNER:
NICK FUCHS
PLANNER & COMMUNITY DEVELOPMENT DIRECTOR
W240N3065 PEWAUKEE RD
PEWAUKEE, WI 53072
MAIN: (262) 691-6007
E-MAIL: FUCHS@PEWAUKEE.WI.US

DIGGERS HOTLINE
Toll Free (800) 242-8511
Milwaukee Area (414) 259-1181
Hearing Impaired TDD (800) 542-2289
www.DiggersHotline.com

PINNACLE ENGINEERING GROUP, LLC
ENGINEER'S LIMITATION

PINNACLE ENGINEERING GROUP, LLC AND THEIR CONSULTANTS DO NOT WARRANT OR GUARANTEE THE ACCURACY AND COMPLETENESS OF THE DELIVERABLES HEREIN BEYOND A REASONABLE DILIGENCE. IF ANY MISTAKES, OMISSIONS, OR DISCREPANCIES ARE FOUND TO EXIST WITHIN THE DELIVERABLES, THE ENGINEER SHALL BE PROMPTLY NOTIFIED PRIOR TO BID SO THAT HE MAY HAVE THE OPPORTUNITY TO TAKE WHATEVER STEPS NECESSARY TO RESOLVE THEM. FAILURE TO PROMPTLY NOTIFY THE ENGINEER OF SUCH CONDITIONS SHALL ABSOLVE THE ENGINEER FROM ANY RESPONSIBILITY FOR THE CONSEQUENCES OF SUCH FAILURE. ACTIONS TAKEN WITHOUT THE KNOWLEDGE AND CONSENT OF THE ENGINEER, OR IN CONTRADICTION TO THE ENGINEER'S DELIVERABLES OR RECOMMENDATIONS, SHALL BECOME THE RESPONSIBILITY NOT OF THE ENGINEER BUT OF THE PARTIES RESPONSIBLE FOR TAKING SUCH ACTION.

FURTHERMORE, PINNACLE ENGINEERING GROUP, LLC IS NOT RESPONSIBLE FOR CONSTRUCTION SAFETY OR THE MEANS AND METHODS OF CONSTRUCTION.

DRAFTED: DMS
DESIGNED: AGT
REVIEWED:

PLAN | DESIGN | DELIVER
www.pinnacle-engr.com

PINNACLE ENGINEERING GROUP
ENGINEERING | NATURAL RESOURCES | SURVEYING

WISCONSIN OFFICE:
20725 WATERTOWN ROAD, SUITE 100
BROOKFIELD, WI 53186
(262) 754-8888
CHICAGO | MILWAUKEE - NATIONWIDE

THE COURTYARD AT PEWAUKEE

GOLF RD & MEADOWBROOK LN

COVER SHEET

REVISIONS

PEG JOB No. 1338.10
PEG PM MTS
START DATE 07-27-22
SCALE N.T.S.

SHEET
C-1
C-18

COVER SHEET

© COPYRIGHT 2023

Z:\PROJECTS\2018\1338.10-WI\CAD\SHEETS\1338.10 COVER SHEET.DWG

THESE PLANS AND DESIGNS ARE COPYRIGHT PROTECTED AND MAY NOT BE USED IN WHOLE OR IN PART WITHOUT THE WRITTEN CONSENT OF PINNACLE ENGINEERING GROUP, LLC

www.pinnacle-engr.com

GENERAL SPECIFICATIONS FOR CONSTRUCTION ACTIVITIES

1. THE PROPOSED IMPROVEMENTS SHALL BE CONSTRUCTED ACCORDING TO THE WISCONSIN D.O.T. STANDARD SPECIFICATIONS FOR HIGHWAY AND STRUCTURE CONSTRUCTION, LATEST EDITION, THE STANDARD SPECIFICATIONS FOR SEWER & WATER IN WISCONSIN, AND WISCONSIN ADMINISTRATIVE CODE, SPS 360, 382-383, AND THE LOCAL ORDINANCES AND SPECIFICATIONS.
2. THE CONTRACTOR SHALL OBTAIN ALL PERMITS REQUIRED FOR EXECUTION OF THE WORK. THE CONTRACTOR SHALL CONDUCT THEIR WORK ACCORDING TO THE REQUIREMENTS OF THE PERMITS.
3. THE CONTRACTOR SHALL NOTIFY THE OWNER AND THE MUNICIPALITY FORTY- EIGHT (48) HOURS PRIOR TO THE START OF CONSTRUCTION.
4. THE MUNICIPALITY SHALL HAVE THE RIGHT TO INSPECT, APPROVE, AND REJECT THE CONSTRUCTION OF THE PUBLIC PORTIONS OF THE WORK. THE OWNER SHALL HAVE THE RIGHT TO INSPECT, APPROVE, AND REJECT THE CONSTRUCTION OF ALL PRIVATE PORTIONS OF THE WORK.
5. THE CONTRACTOR SHALL INDEMNIFY THE OWNER, THE ENGINEER, AND THE MUNICIPALITY, THEIR AGENTS, ETC, FROM ALL LIABILITY INVOLVED WITH THE CONSTRUCTION, INSTALLATION, AND TESTING OF THE WORK ON THIS PROJECT.
6. SITE SAFETY SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR.
7. THE CONTRACTOR IS RESPONSIBLE FOR FIELD VERIFYING ALL UTILITY INFORMATION SHOWN ON THE PLANS PRIOR TO THE START OF CONSTRUCTION. THE CONTRACTOR SHALL CALL DIGGER'S HOTLINE AT 1-800-242-8511 TO NOTIFY THE UTILITIES OF HIS INTENTIONS, AND TO REQUEST FIELD STAKING OF EXISTING UTILITIES.
8. SILT FENCE AND OTHER EROSION CONTROL FACILITIES MUST BE INSTALLED PRIOR TO CONSTRUCTION OR ANY OTHER LAND DISTURBING ACTIVITY. FOLLOW THE SEQUENCE OF CONSTRUCTION ON THE GRADING & EROSION CONTROL PLAN FOR MORE DETAILS. INSPECTIONS SHALL BE MADE WEEKLY OR AFTER EVERY RAINFALL OF 0.5" OR MORE. REPAIRS SHALL BE MADE IMMEDIATELY. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REMOVING ALL EROSION CONTROL FACILITIES ONCE THE THREAT OF EROSION HAS PASSED WITH THE APPROVAL OF THE GOVERNING AGENCY.
9. ANY ADJACENT PROPERTIES OR ROAD RIGHT-OF-WAYS WHICH ARE DAMAGED DURING CONSTRUCTION MUST BE RESTORED BY THE CONTRACTOR.
10. TRASH AND DEBRIS SHALL BE NOT BE ALLOWED TO ACCUMULATE ON THIS SITE AND THE SITE SHALL BE CLEAN UPON COMPLETION OF WORK.
11. THE OWNER SHALL HAVE THE RIGHT TO HAVE ALL MATERIALS USED IN CONSTRUCTION TESTED FOR COMPLIANCE WITH THESE SPECIFICATIONS.
12. SPOT ELEVATIONS REPRESENT THE GRADE ON PAVEMENT SURFACE OR FLOW LINE UNLESS OTHERWISE NOTED.
13. THE CONTRACTOR SHALL IMMEDIATELY NOTIFY ENGINEER/OWNER IF GROUNDWATER IS ENCOUNTERED DURING EXCAVATION.
14. WORK WITHIN ANY ROADWAY RIGHT-OF-WAY SHALL BE COORDINATED WITH THE APPROPRIATE MUNICIPAL OFFICIAL PRIOR TO COMMENCEMENT OF ANY CONSTRUCTION ACTIVITIES. CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND FEES. GRADING WITHIN RIGHT-OF-WAY IS SUBJECT TO APPROVAL BY SAID OFFICIALS. RESTORATION OF RIGHT-OF-WAY IS CONSIDERED INCIDENTAL AND SHALL BE INCLUDED IN THE COST OF GRADING. RESTORATION SHALL INCLUDE ALL ITEMS NECESSARY TO RESTORE RIGHT-OF-WAY IN-KIND INCLUDING LANDSCAPING.
15. CONTRACTOR SHALL COMPLY WITH ALL WAUKESHA COUNTY CONSTRUCTION STANDARDS/ORDINANCES.
16. LANDSCAPE AND TURF AREAS SHALL HAVE A MINIMUM OF 4-INCH TOPSOIL REPLACEMENT.

SPECIFICATIONS FOR GRADING & EROSION CONTROL

1. THE CONTRACTOR SHALL ASSUME SOLE RESPONSIBILITY FOR THE COMPUTATIONS OF ALL GRADING AND FOR ACTUAL LAND BALANCE, INCLUDING UTILITY TRENCH SPOIL. THE CONTRACTOR SHALL IMPORT OR EXPORT MATERIAL AS NECESSARY TO COMPLETE THE PROJECT. CONTRACTOR SHALL NOTIFY OWNER OF THE NEED TO IMPORT OR HAUL OFF SOIL. ON-SITE LOCATIONS SUITABLE FOR BORROW OR FILL MAY BE PRESENT. COORDINATE WITH OWNER.
2. THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING SOIL CONDITIONS PRIOR TO COMMENCEMENT OF CONSTRUCTION. A GEOTECHNICAL REPORT MAY BE AVAILABLE FROM THE OWNER.
3. SITE SHALL BE CLEARED TO THE LIMITS SHOWN ON THE PLANS. REMOVE VEGETATION FROM THE SITE. BURNING IS NOT PERMITTED. PROTECT TREES AND OTHER FEATURES FROM DAMAGE WITH FENCING. STOCKPILES SHALL NOT BE LOCATED CLOSER THAN 25' TO A DRAINAGE STRUCTURE OR FEATURE AND SHALL BE SURROUNDED WITH SILT FENCE.
4. THE GEOTECHNICAL ENGINEER IS RESPONSIBLE FOR VERIFYING COMPACTION AND FILL PLACEMENT IN THE FIELD. THE GEOTECHNICAL ENGINEER MAY SUPERCEDE THESE SPECIFICATIONS IF THERE IS GOOD CAUSE TO DO SO. AN EXPLANATION MUST BE SUBMITTED TO THE ENGINEER IN WITTING BEFORE ANY DEVIATIONS ARE MADE.
5. IF NO GEOTECHNICAL RECOMMENDATION IS AVAILABLE, THEN THE FOLLOWING SPECIFICATIONS SHALL APPLY. ALL FILL SHALL BE CONSIDERED STRUCTURAL FILL AND SHALL BE PLACED IN ACCORDANCE WITH THE FOLLOWING: THE COMPACTED FILL SUBGRADE SHALL CONSIST OF AND SHALL BE UNDERLAIN BY SUITABLE BEARING MATERIALS, FREE OF ALL ORGANIC, FROZEN OR OTHER DELETERIOUS MATERIAL AND INSPECTED AND APPROVED BY THE RESIDENT GEOTECHNICAL ENGINEER. PREPARATION OF THE SUBGRADE, AFTER STRIPPING, SHALL CONSIST OF PROOF-ROLLING TO DETECT UNSTABLE AREAS THAT MIGHT BE UNDERCUT, AND COMPACTING THE SCARIFIED SURFACE TO THE SAME MINIMUM DENSITY INDICATED BELOW. THE COMPACTED FILL MATERIALS SHALL BE FREE OF ANY DELETERIOUS, ORGANIC OR FROZEN MATTER AND SHALL HAVE A MAXIMUM LIQUID LIMIT (ASTM-D-423) AND PLASTICITY INDEX (ASTM D-424) IF 30 AND 10 RESPECTFULLY, UNLESS SPECIFICALLY TESTED AND FOUND TO HAVE LOW EXPANSIVE PROPERTIES AND APPROVED BY AN EXPERIENCED SOILS ENGINEER. THE TOP TWELVE (12") INCHES OF COMPACTED FILL SHOULD HAVE A MAXIMUM THREE (3") INCH PARTICLE DIAMETER AND ALL UNDERLYING COMPACTED FILL A MAXIMUM SIX (6") INCH PARTICLE DIAMETER UNLESS SPECIFICALLY APPROVED BY AN EXPERIENCED SOILS ENGINEER. ALL FILL MATERIAL MUST BE TESTED AND APPROVED UNDER THE DIRECTION AND SUPERVISION OF AN EXPERIENCED SOILS ENGINEER PRIOR TO PLACEMENT, IF THE FILL IS TO PROVIDE NON-FROST SUSCEPTIBLE CHARACTERISTICS, IT MUST BE CLASSIFIED AS A CLEAN GW, GP, SW, OR SP PER UNITED SOIL CLASSIFICATION SYSTEM (ASTM D-2487). FOR STRUCTURAL FILL THE DENSITY OF THE STRUCTURAL COMPACTED FILL AND SCARIFIED SUBGRADE AND GRADES SHALL NOT BE LESS THAN 95 PERCENT OF THE MAXIMUM DRY DENSITY AS DETERMINED BY THE STANDARD PROCTOR (ASTM D-698) WITH THE EXCEPTION TO THE TOP 12 INCHES OF PAVEMENT SUBGRADE WHICH SHALL A MINIMUM IN-SITU DENSITY OF 100 PERCENT OF THE MAXIMUM DRY DENSITY, OR 5 PERCENT HIGHER THAN UNDERLYING FILL MATERIALS. THE MOISTURE CONTENT OF COHESIVE SOIL SHALL NOT VARY BY MORE THAN -1 TO +3 PERCENT AND GRANULAR SOIL ±3 PERCENT OF OPTIMUM WHEN PLACED AND COMPACTED OR RECOMPACTED, UNLESS SPECIFICALLY APPROVED BY THE SOILS ENGINEER TAKING INTO CONSIDERATION THE TYPE OF MATERIALS AND COMPACTION EQUIPMENT BEING USED. THE COMPACTION EQUIPMENT SHOULD CONSIST OF SUITABLE MECHANICAL EQUIPMENT SPECIFICALLY DESIGNED FOR SOIL COMPACTION. BULLDOZERS OR SIMILAR TRACKED VEHICLES ARE TYPICALLY NOT SUITABLE FOR COMPACTION. MATERIAL THAT IS TOO WET TO PERMIT PROPER COMPACTION MAY BE SPREAD ON THE FILL AND PERMITTED TO DRY. DISCING, HARROWING OR PULVERIZING MAY BE NECESSARY TO REDUCE THE MOISTURE CONTENT TO A SATISFACTORY VALUE, AFTER WHICH IT SHALL BE COMPACTED. THE FINISHED SUBGRADE AREAS OF THE SITE SHALL BE COMPACTED TO 100 PERCENT OF THE STANDARD PROCTOR (ASTM D-398) MAXIMUM DENSITY.
6. NO FILL SHALL BE PLACED ON A WET OR SOFT SUBGRADE. THE SUBGRADE SHALL BE PROOF-ROLLED AND INSPECTED BY THE GEOTECHNICAL ENGINEER BEFORE ANY MATERIAL IS PLACED.
7. SUBGRADE TOLERANCES ARE +/-1" FOR LANDSCAPE AREAS AND +/- ½" FOR ALL PAVEMENT AND BUILDING AREAS.
8. TOPSOIL SHALL BE FREE OF DELETERIOUS MATERIALS, ROOTS, OLD VEGETATION, ROCKS OVER 2" DIAMETER AND SHALL NOT BE EXCESSIVELY CLAYEY IN NATURE. NO CLUMPS LARGER THAN 4" ARE ACCEPTABLE. TOPSOIL MAY BE AMENDED AS NEEDED WITH SAND OR COMPOST TO BE LOOSE WHEN SPREAD.
9. THE CONTRACTOR SHALL MAINTAIN SITE DRAINAGE THROUGHOUT CONSTRUCTION. THIS MAY INCLUDE THE EXCAVATION OF TEMPORARY DITCHES OR PUMPING TO ALLEVIATE WATER PONDING. ANY DEWATERING SHALL NOT GO DIRECTLY TO STREAMS, CREEKS, WETLANDS OR OTHER ENVIRONMENTALLY SENSITIVE AREAS WITHOUT BEING TREATED FIRST. A DIRT BAG OR OTHER DEWATERING TREATMENT DEVICE MAY BE USED TO CAPTURE SEDIMENT FROM THE PUMPED WATER.
10. CONTRACTOR IS ADVISED THAT ALL MUD AND DEBRIS MUST NOT BE DEPOSITED ONTO THE ADJACENT ROADWAYS PER THE REQUIREMENT OF THE MUNICIPALITY OR OTHER APPROPRIATE GOVERNMENT AGENCIES. IN THE EVENT THIS OCCURS, THE ROADWAYS SHALL BE POWER SWEPT IMMEDIATELY AND ALL SEDIMENT REMOVED FROM DOWNSTREAM FACILITIES.

SPECIFICATIONS FOR PRIVATE UTILITIES

1. BEFORE PROCEEDING WITH ANY UTILITY CONSTRUCTION, THE CONTRACTOR SHALL EXCAVATE EACH EXISTING LATERAL OR POINT OF CONNECTION AND VERIFY THE LOCATION AND ELEVATION OF ALL UTILITIES. IF ANY EXISTING UTILITIES ARE NOT AS SHOWN ON THE DRAWINGS, THE CONTRACTOR SHALL NOTIFY THE ENGINEER IMMEDIATELY FOR POSSIBLE REDESIGN.
2. ALL CONNECTIONS TO EXISTING PIPES AND MANHOLES SHALL BE CORED CONNECTIONS. CONNECTIONS TO WATERMAIN SHALL BE WET TAPED WITH A STAINLESS STEEP TAPPING SLEEVE.
3. PROPOSED SANITARY SEWER AND INTERNALLY CONNECTED STORM SEWER SHOWN ON THIS PLAN SHALL TERMINATE AT A POINT FIVE (5) FEET FROM THE EXTERIOR BUILDING WALL. THE EXACT LOCATION OF ALL DOWN SPOUTS CONNECTIONS SHALL BE PER THE ARCHITECTURAL PLANS.
4. CONTRACTOR SHALL NOT SHUT OFF WATER OR PLUG SANITARY SEWER IN MUNICIPAL LINES WITHOUT PRIOR APPROVAL.
5. MATERIALS FOR STORM SEWER SHALL BE AS FOLLOWS: STORM SEWER PIPE 48" OR LESS SHALL BE HIGH DENSITY POLYETHYLENE (HDPE) CORRUGATED PIPE WITH AN INTEGRALLY FORMED SMOOTH WATERWAY SUCH AS ADS N-12. FOR PIPE 10" OR LESS IN DIAMETER, PVC, ASTM D-3034, SDR-26, MAY ALSO BE USED. WHERE SPECIFICALLY REQUIRED, REINFORCED CONCRETE PIPE (RCP), ASTM C-76, CLASS III OR HIGHER, MAY BE USED. TRENCH SECTION SHALL BE CLASS "B" FOR PVC AND HDPE AND CLASS "C" FOR CONCRETE (PER STANDARD SPECIFICATIONS). MANHOLES, INLETS AND CATCH BASINS SHALL BE PRE CAST REINFORCED CONCRETE, ASTM C-478. CASTINGS SHALL BE HEAVY DUTY CAST IRON. AREA DRAINS SHALL BE PER DETAIL ON PLAN OR EQUIVALENT AND SHALL BE A MINIMUM OF 24" IN DIAMETER. CONNECTIONS TO EXISTING PIPES SHALL BE MADE WITH INSERTA WYE OR EQUIVALENT. LAST (3) THREE JOINTS SHALL BE RESTRAINED WITH RODS.
6. MATERIALS FOR SANITARY SEWER SHALL BE AS FOLLOWS: SANITARY SEWER SHALL BE PVC, ASTM D-3034, SDR-35 WITH RUBBER GASKETED JOINTS, CONFORMING TO ASTM D-3212. TRENCH SECTIONS SHALL BE CLASS "B" BEDDING (PER STANDARD SPECIFICATIONS). CRUSHED STONE CHIPS SHALL BE USED FOR BEDDING MATERIAL. CONNECTIONS SHALL BE MAD WITH A INSERTA WYE OR EQUIVALENT. A MINIMUM OF 6' OF COVER IS REQUIRED FOR ALL SANITARY SEWER.
7. MATERIALS FOR WATER SERVICES AND PRIVATE HYDRANTS SHALL BE AS FOLLOWS: WATER SERVICES SHALL BE PVC, HDPE, OR DI AS ALLOWED BY MUNICIPAL CODE, PVC SHALL BE AWWA C-900. DI SHALL BE AWWA C151, CLASS 52 (OR AS REQUIRED BY LOCAL CODE). TRENCH SECTIONS SHALL BE CLASS "B" BEDDING (PER STANDARD SPECIFICATIONS). CRUSHED STONE CHIPS SHALL BE USED FOR BEDDING MATERIAL. CONNECTION SHALL BE MADE WITH A WET TAP, CORPORATE STOP AND VALVE BOX PER MUNICIPAL STANDARDS. A MINIMUM OF 6' COVER IS REQUIRED FOR ALL WATERMAIN. VALVES SHALL BE NONRISING STEM, RESILIENT SEATED GATE VALVES COMPLYING WITH AWWA C509 WITH A THREE PIECE CAST IRON VALVE BOX. INSTALL THRUST BLOCKS AT ALL BENDS AND TEES. DISINFECT ALL NEW LINES AND OBTAIN SAFE WATER SAMPLE PRIOR TO USE.
8. EXTREME CAUTION MUST BE FOLLOWED REGARDING THE COMPACTION OF ALL UTILITY TRENCHES. MECHANICALLY COMPACTED GRANULAR BACKFILL IS REQUIRED UNDER & WITHIN 5 FEET OF ALL PAVEMENT INCLUDING SIDEWALKS. FLOODING OF BACKFILL MATERIAL IS NOT ALLOWED.
9. TRACER WIRE (NO. 12 SINGLE STRAND COPPER) AND WARNING TAPE SHALL BE INSTALLED ON ALL UTILITIES IN ACCORDANCE WITH THE LOCAL AND STATE CODES. TRACER WIRE SHALL TERMINATE IN A VALVECO TERMINAL BOX AT EACH END.
10. MANDREL TESTING ON SANITARY LINES AND PRESSURE TESTING ON WATERMAIN MAY BE REQUIRED BY THE OWNER OR MUNICIPALITY.
11. UPON COMPLETION OF FINAL PAVING OPERATIONS, THE UTILITY CONTRACTOR SHALL ADJUST ALL MANHOLE AND INLET RIMS AND VALVE BOXES TO FINISHED GRADE.
12. 45° BENDS SHALL BE USED IN PLACE OF 90° BENDS WHEREVER POSSIBLE

SPECIFICATIONS FOR PAVING

1. ALL DIMENSIONS ARE TO FACE OF CURB OR FACE OF BUILDING UNLESS NOTED OTHERWISE. ALL UTILITY DIMENSIONS ARE TO OUTSIDE OF PIPE OR CENTER OF STRUCTURE UNLESS OTHERWISE NOTED. ALL PAVING DIMENSIONS ARE TO FACE OF CURB OR TO EDGE OF PAVEMENT; EXCEPT FOR THE SETBACK FROM PARKING LOTS, MANEUVERING LANES AND FIRE ACCESS LANES, WHERE THE SETBACK IS MEASURED FROM THE BACK OF CURB TO THE PROPERTY LINE.
2. AGGREGATES USED IN THE CRUSHED STONE BASE SHALL CONFORM TO THE GRADATION REQUIREMENTS SECTIONS 301.2 AND 305.2.2 OF THE STANDARD SPECIFICATIONS. THICKNESS SHALL BE PER THE DETAIL ON THE PLANS. BASE SHALL BE 1 ¼ INCH DIAMETER LIMESTONE UNLESS NOTED OTHERWISE. RECYCLED MATERIALS MAY BE ALLOWED WITH APPROVAL FROM THE OWNER.
3. SUBGRADE SHALL BE PROOFROLLED AND APPROVED BY A GEOTECHNICAL ENGINEER PRIOR TO PLACEMENT OF STONE BASE. EXCAVATE UNSUITABLE AREAS AND REPLACE WITH BREAKER RUN STONE AND RECOMPACT. REFER TO THE GEOTECHNICAL REPORT FOR ADDITIONAL SPECIFICATIONS.
4. EXISTING PAVEMENT SHALL BE SAWCUT IN NEAT STRAIGHT LINES TO FULL DEPTH AT ANY POINT WHERE EXISTING PAVEMENT IS REMOVED. CURB AND WALK SHALL BE REMOVED TO THE NEAREST JOINT. REMOVED PAVEMENT SHALL BE REPLACED WITH THE SAME SECTION AS EXISTING. MUNICIPAL STANDARDS MAY REQUIRE ADDITIONAL WORK.
5. ASPHALT FOR PARKING AREAS AND THE PRIVATE ROAD SHALL BE PER THE DETAILS. MATERIALS AND PLACEMENT SHALL CONFORM TO THE DOT STANDARD SPECIFICATIONS, SECTION 450 AND 460 TYPE L-T IS REQUIRED UNLESS NOTED OTHERWISE. A COMMERCIAL GRADE MIX MAY BE SUBSTITUTED ONLY WITH APPROVAL FROM THE OWNER.
6. CONCRETE FOR CURB, DRIVEWAY, WALKS AND NON-FLOOR SLABS SHALL CONFORM TO THE SECTION 415 OF THE STANDARD SPECIFICATIONS, GRADE A, ASTM C-94, 6 BAG MIX, WITH A MINIMUM 28 DAY COMPRESSIVE STRENGTH OF 3,500 PSI. JOINTING SHALL BE PER SECTION 415.3.7 OF THE STANDARD SPECIFICATION WITH CONSTRUCTION JOINTS HAVING A MAXIMUM SPACING OF 10'. EXPANSION JOINTS SHALL BE PROVIDED EVERY 50'. CONCRETE SHALL BE FINISHED PER SECTION 415.3.8 WITH A MEDIUM BROOM TEXTURE. A CURING MEMBRANE IN CONFORMANCE WITH SECTION 415.3.12 IS REQUIRED.
7. PROVIDE CONTRACTOR GRADE ACRYLIC, STRIPING PAINT FOR NEW ASPHALT OR COATED ASPHALT. APPLY MARKING PAINT AT A RATE OF ONE (1) GALLON PER THREE TO FOUR HUNDRED (300-400) LINEAL FEET OF FOUR (4) INCH WIDE STRIPES OR TO MANUFACTURER'S SPECIFICATION, WHICHEVER IS GREATER.
8. THOROUGHLY CLEAN SURFACES FREE OF DIRT, SAND, GRAVEL, OIL AND OTHER FOREIGN MATTER. CONTRACTOR RESPONSIBLE TO INSPECT EXISTING PAVEMENT SURFACES FOR CONDITIONS AND DEFECTS THAT WILL ADVERSELY AFFECT QUALITY OF WORK, AND WHICH CANNOT BE PUT INTO AN ACCEPTABLE CONDITION THROUGH NORMAL PREPARATORY WORK AS SPECIFIED.

GENERAL EROSION AND SEDIMENT CONTROL NOTES

1. ALL CONSTRUCTION SHALL ADHERE TO THE REQUIREMENTS SET FORTH IN EPA'S NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) STORMWATER GENERAL PERMIT FOR CONSTRUCTION SITE LAND DISTURBANCE ACTIVITIES. ALL EROSION AND SEDIMENT CONTROL MEASURES ARE TO BE CONSTRUCTED AND MAINTAINED IN ACCORDANCE WITH LOCAL, STATE AND FEDERAL TECHNICAL STANDARDS AND PROVISIONS IN EFFECT AT THE TIME OF CONSTRUCTION. THESE PROCEDURES AND STANDARDS SHALL BE REFERRED TO AS BEST MANAGEMENT PRACTICES (BMP'S). IT IS THE RESPONSIBILITY OF ALL CONTRACTORS ASSOCIATED WITH THE PROJECT TO OBTAIN A COPY OF, AND UNDERSTAND, THE BMP'S PRIOR TO THE START OF CONSTRUCTION ACTIVITIES.
2. THE EROSION CONTROL MEASURES INDICATED ON THE PLANS ARE THE MINIMUM REQUIREMENTS. ADDITIONAL CONTROL MEASURES AS DIRECTED BY OWNER/ENGINEER OR GOVERNING AGENCIES SHALL BE INSTALLED WITHIN 24 HOURS OF REQUEST.
3. MODIFICATIONS TO THE APPROVED SWPPP IN ORDER TO MEET UNFORESEEN FIELD CONDITIONS ARE ALLOWED IF MODIFICATIONS CONFORM TO BMP'S. ALL MODIFICATIONS MUST BE APPROVED BY OWNER/ENGINEER/GOVERNING AGENCY PRIOR TO DEVIATION OF THE APPROVED PLAN.
4. INSTALL PERIMETER EROSION CONTROL MEASURES (SUCH AS CONSTRUCTION ENTRANCES, SILT FENCE AND EXISTING INLET PROTECTION) PRIOR TO ANY SITE WORK, INCLUDING GRADING OR DISTURBANCE OF EXISTING SURFACE COVER, AS SHOWN ON PLAN IN ORDER TO PROTECT ADJACENT PROPERTIES/STORM SEWER SYSTEMS FROM SEDIMENT TRANSPORT.
5. CONSTRUCTION ENTRANCES SHALL BE INSTALLED AT ALL LOCATIONS OF VEHICLE INGRESS/EGRESS POINTS. CONTRACTOR IS RESPONSIBLE TO COORDINATE LOCATION(S) WITH THE PROPER AUTHORITIES. PROVIDE NECESSARY FEES AND OBTAIN ALL REQUIRED APPROVALS OR PERMITS. ADDITIONAL CONSTRUCTION ENTRANCES OTHER THAN AS SHOWN ON THE PLANS MUST BE APPROVED BY THE APPLICABLE GOVERNING AGENCIES PRIOR TO INSTALLATION.
6. PAVED SURFACES ADJACENT TO CONSTRUCTION ENTRANCES SHALL BE SWEPT AND/OR SCRAPED TO REMOVE ACCUMULATED SOIL, DIRT AND/OR DUST IMMEDIATELY AND AS REQUESTED BY THE GOVERNING AGENCIES.
7. ALL EXISTING STORM SEWER FACILITIES THAT WILL COLLECT RUNOFF FROM DISTURBED AREAS SHALL BE PROTECTED TO TO PREVENT SEDIMENT DEPOSITION WITHIN STORM SEWER SYSTEMS. INLET PROTECTION SHALL BE IMMEDIATELY FITTED AT THE INLET OF ALL INSTALLED STORM SEWER AND SILT FENCE SHALL BE IMMEDIATELY FITTED AT ALL INSTALLED CULVERT INLETS . ALL INLETS, STRUCTURES, PIPES, AND SWALES SHALL BE KEPT CLEAN AND FREE OF SEDIMENTATION AND DEBRIS.
8. EROSION CONTROL FOR UTILITY CONSTRUCTION (STORM SEWER, WATER MAIN, ETC.) OUTSIDE OF THE PERIMETER CONTROLS SHALL INCORPORATE THE FOLLOWING:

   PLACE EXCAVATED TRENCH MATERIAL ON THE HIGH SIDE OF THE TRENCH.

   BACKFILL, COMPACT AND STABILIZE THE TRENCH IMMEDIATELY AFTER PIPE CONSTRUCTION.

   DISCHARGE TRENCH WATER INTO A SEDIMENTATION BASIN OR FILTERING TANK IN ACCORDANCE WITH BMP'S PRIOR TO RELEASE INTO STORM SEWER OR DITCHES.
9. AT A MINIMUM, SEDIMENT BASINS AND NECESSARY TEMPORARY DRAINAGE PROVISIONS SHALL BE CONSTRUCTED AND OPERATIONAL BEFORE BEGINNING OF SIGNIFICANT MASS GRADING OPERATIONS TO PREVENT OFFSITE DISCHARGE OF UNTREATED RUNOFF.
10. IF APPLICABLE, ALL WATERCOURSES AND WETLANDS SHALL BE PROTECTED WITH DOUBLE ROW OF SILT FENCE TO PREVENT ANY DIRECT DISCHARGE FROM DISTURBED SOILS.
11. ALL TEMPORARY AND PERMANENT EROSION CONTROL MEASURES MUST BE MAINTAINED AND REPAIRED AS NEEDED. THE GENERAL CONTRACTOR WILL BE RESPONSIBLE FOR INSPECTION AND REPAIR DURING CONSTRUCTION. THE OWNER WILL BE RESPONSIBLE IF EROSION CONTROL IS REQUIRED AFTER THE CONTRACTOR HAS COMPLETED THE PROJECT.
12. TOPSOIL STOCKPILES SHALL HAVE A BERM OR TRENCH AROUND THE CIRCUMFERENCE AND PERIMETER SILT FENCE TO CONTROL SILT. IF TOPSOIL STOCKPILE REMAINS UNDISTURBED FOR MORE THAN SEVEN (7) DAYS, TEMPORARY SEEDING AND STABILIZATION IS REQUIRED.
13. EROSION CONTROL MEASURES TEMPORARILY REMOVED FOR UNAVOIDABLE CONSTRUCTION ACTIVITIES SHALL BE IN WORKING ORDER IMMEDIATELY FOLLOWING COMPLETION OF SUCH ACTIVITIES OR PRIOR TO THE COMPLETION OF EACH WORK DAY, WHICH EVER OCCURS FIRST.
14. MAINTAIN SOIL EROSION CONTROL DEVICES THROUGH THE DURATION OF THIS PROJECT. ALL TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES SHALL BE REMOVED WITHIN THIRTY (30) DAYS AFTER FINAL SITE STABILIZATION IS ACHIEVED OR AFTER THE TEMPORARY MEASURES ARE NO LONGER NEEDED. DISTURBANCES ASSOCIATED WITH EROSION CONTROL REMOVAL SHALL BE IMMEDIATELY STABILIZED.
15. PUMPS MAY BE USED AS BYPASS DEVICES. IN NO CASE SHALL PUMPED WATER BE DIVERTED OUTSIDE THE PROJECT LIMITS. PUMP DISCHARGE SHALL BE DIRECTED INTO AN APPROVED FILTER BAG OR APPROVED SETTLING DEVICE.
16. GRADING EFFORTS SHALL BE CONDUCTED IN SUCH A MANNER AS TO MINIMIZE EROSION. EROSION AND SEDIMENT CONTROL MEASURES SHALL CONSIDER THE TIME OF YEAR, SITE CONDITIONS, AND THE USE OF TEMPORARY OR PERMANENT MEASURES. ALL DISTURBED AREAS THAT WILL NOT BE WORKED FOR A PERIOD OF FOURTEEN (14) DAYS REQUIRE TEMPORARY SEEDING FOR EROSION CONTROL. SEEDING FOR EROSION CONTROL SHALL BE IN ACCORDANCE WITH TECHNICAL STANDARDS.
17. ALL DISTURBED SLOPES EXCEEDING 4:1, SHALL BE STABILIZED WITH NORTH AMERICAN GREEN S75BN EROSION MATTING (OR APPROVED EQUAL) AND ALL CHANNELS SHALL BE STABILIZED WITH NORTH AMERICAN GREEN C125BN (OR APPROVED EQUAL) OR APPLICATION OF AN APPROVED POLYMER SOIL STABILIZATION TREATMENT OR A COMBINATION THEREOF, AS REQUIRED. EROSION MATTING AND/OR NETTING USED ONSITE SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURER'S GUIDELINES.
18. DURING PERIODS OF EXTENDED DRY WEATHER, THE CONTRACTOR SHALL KEEP A WATER TRUCK ON SITE FOR THE PURPOSE OF WATERING DOWN SOILS WHICH MAY OTHERWISE BECOME AIRBORNE.THE CONTRACTOR IS RESPONSIBLE FOR CONTROLLING WIND EROSION (DUST) DURING CONSTRUCTION AT HIS/HER EXPENSE.
19. DISTURBED AREAS AND AREAS USED FOR STORAGE OF MATERIALS THAT ARE EXPOSED TO PRECIPITATION SHALL BE VISUALLY INSPECTED FOR EVIDENCE OF, OR THE POTENTIAL FOR, POLLUTANTS ENTERING THE DRAINAGE SYSTEM ON A DAILY BASIS.
20. QUALIFIED PERSONNEL (PROVIDED BY THE GENERAL/PRIME CONTRACTOR) SHALL INSPECT DISTURBED AREAS OF THE CONSTRUCTION SITE THAT HAVE NOT BEEN FINALLY STABILIZED AND EROSION AND SEDIMENT CONTROLS WITHIN 24 HOURS OF ALL 0.5-INCH, OR MORE, PRECIPITATION EVENTS WITH A MINIMUM INSPECTION INTERVAL OF ONCE EVERY SEVEN (7) CALENDAR DAYS IN THE ABSENCE OF A QUALIFYING RAIN OR SNOWFALL EVENT. REPORTING SHALL BE IN ACCORDANCE WITH OF THE GENERAL PERMIT. CONTRACTOR SHALL IMMEDIATELY ARRANGE TO HAVE ANY DEFICIENT ITEMS REVEALED DURING INSPECTIONS REPAIRED/REPLACED.
21. SEE ADDITIONAL DETAILS AND NOTES ON SITE STABILIZATION AND CONSTRUCTION DETAILS.

DEMOLITION NOTES

1. PERIMETER SILT FENCING AND CONSTRUCTION ENTRANCES SHALL BE INSTALLED PRIOR TO ANY DEMOLITION. PLEASE REFER TO GRADING AND EROSION AND SEDIMENT CONTROL PLAN SHEETS FOR FURTHER DETAILS.
2. EXISTING FEATURES ARE SHOWN FOR INFORMATIONAL PURPOSES ONLY AND ARE NOT GUARANTEED TO BE ACCURATE OR ALL INCLUSIVE. CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING THE TYPE, LOCATION, SIZE AND ELEVATION OF UNDERGROUND UTILITIES AS THEY DEEM NECESSARY TO AVOID DAMAGE THERETO. CONTRACTOR/OWNER SHALL CALL "MISS DIG" PRIOR TO ANY DEMOLITION.
3. CONTRACTOR SHALL PERFORM ALL DEMOLITION WORK IN ACCORDANCE WITH ALL APPLICABLE FEDERAL, STATE, AND LOCAL REQUIREMENTS.
4. COORDINATE WITH ALL APPLICABLE UTILITY COMPANIES AND THE MUNICIPALITY TO PROTECT EXISTING FUNCTIONING UTILITIES, BULKHEAD/REMOVE CONNECTIONS AS NECESSARY, AND TO ENSURE ALL UTILITIES ARE INACTIVE PRIOR TO ANY DEMOLITION ACTIVITIES. CONTRACTOR SHALL TAKE ADEQUATE PRECAUTIONS TO ENSURE PROTECTION OF EXISTING UTILITIES THAT ARE NOT TO BE IMPACTED. THE CONTRACTOR IS RESPONSIBLE FOR REPAIR OF ANY EXISTING UTILITIES DAMAGED AS A RESULT OF THE DEMOLITION.
5. VOIDS LEFT BY REMOVAL OF FEATURES SHALL BE MODIFIED/FILLED TO PREVENT PONDING OF WATER.
6. DEMOLISH AND DISPOSE EXISTING PIPING, CABLE/WIRES, STRUCTURES, OR OTHER SURFACE FEATURES INDICATED ON THE PLANS TO BE REMOVED.
7. CLEARING AND GRUBBING DESIGNATIONS SHALL INCLUDE CLEARING, GRUBBING, REMOVING, AND DISPOSING OF ALL VEGETATION AND DEBRIS WITHIN THE LIMITS OF CONSTRUCTION, AS DESIGNATED ON THE PLANS. CONTRACTOR SHALL REMOVE ONLY THOSE TREES ABSOLUTELY NECESSARY TO ALLOW FOR CONSTRUCTION.
8. CONTRACTOR SHALL REMOVE EXISTING FENCING IN A MANNER TO ALLOW REUSE. ANY FENCING MATERIAL TO BE REUSED IN THE CONSTRUCTION OF RELOCATED FENCE LINES SHALL BE PRESENTED TO ENGINEER FOR INSPECTION AND PROPOSED CONTRACT DEDUCT ASSOCIATED WITH REUSE OF THE SALVAGED MATERIAL. ENGINEER OR OWNER WILL PROVIDE WRITTEN ACCEPTANCE OF THE PROPOSED SALVAGED MATERIAL.
9. CONTRACTOR SHALL COORDINATE WITH THE MUNICIPALITY FOR TERMINATION OF PUBLIC UTILITY CONNECTIONS TO SITE.
10. CONTRACTOR SHALL COORDINATE STOCKPILE LIMITS AND LOCATIONS WITH ENGINEER/OWNER PRIOR TO DEMOLITION.

DRAFTED: DMS
DESIGNED: ACT
REVIEWED:

PLAN I DESIGN I DELIVER
www.pinnacle-engr.com

PINNACLE ENGINEERING GROUP
ENGINEERING I NATURAL RESOURCES I SURVEYING

WISCONSIN OFFICE:
20725 WATERTOWN ROAD, SUITE 100
BROOKFIELD, WI 53186
(262) 754-

THESE PLANS AND DESIGNS ARE COPYRIGHT PROTECTED AND MAY NOT BE USED IN WHOLE OR IN PART WITHOUT THE WRITTEN CONSENT OF PINNACLE ENGINEERING GROUP, LLC

SHEET C-4

UNPLATTED LANDS
OWNER: LAKE PEWAUKEE SANITARY DISTRICT

N87°00'50"E 1326.21'

NE CORNER, SE 1/4 SEC. 19, T7N, R19E (FOUND CONC. MON. W/ BRASS CAP) N=388,833.26, E=2,458,246.85 (WISCONSIN STATE PLANE CO-ORDINATE SYSTEM, SOUTH ZONE) P.O.B.

OWNER: WISCONSIN ELECTRIC POWER COMPANY
UNPLATTED LANDS

S00°27'04"E 328.01'

MEADOWBROOK ROAD
COUNTY TRUNK HIGHWAY "G"
(VARIABLE PUBLIC R.O.W.)

EXISTING RIGHT-OF-WAY LINE

SET 3/4" X 18" IRON REBAR

S22°17'34"W 224.08'

REFERENCE LINE MEADOWBROOK ROAD - COUNTY TRUNK HIGHWAY G PER STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION INTERSTATE HIGHWAY 94 R/W PROJECT NUMBER 1065-10-20 4.06

N87°00'50"E 2652.43'
NORTH LINE OF THE SE 1/4 SEC. 19, T7N, R19E
((R) 1325.67' PER PLAT OF OAK SPRINGS SOUTH)

1326.21'

1326.21'

EXISTING BUILDING

16" PVC RIM=877.00 ELBOW INV.=874.32

16" PVC RIM=877.56 ELBOW INV.=874.69

POND OUTFALL 12" NE=874.26 RIM=877.26 24" NE=874.98 SUMP=874.41

EAST LINE OF OAK SPRINGS SOUTH SUBDIVISION WEST OF PROPERTY LINE 0.54' (GAP)

OUTLOT 2
OAK SPRINGS SOUTH

12'

EDGE PF WATER 04/16/19 EL.=872.4

FOUND 1" IRON PIPE 0.40' WEST OF PROPERTY LINE

ELECTRIC EASEMENT

LOT 32
OAK SPRINGS SOUTH

FOUND 1" IRON PIPE 0.43' WEST OF PROPERTY LINE

LOT 31
OAK SPRINGS SOUTH

20'

DRAINAGE EASEMENT

FOUND 1" IRON PIPE 1.01' EAST OF PROPERTY LINE

LOT 30
OAK SPRINGS SOUTH

FOUND 2" IRON PIPE WEST 0.47' OF PROPERTY LINE

LOT 29
OAK SPRINGS SOUTH

EAST LINE OF OAK SPRINGS SOUTH SUBDIVISION WEST OF PROPERTY LINE 0.47' (GAP)

TEMPORARY TURN AROUND EASEMENT

SANITARY MANHOLE RIM=887.95 8": E=878.02 8": S=868.91

LAKEFIELD DRIVE
(60' PUBLIC R.O.W.)

LC CITY ZONING
A-1 CITY ZONING

100 YEAR FLOOD PLAIN PER FEMA MAP NO. 55133C0191G (GRAPHIC PLOTTING ONLY)

WETLANDS DELINEATED BY DAVE MEYER OF WETLAND & WATERWAY CONSULTING, LLC. IN SEPTEMBER 2018

TAX KEY NO.
PWC 0940-999-001
1,235,817 SQ. FT.
28.3705 ACRES

SITE BENCHMARK: NW FLANGE BOLT HYDRANT EL.=892.38

SANITARY MANHOLE RIM=881.70

CONCRETE CURB
ASPHALT
CONCRETE CURB
ASPHALT PAVEMENT
ASPHALT

N00°24'46"W 1268.58'
((R) N00°25'53"W 1268.67' PER OAK SPRINGS SOUTH C.S.M. NO. 9263)

WATER MAIN EASEMENT

30'

30'

PARCEL 1
C.S.M. NO. 9263

690.83' RIGHT OF ACCESS TO GOLF ROAD VIA ONE (1) ACCESS POINT PER DOC. 2479003

S50°25'48"W 1035.62'

NO ACCESS PER DOC. 2479003

42" RCP CULVERT INV.=885.16

ASPHALT PAVEMENT

GOLF ROAD
COUNTY TRUNK HIGHWAY "DR"

REFERENCE LINE GOLF ROAD PER STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION INTERSTATE HIGHWAY 94 R/W PROJECT NUMBER 1065-10-20 4.06

FOUND 1/2" IRON REBAR 0.26' EAST, 0.67' SOUTH

S72°59'32"W 454.49'

EXISTING RIGHT-OF-WAY LINE

EAST LINE OF C.S.M. NO. 9263 WEST OF PROPERTY LINE 0.64' (GAP)

FOUND CAPPED 1/2" IRON ROD

GRAVEL
ASPHALT PAVEMENT
CONCRETE CURB

INTERSTATE HIGHWAY "94"
(VARIABLE PUBLIC R.O.W.)
(FORMERLY KNOWN AS STATE HIGHWAY "30")

REFERENCE LINE INTERSTATE HIGHWAY 94 PER STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION INTERSTATE HIGHWAY 94 R/W PROJECT NUMBER 1065-10-20 4.06

EAST LINE OF THE SE 1/4 SEC. 19, T7N, R19E

S00°27'04"E 2652.91'

SHEET C-5

LEGEND

SANITARY MANHOLE		STORM SEWER	
STORM MANHOLE		WATER MAIN	W
CATCH BASIN		LIGHTING	
INLET		ELECTRICAL CABLE	E
PRECAST FLARED END SECTION		ELECTRICAL TRANSFORMER OR PEDESTAL	
CONCRETE HEADWALL		POWER POLE	
VALVE VAULT		POWER POLE WITH LIGHT	
VALVE BOX		GUY WIRE	
FIRE HYDRANT		STREET SIGN	
BUFFALO BOX		GAS MAIN	G
CLEANOUT		TELEPHONE LINE	T
SANITARY SEWER		CONTOUR	749
FORCE MAIN		TREE	
CONCRETE SIDEWALK		EASEMENT LINE	

CONTRACTOR RESPONSIBILITY: SEE ADDITIONAL CONSTRUCTION NOTES LOCATED ON SHEET C-2

EXISTING CONDITIONS SURVEY:

EXISTING CONDITIONS SURVEY PROVIDED BY PINNACLE ENGINEERING GROUP. ALTHOUGH PEG HAS NO REASON TO BELIEVE THE SURVEY IS INACCURATE, PEG MAKES NO WARRANTS THAT EXISTING INFORMATION CONTAINED WITHIN THESE PLANS IS ALL-INCLUSIVE OR ACCURATE. CONTRACTOR SHALL UNDERTAKE NECESSARY EFFORTS TO VERIFY THE EXISTING CONDITIONS PRIOR TO THE START OF MATERIAL PROCUREMENT AND CONSTRUCTION EFFORTS/ACTIVITIES.

CONTRACTOR RESPONSIBILITY:

THE INFORMATION SHOWN ON THIS DRAWING CONCERNING TYPE AND LOCATION OF UNDERGROUND UTILITIES IS NOT GUARANTEED TO BE ACCURATE OR ALL INCLUSIVE. THE CONTRACTOR IS RESPONSIBLE FOR MAKING HIS OWN DETERMINATIONS AS TO THE TYPE AND LOCATION OF UNDERGROUND UTILITIES AS MAY BE NECESSARY TO AVOID DAMAGE THERETO. IF ADDITIONAL UTILITIES ARE KNOWN TO EXIST IN THE PROPERTY, THE OWNER WILL PROVIDE EXISTING PLANS OF OTHER UTILITIES SERVING THE SITE AND THE BUILDING THAT OTHERWISE CANNOT BE LOCATED BY A VISUAL OBSERVATION OF THE PROPERTY OR OF WHICH THE SURVEYOR WOULD HAVE NO KNOWLEDGE.

NORTH

GRAPHICAL SCALE (FEET)

0 1" = 80' 160'

REVIEWED:
DESIGNED: ACT
DRAFTED: DMS

PLAN I DESIGN I DELIVER
www.pinnacle-engr.com

PINNACLE ENGINEERING GROUP
ENGINEERING I NATURAL RESOURCES I SURVEYING

WISCONSIN OFFICE:
20725 WATERTOWN ROAD, SUITE 100
BROOKFIELD, WI 53186
(262) 754-8888
CHICAGO I MILWAUKEE - NATIONWIDE

THE COURTYARD AT PEWAUKEE

GOLF RD & MEADOWBROOK LN

EXISTING CONDITIONS & DEMO OVERVIEW

REVISIONS

PEG JOB No.: 1338.10
PEG PM: MTS
START DATE: 07-27-22
SCALE: 1" = 80'

SHEET
C-3
C-18

© COPYRIGHT 2023

EXISTING CONDITIONS & DEMO OVERVIEW

www.pinnacle-engr.com

Z:\PROJECTS\2018\1338.10-WI\CAD\SHEETS\1338.10 EXISTING CONDITIONS & DEMO PLAN.DWG

THESE PLANS AND DESIGNS ARE COPYRIGHT PROTECTED AND MAY NOT BE USED IN WHOLE OR IN PART WITHOUT THE WRITTEN CONSENT OF PINNACLE ENGINEERING GROUP, LLC

www.pinnacle-engr.com

UNPLATTED LANDS
OWNER: LAKE PEWAUKEE SANITARY DISTRICT

LEGEND

SANITARY MANHOLE	STORM SEWER
STORM MANHOLE	WATER MAIN (W)
CATCH BASIN	LIGHTING
INLET	ELECTRICAL CABLE (E)
PRECAST FLARED END SECTION	ELECTRICAL TRANSFORMER OR PEDESTAL
CONCRETE HEADWALL	POWER POLE
VALVE VAULT	POWER POLE WITH LIGHT
VALVE BOX	GUY WIRE
FIRE HYDRANT	STREET SIGN
BUFFALO BOX	GAS MAIN (G)
CLEANOUT	TELEPHONE LINE (T)
SANITARY SEWER	CONTOUR (749)
FORCE MAIN	TREE
CONCRETE SIDEWALK	EASEMENT LINE

18" PVC RIM=877.00
ELBOW INV.=874.32

EXISTING BUILDING

SET 3/4" X 18" IRON REBAR

N87°00'50"E 2652.43'
NORTH LINE OF THE SE 1/4 SEC. 19, T7N, R19E
((R) 1325.67' PER PLAT OF OAK SPRINGS SOUTH)

1326.215'

1326.215'

N87°00'50"E 1326.21'

18" PVC RIM=877.56
ELBOW INV.=874.69

POND OUTFALL STRUCTURE
RIM=877.26
24" NE=874.98
SUMP=874.41

EAST LINE OF OAK SPRINGS SOUTH SUBDIVISION WEST OF PROPERTY LINE 0.54' (GAP)

OUTLOT 2
OAK SPRINGS SOUTH

12'

EDGE PF WATER
04/16/19
EL.=872.4

FOUND 1" IRON PIPE 0.40' WEST OF PROPERTY LINE

ELECTRIC EASEMENT

LOT 32
OAK SPRINGS SOUTH

FOUND 1" IRON PIPE 0.47' WEST OF PROPERTY LINE

6'

LOT 31
OAK SPRINGS SOUTH

20'

DRAINAGE EASEMENT

FOUND 1" IRON PIPE 1.01' EAST OF PROPERTY LINE

LOT 30
OAK SPRINGS SOUTH

FOUND 2" IRON PIPE WEST 0.47' OF PROPERTY LINE

LAKEFIELD DRIVE
(60' PUBLIC R.O.W.)

PER PLAT OF OAK SPRINGS SOUTH & C.S.M. NO. 9263)

8.93'

CONCRETE CURB
ASPHALT
CONCRETE CURB
ASPHALT PAVEMENT
ASPHALT

SANITARY MANHOLE
RIM=887.95
8" E=878.02
8" SW=877.91

EXISTING SANITARY MANHOLE TO REMAIN

EXISTING TREE TO BE REMOVED

SITE BENCHMARK:
NW FLANGE BOLT
HYDRANT EL.=892.38

SANITARY MANHOLE
RIM=891.02
8" W=880.79

100 YEAR FLOOD PLAIN PER FEMA MAP NO. 551333C0191G (GRAPHIC PLOTTING ONLY)

WETLANDS DELINEATED BY DAVE MEYER OF WETLAND & WATERWAY CONSULTING, LLC. IN SEPTEMBER 2018

EXISTING TREES TO REMAIN (TYP)

EXISTING TREES TO BE REMOVED (TYP)

TAX KEY NO.
PWC 0940-999-001
1,235,817 SQ. FT.
28.3705 ACRES

MATCH LINE SEE SHEET C-5

CONTRACTOR RESPONSIBILITY: SEE ADDITIONAL CONSTRUCTION NOTES LOCATED ON SHEET C-2

EXISTING CONDITIONS SURVEY:

EXISTING CONDITIONS SURVEY PROVIDED BY PINNACLE ENGINEERING GROUP. ALTHOUGH PEG HAS NO REASON TO BELIEVE THE SURVEY IS INACCURATE, PEG MAKES NO WARRANTS THAT EXISTING INFORMATION CONTAINED WITHIN THESE PLANS IS ALL-INCLUSIVE OR ACCURATE. CONTRACTOR SHALL UNDERTAKE NECESSARY EFFORTS TO VERIFY THE EXISTING CONDITIONS PRIOR TO THE START OF MATERIAL PROCUREMENT AND CONSTRUCTION EFFORTS/ACTIVITIES.

CONTRACTOR RESPONSIBILITY:

THE INFORMATION SHOWN ON THIS DRAWING CONCERNING TYPE AND LOCATION OF UNDERGROUND UTILITIES IS NOT GUARANTEED TO BE ACCURATE OR ALL INCLUSIVE. THE CONTRACTOR IS RESPONSIBLE FOR MAKING HIS OWN DETERMINATIONS AS TO THE TYPE AND LOCATION OF UNDERGROUND UTILITIES AS MAY BE NECESSARY TO AVOID DAMAGE THERETO. IF ADDITIONAL UTILITIES ARE KNOWN TO EXIST IN THE PROPERTY, THE OWNER WILL PROVIDE EXISTING PLANS OF OTHER UTILITIES SERVING THE SITE AND THE BUILDING THAT OTHERWISE CANNOT BE LOCATED BY A VISUAL OBSERVATION OF THE PROPERTY OR OF WHICH THE SURVEYOR WOULD HAVE NO KNOWLEDGE.

NORTH

GRAPHICAL SCALE (FEET)
0 1" = 40' 80'

REVIEWED:
DESIGNED: ACT
DRAFTED: DMS

PLAN I DESIGN I DELIVER
www.pinnacle-engr.com

PINNACLE ENGINEERING GROUP
ENGINEERING I NATURAL RESOURCES I SURVEYING

WISCONSIN OFFICE:
20725 WATERTOWN ROAD, SUITE 100
BROOKFIELD, WI 53186
(262) 754-8888
CHICAGO I MILWAUKEE : NATIONWIDE

THE COURTYARD AT PEWAUKEE

GOLF RD & MEADOWBROOK LN

EXISTING CONDITIONS & DEMO PLAN

REVISIONS

PEG JOB NO. 1338.10
PEG PM MTS
START DATE 07-27-22
SCALE 1" = 40'

SHEET
C-4
C-18

EXISTING CONDITIONS & DEMO PLAN

© COPYRIGHT 2023

Z:\PROJECTS\2018\1338.10-WI\CAD\SHEETS\1338.10 EXISTING CONDITIONS & DEMO PLAN.DWG

THESE PLANS AND DESIGNS ARE COPYRIGHT PROTECTED AND MAY NOT BE USED IN WHOLE OR IN PART WITHOUT THE WRITTEN CONSENT OF PINNACLE ENGINEERING GROUP, LLC

www.pinnacle-engr.com

SANITARY MANHOLE
RIM=887.95
8" E=878.02
8" SW=877.91

TEMPORARY TURN AROUND EASEMENT

LOT 29
OAK SPRINGS SOUTH

EAST LINE OF OAK SPRINGS SOUTH SUBDIVISION WEST OF PROPERTY LINE 0.47' (GAP)

N00°24'46"W 1258.38'
((R) N00°25'03"W PER PLA

8" W=880.79

MATCH LINE SEE SHEET C-4

EXISTING RETAINING WALL TO BE REMOVED

EXISTING TREES TO BE REMOVED (TYP)

STONE WALL

S50°25'48"W 1035.63'
NO ACCESS PER DOC. 2479003

WATER MAIN EASEMENT
30'

690.83' RIGHT OF ACCESS TO GOLF ROAD VIA ONE (1) ACCESS POINT PER DOC. 2479003

EXISTING SIGN TO REMAIN

ASPHALT PAVEMENT

PARCEL 1
C.S.M. NO. 9263

EXISTING FIBER OPTIC STRUCTURE AND HYDRANT TO REMAIN

CLEAR AND GRUB EXISTING WOODED AREAS. SEE GRADING PLAN FOR REMOVAL LIMITS

FOUND 1/2" IRON REBAR
0.23' EAST, 0.61' SOUTH

GOLF ROAD
COUNTY TRUNK HIGHWAY "DR"

S72°59'32"W 454.49'

EXISTING RIGHT-OF-WAY LINE

EAST LINE OF C.S.M. NO. 9263 WEST OF PROPERTY LINE 0.44' (GAP)

FOUND CAPPED 1/2" IRON ROD

GRAVEL

ASPHALT PAVEMENT

CONCRETE CURB

INTERSTATE HIGHWAY "94"
(VARIABLE PUBLIC R.O.W.)
(FORMERLY KNOWN AS STATE HIGHWAY "30")

REFERENCE LINE INTERSTATE HIGHWAY 94
PER STATE OF WISCONSIN DEPARTMENT OF
TRANSPORTATION INTERSTATE HIGHWAY 94
R/W PROJECT NUMBER 1065-10-20 4.06

LEGEND

SANITARY MANHOLE		STORM SEWER	
STORM MANHOLE		WATER MAIN	W
CATCH BASIN		LIGHTING	
INLET		ELECTRICAL CABLE	E
PRECAST FLARED END SECTION		ELECTRICAL TRANSFORMER OR PEDESTAL	
CONCRETE HEADWALL		POWER POLE	
VALVE VAULT		POWER POLE WITH LIGHT	
VALVE BOX		GUY WIRE	
FIRE HYDRANT		STREET SIGN	
BUFFALO BOX		GAS MAIN	G
CLEANOUT		TELEPHONE LINE	T
SANITARY SEWER		CONTOUR	749
FORCE MAIN		TREE	
CONCRETE SIDEWALK		EASEMENT LINE	

CONTRACTOR RESPONSIBILITY: SEE ADDITIONAL CONSTRUCTION NOTES LOCATED ON SHEET C-2

EXISTING CONDITIONS SURVEY:

EXISTING CONDITIONS SURVEY PROVIDED BY PINNACLE ENGINEERING GROUP. ALTHOUGH PEG HAS NO REASON TO BELIEVE THE SURVEY IS INACCURATE, PEG MAKES NO WARRANTS THAT EXISTING INFORMATION CONTAINED WITHIN THESE PLANS IS ALL-INCLUSIVE OR ACCURATE. CONTRACTOR SHALL UNDERTAKE NECESSARY EFFORTS TO VERIFY THE EXISTING CONDITIONS PRIOR TO THE START OF MATERIAL PROCUREMENT AND CONSTRUCTION EFFORTS/ACTIVITIES.

CONTRACTOR RESPONSIBILITY:

THE INFORMATION SHOWN ON THIS DRAWING CONCERNING TYPE AND LOCATION OF UNDERGROUND UTILITIES IS NOT GUARANTEED TO BE ACCURATE OR ALL INCLUSIVE. THE CONTRACTOR IS RESPONSIBLE FOR MAKING HIS OWN DETERMINATIONS AS TO THE TYPE AND LOCATION OF UNDERGROUND UTILITIES AS MAY BE NECESSARY TO AVOID DAMAGE THERETO. IF ADDITIONAL UTILITIES ARE KNOWN TO EXIST IN THE PROPERTY, THE OWNER WILL PROVIDE EXISTING PLANS OF OTHER UTILITIES SERVING THE SITE AND THE BUILDING THAT OTHERWISE CANNOT BE LOCATED BY A VISUAL OBSERVATION OF THE PROPERTY OR OF WHICH THE SURVEYOR WOULD HAVE NO KNOWLEDGE.

NORTH

GRAPHICAL SCALE (FEET)
0 1" = 40' 80'

REVIEWED:
DESIGNED: ACT
DRAFTED: DMS

PLAN I DESIGN I DELIVER
www.pinnacle-engr.com

PINNACLE ENGINEERING GROUP
ENGINEERING I NATURAL RESOURCES I SURVEYING

WISCONSIN OFFICE:
20725 WATERTOWN ROAD, SUITE 100
BROOKFIELD, WI 53186
(262) 754-8888
CHICAGO I MILWAUKEE : NATIONWIDE

THE COURTYARD AT PEWAUKEE

GOLF RD & MEADOWBROOK LN

EXISTING CONDITIONS & DEMO PLAN

REVISIONS

PEG JOB No. 1338.10
PEG PM MTS
START DATE 07-27-22
SCALE 1" = 40'

SHEET
C-5
C-18

EXISTING CONDITIONS & DEMO PLAN

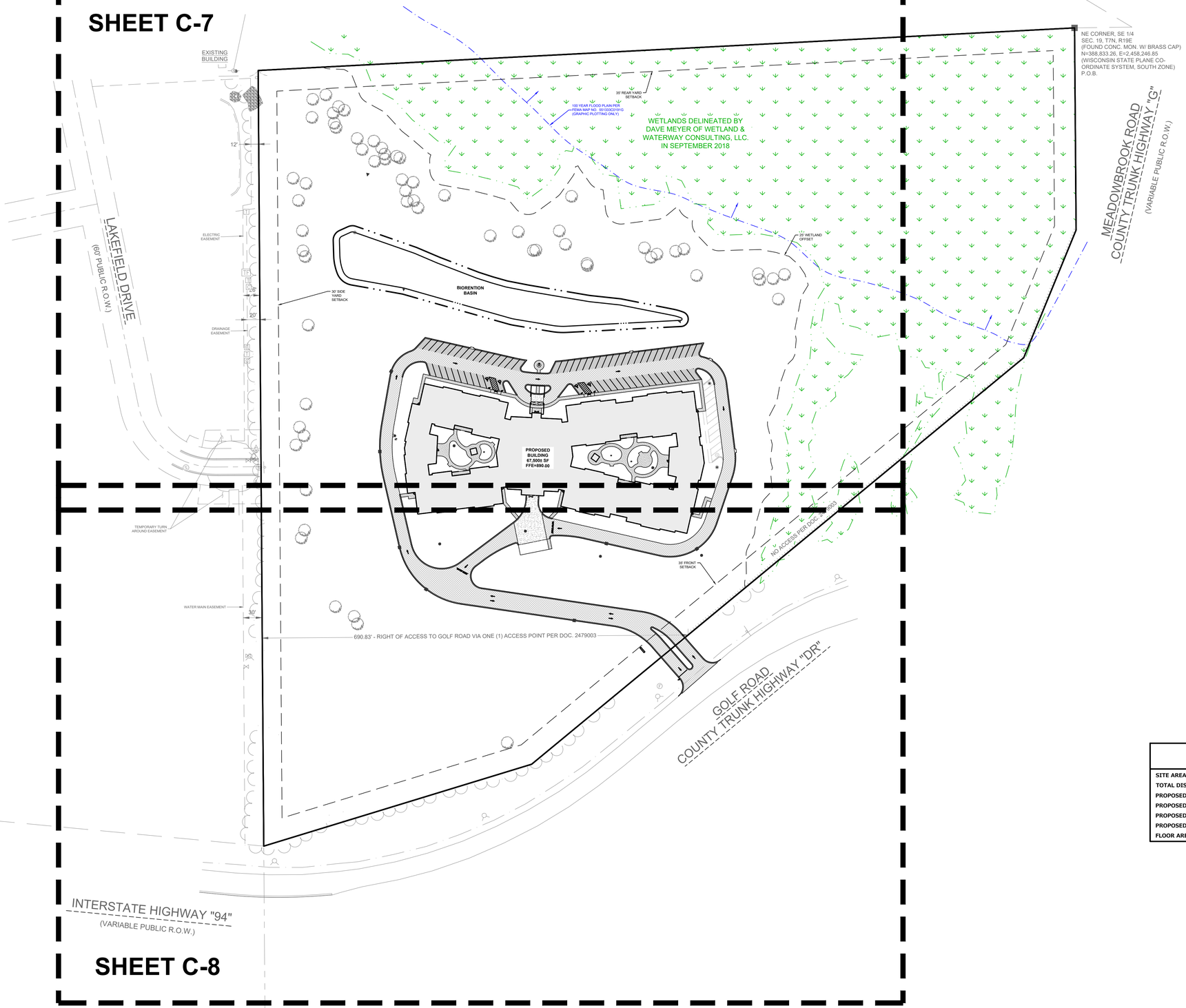
©COPYRIGHT 2023

Z:\PROJECTS\2018\1338.10-WI\CAD\SHEETS\1338.10 EXISTING CONDITIONS & DEMO PLAN.DWG

THESE PLANS AND DESIGNS ARE COPYRIGHT PROTECTED AND MAY NOT BE USED IN WHOLE OR IN PART WITHOUT THE WRITTEN CONSENT OF PINNACLE ENGINEERING GROUP, LLC

www.pinnacle-engr.com

SHEET C-7



SHEET C-8

LEGEND

- **LIGHT DUTY ASPHALT PAVEMENT**
  - 8" CRUSHED AGGREGATE BASE COURSE (1-1/4" DENSE GRADED LIMESTONE)
  - 3" HMA PAVEMENT (2 LIFTS)
    - 2" BINDER COURSE - 3 LT 58-28 S
    - 1" SURFACE COURSE - 5 LT 58-28 S
- **HEAVY DUTY ASPHALT PAVEMENT**
  - 10" CRUSHED AGGREGATE BASE COURSE (1-1/4" DENSE GRADED LIMESTONE)
  - 4" HMA PAVEMENT (2 LIFTS)
    - 2 ¼" BINDER COURSE - 3 LT 58-28 S
    - 1 ¾" SURFACE COURSE - 5 LT 58-28 S
- **CONCRETE PAVEMENT**
  - 6" CRUSHED AGGREGATE BASE COURSE (1-1/4" DENSE GRADED LIMESTONE)
  - 6" PCC
- **CONCRETE SIDEWALK**
  - 4" CRUSHED AGGREGATE BASE COURSE (1-1/4" DENSE GRADED LIMESTONE)
  - 5" PCC
- (A) **4" WHITE STRIPE**
- (B) **4" DIAGONAL AT 45° SPACED 2' O.C.**
- (C) **BOLLARD MOUNTED ADA SIGN (SEE DETAIL)**
- (D) **18" CURB & GUTTER (SEE DETAIL)**
- (E) **18" REVERSE CURB & GUTTER (SEE DETAIL)**
- (F) **ADA COMPLIANT RAMP W/ TRUNCATED DOMES (SEE DETAIL). TAPER CURB HEAD AND DEPRESS WALK/CURB**
- (G) **ADA STALL INSIGNIA**
- (H) **CONCRETE WHEEL STOP (SEE DETAIL)**
- (18) **PARKING COUNT (FOR INFORMATION ONLY, NOT TO BE PAINTED)**

SITE DATA

SITE AREA:	**28.37 AC**
TOTAL DISTURBED AREA:	**14.98 AC**
PROPOSED CAR PARKING SPACES:	**68 SPACES (4 ADA SPOTS)**
PROPOSED PAVEMENT AREA:	**1.86 AC**
PROPOSED TOTAL IMPERVIOUS:	**3.40 AC = 12%**
PROPOSED GREEN SPACE:	**24.97 AC = 88%**
FLOOR AREA RATIO:	**1.55 AC = 6%**

CONTRACTOR RESPONSIBILITY: SEE ADDITIONAL CONSTRUCTION NOTES LOCATED ON SHEET C-2

NORTH

GRAPHICAL SCALE (FEET)

0 1" = 80' 160'

REVIEWED:

DESIGNED: ACT

DRAFTED: DMS

PLAN | DESIGN | DELIVER
www.pinnacle-engr.com

PINNACLE ENGINEERING GROUP
ENGINEERING | NATURAL RESOURCES | SURVEYING

WISCONSIN OFFICE:
20725 WATERTOWN ROAD, SUITE 100
BROOKFIELD, WI 53186
(262) 754-8888
CHICAGO | MILWAUKEE : NATIONWIDE

THE COURTYARD AT PEWAUKEE

GOLF RD & MEADOWBROOK LN

SITE DIMENSIONAL & PAVING OVERVIEW

REVISIONS

PEG JOB No. 1338.10
PEG PM MTS
START DATE 07-27-22
SCALE 1" = 80'

SHEET
C-6
C-18

SITE DIMENSIONAL & PAVING OVERVIEW

© COPYRIGHT 2023

Z:\PROJECTS\2018\1338.10-WI\CAD\SHEETS\1338.10 SITE DIMENSIONAL & PAVING PLAN.DWG

THESE PLANS AND DESIGNS ARE COPYRIGHT PROTECTED AND MAY NOT BE USED IN WHOLE OR IN PART WITHOUT THE WRITTEN CONSENT OF PINNACLE ENGINEERING GROUP, LLC

www.pinnacle-engr.com

EXISTING BUILDING

O/H W

LAKEFIELD DRIVE
(60' PUBLIC R.O.W.)

12'

ELECTRIC EASEMENT

26'

30' SIDE YARD SETBACK

20'

DRAINAGE EASEMENT

265.8'

525.16'

35' REAR YARD SETBACK

100 YEAR FLOOD PLAIN PER FEMA MAP NO. 551333C0191G (GRAPHIC PLOTTING ONLY)

WETLANDS DELINEATED BY DAVE MEYER OF WETLAND & WATERWAY CONSULTING, LLC. IN SEPTEMBER 2018

25' WETLAND OFFSET

BIORENTION BASIN

CONCRETE FLUME (TYP) (SEE DETAIL)

PROPOSED FLAGPOLE

PROPOSED FDC

PROPOSED BUILDING 67,500± SF FFE=890.00

PROPOSED GAZEBO (TYP)

PROPOSED FUTURE PARKING

MATCH LINE SEE SHEET C-8

LEGEND

- **LIGHT DUTY ASPHALT PAVEMENT**
  - 6" CRUSHED AGGREGATE BASE COURSE (1-1/4" DENSE GRADED LIMESTONE)
  - 3" HMA PAVEMENT (2 LIFTS)
    - 2" BINDER COURSE - 3 LT 58-28 S
    - 1" SURFACE COURSE - 5 LT 58-28 S
- **HEAVY DUTY ASPHALT PAVEMENT**
  - 10" CRUSHED AGGREGATE BASE COURSE (1-1/4" DENSE GRADED LIMESTONE)
  - 4" HMA PAVEMENT (2 LIFTS)
    - 2 ½" BINDER COURSE - 3 LT 58-28 S
    - 1 ½" SURFACE COURSE - 5 LT 58-28 S
- **CONCRETE PAVEMENT**
  - 6" CRUSHED AGGREGATE BASE COURSE (1-1/4" DENSE GRADED LIMESTONE)
  - 6" PCC
- **CONCRETE SIDEWALK**
  - 4" CRUSHED AGGREGATE BASE COURSE (1-1/4" DENSE GRADED LIMESTONE)
  - 5" PCC

(A) 4" WHITE STRIPE

(B) 4" DIAGONAL AT 45° SPACED 2' O.C.

(C) BOLLARD MOUNTED ADA SIGN (SEE DETAIL)

(D) 18" CURB & GUTTER (SEE DETAIL)

(E) 18" REVERSE CURB & GUTTER (SEE DETAIL)

(F) ADA COMPLIANT RAMP W/ TRUNCATED DOMES (SEE DETAIL). TAPER CURB HEAD AND DEPRESS WALK/CURB

(G) ADA STALL INSIGNIA

(H) INTEGRAL CURB & WALK (SEE DETAIL)

(I) TAPER CURB HEAD (SEE DETAIL)

(18) PARKING COUNT (FOR INFORMATION ONLY, NOT TO BE PAINTED)

SITE DATA

SITE AREA:	28.37 AC
TOTAL DISTURBED AREA:	14.98 AC
PROPOSED CAR PARKING SPACES:	68 SPACES (4 ADA SPOTS)
PROPOSED PAVEMENT AREA:	1.86 AC
PROPOSED TOTAL IMPERVIOUS:	3.40 AC = 12%
PROPOSED GREEN SPACE:	24.97 AC = 88%
FLOOR AREA RATIO:	1.55 AC = 6%

CONTRACTOR RESPONSIBILITY: SEE ADDITIONAL CONSTRUCTION NOTES LOCATED ON SHEET C-2

NORTH

GRAPHICAL SCALE (FEET)

0 1" = 40' 80'

REVIEWED:

DESIGNED: ACT

DRAFTED: DMS

PLAN I DESIGN I DELIVER
www.pinnacle-engr.com

PINNACLE ENGINEERING GROUP
ENGINEERING I NATURAL RESOURCES I SURVEYING

WISCONSIN OFFICE:
20725 WATERTOWN ROAD, SUITE 100
BROOKFIELD, WI 53186
(262) 754-8888
CHICAGO I MILWAUKEE · NATIONWIDE

THE COURTYARD AT PEWAUKEE

GOLF RD & MEADOWBROOK LN

SITE DIMENSIONAL & PAVING PLAN

REVISIONS

PEG JOB No. 1338.10
PEG PM MTS
START DATE 07-27-22
SCALE 1" = 40'

SHEET
C-7
C-18

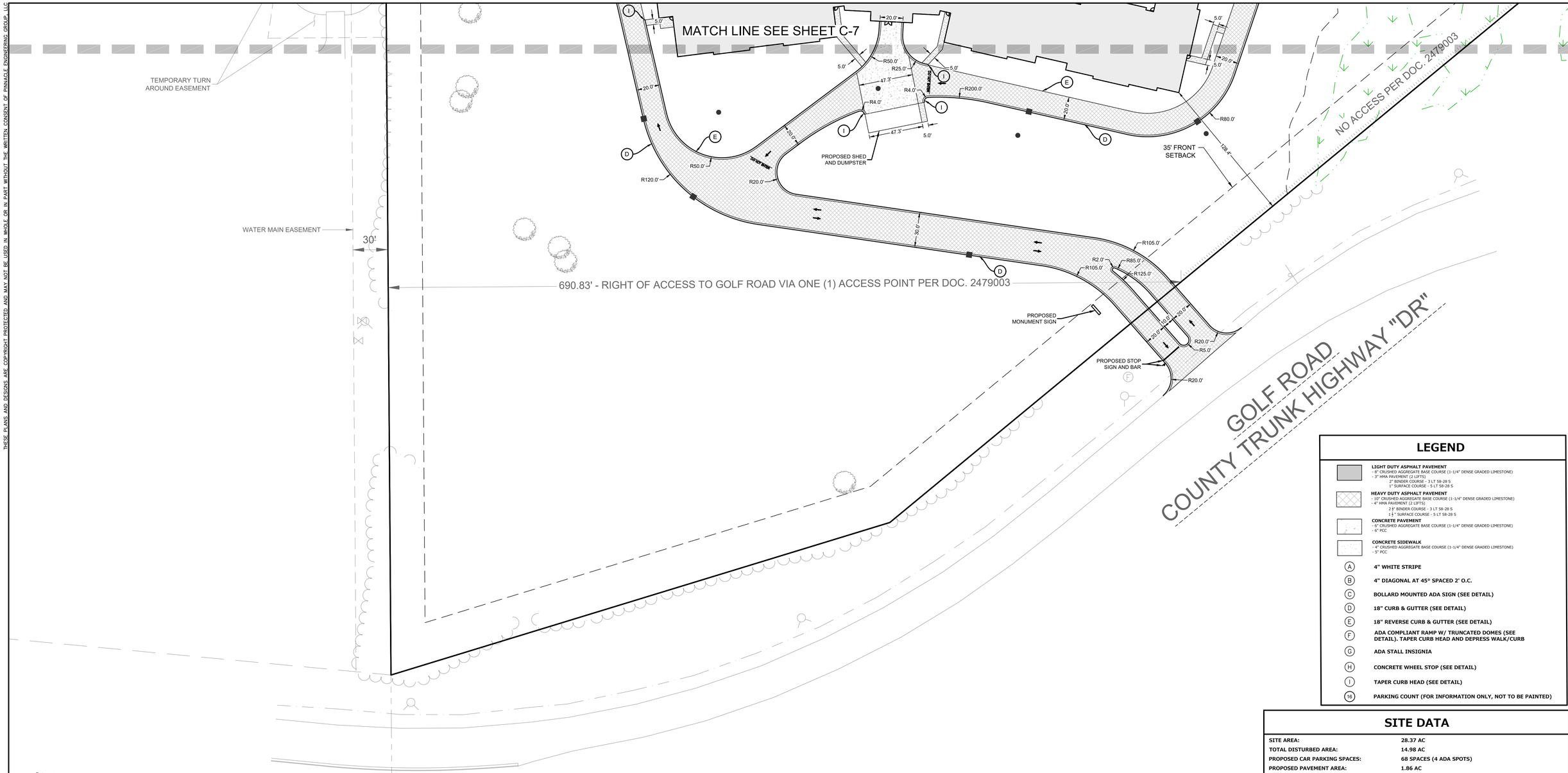
SITE DIMENSIONAL & PAVING PLAN

© COPYRIGHT 2023

Z:\PROJECTS\2018\1338.10-WI\CAD\SHEETS\1338.10 SITE DIMENSIONAL & PAVING PLAN.DWG

THESE PLANS AND DESIGNS ARE COPYRIGHT PROTECTED AND MAY NOT BE USED IN WHOLE OR IN PART WITHOUT THE WRITTEN CONSENT OF PINNACLE ENGINEERING GROUP, LLC

www.pinnacle-engr.com



LEGEND

- **LIGHT DUTY ASPHALT PAVEMENT**
  - 8" CRUSHED AGGREGATE BASE COURSE (1-1/4" DENSE GRADED LIMESTONE)
  - 3" HMA PAVEMENT (2 LIFTS)
    - 2" BINDER COURSE - 3 LT 58-28 S
    - 1" SURFACE COURSE - 5 LT 58-28 S
- **HEAVY DUTY ASPHALT PAVEMENT**
  - 10" CRUSHED AGGREGATE BASE COURSE (1-1/4" DENSE GRADED LIMESTONE)
  - 4" HMA PAVEMENT (2 LIFTS)
    - 2 ½" BINDER COURSE - 3 LT 58-28 S
    - 1 ½" SURFACE COURSE - 5 LT 58-28 S
- **CONCRETE PAVEMENT**
  - 6" CRUSHED AGGREGATE BASE COURSE (1-1/4" DENSE GRADED LIMESTONE)
  - 6" PCC
- **CONCRETE SIDEWALK**
  - 4" CRUSHED AGGREGATE BASE COURSE (1-1/4" DENSE GRADED LIMESTONE)
  - 5" PCC

(A)	4" WHITE STRIPE
(B)	4" DIAGONAL AT 45° SPACED 2' O.C.
(C)	BOLLARD MOUNTED ADA SIGN (SEE DETAIL)
(D)	18" CURB & GUTTER (SEE DETAIL)
(E)	18" REVERSE CURB & GUTTER (SEE DETAIL)
(F)	ADA COMPLIANT RAMP W/ TRUNCATED DOMES (SEE DETAIL). TAPER CURB HEAD AND DEPRESS WALK/CURB
(G)	ADA STALL INSIGNIA
(H)	CONCRETE WHEEL STOP (SEE DETAIL)
(I)	TAPER CURB HEAD (SEE DETAIL)
(16)	PARKING COUNT (FOR INFORMATION ONLY, NOT TO BE PAINTED)

SITE DATA

SITE AREA:	28.37 AC
TOTAL DISTURBED AREA:	14.98 AC
PROPOSED CAR PARKING SPACES:	68 SPACES (4 ADA SPOTS)
PROPOSED PAVEMENT AREA:	1.86 AC
PROPOSED TOTAL IMPERVIOUS:	3.40 AC = 12%
PROPOSED GREEN SPACE:	24.97 AC = 88%
FLOOR AREA RATIO:	1.55 AC = 6%

CONTRACTOR RESPONSIBILITY: SEE ADDITIONAL CONSTRUCTION NOTES LOCATED ON SHEET C-2

NORTH

GRAPHICAL SCALE (FEET)

0 1" = 40' 80'

REVIEWED:
DESIGNED: ACT
DRAFTED: DMS

PLAN I DESIGN I DELIVER
www.pinnacle-engr.com

PINNACLE ENGINEERING GROUP
ENGINEERING I NATURAL RESOURCES I SURVEYING

WISCONSIN OFFICE:
20725 WATERTOWN ROAD, SUITE 100
BROOKFIELD, WI 53186
(262) 754-8888
CHICAGO I MILWAUKEE : NATIONWIDE

THE COURTYARD AT PEWAUKEE

GOLF RD & MEADOWBROOK LN

SITE DIMENSIONAL & PAVING PLAN

REVISIONS

PEG JOB No. 1338.10
PEG PM MTS
START DATE 07-27-22
SCALE 1" = 40'

SHEET
C-8
C-18

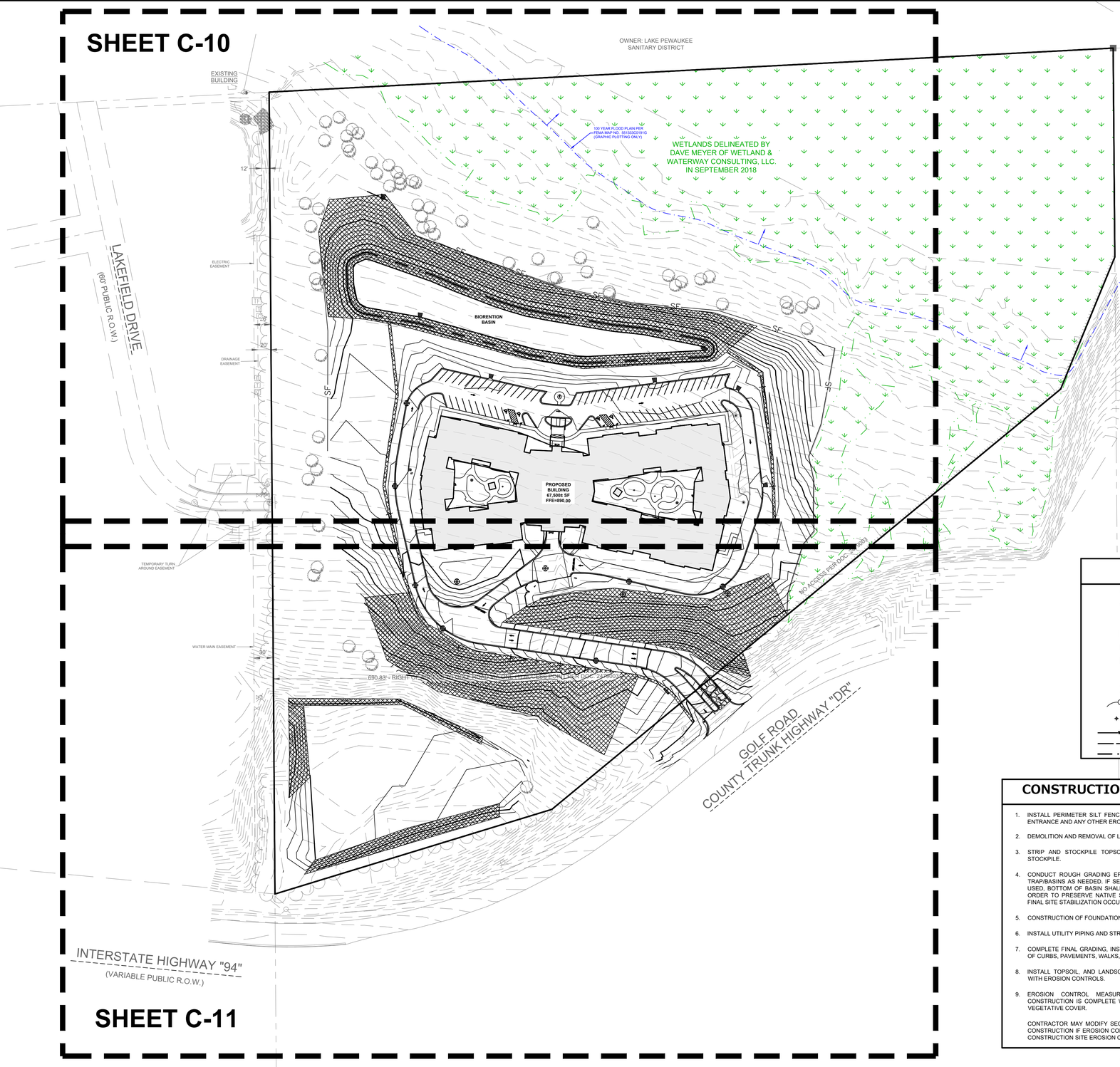
© COPYRIGHT 2023

SITE DIMENSIONAL & PAVING PLAN

Z:\PROJECTS\2018\1338.10-WI\CAD\SHEETS\1338.10 SITE DIMENSIONAL & PAVING PLAN.DWG

THESE PLANS AND DESIGNS ARE COPYRIGHT PROTECTED AND MAY NOT BE USED IN WHOLE OR IN PART WITHOUT THE WRITTEN CONSENT OF PINNACLE ENGINEERING GROUP, LLC

SHEET C-10



SHEET C-11

LEGEND

SANITARY SEWER MANHOLE	NORMAL WATER LEVEL (NWL)
STORM SEWER MANHOLE	DITCH OR SWALE
STORM STORM CATCH BASIN (ROUND CASTING)	DIVERSION SWALE
STORM SEWER CATCH BASIN (RECTANGULAR CASTING)	SILT FENCE
PRECAST FLARED END SECTION	TYPE D INLET PROTECTION
CLEANOUT	CONSTRUCTION ENTRANCE
VALVE BOX	HYDROSEED (PER MANUFACTURER SPECIFICATIONS)
FIRE HYDRANT	EROSION CONTROL BLANKET (NORTH AMERICAN GREEN S75 OR EQUAL)
PROPOSED CONTOUR	RIP RAP
PROPOSED SPOT ELEVATION	
WETLANDS	
FLOODPLAIN	
HIGH WATER LEVEL (HWL)	

CONSTRUCTION SITE SEQENCING

1. INSTALL PERIMETER SILT FENCE, INLET PROTECTION, TEMPORARY CONSTRUCTION ENTRANCE AND ANY OTHER EROSION CONTROL MEASURES
2. DEMOLITION AND REMOVAL OF LANDSCAPING.
3. STRIP AND STOCKPILE TOPSOIL, INSTALL SILT FENCE AROUND PERIMETER OF STOCKPILE.
4. CONDUCT ROUGH GRADING EFFORTS AND INSTALL CHECK DAMS AND SEDIMENT TRAP/BASINS AS NEEDED. IF SEDIMENT BASINS (BIO RETENTION BASINS) ARE TO BE USED, BOTTOM OF BASIN SHALL BE LEFT A MINIMUM OF 1' ABOVE FINAL GRADE IN ORDER TO PRESERVE NATIVE SOIL INTERFACE. DO NOT EXCAVATE FINAL 1' UNTIL FINAL SITE STABILIZATION OCCURS.
5. CONSTRUCTION OF FOUNDATIONS AND BUILDING.
6. INSTALL UTILITY PIPING AND STRUCTURES, IMMEDIATELY INSTALL INLET PROTECTION.
7. COMPLETE FINAL GRADING, INSTALLATION OF GRAVEL BASE COURSES, PLACEMENT OF CURBS, PAVEMENTS, WALKS, ETC.
8. INSTALL TOPSOIL, AND LANDSCAPING. IMMEDIATELY STABILIZE DISTURBED AREAS WITH EROSION CONTROLS.
9. EROSION CONTROL MEASURES SHALL BE REMOVED ONLY AFTER SITE CONSTRUCTION IS COMPLETE WITH ALL SOIL SURFACES HAVING AN ESTABLISHED VEGETATIVE COVER.

CONTRACTOR MAY MODIFY SEQUENCING AFTER ITEM 1 AS NEEDED TO COMPLETE CONSTRUCTION IF EROSION CONTROLS ARE MAINTAINED IN ACCORDANCE WITH THE CONSTRUCTION SITE EROSION CONTROL REQUIREMENTS.

NOTE :

REMAINING DISTURBED AREAS OF SLOPES 5:1 OR FLATTER TO BE HYDROSEEDED

NORTH

GRAPHICAL SCALE (FEET)

0 1" = 80' 160'

REVIEWED:
DESIGNED: AGT
DRAFTED: DMS

PLAN I DESIGN I DELIVER
www.pinnacle-engr.com

PINNACLE ENGINEERING GROUP
ENGINEERING I NATURAL RESOURCES I SURVEYING
WISCONSIN OFFICE:
20725 WATERTOWN ROAD, SUITE 100
BROOKFIELD, WI 53186
(262) 754-8888
CHICAGO I MILWAUKEE · NATIONWIDE

THE COURTYARD AT PEWAUKEE

GOLF RD & MEADOWBROOK LN

GRADING & EROSION CONTROL OVERVIEW

REVISIONS

PEG JOB No. 1338.10
PEG PM MTS
START DATE 07-27-22
SCALE 1" = 80'

SHEET C-9 C-18

© COPYRIGHT 2023

GRADING & EROSION CONTROL OVERVIEW

www.pinnacle-engr.com

Z:\PROJECTS\2018\1338.10-WI\CAD\SHEETS\1338.10 GRADING & EROSION CONTROL PLAN.DWG

THESE PLANS AND DESIGNS ARE COPYRIGHT PROTECTED AND MAY NOT BE USED IN WHOLE OR IN PART WITHOUT THE WRITTEN CONSENT OF PINNACLE ENGINEERING GROUP, LLC

www.pinnacle-engr.com

NOTE :

REMAINING DISTURBED AREAS OF SLOPES 5:1 OR FLATTER TO BE HYDROSEEDED

LEGEND

- SANITARY SEWER MANHOLE
- STORM SEWER MANHOLE
- STORM STORM CATCH BASIN (ROUND CASTING)
- STORM SEWER CATCH BASIN (RECTANGULAR CASTING)
- PRECAST FLARED END SECTION
- CLEANOUT
- VALVE BOX
- FIRE HYDRANT
- PROPOSED CONTOUR
- PROPOSED SPOT ELEVATION
- WETLANDS
- FLOODPLAIN
- HIGH WATER LEVEL (HWL)
- NORMAL WATER LEVEL (NWL)
- DITCH OR SWALE
- DIVERSION SWALE
- SILT FENCE
- TYPE D INLET PROTECTION
- CONSTRUCTION ENTRANCE
- HYDROSEED (PER MANUFACTURER SPECIFICATIONS)
- EROSION CONTROL BLANKET (NORTH AMERICAN GREEN S75 OR EQUAL)
- RIP RAP

CONSTRUCTION SITE SEQENCING

1. INSTALL PERIMETER SILT FENCE, INLET PROTECTION, TEMPORARY CONSTRUCTION ENTRANCE AND ANY OTHER EROSION CONTROL MEASURES
2. DEMOLITION AND REMOVAL OF LANDSCAPING.
3. STRIP AND STOCKPILE TOPSOIL, INSTALL SILT FENCE AROUND PERIMETER OF STOCKPILE.
4. CONDUCT ROUGH GRADING EFFORTS AND INSTALL CHECK DAMS AND SEDIMENT TRAP/BASINS AS NEEDED. IF SEDIMENT BASINS (BIO RETENTION BASINS) ARE TO BE USED, BOTTOM OF BASIN SHALL BE LEFT A MINIMUM OF 1' ABOVE FINAL GRADE IN ORDER TO PRESERVE NATIVE SOIL INTERFACE. DO NOT EXCAVATE FINAL 1' UNTIL FINAL SITE STABILIZATION OCCURS.
5. CONSTRUCTION OF FOUNDATIONS AND BUILDING.
6. INSTALL UTILITY PIPING AND STRUCTURES, IMMEDIATELY INSTALL INLET PROTECTION.
7. COMPLETE FINAL GRADING, INSTALLATION OF GRAVEL BASE COURSES, PLACEMENT OF CURBS, PAVEMENTS, WALKS, ETC.
8. INSTALL TOPSOIL, AND LANDSCAPING. IMMEDIATELY STABILIZE DISTURBED AREAS WITH EROSION CONTROLS.
9. EROSION CONTROL MEASURES SHALL BE REMOVED ONLY AFTER SITE CONSTRUCTION IS COMPLETE WITH ALL SOIL SURFACES HAVING AN ESTABLISHED VEGETATIVE COVER.

CONTRACTOR MAY MODIFY SEQUENCING AFTER ITEM 1 AS NEEDED TO COMPLETE CONSTRUCTION IF EROSION CONTROLS ARE MAINTAINED IN ACCORDANCE WITH THE CONSTRUCTION SITE EROSION CONTROL REQUIREMENTS.

EXISTING BUILDING

OHW

12'

ELECTRIC EASEMENT

LAKEFIELD DRIVE

(60' PUBLIC R.O.W.)

TRAIL

26'

20'

DRAINAGE EASEMENT

100 YEAR FLOOD PLAIN PER FEMA MAP NO. 551333C0191G (GRAPHIC PLOTTING ONLY)

WETLANDS DELINEATED BY DAVE MEYER OF WETLAND & WATERWAY CONSULTING, LLC IN SEPTEMBER 2018

SILT FENCE (TYP)

RIP RAP (TYP) (SEE DETAIL)

BIORENTION BASIN

INLET PROTECTION (TYP)

886.57

887.74

886.80

887.61

887.93

887.76

890.00

889.00

889.50

889.34

889.61

889.32

PROPOSED BUILDING 67,500± SF FFE=890.00

STRAW BALE DITCH CHECK (SEE DETAIL)

PROTECTION FENCE (TYP)

RIP RAP (TYP) (SEE DETAIL)

MATCH LINE SEE SHEET C-11

NORTH

GRAPHICAL SCALE (FEET)

0 1" = 40' 80'

REVIEWED:

DESIGNED: ACT

DRAFTED: DMS

PLAN I DESIGN I DELIVER
www.pinnacle-engr.com

PINNACLE ENGINEERING GROUP
ENGINEERING I NATURAL RESOURCES I SURVEYING

WISCONSIN OFFICE:
20725 WATERTOWN ROAD, SUITE 100
BROOKFIELD, WI 53186
(262) 754-8888
CHICAGO I MILWAUKEE : NATIONWIDE

THE COURTYARD AT PEWAUKEE

GOLF RD & MEADOWBROOK LN

GRADING & EROSION CONTROL PLAN

REVISIONS

PEG JOB No.	1338.10
PEG PM	MTS
START DATE	07-27-22
SCALE	1" = 40'

SHEET
C-10
C-18

GRADING & EROSION CONTROL PLAN

© COPYRIGHT 2023

Z:\PROJECTS\2018\1338.10-WI\CAD\SHEETS\1338.10 GRADING & EROSION CONTROL PLAN.DWG

THESE PLANS AND DESIGNS ARE COPYRIGHT PROTECTED AND MAY NOT BE USED IN WHOLE OR IN PART WITHOUT THE WRITTEN CONSENT OF PINNACLE ENGINEERING GROUP, LLC

www.pinnacle-engr.com

MATCH LINE SEE SHEET C-10

TEMPORARY TURN AROUND EASEMENT

WATER MAIN EASEMENT 30'

690.83' RIGHT OF ACCESS TO GOLF ROAD VIA ONE (1) ACCESS POINT PER DOC. 2479003

NO ACCESS PER DOC. 2479003

STRAW BALE DITCH CHECK (SEE DETAIL)

INLET PROTECTION (TYP)

PROTECTION FENCE (TYP)

CONSTRUCTION ENTRANCE (SEE DETAIL)

GOLF ROAD
COUNTY TRUNK HIGHWAY "DR"

INTERSTATE HIGHWAY "94"
(VARIABLE PUBLIC R.O.W.)

LEGEND

SANITARY SEWER MANHOLE	NORMAL WATER LEVEL (NWL)
STORM SEWER MANHOLE	DITCH OR SWALE
STORM STORM CATCH BASIN (ROUND CASTING)	DIVERSION SWALE
STORM SEWER CATCH BASIN (RECTANGULAR CASTING)	SILT FENCE
PRECAST FLARED END SECTION	TYPE D INLET PROTECTION
CLEANOUT	CONSTRUCTION ENTRANCE
VALVE BOX	HYDROSEED (PER MANUFACTURER SPECIFICATIONS)
FIRE HYDRANT	EROSION CONTROL BLANKET (NORTH AMERICAN GREEN S75 OR EQUAL)
PROPOSED CONTOUR	RIP RAP
750.0 PROPOSED SPOT ELEVATION	
WETLANDS	
FLOODPLAIN	
HIGH WATER LEVEL (HWL)	

CONSTRUCTION SITE SEQENCING

1. INSTALL PERIMETER SILT FENCE, INLET PROTECTION, TEMPORARY CONSTRUCTION ENTRANCE AND ANY OTHER EROSION CONTROL MEASURES
2. DEMOLITION AND REMOVAL OF LANDSCAPING.
3. STRIP AND STOCKPILE TOPSOIL, INSTALL SILT FENCE AROUND PERIMETER OF STOCKPILE.
4. CONDUCT ROUGH GRADING EFFORTS AND INSTALL CHECK DAMS AND SEDIMENT TRAP/BASINS AS NEEDED. IF SEDIMENT BASINS (BIO RETENTION BASINS) ARE TO BE USED, BOTTOM OF BASIN SHALL BE LEFT A MINIMUM OF 1' ABOVE FINAL GRADE IN ORDER TO PRESERVE NATIVE SOIL INTERFACE. DO NOT EXCAVATE FINAL 1' UNTIL FINAL SITE STABILIZATION OCCURS.
5. CONSTRUCTION OF FOUNDATIONS AND BUILDING.
6. INSTALL UTILITY PIPING AND STRUCTURES, IMMEDIATELY INSTALL INLET PROTECTION.
7. COMPLETE FINAL GRADING, INSTALLATION OF GRAVEL BASE COURSES, PLACEMENT OF CURBS, PAVEMENTS, WALKS, ETC.
8. INSTALL TOPSOIL, AND LANDSCAPING. IMMEDIATELY STABILIZE DISTURBED AREAS WITH EROSION CONTROLS.
9. EROSION CONTROL MEASURES SHALL BE REMOVED ONLY AFTER SITE CONSTRUCTION IS COMPLETE WITH ALL SOIL SURFACES HAVING AN ESTABLISHED VEGETATIVE COVER.

CONTRACTOR MAY MODIFY SEQUENCING AFTER ITEM 1 AS NEEDED TO COMPLETE CONSTRUCTION IF EROSION CONTROLS ARE MAINTAINED IN ACCORDANCE WITH THE CONSTRUCTION SITE EROSION CONTROL REQUIREMENTS.

NOTE :

REMAINING DISTURBED AREAS OF SLOPES 5:1 OR FLATTER TO BE HYDROSEEDED

NORTH

GRAPHICAL SCALE (FEET)

0 1" = 40' 80'

REVIEWED:
DESIGNED: AST
DRAFTED: DMS

PLAN I DESIGN I DELIVER
www.pinnacle-engr.com

PINNACLE ENGINEERING GROUP
ENGINEERING I NATURAL RESOURCES I SURVEYING

WISCONSIN OFFICE:
20725 WATERTOWN ROAD, SUITE 100
BROOKFIELD, WI 53186
(262) 754-8888
CHICAGO I MILWAUKEE : NATIONWIDE

THE COURTYARD AT PEWAUKEE

GOLF RD & MEADOWBROOK LN

GRADING & EROSION CONTROL PLAN

REVISIONS

PEG JOB No. 1338.10
PEG PM MTS
START DATE 07-27-22
SCALE 1" = 40'

SHEET
C-11
C-18

© COPYRIGHT 2023

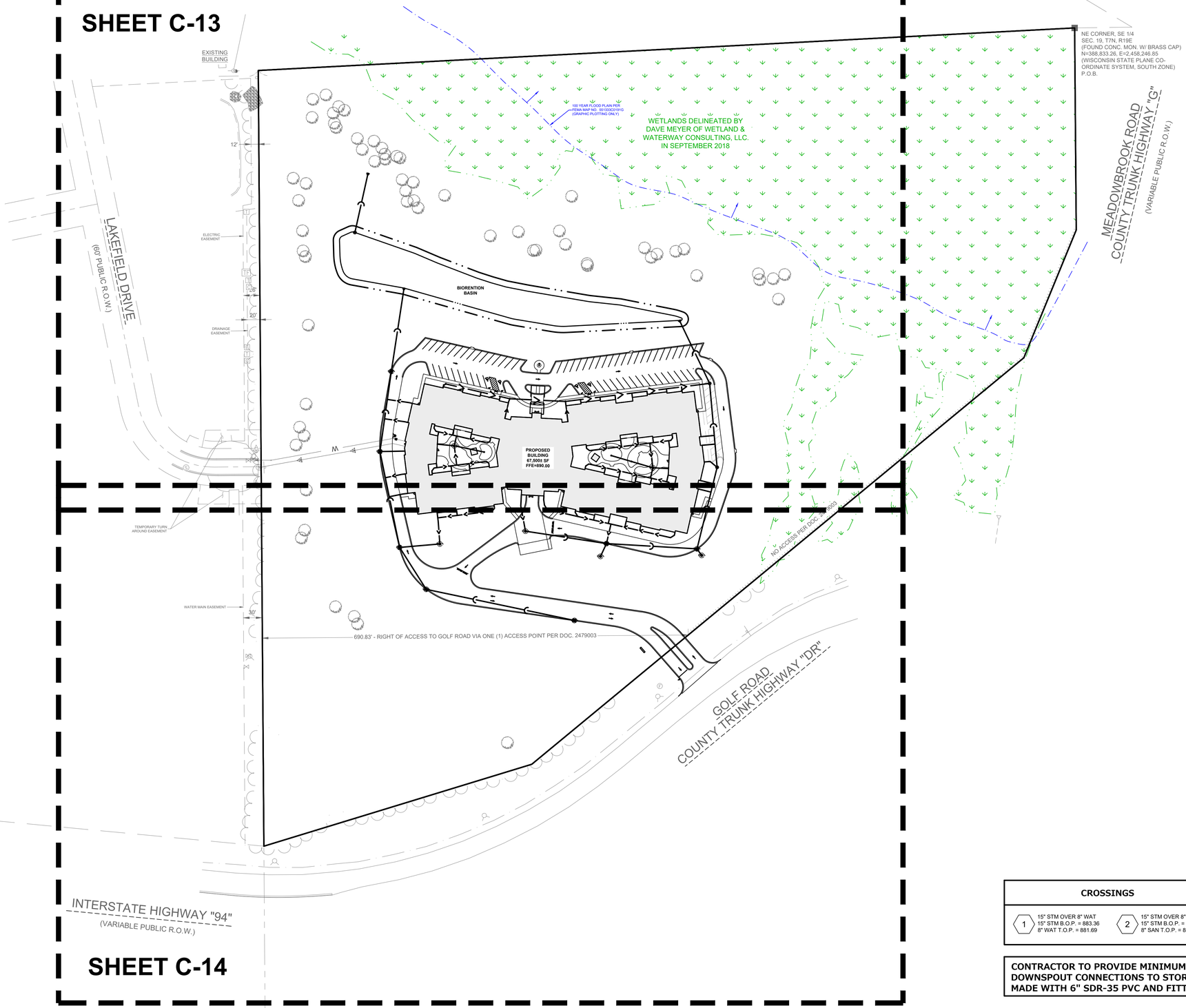
GRADING & EROSION CONTROL PLAN

Z:\PROJECTS\2018\1338.10-WI\CAD\SHEETS\1338.10 GRADING & EROSION CONTROL PLAN.DWG

THESE PLANS AND DESIGNS ARE COPYRIGHT PROTECTED AND MAY NOT BE USED IN WHOLE OR IN PART WITHOUT THE WRITTEN CONSENT OF PINNACLE ENGINEERING GROUP, LLC

www.pinnacle-engr.com

SHEET C-13



SHEET C-14

LEGEND

- SANITARY SEWER MANHOLE
- STORM SEWER MANHOLE
- STORM SEWER CATCH BASIN (ROUND CASTING)
- STORM SEWER CATCH BASIN (RECTANGULAR CASTING)
- PRECAST CONCRETE FLARED END SECTION
- CLEANOUT
- VALVE BOX
- FIRE HYDRANT
- SANITARY SEWER
- FORCE MAIN
- DOWNSPOUT CONNECTIONS
- STORM SEWER
- DRAIN TILE
- W — WATER MAIN
- FP — FIRE PROTECTION
- UTILITY CROSSING
- ELECTRICAL CABLE
- GAS MAIN
- TELEPHONE LINE
- OHW — OVERHEAD WIRES
- LIGHTING
- ELECTRICAL TRANSFORMER OR PEDESTAL
- POWER POLE
- POWER POLE WITH LIGHTS
- STREET SIGN

CONTRACTOR RESPONSIBILITY: SEE ADDITIONAL CONSTRUCTION NOTES LOCATED ON SHEET C-2

CROSSINGS

1. 15" STM OVER 8" WAT — 8" WAT T.O.P. = 881.69
2. 15" STM OVER 8" SAN — 8" SAN T.O.P. = 882.61

NOTE:
ALL INLETS SHALL HAVE UNDERDRAIN INSTALLED PER DETAIL ON SHEET C-18

CONTRACTOR TO PROVIDE MINIMUM OF 2.5' OF COVER AT ALL DOWNSPOUT CONNECTIONS TO STORM SEWER. CONNECTIONS TO BE MADE WITH 6" SDR-35 PVC AND FITTED WITH WYE CONNECTIONS.

NORTH

GRAPHICAL SCALE (FEET)

0 1" = 80' 160'

REVIEWED:
DESIGNED: ACT
DRAFTED: DMS

PLAN | DESIGN | DELIVER
www.pinnacle-engr.com

PINNACLE ENGINEERING GROUP
ENGINEERING | NATURAL RESOURCES | SURVEYING

WISCONSIN OFFICE:
20725 WATERTOWN ROAD, SUITE 100
BROOKFIELD, WI 53186
(262) 754-8888
CHICAGO | MILWAUKEE : NATIONWIDE

THE COURTYARD AT PEWAUKEE

GOLF RD & MEADOWBROOK LN

STORM SEWER OVERVIEW

REVISIONS

PEG JOB No. 1338.10
PEG PM MTS
START DATE 07-27-22
SCALE 1" = 80'

SHEET
C-12
C-18

STORM SEWER OVERVIEW

© COPYRIGHT 2023

Z:\PROJECTS\2018\1338.10-WI\CAD\SHEETS\1338.10 UTILITY PLAN.DWG

THESE PLANS AND DESIGNS ARE COPYRIGHT PROTECTED AND MAY NOT BE USED IN WHOLE OR IN PART WITHOUT THE WRITTEN CONSENT OF PINNACLE ENGINEERING GROUP, LLC

CONTRACTOR TO PROVIDE MINIMUM OF 2.5' OF COVER AT ALL DOWNSPOUT CONNECTIONS TO STORM SEWER. CONNECTIONS TO BE MADE WITH 6" SDR-35 PVC AND FITTED WITH WYE CONNECTIONS.

NOTE:
ALL INLETS SHALL HAVE UNDERDRAIN INSTALLED PER DETAIL ON SHEET C-18

CONTRACTOR RESPONSIBILITY: SEE ADDITIONAL CONSTRUCTION NOTES LOCATED ON SHEET C-2

LEGEND

- SANITARY SEWER MANHOLE
- STORM SEWER MANHOLE
- STORM SEWER CATCH BASIN (ROUND CASTING)
- STORM SEWER CATCH BASIN (RECTANGULAR CASTING)
- PRECAST CONCRETE FLARED END SECTION
- CLEANOUT
- VALVE BOX
- FIRE HYDRANT
- SANITARY SEWER
- FORCE MAIN
- DOWNSPOUT CONNECTIONS
- STORM SEWER
- DRAIN TILE
- W — WATER MAIN
- FP — FIRE PROTECTION
- UTILITY CROSSING
- E — ELECTRICAL CABLE
- G — GAS MAIN
- T — TELEPHONE LINE
- OHW — OVERHEAD WIRES
- LIGHTING
- ELECTRICAL TRANSFORMER OR PEDESTAL
- POWER POLE
- POWER POLE WITH LIGHTS
- STREET SIGN

CROSSINGS

1. 15" STM OVER 8" WAT — 15" STM B.O.P. = 883.36 — 8" WAT T.O.P. = 881.69
2. 15" STM OVER 8" SAN — 15" STM B.O.P. = 883.45 — 8" SAN T.O.P. = 882.61

EXISTING BUILDING

18" PVC RIM=877.00
ELBOW INV.=874.32

OHW

18" PVC RIM=877.56
ELBOW INV.=874.69

POND OUTFALL STRUCTURE
RIM=877.26
24" NE=874.98
SUMP=874.41

12'

ES OUTFALL
INV=875.00 (24")

98.3 L.F. 24" RCP
@ S=3.05%

O.C.S. (SEE SHEET C-18 FOR DETAIL)

100 YEAR FLOOD PLAIN PER FEMA MAP NO. 551333C0191G (GRAPHIC PLOTTING ONLY)

WETLANDS DELINEATED BY DAVE MEYER OF WETLAND & WATERWAY CONSULTING, LLC. IN SEPTEMBER 2018

ELECTRIC EASEMENT

LAKEFIELD DRIVE
(60' PUBLIC R.O.W.)

26'

20'

DRAINAGE EASEMENT

BIORENTION BASIN

ES 6
INV=881.00 (15")

136.8 L.F. 15" HDPE
@ S=1.00%

ES 13
INV=881.00 (24")

113.3 L.F. 24" HDPE
@ S=0.60%

CB 5
48" DIA
RIM= 886.57
INV=882.37 (15" S)
INV=882.37 (15" N)

106.5 L.F. 10" SDR-35
@ S=1.25%

90.4 L.F. 10" SDR-35
@ S=1.25%

235.8 L.F. 10" SDR-35
@ S=1.25%

MH 12
48" DIA
RIM= 888.92
INV=881.68 (10" W)
INV=881.68 (24" S)
INV=881.68 (24" NW)

DS 100
INV=887.14 (10")

131.3 L.F. 15" HDPE
@ S=1.00%

CB 14.1

AD 15.3

AD 15.2

AD 14.2

CB 15.1

136.7 L.F. 24" HDPE
@ S=0.50%

CB 4
48" DIA
RIM= 887.93
INV=883.68 (12" S)
INV=883.68 (15" N)

BC 14
INV=884.18 (10")

PROPOSED BUILDING
67,500± SF
FFE=890.00

BC 15
INV=882.66 (12")

MH 11
48" DIA
RIM= 889.16
INV=882.36 (18" S)
INV=882.36 (24" N)

MATCH LINE SEE SHEET C-14

NORTH

GRAPHICAL SCALE (FEET)
0 — 1" = 40' — 80'

www.pinnacle-engr.com

REVIEWED:
DESIGNED: ACT
DRAFTED: DMS

PLAN I DESIGN I DELIVER
www.pinnacle-engr.com

PINNACLE ENGINEERING GROUP
ENGINEERING I NATURAL RESOURCES I SURVEYING

WISCONSIN OFFICE:
20725 WATERTOWN ROAD, SUITE 100
BROOKFIELD, WI 53186
(262) 754-8888
CHICAGO I MILWAUKEE · NATIONWIDE

THE COURTYARD AT PEWAUKEE

GOLF RD & MEADOWBROOK LN

STORM SEWER PLAN

REVISIONS

PEG JOB No. 1338.10
PEG PM MTS
START DATE 07-27-22
SCALE 1" = 40'

SHEET
C-13
C-18

STORM SEWER PLAN

© COPYRIGHT 2023

Z:\PROJECTS\2018\1338.10-WI\CAD\SHEETS\1338.10 UTILITY PLAN.DWG

THESE PLANS AND DESIGNS ARE COPYRIGHT PROTECTED AND MAY NOT BE USED IN WHOLE OR IN PART WITHOUT THE WRITTEN CONSENT OF PINNACLE ENGINEERING GROUP, LLC

www.pinnacle-engr.com

MATCH LINE SEE SHEET C-13

TEMPORARY TURN AROUND EASEMENT

WATER MAIN EASEMENT

30'

158.8 L.F. 12" HDPE @ S=0.80%

CB 7
48" DIA
RIM= 1777.21
INV=885.15 (12" W)

CB 8
48" DIA
RIM= 888.15
INV=884.73 (12" E)

136.3 L.F. 18" HDPE @ S=0.51%

CB 3
48" DIA
RIM= 891.10
INV=884.95 (12" E)
INV=888.45 (10" SE)
INV=884.95 (12" N)

65.5 L.F. 12" HDPE @ S=0.31%

TOPSOIL BERM

132.9 L.F. 12" HDPE @ S=0.60%

22.9 L.F. 12" HDPE @ S=0.48%

CB 9.1
48" DIA
RIM= 887.04
INV=884.04 (12" NE)

CB 9
48" DIA
RIM= 888.22
INV=883.93 (12" W)
INV=883.93 (12" SW)
INV=883.93 (15" E)

147.1 L.F. 15" HDPE @ S=0.60%

13.0 L.F. 12" HDPE @ S=0.77%

CB 10.1
48" DIA
RIM= 887.44
INV=883.15 (12" NW)

CB 10
48" DIA
RIM= 887.54
INV=883.05 (12" SE)
INV=883.05 (15" W)
INV=883.05 (18" N)

NO ACCESS PER DOC. 2479003

80.5 L.F. 10" HDPE @ S=0.81%

CB 2
48" DIA
RIM= 893.00
INV=889.10 (8" E)
INV=889.10 (10" NW)

245.7 L.F. 8" HDPE @ S=3.75%

690.83' - RIGHT OF ACCESS TO GOLF ROAD VIA ONE (1) ACCESS POINT PER DOC. 2479003

CB 1
48" DIA
RIM= 901.15
INV=898.31 (8" W)

GOLF ROAD
COUNTY TRUNK HIGHWAY "DR"

INTERSTATE HIGHWAY "94"
(VARIABLE PUBLIC R.O.W.)

LEGEND

- SANITARY SEWER MANHOLE
- STORM SEWER MANHOLE
- STORM SEWER CATCH BASIN (ROUND CASTING)
- STORM SEWER CATCH BASIN (RECTANGULAR CASTING)
- PRECAST CONCRETE FLARED END SECTION
- CLEANOUT
- VALVE BOX
- FIRE HYDRANT
- SANITARY SEWER
- FORCE MAIN
- DOWNSPOUT CONNECTIONS
- STORM SEWER
- DRAIN TILE
- W — WATER MAIN
- FP — FIRE PROTECTION
- UTILITY CROSSING
- E — ELECTRICAL CABLE
- G — GAS MAIN
- T — TELEPHONE LINE
- OHW — OVERHEAD WIRES
- LIGHTING
- ELECTRICAL TRANSFORMER OR PEDESTAL
- POWER POLE
- POWER POLE WITH LIGHTS
- STREET SIGN

CROSSINGS

1 — 15" STM OVER 8" WAT
15" STM B.O.P. = 883.36
8" WAT T.O.P. = 881.69

2 — 15" STM OVER 8" SAN
15" STM B.O.P. = 883.45
8" SAN T.O.P. = 882.61

CONTRACTOR RESPONSIBILITY: SEE ADDITIONAL CONSTRUCTION NOTES LOCATED ON SHEET C-2

CONTRACTOR TO PROVIDE MINIMUM OF 2.5' OF COVER AT ALL DOWNSPOUT CONNECTIONS TO STORM SEWER. CONNECTIONS TO BE MADE WITH 6" SDR-35 PVC AND FITTED WITH WYE CONNECTIONS.

NOTE:
ALL INLETS SHALL HAVE UNDERDRAIN INSTALLED PER DETAIL ON SHEET C-18

NORTH

GRAPHICAL SCALE (FEET)
0 — 1" = 40' — 80'

REVIEWED:
DESIGNED: ACT
DRAFTED: DMS

PLAN I DESIGN I DELIVER
www.pinnacle-engr.com

PINNACLE ENGINEERING GROUP
ENGINEERING I NATURAL RESOURCES I SURVEYING

WISCONSIN OFFICE:
20725 WATERTOWN ROAD, SUITE 100
BROOKFIELD, WI 53186
(262) 754-8888
CHICAGO I MILWAUKEE : NATIONWIDE

THE COURTYARD AT PEWAUKEE

GOLF RD & MEADOWBROOK LN

STORM SEWER PLAN

REVISIONS

PEG JOB No. 1338.10
PEG PM MTS
START DATE 07-27-22
SCALE 1" = 40'

SHEET
C-14
C-18

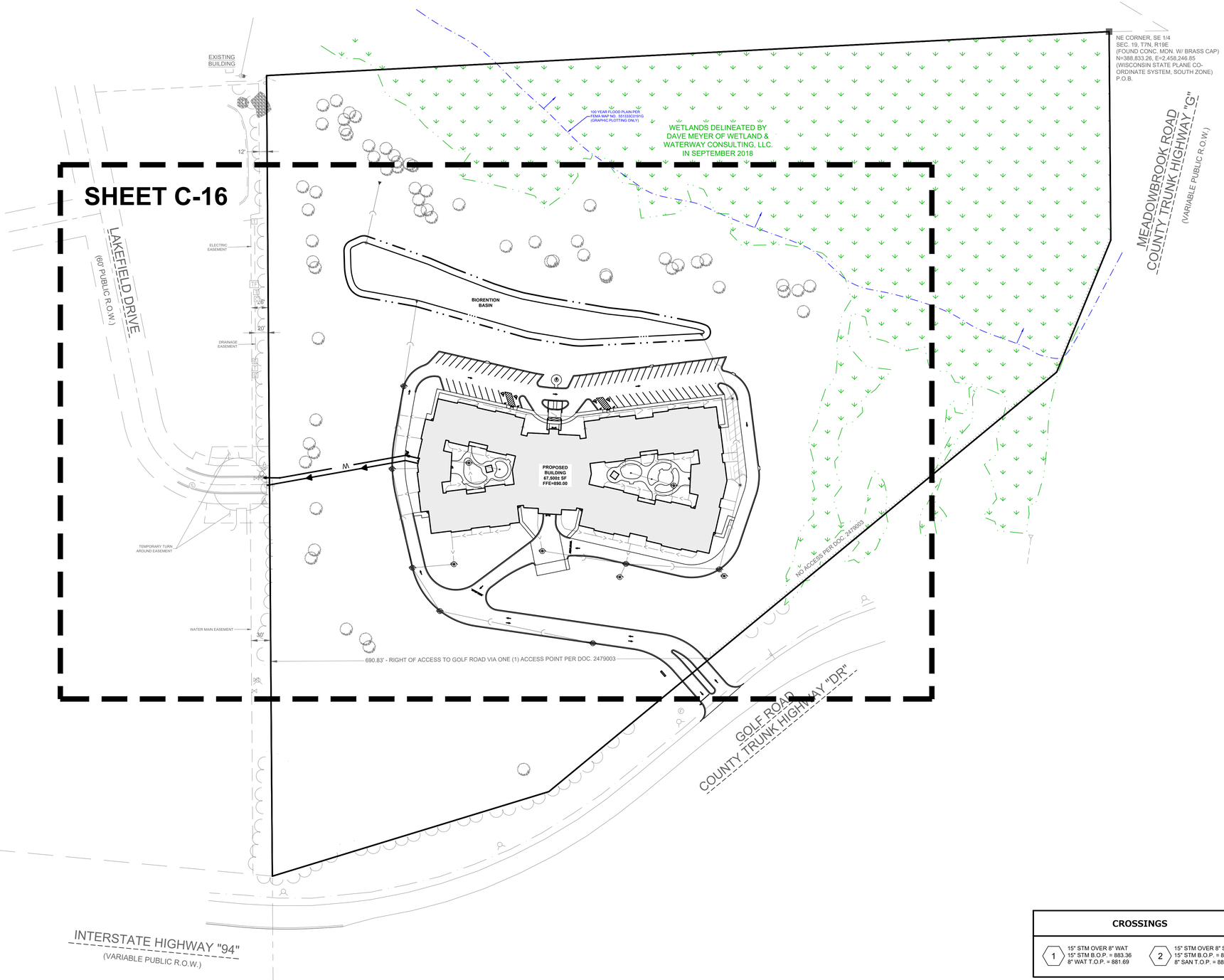
STORM SEWER PLAN

© COPYRIGHT 2022

Z:\PROJECTS\2018\1338.10-WI\CAD\SHEETS\1338.10 UTILITY PLAN.DWG

THESE PLANS AND DESIGNS ARE COPYRIGHT PROTECTED AND MAY NOT BE USED IN WHOLE OR IN PART WITHOUT THE WRITTEN CONSENT OF PINNACLE ENGINEERING GROUP, LLC

www.pinnacle-engr.com



LEGEND

- SANITARY SEWER MANHOLE
- STORM SEWER MANHOLE
- STORM SEWER CATCH BASIN (ROUND CASTING)
- STORM SEWER CATCH BASIN (RECTANGULAR CASTING)
- PRECAST CONCRETE FLARED END SECTION
- CLEANOUT
- VALVE BOX
- FIRE HYDRANT
- SANITARY SEWER
- FORCE MAIN
- DOWNSPOUT CONNECTIONS
- STORM SEWER
- DRAIN TILE
- W — WATER MAIN
- FP — FIRE PROTECTION
- UTILITY CROSSING
- ELECTRICAL CABLE
- GAS MAIN
- TELEPHONE LINE
- OHW — OVERHEAD WIRES
- LIGHTING
- ELECTRICAL TRANSFORMER OR PEDESTAL
- POWER POLE
- POWER POLE WITH LIGHTS
- STREET SIGN

CONTRACTOR RESPONSIBILITY: SEE ADDITIONAL CONSTRUCTION NOTES LOCATED ON SHEET C-2

CROSSINGS

1. 15" STM OVER 8" WAT — 15" STM B.O.P. = 883.36 — 8" WAT T.O.P. = 881.69
2. 15" STM OVER 8" SAN — 15" STM B.O.P. = 883.45 — 8" SAN T.O.P. = 882.61

NOTE:
ALL INLETS SHALL HAVE UNDERDRAIN INSTALLED PER DETAIL ON SHEET C-18

CONTRACTOR TO PROVIDE MINIMUM OF 2.5' OF COVER AT ALL DOWNSPOUT CONNECTIONS TO STORM SEWER. CONNECTIONS TO BE MADE WITH 6" SDR-35 PVC AND FITTED WITH WYE CONNECTIONS.

NORTH

GRAPHICAL SCALE (FEET)

0 — 1" = 80' — 160'

DRAFTED: DMS
DESIGNED: ACT
REVIEWED:

PLAN | DESIGN | DELIVER
www.pinnacle-engr.com

PINNACLE ENGINEERING GROUP
ENGINEERING | NATURAL RESOURCES | SURVEYING

WISCONSIN OFFICE:
20725 WATERTOWN ROAD, SUITE 100
BROOKFIELD, WI 53186
(262) 754-8888
CHICAGO | MILWAUKEE - NATIONWIDE

THE COURTYARD AT PEWAUKEE

GOLF RD & MEADOWBROOK LN

SANITARY & WATERMAIN OVERVIEW

REVISIONS

PEG JOB No. 1338.10
PEG PM MTS
START DATE 07-27-22
SCALE 1" = 80'

SHEET
C-15
C-18

©COPYRIGHT 2023

SANITARY & WATERMAIN OVERVIEW

Z:\PROJECTS\2018\1338.10-WI\CAD\SHEETS\1338.10 UTILITY PLAN.DWG

THESE PLANS AND DESIGNS ARE COPYRIGHT PROTECTED AND MAY NOT BE USED IN WHOLE OR IN PART WITHOUT THE WRITTEN CONSENT OF PINNACLE ENGINEERING GROUP, LLC

www.pinnacle-engr.com

LAKEFIELD DRIVE
(60' PUBLIC R.O.W.)

ELECTRIC EASEMENT

26'

20'

DRAINAGE EASEMENT

NOTE:
ALL INLETS SHALL HAVE UNDERDRAIN INSTALLED PER DETAIL ON SHEET C-18

CONTRACTOR RESPONSIBILITY: SEE ADDITIONAL CONSTRUCTION NOTES LOCATED ON SHEET C-2

LEGEND

- SANITARY SEWER MANHOLE
- STORM SEWER MANHOLE
- STORM SEWER CATCH BASIN (ROUND CASTING)
- STORM SEWER CATCH BASIN (RECTANGULAR CASTING)
- PRECAST CONCRETE FLARED END SECTION
- CLEANOUT
- VALVE BOX
- FIRE HYDRANT
- SANITARY SEWER
- FORCE MAIN
- DOWNSPOUT CONNECTIONS
- STORM SEWER
- DRAIN TILE
- W — WATER MAIN
- FP — FIRE PROTECTION
- UTILITY CROSSING
- ELECTRICAL CABLE
- GAS MAIN
- TELEPHONE LINE
- OHW — OVERHEAD WIRES
- LIGHTING
- ELECTRICAL TRANSFORMER OR PEDESTAL
- POWER POLE
- POWER POLE WITH LIGHTS
- STREET SIGN

CROSSINGS

1. 15" STM OVER 8" WAT
   15" STM B.O.P. = 883.36
   8" WAT T.O.P. = 881.69
2. 15" STM OVER 8" SAN
   15" STM B.O.P. = 883.45
   8" SAN T.O.P. = 882.61

BIORENTION BASIN

PROPOSED HYDRANT W/ AUX VALVE
WITH 5 LF 6" HYDRANT LEAD @ S=5.00%
NOZZLE = 888.68
GROUND = 887.18
INV = 881.19 (6" SW)

8 X 8 X 6 TEE
INV=880.86
INV=880.86

2.1 L.F. 8" C-900
WATER MAIN @ S=5.00%

22.5° BEND
INV=880.75

3.0 L.F. 8" C-900
WATER MAIN @ S=5.00%

8" GATE VALVE
INV=881.01

16.8 L.F. 8" C-900
WATER MAIN @ S=5.00%

WAT BC
INV=881.85 (8")

PROPOSED
FDC LOCATION

SAN BC
INV=882.14

24.2 L.F. 8" C-900
WATER MAIN @ S=-4.72%

200.9 L.F. 8" C-900
WATER MAIN @ S=-1.00%

11.25° BEND
INV=882.76

CONNECT TO EXISTING 12"
WM WITH 12 X 8 REDUCER.
INV=883.90±
CONTRACTOR TO NOTIFY
ENGINEER OF ANY
DIESCREPANCIES

22.5° BEND
INV=882.04

20.2 L.F. SDR-35
@ S=0.52%

220.6 L.F. SDR-35
@ S=0.52%

CONNECT TO EXISTING
SANITARY MANHOLE
RIM=891.02
880.79 (8" W) (EXISTING)
880.89 (8" E) (PROPOSED)

PROPOSED BUILDING 67,500± SF FFE=890.00

SANITARY MANHOLE
RIM=887.95
8" E=878.02
8" SW=877.91

TEMPORARY TURN AROUND EASEMENT

WATER MAIN EASEMENT

30'

690.83' - RIGHT OF ACCESS TO GOLF ROAD VIA ONE (1) ACCESS POINT PER DOC. 2479003

NO ACCESS PER DOC. 2479003

GOLF ROAD
COUNTY TRUNK HIGHWAY "DR"

NORTH

GRAPHICAL SCALE (FEET)
0 1" = 40' 80'

DRAFTED: DMS
DESIGNED: ACT
REVIEWED:

PLAN I DESIGN I DELIVER
www.pinnacle-engr.com

PINNACLE ENGINEERING GROUP
ENGINEERING I NATURAL RESOURCES I SURVEYING

WISCONSIN OFFICE:
20725 WATERTOWN ROAD, SUITE 100
BROOKFIELD, WI 53186
(262) 754-8888
CHICAGO I MILWAUKEE : NATIONWIDE

THE COURTYARD AT PEWAUKEE

GOLF RD & MEADOWBROOK LN

SANITARY & WATERMAIN PLAN

REVISIONS

PEG JOB No. 1338.10
PEG PM MTS
START DATE 07-27-22
SCALE 1" = 40'

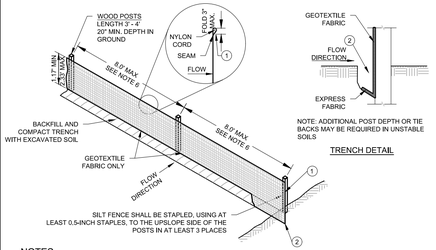
SHEET
C-16
C-18

© COPYRIGHT 2023

SANITARY & WATERMAIN PLAN

Z:\PROJECTS\2018\1338.10-WI\CAD\SHEETS\1338.10 UTILITY PLAN.DWG

THESE PLANS AND DESIGNS ARE COPYRIGHT PROTECTED AND MAY NOT BE USED IN WHOLE OR IN PART WITHOUT THE WRITTEN CONSENT OF PINNACLE ENGINEERING GROUP, LLC



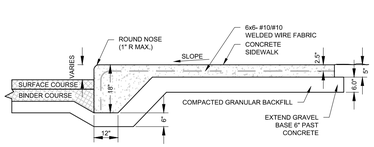
TRENCH DETAIL

NOTES:

1. ALL SILT FENCE MATERIALS AND INSTALLATION SHALL BE IN CONFORMANCE WITH WI DNR TECHNICAL STANDARD 1056.
2. GEOTEXTILE FABRIC SHALL MEET THE REQUIREMENTS OF MATERIAL SPECIFICATION 592 GEOTEXTILE TABLE 1 OR 2, CLASS I WITH EQUIVALENT OPENING SIZE OF AT LEAST 30 FOR NONWOVEN AND 50 FOR WOVEN.
3. SILT FENCE SHALL BE ANCHORED BY SPREADING AT LEAST 8-INCHES OF FABRIC IN A 4-INCH WIDE AND 6-INCH DEEP TRENCH OR 6-INCH DEEP V-TRENCH ON THE UPSLOPE SIDE OF THE FENCE. TRENCHES SHALL NOT BE EXCAVATED WIDER OR DEEPER THAN NECESSARY FOR PROPER INSTALLATION.
4. FOLD MATERIAL TO FIT TRENCH AND BACKFILL AND COMPACT TRENCH WITH EXCAVATED SOIL.
5. WOOD POSTS SHALL BE A MINIMUM SIZE OF 1.125-INCHES x 1.125-INCHES OF DRIED OAK OR HICKORY.
6. SILT FENCE TO EXTEND ABOVE THE TOP OF PIPE, WHERE APPLICABLE.
7. POST SPACING SHALL BE SELECTED BASED ON GEOTEXTILE FABRIC (8-FEET FOR WOVEN AND 3-FEET FOR NON-WOVEN).

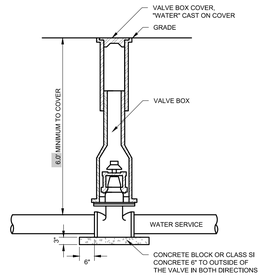
SILT FENCE

#1056C 10/2015



INTEGRAL CURB AND SIDEWALK

#617 12-2015

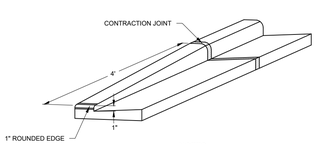


NOTES:

1. THE CONTRACT UNIT PRICE EACH FOR VALVES OF THE SIZE AND TYPE SPECIFIED SHALL INCLUDE PROVIDING & INSTALLING THE VALVE BOX

SERVICE VALVE

#606 10/2015

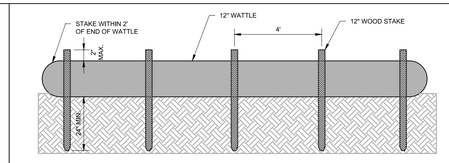


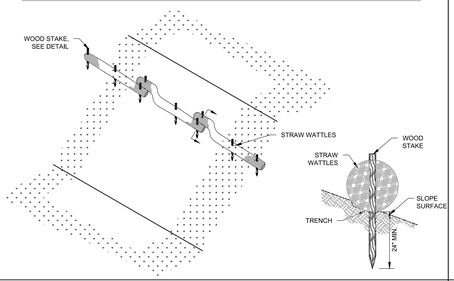
NOTES:

1. CONTRACTION JOINTS SHALL BE PLACED EVERY 10 FEET
2. EXPANSION JOINTS (3/4" EXPANSION FIBER MATERIAL) SHALL BE PLACED EVERY 300 FEET AND AT EVERY PC/PT AND 3 FEET FROM STRUCTURES

TAPER CURB HEAD

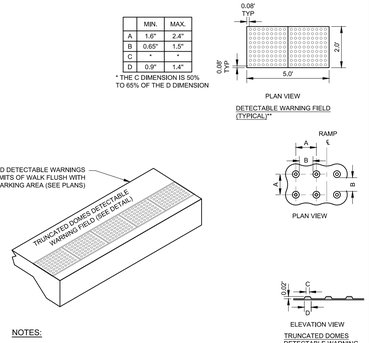
#605 10/15





STRAW WATTLE

#137 06/01/15

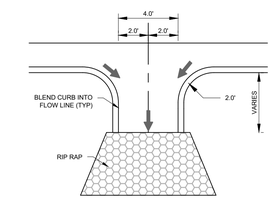


NOTES:

1. DETECTABLE WARNING FIELDS TO BE NEENAH FOUNDRY DETECTABLE WARNING FIELDS (OR APPROVED EQUAL), UNPAINTED NATURAL COLOR AND FIELD WEATHERED PRIOR TO INSTALLATION (VERIFY COLOR WITH OWNER PRIOR TO INSTALLATION.

DETECTABLE WARNING TRUNCATED DOMES

#606 10/2015

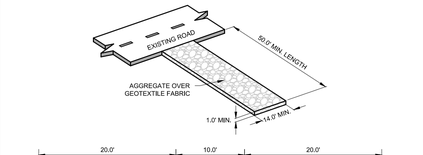


NOTES:

1. PITCH CONCRETE AT 2% FROM FLOW LINE OF GUTTER SECTION TO C/L OF FLUME.

CONCRETE FLUME

#638 10/2015



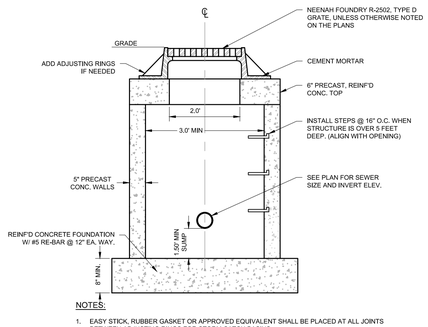
PROFILE VIEW

NOTES:

1. TRACKING PADS SHALL BE INSTALLED PRIOR TO ANY TRAFFIC LEAVING THE SITE. CONTRACTOR SHALL VERIFY LOCATION WITH OWNER.
2. THE AGGREGATE FOR TRACKING PADS SHALL MEET ONE OF THE FOLLOWING IDOT COARSE AGGREGATE GRADATIONS, CA-1, CA-2, CA-3, OR CA-4 AND BE PLACED ACCORDING TO CONSTRUCTION SPECIFICATIONS 25 ROCKFILL USING PLACEMENT METHOD 1 AND CLASS III COMPACTION.
3. THE AGGREGATE SHALL BE PLACED IN A LAYER AT LEAST 12-INCHES THICK, ON SITES WHERE SATURATED CONDITIONS ARE EXPECTED DURING THE LIFE OF THE PAD, THE PAD SHALL BE UNDERLAIN WITH GEOTEXTILE FABRIC WHICH MEETS MATERIAL SPECIFICATION 592 GEOTEXTILE, TABLE 1 OR 2, CLASS I, II OR IV, TO PREVENT MIGRATION OF UNDERLYING SOILS INTO THE STONE LAYER.
4. THE TRACKING PAD SHALL BE THE FULL WIDTH OF THE EGRESS POINT. MINIMUM WIDTH IS 14 FEET FOR ONE-WAY TRAFFIC AND 20 FEET FOR TWO-WAY TRAFFIC, WITH AN ADDITIONAL INCREASE OF 4 FEET FOR TRAILER TRAFFIC. THE TRACKING PAD SHALL BE A MINIMUM 50-FEET LONG.
5. ANY SEDIMENT TRACKED ONTO A PUBLIC OR PRIVATE ROAD SHOULD BE REMOVED BY STREET CLEANING, NOT FLUSHING, AT THE END OF EACH WORKING DAY.
6. TRACKING PADS SHALL, AT A MINIMUM, BE INSPECTED WEEKLY AND WITHIN 24-HOURS AFTER EVERY PRECIPITATION EVENT THAT PRODUCES 0.5-INCHES OF RAIN OR MORE DURING A 24-HOUR PERIOD.
7. THE TRACKING PAD PERFORMANCE SHALL BE MAINTAINED BY SCRAPING OR TOP-DRESSING WITH ADDITIONAL AGGREGATE.

CONSTRUCTION ENTRANCE

#1034 10/2015

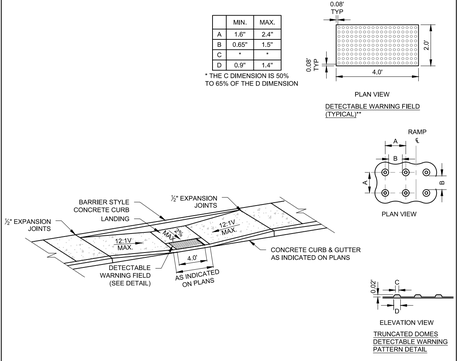


NOTES:

1. EASY STICK, RUBBER GASKET OR APPROVED EQUIVALENT SHALL BE PLACED AT ALL JOINTS BETWEEN ADJUSTING RINGS FOR STORM CATCH BASINS.
2. THE FLAT TOP MAY BE USED IN LIEU OF THE TAPERED TOP WHEN FIELD CONDITIONS PROHIBIT USE OF A TAPERED TOP.
3. STRUCTURE TO BE 4.0' DIA. OR AS INDICATED ON THE PLANS.

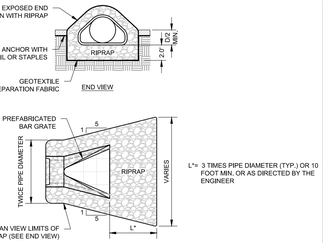
CATCH BASIN

#606 10/2015



TYPICAL ACCESSIBLE RAMP - SPLIT

#704 10/2015

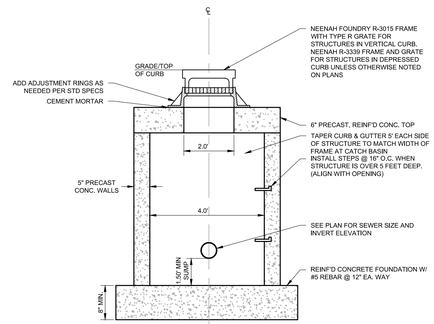


NOTES:

1. RIP RAP AND GEOTEXTILE FABRIC SHALL MEET REQUIREMENTS FOR STANDARD SPECIFICATIONS FOR HIGHWAY AND STRUCTURE CONSTRUCTION.

RIP RAP AT END SECTIONS

#704A 10/2015

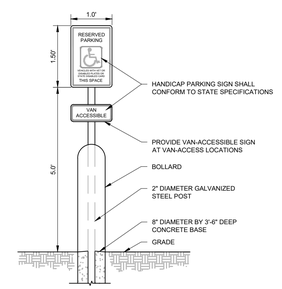


NOTES:

1. EASY STICK, RUBBER GASKET OR APPROVED EQUIVALENT SHALL BE PLACED AT ALL JOINTS BETWEEN ADJUSTING RINGS FOR STORM CATCH BASINS.
2. THE FLAT TOP MAY BE USED IN LIEU OF THE TAPERED TOP WHEN FIELD CONDITIONS PROHIBIT USE OF A TAPERED TOP.
3. STRUCTURES TO BE 4' DIA. OR AS INDICATED ON THE PLANS.

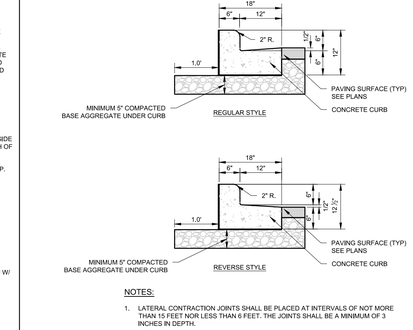
CATCH BASIN - CURB

#606 10/2015



ADA SIGN

#707 10/2015



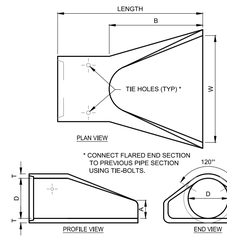
NOTES:

1. LATERAL CONTRACTION JOINTS SHALL BE PLACED AT INTERVALS OF NOT MORE THAN 15 FEET NOR LESS THAN 6 FEET. THE JOINTS SHALL BE A MINIMUM OF 3 INCHES IN DEPTH.
2. EXPANSION JOINTS SHALL BE PLACED TRANSVERSELY AT RADIUS POINTS ON CURVES OF RADIUS 200 FEET OR LESS, AND AT ANGLE POINTS, OR AS DIRECTED BY THE ENGINEER OF RECORD. THE EXPANSION JOINTS FILLER SHALL BE A ONE PIECE FIBERBOARD OR THE APPROVED EQUIVALENT MATERIAL HAVING THE SAME DIMENSIONS AS CURB & GUTTER AT THAT STATION AND BE 0.5 INCH THICK.
3. IN ALL CASES, CONCRETE CURB & GUTTER SHALL BE PLACED ON THOROUGHLY COMPACTED CRUSHED STONE.
4. REVERSE STYLE CURB LOCATIONS ARE NOTED ON THE PLANS.

18" VERTICAL FACE CURB

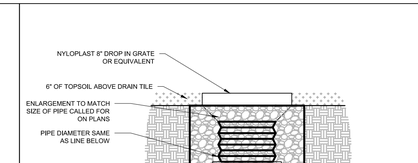
#603(24) 10/2015

PIPE DIAMETER D	LENGTH	T	A	B	W	WEIGHT PER SECTION
INCHES	FEET	INCHES	INCHES	INCHES	INCHES	LBS.
12	6'-0"	2	4	24	24	530
15	6'-0"	2 1/4	6	27	30	740
18	6'-0"	2 1/2	9	27	36	990
21	6'-0"	2 3/4	9	36	42	1280
24	6'-0"	3	9 1/2	43 1/2	48	1520
27	6'-0"	3 1/4	10 1/2	49 1/2	54	1930
30	6'-0"	3 1/2	12	54	60	2190
33	6'-6"	3 3/4	13 1/2	58 1/2	66	3850
36	8'-2"	4	15	63	72	4100
42	8'-2"	4 1/2	21	63	78	5380
48	8'-2"	5	24	72	84	6550
54	8'-2 1/2"	5 1/2	27	65	90	8240
60	8'-3"	6	35	60	96	8730



FLARED END SECTION

#712 6/2015





WISDOT NO. 1 GRADATION WASHED STONE SURROUNDED ON ALL SIDES

AREA DRAIN

#606 10/2015

REVIEWED:
DESIGNED: ACT
DRAFTED: DMS

PLAN | DESIGN | DELIVER
www.pinnacle-engr.com

PINNACLE ENGINEERING GROUP
ENGINEERING | NATURAL RESOURCES | SURVEYING

WISCONSIN OFFICE:
20725 WATERTOWN ROAD, SUITE 100
BROOKFIELD, WI 53186
(262) 754-8888
CHICAGO | MILWAUKEE : NATIONWIDE

THE COURTYARD AT PEWAUKEE

GOLF RD & MEADOWBROOK LN

CONSTRUCTION DETAILS

REVISIONS

PEG JOB No. 1338.10
PEG PM MTS
START DATE 07-27-22
SCALE 1" = 40'

SHEET
C-17
C-18

CONSTRUCTION DETAILS

© COPYRIGHT 2023

www.pinnacle-engr.com

THESE PLANS AND DESIGNS ARE COPYRIGHT PROTECTED AND MAY NOT BE USED IN WHOLE OR IN PART WITHOUT THE WRITTEN CONSENT OF PINNACLE ENGINEERING GROUP, LLC

1.0 POTENTIAL POLLUTANT SOURCES

GIVEN THE PROPOSED ACTIVITY ON THE PROJECT SITE, THE PRIMARY POTENTIAL POLLUTANT SOURCE ASSOCIATED WITH THIS CONSTRUCTION PROJECT IS SOIL EROSION AND TRANSPORTATION; REFER TO SECTION 4 OF THIS PLAN. ADDITIONAL POTENTIAL SOURCES OF POLLUTION MAY INCLUDE: FUEL TANKS, WASTE CONTAINERS, OIL OR OTHER PETROLEUM PRODUCTS, DETERGENTS, PAINTS, CONSTRUCTION DEBRIS, SANITARY STATIONS, FERTILIZERS, AND DUST; REFER TO SECTION 5 OF THIS PLAN.

2.0 EROSION AND SEDIMENT CONTROL IMPLEMENTATION

THE FOLLOWING ARE DESCRIPTIONS OF THE EROSION AND SEDIMENT CONTROL PRACTICES THAT SHALL BE IMPLEMENTED DURING CONSTRUCTION OF THIS PROJECT, IN ADDITION TO THESE MEASURES, CONTRACTOR SHALL DISTURB ONLY AREAS NECESSARY TO COMPLETE THE CONSTRUCTION PROJECT. ALL PRACTICES SHALL BE CONDUCTED IN ACCORDANCE WITH THE BEST MANAGEMENT PRACTICES (BMP).

2.1 CONSTRUCTION AND EROSION CONTROL SEQUENCING

CONSTRUCTION SEQUENCING WILL BE UTILIZED AS A MEANS OF CONTROLLING EROSION AND LIMITING SEDIMENT TRANSPORT. SEQUENCING AS LISTED BELOW IS GENERAL IN NATURE AND MAY VARY DEPENDING ON WEATHER CONDITIONS AND/OR PHASING OF CONSTRUCTION. THE CONTRACTOR SHALL SUBMIT A DETAILED SITE SEQUENCING PLAN TO OWNER FOR APPROVAL AT LEAST 5 BUSINESS DAYS PRIOR TO COMMENCEMENT OF ANY CONSTRUCTION ACTIVITIES. CONTRACTOR MAY MODIFY SEQUENCING AFTER ITEM 6 AS NEEDED TO COMPLETE CONSTRUCTION ONLY IF EROSION CONTROLS ARE MAINTAINED IN ACCORDANCE WITH THE CONSTRUCTION SITE EROSION AND SEDIMENT CONTROL REQUIREMENTS.

1. INSTALL TEMPORARY CONSTRUCTION ENTRANCES, INLET PROTECTION ON EXISTING STORM SEWER AND CULVERT INLET LOCATIONS, AND PERIMETER SILT FENCING.
2. INSTALL SILT FENCING ALONG THE PERIMETER OF PROPOSED TOPSOIL STOCKPILE LOCATIONS. THE FIRST TOPSOIL DEPOSITED WITHIN THE STOCKPILE LIMITS SHALL BE PLACED TO CREATE TEMPORARY BERMING ALONG THE SILT FENCE TO PREVENT DIRECT STORMWATER RUNOFF AGAINST SILT FENCING. CONTRACTOR SHALL LIMIT LAND DISTURBING ACTIVITIES ASSOCIATED WITH TEMPORARY BERMING TO A MINIMUM.
3. STRIP TOPSOIL WITHIN THE LIMITS OF THE SEDIMENT TRAPS THAT WILL BE USED FOR TEMPORARY SEDIMENT CONTROL, STRIPPED TOPSOIL SHALL BE PLACED TO CONSTRUCT DIVERSION BERMING OR PLACED WITHIN THE STOCKPILE LIMITS.
4. STRIP TOPSOIL ALONG THE REMAINDER OF DIVERSION BERMING AND IMMEDIATELY PLACE TOPSOIL TO CREATE THE BERMING. MASS TOPSOIL STRIPPING SHALL NOT OCCUR UNTIL ALL DOWNSTREAM SEDIMENT CONTROLS ARE IN PLACE.
5. CONDUCT ROUGH GRADING OPERATIONS AND UTILITY PIPING INSTALLATION. DRAIN TILE SHALL NOT BE INSTALLED UNTIL UPLAND AREAS CONTRIBUTING STORMWATER RUNOFF ARE STABILIZED. DITCH CHECKS SHALL BE INSTALLED WITHIN DRAINAGE DITCHES IMMEDIATELY FOLLOWING CREATION OF DITCHES AND INLET PROTECTION SHALL BE INSTALLED TO PROTECT ANY STORM SEWER OR CULVERTS THAT WILL FUNCTION DURING CONSTRUCTION.
6. FINE GRADE SUB-GRADE SOILS WITHIN PAVEMENT AND BUILDING LIMITS. PLACE STONE BASE MATERIAL AS SOON AS POSSIBLE FOLLOWING COMPLETION OF FINE GRADING EFFORTS.
7. FINE GRADE REMAINING DISTURBED AREAS. PLACE SALVAGED TOPSOIL, EROSION BLANKETS/MATTING, AND SEED/MULCH AS SOON AS POSSIBLE FOLLOWING COMPLETION OF FINE GRADING EFFORTS.
8. EROSION CONTROLS SHALL NOT BE REMOVED UNTIL SITE IS FULLY STABILIZED OR 70% VEGETATIVE COVER IS ESTABLISHED. CONTRACTOR IS RESPONSIBLE FOR REMOVAL OF SILT FENCE, TEMPORARY FENCING/PRETECTION, DITCH CHECKS, AND OTHER TEMPORARY CONTROLS, AND RESTORATION PRACTICES AS NECESSARY, TO THE SATISFACTION OF THE OWNER.

2.2 STABILIZATION PRACTICES

THE DATES WHEN MAJOR GRADING ACTIVITIES OCCUR, WHEN CONSTRUCTION ACTIVITIES TEMPORARILY OR PERMANENTLY CEASE ON A PORTION OF THE SITE, AND WHEN STABILIZATION MEASURES ARE INITIATED, SHALL BE RECORDED ON THE STABILIZATION SCHEDULE FOR MAJOR GRADING ACTIVITIES.

STABILIZATION MEASURES SHALL BE INITIATED AS SOON AS PRACTICABLE IN PORTIONS OF THE SITE WHERE CONSTRUCTION ACTIVITIES HAVE TEMPORARILY OR PERMANENTLY CEASED. NO MORE THAN SEVEN (7) DAYS SHALL PASS AFTER THE CONSTRUCTION ACTIVITY IN THAT PORTION OF THE SITE HAS PERMANENTLY CEASED UNLESS:

THE INITIATION OF STABILIZATION MEASURES BY THE SEVENTH (7) DAY AFTER CONSTRUCTION ACTIVITY TEMPORARILY OR PERMANENTLY CEASE IS PRECLUDED BY SNOW COVER. IN THAT EVENT, STABILIZATION MEASURE SHALL BE INITIATED AS SOON AS PRACTICABLE.

CONSTRUCTION ACTIVITY WILL RESUME ON A PORTION OF THE SITE WITHIN FOURTEEN (14) DAYS FROM WHEN ACTIVITIES CEASED, (I.E. THE TOTAL TIME PERIOD THAT THE CONSTRUCTION ACTIVITY IS TEMPORARILY CEASED IS LESS THAN FOURTEEN (14) DAYS), IN THAT EVENT, STABILIZATION MEASURES DO NOT HAVE TO BE INITIATED ON THAT PORTION OF THE SITE BY THE SEVENTH (7) DAY AFTER CONSTRUCTION ACTIVITY HAS TEMPORARILY CEASED. SEE THE SOIL PROTECTION CHART PRESENTED IN THE CONSTRUCTION DOCUMENTS FOR RATES OF PERMANENT AND TEMPORARY VEGETATION.

STABILIZATION MEASURES SHALL BE DETERMINED BASED ON SITE CONDITIONS AT THE TIME CONSTRUCTION ACTIVITY HAS CEASED, INCLUDING BUT NOT LIMITED TO WEATHER CONDITIONS AND LENGTH OF TIME MEASURE MUST BE EFFECTIVE. THE FOLLOWING ARE ACCEPTABLE STABILIZATION MEASURES.

PERMANENT SEEDING; IN ACCORDANCE WITH APPROVED LANDSCAPING PLAN
TEMPORARY SEEDING MAY CONSIST OF SPRING OATS (100LBS/ACRE) AND/OR WHEAT OR CEREAL RYE (150LBS/ACRE)
HYDRO-MULCHING WITH A TACKIFIER
GEOTEXTILE EROSION MATTING
SODDING

2.3 STRUCTURAL PRACTICES

THE FOLLOWING ARE DESCRIPTIONS OF STRUCTURAL PRACTICES TO BE IMPLEMENTED TO DIVERT FLOWS FROM EXPOSED SOILS, STORE FLOWS, OR OTHERWISE LIMIT THE DISCHARGE OF POLLUTANTS FROM EXPOSED AREAS OF THE SITE INCLUDING THE PROPOSED AND EXISTING WETLAND AREAS. SUCH PRACTICES COULD INCLUDE SILT FENCE, PROTECTION FENCE, CONSTRUCTION ENTRANCE, DITCH CHECK, EROSION CONTROL MATTING, DIVERSION BERM/SWALE, SEDIMENT TRAP, LEVEL SPREADER, INLET PROTECTION, OUTLET PROTECTION, AND TEMPORARY OR PERMANENT SEDIMENT BASIN. THE FOLLOWING STRUCTURAL PRACTICES ARE TO BE UTILIZED DURING THIS PROJECT.

SILT FENCE SHALL BE PLACED DOWN SLOPE OF DISTURBED AREAS OF THE CONSTRUCTION SITE AND AROUND THE PERIMETER OF THE TOPSOIL STOCKPILE. THIS INCLUDES PROTECTION OF EXISTING WETLAND AREAS TO BE MAINTAINED. SILT FENCE MAY ALSO BE USED AS A TEMPORARY CONTROL DEVICE WHERE SEDIMENTATION RUNOFF IS DISCOVERED.

CONSTRUCTION ENTRANCE SHALL BE INSTALLED TO REDUCE SOIL EROSION POLLUTANTS FROM LEAVING THE SITE DURING CONSTRUCTION ACTIVITIES. IF THE CRUSHED STONE DOES NOT ADEQUATELY REMOVE MUD FROM VEHICLE TIRES, THEY SHALL BE HOSED OFF BEFORE ENTERING A PAVED ROADWAY. ANY SOIL DEPOSITED ON THE PUBLIC PAVED ROAD WAY SHALL BE REMOVED IMMEDIATELY.

DITCH CHECK (STRAW BALES) SHALL BE INSTALLED IN DRAINAGE CHANNELS AS NEEDED.

EROSION CONTROL MATTING SHALL BE PLACED ON AREAS OR EMBANKMENTS HAVING SLOPES GREATER THAN OR EQUAL TO 3H:1V, BEFORE VEGETATION IS ESTABLISHED.

DIVERSION BERM/SWALE SHALL BE CONSTRUCTED TO DIVERT RUNOFF AROUND THE SITE AND TO DIVERT RUNOFF FROM THE DISTURBED AREA TO A SEDIMENT TRAP OR OTHER CONTROL. BERMS/SWALES SHALL BE STABILIZED WITH EQUIPMENT TRACKING AND TEMPORARY SEEDING.

SEDIMENT TRAPS/BASIN SHALL BE CONSTRUCTED TO COLLECT RUNOFF AND RUNOFF FROM SITE DIVERSION BERMS/SWALES.

INLET PROTECTION SHALL BE INSTALLED AT STORMWATER DRAINAGE INLETS TO REDUCE SEDIMENT WITHIN STORM SEWER CONVEYANCE FEATURES.

OUTLET SCOUR PROTECTION SHALL BE INSTALLED AT STORMWATER DRAINAGE OUTLETS TO DIFFUSE FLOWS.

3.0 ADDITIONAL PRACTICES

ADDITIONAL POLLUTANT CONTROL MEASURES TO BE IMPLEMENTED DURING CONSTRUCTION ACTIVITIES SHALL INCLUDE, BUT NOT BE LIMITED TO THE FOLLOWING.

CONSTRUCTION WASTE SHALL BE PROPERLY DISPOSED OF. THIS INCLUDES ALL CONSTRUCTION SITE WASTE MATERIAL, SANITARY WASTE, AND WASTE FROM VEHICLE TRACKING OF SEDIMENTS. THE CONTRACTOR SHALL ENSURE THAT NO MATERIAL WASTES OR UNUSED BUILDING MATERIALS SHALL BE BURIED, DUMPED, BURNED, OR DISCHARGED TO THE WATERS OF THE STATE. VEHICLES HAULING MATERIAL AWAY FROM THE SITE SHALL BE COVERED WITH A TARPAULIN TO PREVENT BLOWING DEBRIS.

DUST CONTROL SHALL BE ACCOMPLISHED BY ONE OR MORE OF THE FOLLOWING METHODS:

COVERING 30% OR MORE OF THE SOIL SURFACE WITH A NON-ERODIBLE MATERIAL.

ROUGHENING (EQUIPMENT TRACKING) THE SOIL TO PRODUCE RIDGES PERPENDICULAR TO THE PREVAILING WIND. RIDGES SHALL BE AT LEAST SIX (6) INCHES IN HEIGHT.

FREQUENT WATERING OF EXCAVATION AND FILL AREAS.

PROVIDING GRAVEL OR PAVING AT ENTRANCE/EXIT DRIVES, PARKING AREAS AND TRANSIT PATHS.

STREET SWEEPING SHALL BE PERFORMED TO IMMEDIATELY REMOVE ANY SEDIMENT TRACKED ON PAVEMENTS.

4.0 EROSION AND SEDIMENT STRUCTURAL PRACTICE MAINTENANCE

THE FOLLOWING MAINTENANCE PRACTICES SHALL BE USED TO MAINTAIN, IN GOOD AND EFFECTIVE OPERATING CONDITIONS. VEGETATION, EROSION AND SEDIMENT CONTROL MEASURES, AND OTHER PROTECTIVE MEASURES IDENTIFIED IN THIS PLAN. UPON IDENTIFICATION, DEFICIENCIES IN STORMWATER CONTROLS SHALL BE ADDRESSED IMMEDIATELY. THE MAINTENANCE PROCEDURES FOR THIS DEVELOPMENT SHALL INCLUDE, BUT NOT BE LIMITED TO THE BELOW.

SILT FENCE - REPAIR OR REPLACE ANY DAMAGED FILTER FABRIC AND/OR STAKES. REMOVE ACCUMULATED SEDIMENT WHEN IT HAS REACHED ONE-HALF THE ABOVE GROUND HEIGHT OF THE FENCE.

CONSTRUCTION ENTRANCE - AS NEEDED, ADD STONE TO MAINTAIN CONSTRUCTION ENTRANCE DIMENSIONS AND EFFECTIVENESS.

DITCH CHECK (STRAW BALES) - RE-SECURE STAKES; ADJUST OR REPOSITION BALES TO ADDRESS PROPER FLOW OF STORMWATER; AND REMOVE ACCUMULATED SEDIMENT WHEN IT HAS REACHED ONE-HALF THE HEIGHT OF THE BALE.

EROSION CONTROL MATTING - REPAIR MATTING IMMEDIATELY IF INSPECTION REVEALS BREACHED OR FAILED CONDITIONS. REPAIR AND RE-GRADE SOIL WHERE CHANNELIZATION HAS OCCURRED.

DIVERSION BERM/SWALE - REPLACE OR RE-COMPACT THE CONSTRUCTION MATERIALS AS NECESSARY.

SEDIMENT TRAP - REMOVE AND DISPOSE OF THE ACCUMULATED SEDIMENT WHEN IT HAS REACHED THE SEDIMENT STORAGE ELEVATION.

INLET PROTECTION - CLEAN, REPAIR OR REPLACE FILTER FABRIC AND/OR STONE WHEN CONTROL MEASURE IS CLOGGED. INLET FILTER BAGS SHALL BE REPLACED ONCE ONE-HALF FULL OF SEDIMENT.

OUTLET PROTECTION - CLEAN, REPAIR OR REPLACE FILTER FABRIC, TURF REINFORCEMENT MATTING AND/OR STONE WHEN CONTROL MEASURE IS ONE-HALF FULL OF SEDIMENT.

SEDIMENT BASIN - AT THE END OF CONSTRUCTION, CONTRACTOR SHALL REMOVE AND DISPOSE OF THE ACCUMULATED SEDIMENT AND RESTORE BASIN AREA TO INTENDED POST-CONSTRUCTION DESIGN GRADES.

5.0 INSPECTION

INSPECTIONS SHALL BE COMPLETED WITHIN TWENTY-FOUR (24) HOURS OF THE END OF A RAINFALL EVENT THAT IS ONE-HALF INCH OR GREATER OR EQUIVALENT SNOWFALL, OR AT A MINIMUM ONCE EVERY SEVEN (7) CALENDAR DAYS. INSPECTIONS SHALL BE UNDERTAKEN BY QUALIFIED PERSONNEL PROVIDED BY THE CONTRACTOR, AND SHALL INCLUDE: DISTURBED AREAS OF THE CONSTRUCTION SITE THAT HAVE NOT BEEN FINALLY STABILIZED, STRUCTURAL CONTROL MEASURES, AND LOCATIONS WHERE VEHICLES ENTER OR EXIT THE SITE. A STORMWATER POLLUTION PREVENTION PLAN INSPECTION REPORT SHALL BE COMPLETED AND ADDED TO THE SWPPP. RAINFALL SHALL BE RECORDED ON THE SWPPP RAINFALL LOG. CONTRACTOR SHALL IMMEDIATELY ARRANGE FOR REPAIR OR REPLACEMENT OF ANY DAMAGED OR DEFICIENT CONTROL MEASURES OBSERVED DURING THE INSPECTION.

QUALIFIED PERSONNEL MEANS A PERSON KNOWLEDGEABLE IN THE PRINCIPLES AND PRACTICES OF EROSION AND SEDIMENT CONTROL MEASURES, SUCH AS A LICENSED PROFESSIONAL ENGINEER, A CERTIFIED PROFESSIONAL IN EROSION AND SEDIMENT CONTROL, A CERTIFIED EROSION SEDIMENT OR STORMWATER INSPECTOR, OR OTHER TRAINED INDIVIDUAL.

6.0 SPILL PREVENTION

6.1 GENERAL MATERIAL MANAGEMENT PRACTICES

THE GOOD HOUSEKEEPING PRACTICES LISTED BELOW SHALL BE FOLLOWED THROUGHOUT THE CONSTRUCTION PROJECT.

1. CONTRACTOR SHALL STORE ONLY ENOUGH PRODUCTS REQUIRED TO COMPLETE THIS PROJECT.
2. ALL MATERIAL SHALL BE STORED IN A NEAT, ORDERLY MANNER IN THEIR ORIGINAL CONTAINERS CONTAINING MANUFACTURER'S LABEL.
3. MANUFACTURERS' RECOMMENDATIONS FOR PROPER USE AND DISPOSAL SHALL BE FOLLOWED.
4. MATERIALS REQUIRED TO HAVE A MATERIAL SAFETY DATA SHEET (MSDS) SHALL HAVE A COPY STORED IN THE PROJECT'S MSDS DATABASE.

6.2 SPILL CONTROL PRACTICES

THE PRACTICES LISTED BELOW SHALL BE FOLLOWED FOR SPILL PREVENTION AND CLEANUP.

1. MATERIALS AND EQUIPMENT NECESSARY FOR SPILL CLEANUP SHALL BE MAINTAINED ONSITE.
2. IMMEDIATELY UPON DISCOVERY, ALL SPILLS SHALL BE CLEANED UP ACCORDING TO THE MANUFACTURERS' RECOMMENDED METHODS.
3. PERSONNEL CLEANING UP A SPILL SHALL USE PERSONAL PROTECTIVE EQUIPMENT.
4. IMMEDIATELY UPON DISCOVERY, SPILLS OF TOXIC OR HAZARDOUS MATERIALS SHALL BE REPORTED TO THE OWNER AND GENERAL CONTRACTOR.
5. NOTIFICATION AND REPORTING TO THE APPROPRIATE FEDERAL, STATE, AND LOCAL GOVERNMENT AGENCIES SHALL BE MADE AS REQUIRED.

GENERAL INFORMATION:

THIS STORMWATER POLLUTION PREVENTION PLAN (SWPPP) HAS BEEN DEVELOPED TO FULFILL ONE OF THE REQUIREMENTS OF THE GENERAL ENVIRONMENTAL PROTECTION AGENCY (EPA) NATIONAL POLLUTION DISCHARGE ELIMINATION SYSTEM (WISCONSIN POLLUTION DISCHARGE ELIMINATION SYSTEM "WPDES" PERMIT NO. WI-S0067831-4) FOR THE DISCHARGE OF STORMWATER ASSOCIATED WITH CONSTRUCTION PROJECTS DISTURBING ONE ACRE OR MORE. THE OWNER AND CONTRACTORS SHALL COMPLY WITH ALL REQUIREMENTS OF THE WPDES FOR ALL SUCH CONSTRUCTION PROJECTS. THE STORMWATER DISCHARGES ASSOCIATED WITH THE CONSTRUCTION ACTIVITY FROM THIS SITE ARE SUBJECT TO THE CONDITIONS AND REQUIREMENTS OF THE PERMITS.

THE EXECUTED OWNER CERTIFICATION AND THE CONTRACTOR CERTIFICATIONS SHALL BE KEPT ONSITE WITH THE APPROVED PLANS.

SWPPP AVAILABILITY:

THE OWNER SHALL RETAIN A COPY OF THE SWPPP AT THE CONSTRUCTION SITE FROM THE DATE OF THE PROJECT INITIATION TO THE DATE OF FINAL STABILIZATION.

KEEPING PLANS CURRENT:

THE CONTRACTOR SHALL AMEND THE PLAN WHENEVER THERE IS A CHANGE IN DESIGN, CONSTRUCTION, OPERATION, OR MAINTENANCE, WHICH HAS A SIGNIFICANT EFFECT ON THE POTENTIAL FOR THE DISCHARGE OF POLLUTANTS TO THE WATERS OF THE STATE AND WHICH HAS NOT OTHERWISE BEEN ADDRESSED IN THE PLAN OR IF THE PLAN PROVES TO BE INEFFECTIVE IN ELIMINATING OR SIGNIFICANTLY CONTROLLING POLLUTANTS IN STORMWATER DISCHARGES ASSOCIATED WITH CONSTRUCTION SITE ACTIVITY. IN ADDITION, THE THE PLAN SHALL BE AMENDED TO IDENTIFY ANY NEW CONTRACTOR AND/OR SUBCONTRACTOR THAT WILL IMPLEMENT A MEASURE OF THE PLAN. AMENDMENTS TO THE PLAN MAY BE REQUIRED BY THE MUNICIPALITY, OWNER, OR OTHER REVIEWING AGENCY. COPIES OF THE AMENDMENTS SHALL BE KEPT ONSITE AS PART OF THE SWPPP.

RETENTION OF RECORDS:

THE OWNER SHALL RETAIN COPIES OF THIS AND ALL REPORTS AND NOTICES REQUIRED BY THIS PERMIT, AND RECORDS OF ALL DATA USED TO COMPLETE THE NOTICE OF INTENT TO BE COVERED BY THIS PERMIT, FOR A PERIOD OF AT LEAST THREE YEARS FROM THE DATE PERMIT COVERAGE EXPIRES OR IS TERMINATED. THIS PERIOD MAY BE EXTENDED BY THE REQUEST OF THE AGENCY AT ANY TIME. IN ADDITION, THE OWNER SHALL RETAIN A COPY OF THE PLAN REQUIRED BY THIS PERMIT AT THE CONSTRUCTION SITE FROM THE DATE OF PROJECT INITIATION TO THE DATE OF FINAL STABILIZATION.

A NOTICE OF INTENT (NOI) APPLICATION MUST BE COMPLETED AND INCORPORATED INTO THE SWPPP.

WPDES NOTICE OF TERMINATION GUIDANCE:

WHEN A SITE HAS BEEN FINALLY STABILIZED AND ALL STORMWATER DISCHARGES FROM CONSTRUCTION SITES THAT ARE AUTHORIZED BY THE PERMIT ARE ELIMINATED, THE OWNER OF THE FACILITY MUST SUBMIT A COMPLETED NOTICE OF TERMINATION THAT IS SIGNED IN ACCORDANCE WITH THE PERMIT. CONTRACTOR SHALL SUBMIT A COMPLETED NOTICE OF TERMINATION TO OWNER FOR EXECUTION PRIOR TO THEIR FINAL PAY APPLICATION REQUEST.

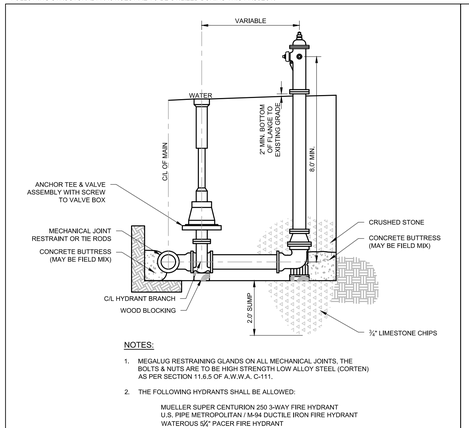
CONTROL MEASURE GROUP	CONTROL MEASURE	CONTROL MEASURE CHARACTERISTICS
VEGETATIVE SOIL COVER	TEMPORARY SEEDING	PROVIDES QUICK TEMPORARY COVER TO CONTROL EROSION WHEN PERMANENT SEEDING IS NOT DESIRED OR TIME OF YEAR IS INAPPROPRIATE.
	PERMANENT SEEDING	PROVIDES PERMANENT VEGETATIVE COVER TO CONTROL EROSION, FILTERS SEDIMENT FROM WATER, MAY BE PART OF FINAL LANDSCAPE PLAN.
NON VEGETATIVE SOIL COVER	AGGREGATE COVER	PROVIDES TEMPORARY COVER ON ROADS AND PARKING LOTS AND AREAS WHERE VEGETATION CANNOT BE ESTABLISHED. PREVENTS MUD FROM BEING PICKED UP AND TRANSPORTED OFF-SITE.
	PAVING	PROVIDES PERMANENT COVER ON PARKING LOTS AND ROADS OR OTHER AREAS WHERE VEGETATION CANNOT BE ESTABLISHED.
DIVERSIONS	DIVERSION BERM / SWALE	DIVERTS RUNOFF TO A SEDIMENT TRAP OR OTHER CONTROL.
ENCLOSED DRAINAGE	STORM SEWER	CONVEYS SEDIMENT LADEN WATER TO A SEDIMENT BASIN.
OUTLETS	APRON ENDWALL OR RIPRAP	PROTECTS DOWNSTREAM CHANNEL FROM HIGH VELOCITY OF FLOW DISCHARGING FROM STRUCTURE.
SEDIMENT BASINS	TEMPORARY SEDIMENT TRAP	CONSTRUCTED TO REMOVE SILTATION FROM RUNOFF FROM SITE DIVERSION BERMS/SWALES AND IN OVERLAND FLOOD ROUTE, CAN BE CONVERTED TO PERMANENT SEDIMENT BASIN.
SEDIMENT FILTERS	SILT FENCE	PLACED DOWN SLOPE OF DISTURBED AREA TO KEEP RUNOFF CONTAINED ON-SITE.
	INLET PROTECTION	INSTALLED IN OPEN GRATE STRUCTURES TO COLLECT SEDIMENT.
	DITCH CHECK	PLACED IN DRAINAGE CHANNELS TO FILTER SEDIMENT FROM RUNOFF.
MUD AND DUST CONTROL	CONSTRUCTION ENTRANCE	REDUCES SOIL EROSION POLLUTANTS BEING TRANSPORTED OFF-SITE.
	STREET SWEEPING	REDUCES POLLUTANTS TRACKED FROM CONSTRUCTION SITE.
	DUST CONTROL	PREVENTS DUST FROM LEAVING CONSTRUCTION SITE.

STABILIZATION EFFECTIVENESS (TIME OF YEAR)

STABILIZATION TYPE	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.	OCT.	NOV.	DEC.
	STABILIZATION UTILIZATION PERIODS											
PERMANENT SEEDING			A	*	*	*	*	*	*			
DORMANT SEEDING	B										B	
TEMPORARY SEEDING			C	*	*	*	D	*				
SODDING			E	*	*	*	*	*	*			

A. KENTUCKY BLUEGRASS 90 LBS/ACRE MIXED WITH PERENNIAL RYEGRASS 30 LBS/ACRE.
B. KENTUCKY BLUEGRASS 135 LBS/ACRE MIXED WITH PERENNIAL RYEGRASS 45 LBS/ACRE + 2 TONS STRAW MULCH/ACRE.
C. SPRING OATS 100 LBS/ACRE.
D. WHEAT OR CEREAL RYE 150 LBS/ACRE.
E. SOD.
F. STRAW MULCH 2 TONS/ACRE.

* IRRIGATION/WATERING REQUIRED TO SUPPORT ESTABLISHMENT AS NEEDED.

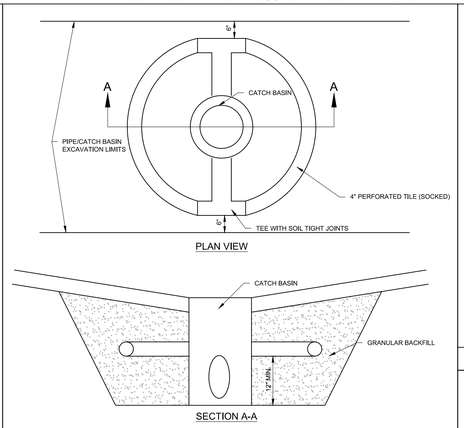


NOTES:

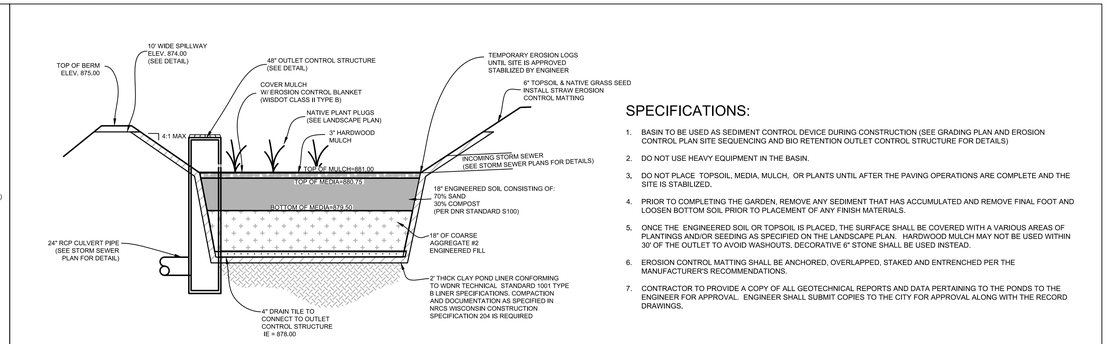
1. MEGALUG RESTRAINING GLANDS ON ALL MECHANICAL JOINTS. THE BOLTS & NUTS ARE TO BE HIGH STRENGTH LOW ALLOY STEEL (CORTEN) AS PER SECTION 11.6.5 OF A.W.W.A. C-111.
2. THE FOLLOWING HYDRANTS SHALL BE ALLOWED:

   MUELLER SUPER CENTURION 250 3-WAY FIRE HYDRANT
   U.S. PIPE METROPOLITAN / M-94 DUCTILE IRON FIRE HYDRANT
   WATEROUS 5½" PACER FIRE HYDRANT

FIRE HYDRANT



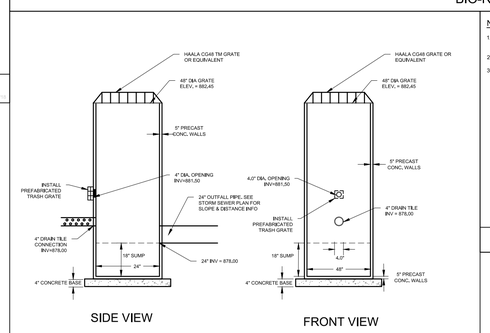
CATCH BASIN - UNDERDRAIN



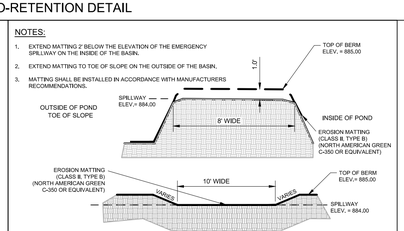
BIO-RETENTION DETAIL

SPECIFICATIONS:

1. BASIN TO BE USED AS SEDIMENT CONTROL DEVICE DURING CONSTRUCTION (SEE GRADING PLAN AND EROSION CONTROL PLAN SITE SEQUENCING AND BIO RETENTION OUTLET CONTROL STRUCTURE FOR DETAILS)
2. DO NOT USE HEAVY EQUIPMENT IN THE BASIN.
3. DO NOT PLACE TOPSOIL, MEDIA, MULCH, OR PLANTS UNTIL AFTER THE PAVING OPERATIONS ARE COMPLETE AND THE SITE IS STABILIZED.
4. PRIOR TO COMPLETING THE GARDEN, REMOVE ANY SEDIMENT THAT HAS ACCUMULATED AND REMOVE FINAL FOOT AND LOOSEN BOTTOM SOIL PRIOR TO PLACEMENT OF ANY FINISH MATERIALS.
5. ONCE THE ENGINEERED SOIL OR TOPSOIL IS PLACED, THE SURFACE SHALL BE COVERED WITH A VARIOUS AREAS OF PLANTINGS AND/OR SEEDING AS SPECIFIED ON THE LANDSCAPE PLAN. HARDWOOD MULCH MAY NOT BE USED WITHIN 30' OF THE OUTLET TO AVOID WASHOUTS, DECORATIVE 6" STONE SHALL BE USED INSTEAD.
6. EROSION CONTROL MATTING SHALL BE ANCHORED, OVERLAPPED, STAKED AND ENTRENCHED PER THE MANUFACTURER'S RECOMMENDATIONS.
7. CONTRACTOR TO PROVIDE A COPY OF ALL GEOTECHNICAL REPORTS AND DATA PERTAINING TO THE PONDS TO THE ENGINEER FOR APPROVAL. ENGINEER SHALL SUBMIT COPIES TO THE CITY FOR APPROVAL ALONG WITH THE RECORD DRAWINGS.



BIO-RETENTION OUTLET CONTROL STRUCTURE DETAIL



BIO-RETENTION EMERGENCY SPILLWAY

PLAN | DESIGN | DELIVER
www.pinnacle-engr.com

PINNACLE ENGINEERING GROUP
ENGINEERING | NATURAL RESOURCES | SURVEYING

WISCONSIN OFFICE:
20725 WATERTOWN ROAD, SUITE 100
BROOKFIELD, WI 53186
(262) 754-8888
CHICAGO | MILWAUKEE : NATIONWIDE

THE COURTYARD AT PEWAUKEE

GOLF RD & MEADOWBROOK LN

CONSTRUCTION DETAILS

REVISIONS

PEG JOB No. 1338.10
PEG PM MTS
START DATE 07-27-22
SCALE 1" = 40'

SHEET
C-18
C-18

© COPYRIGHT 2023

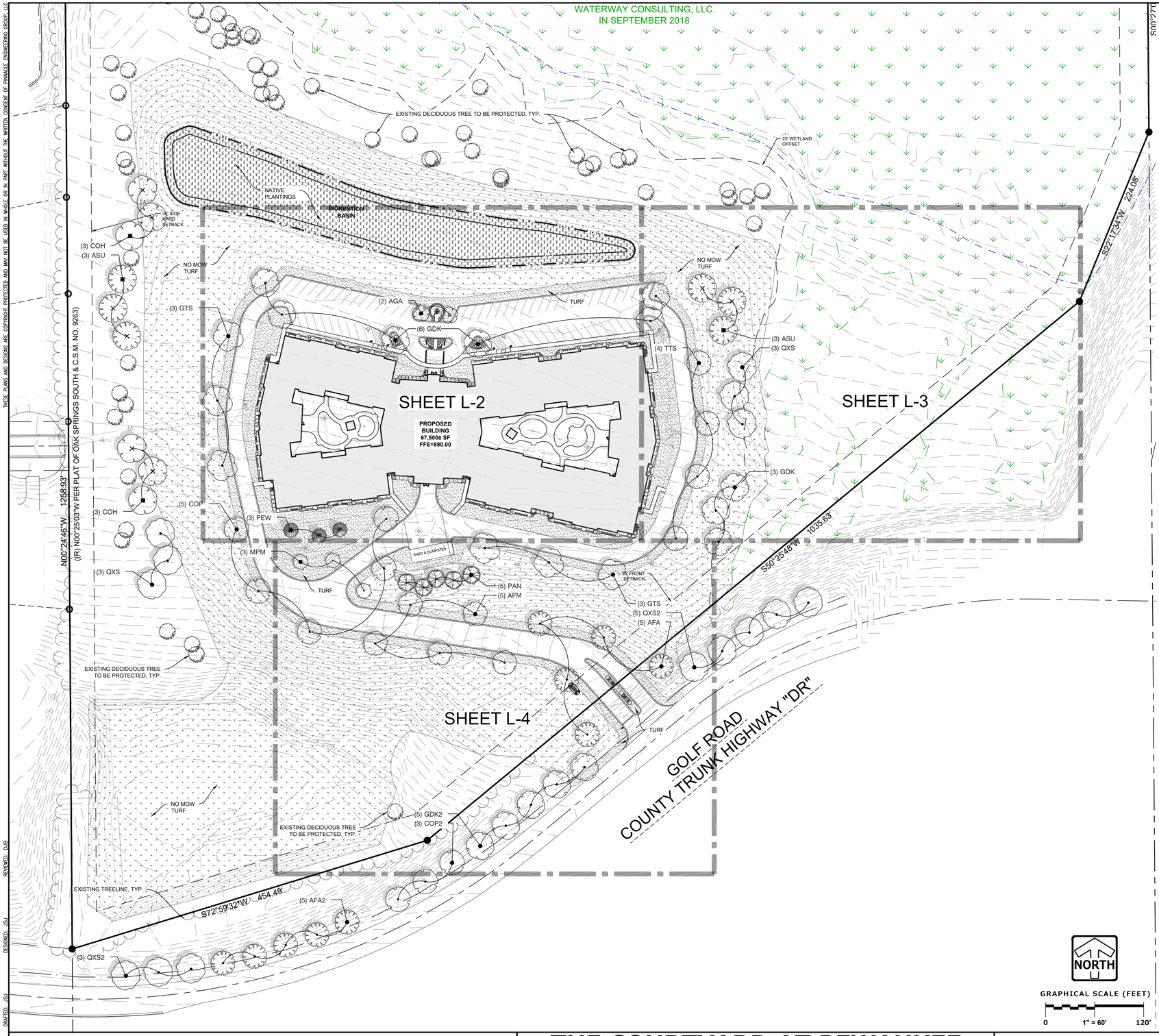
DESIGNED: ACT
DRAFTED: DMS
REVIEWED:

Z:\PROJECTS\2018\1338.10-WI\CAD\SHEETS\1338.10 CONSTRUCTION DETAILS.DWG

www.pinnacle-engr.com

THESE PLANS AND DESIGNS ARE COPYRIGHT PROTECTED AND MAY NOT BE USED IN WHOLE OR IN PART WITHOUT THE WRITTEN CONSENT OF PINNACLE ENGINEERING GROUP LLC

WATERWAY CONSULTING, LLC.
IN SEPTEMBER 2018



PLANT SCHEDULE

DECIDUOUS TREES	QTY	BOTANICAL / COMMON NAME	SIZE	REMARKS
AFA	5	Acer freemanii `Autumn Fantasy` / Autumn Fantasy Maple	2" Cal.	45` T x 35` W
ASU	6	Acer saccharum / Sugar Maple	2" Cal.	60` T x 45` W
AFM	5	Acer saccharum `Flax Mill Majesty` / Flax Mill Majesty Maple	2" Cal.	55` T x 45` W
COH	6	Carya ovata / Shagbark Hickory	2" Cal.	80`T x 40`W
COP	5	Celtis occidentalis `Prairie Pride` / Prairie Pride Hackberry	2" Cal.	50` T x 40` W
GTS	6	Gleditsia triacanthos inermis `Shademaster` / Shademaster Locust	2" Cal.	60` T x 50` W
GDK	9	Gymnocladus dioica / Kentucky Coffee Tree	2" Cal.	60` T x 45` W
QXS	6	Quercus x schuetti / Swamp Bur Oak	2" Cal.	70` T x 65` W
TTS	4	Tilia tomentosa `Sterling` / Sterling Silver Linden	2" Cal.	60` T x 35` W

EVERGREEN TREES	QTY	BOTANICAL / COMMON NAME	SIZE	REMARKS
PAN	5	Picea abies / Norway Spruce	5` Ht.	60` T x 28` W
PEW	3	Pinus strobus / Eastern White Pine	5` Ht.	65` T x 30` W

ORNAMENTAL TREES	QTY	BOTANICAL / COMMON NAME	SIZE	REMARKS
AGA	2	Amelanchier x grandiflora `Autumn Brilliance` / Autumn Brilliance Serviceberry	7` Ht.	20` T x 20` W
MPM	3	Malus x `Prairie Maid` / Prairie Maid Crabapple	1.5" Cal.	20` T x 25` W

STREET TREES	QTY	BOTANICAL / COMMON NAME	SIZE	REMARKS
AFA2	5	Acer freemanii `Autumn Fantasy` / Autumn Fantasy Maple	2.5" Cal.	45` T x 35` W
COP2	3	Celtis occidentalis `Prairie Pride` / Prairie Pride Hackberry	2.5" Cal.	50` T x 40` W
GDK2	5	Gymnocladus dioica / Kentucky Coffee Tree	2.5" Cal.	60` T x 45` W
QXS2	8	Quercus x schuetti / Swamp Bur Oak	2.5" Cal.	70` T x 65` W

SHRUBS	QTY	BOTANICAL / COMMON NAME	SIZE	REMARKS
ACB	10	Aronia arbutifolia `Brilliantissima` / Brilliant Red Chokeberry	3 gal.	7` T x 6` W
CAF	34	Cornus stolonifera `Arctic Fire` / Arctic Fire Dogwood	2 gal.	3` T x 3` W
HIS	12	Hydrangea arborescens 'NCHA1' / Invincibelle Spirit Hydrangea	2 gal.	4` T x 3` W
HVS	12	Hydrangea p `Vanilla Strawberry` / Vanilla Strawberry Hydrangea	3 gal.	6` T x 5` W
HRS	13	Hydrangea quercifolia 'Ruby Slippers' / Ruby Slippers Hydrangea	2 gal.	4` T x 5' W
ISS	12	Itea virginica 'SMNIVDFC' / Scentlandia Sweetspire	3 gal.	3` T x 3' W
RPP	4	Rosa rugosa `Purple Pavement` / Purple Pavement Rugosa Rose	2 gal.	5` T x 5` W
RCC	6	Rosa x `Coral Cove` / Coral Cove Rose	2 gal.	3` T x 3` W
SBL	10	Sambucus nigra `Black Lace` / Black Lace Elderberry	3 gal.	6` T x 6` W
SMC	24	Spiraea japonica `Magic Carpet` / Magic Carpet Spirea	2 gal.	2` T x 3` W
SMP	4	Syringa meyeri `Palibin` / Dwarf Korean Lilac	3 gal.	5` T x 5` W
SBP	12	Syringa x 'SMNJRPI' / Bloomerang Dwarf Pink Lilac	3 gal.	3`T x 3' W
SB5	11	Syringa x 'SMSJBP7' TM / Bloomerang Dark Purple Lilac	2 gal.	4`T x 5' W
WWR	9	Weigela florida `Wine & Roses` / Wine & Roses Weigela	3 gal.	5` T x 5` W

EVERGREEN SHRUBS	QTY	BOTANICAL / COMMON NAME	SIZE	REMARKS
JSP	2	Juniperus chinensis `J.N. Select Blue` / Star Power Juniper	4` Ht.	16` T x 8` W
JO2	7	Juniperus chinensis `Old Gold` / Old Gold Juniper	3 gal.	3` T x 5` W
JCS	11	Juniperus chinensis `Sea Green` / Sea Green Juniper	3 gal.	5` T x 5` W
JSB	8	Juniperus sabina `Buffalo` / Buffalo Juniper	3 gal.	1` T x 7` W
JGO	5	Juniperus virginiana `Grey Owl` / Eastern Redcedar Juniper	3 gal.	3` T x 5` W
PMS	3	Pinus mugo `Slowmound` / Slowmound Mugo Pine	3 gal.	3` T x 3` W
TMT	10	Taxus x media `Tauntonii` / Tauton Yew	3 gal.	4` T x 5` W
TTE	11	Thuja occidentalis `BailJohn` / Technito Arborvitae	4` Ht.	12` T x 5` W
TDG	5	Thuja occidentalis `Nigra` / Dark Green Arborvitae	4` Ht.	20`T x 8'W
TFC	6	Thuja occidentalis 'Congabe' / Fire Chief Arborvitae	2 gal.	2`T x 3'W

ORNAMENTAL GRASSES	QTY	BOTANICAL / COMMON NAME	SIZE	REMARKS
AGD	17	Andropogon gerardii `Dancing Wind` / Dancing Wind Big Blue Stem	1 gal.	36" T x 30" W
CKF	20	Calamagrostis x a `Karl Foerster` / Karl Foerster Reed Grass	1 gal.	36" T x 24" W
CFO	34	Calamagrostis x a `Overdam` / Overdam Reed Grass	1 gal.	24" T x 24" W
CBZ	20	Carex flacca 'Blue Zinger' / Blue Zinger Sedge	1 gal.	14" T x 24" W
HAG	6	Hakonechloa macra 'Aureola' / Golden Variegated Forest Grass	1 gal.	18" T x 24" W
HPB	31	Hystrix patula / Bottlebrush Grass	1 gal.	30" T x 18" W
MSO	27	Miscanthus sinensis `Oktoberfest` / Oktoberfest Miscanthus	1 gal.	48" T x 36" W
PNW	41	Panicum virgatum `Northwind` / Northwind Switch Grass	1 gal.	42" T x 28" W
PBB	10	Pennisetum alopecuroides 'Burgundy Bunny' / Burgundy Bunny Dwarf Fountain Grass	1 gal.	12" T x 15" W
SLB	28	Schizachyrium scoparium `Blue Heaven` / Blue Heaven Little Bluestem Grass	1 gal.	30" T x 28" W
STD	12	Sporobolus heterolepis `Tara` / Prairie Dropseed	1 gal.	15" T x 20" W

PERENNIALS	QTY	BOTANICAL / COMMON NAME	SIZE	REMARKS
AHA	16	Amsonia c `Halfway to Arkansas` / Halfway to Arkansas Blue-star	4.5" cont.	30" T x 30" W
AGB	16	Aruncus dioicus / Goatsbeard	4.5" cont.	40" T x 40" W
AVR	7	Astilbe chinensis `Vision in Red` / Vision in Red Astilbe	4.5" cont.	15" T x 18" W
ADD	6	Astilbe x `Deutschland` / Deutschland False Spiraea	4.5" Cont.	20" T x 20" W
CMW	24	Calamintha nepeta 'Montrose White' / Montrose White Calamint	4.5" cont.	18" T x 18" W
CVZ	26	Coreopsis verticillata `Zagreb` / Zagreb Coreopsis	4.5" cont.	20" T x 16" W
EMS	9	Echinacea purpurea `Magnus Superior` / Magnus Superior Coneflower	4.5" Cont.	28" T x 16" W
GMT	18	Geum x `Mai Tai` / Mai Tai Grecian Rose	4.5" Cont.	16" T x 12" W
HRT	46	Helenium a `Ruby Tuesday` / Ruby Tuesday Helen`s Flower	4.5" Cont.	24" T x 18" W
HPP	35	Heuchera m `Palace Purple` / Palace Purple Coral Bells	4.5" Cont.	18" T x 18" W
HGS	10	Hosta x `Gold Standard` / Gold Standard Hosta	4.5" cont.	20" T x 50" W
LGF	30	Leucanthemum x superbum 'Goldfinch' / Goldfinch Shasta Daisy	4.5" cont.	18" T x 22" W
PLS	26	Perovskia atriplicifolia 'Little Spire' / Little Spire Russian Sage	4.5" cont.	24" T x 24" W
SAJ	4	Sedum `Autumn Joy` / Autumn Joy Sedum	4.5" Cont.	12" T x 24" W

GROUND COVERS	QTY	BOTANICAL / COMMON NAME	REMARKS
	6,100,984	Native Plantings / Agrecol Rainwater Renewal Seed Mix	
	8,796,373	Turf Hydroseed / Reinders - Cadet 70/30 Fescue/Blue Mix	
	46,572,836	Turf Hydroseed Low Grow / Reinders No Mow/Low Grow Mix	

NORTH

GRAPHICAL SCALE (FEET)
0 1" = 60' 120'

REVIEWED: DJB
DESIGNED: JSJ
DRAFTED: JSJ

PLAN I DESIGN I DELIVER
www.pinnacle-engr.com

PINNACLE ENGINEERING GROUP
ENGINEERING I NATURAL RESOURCES I SURVEYING

WISCONSIN OFFICE:
20725 WATERTOWN ROAD, SUITE 100
BROOKFIELD, WI 53186
(262) 754-8888
CHICAGO I MILWAUKEE :NATIONWIDE

THE COURTYARD AT PEWAUKEE

GOLF RD & MEADOWBROOK LN

LANDSCAPE OVERVIEW

REVISIONS

PEG JOB No. 1338.10
PEG PM MTS
START DATE 07-27-22
SCALE 1" = 60'

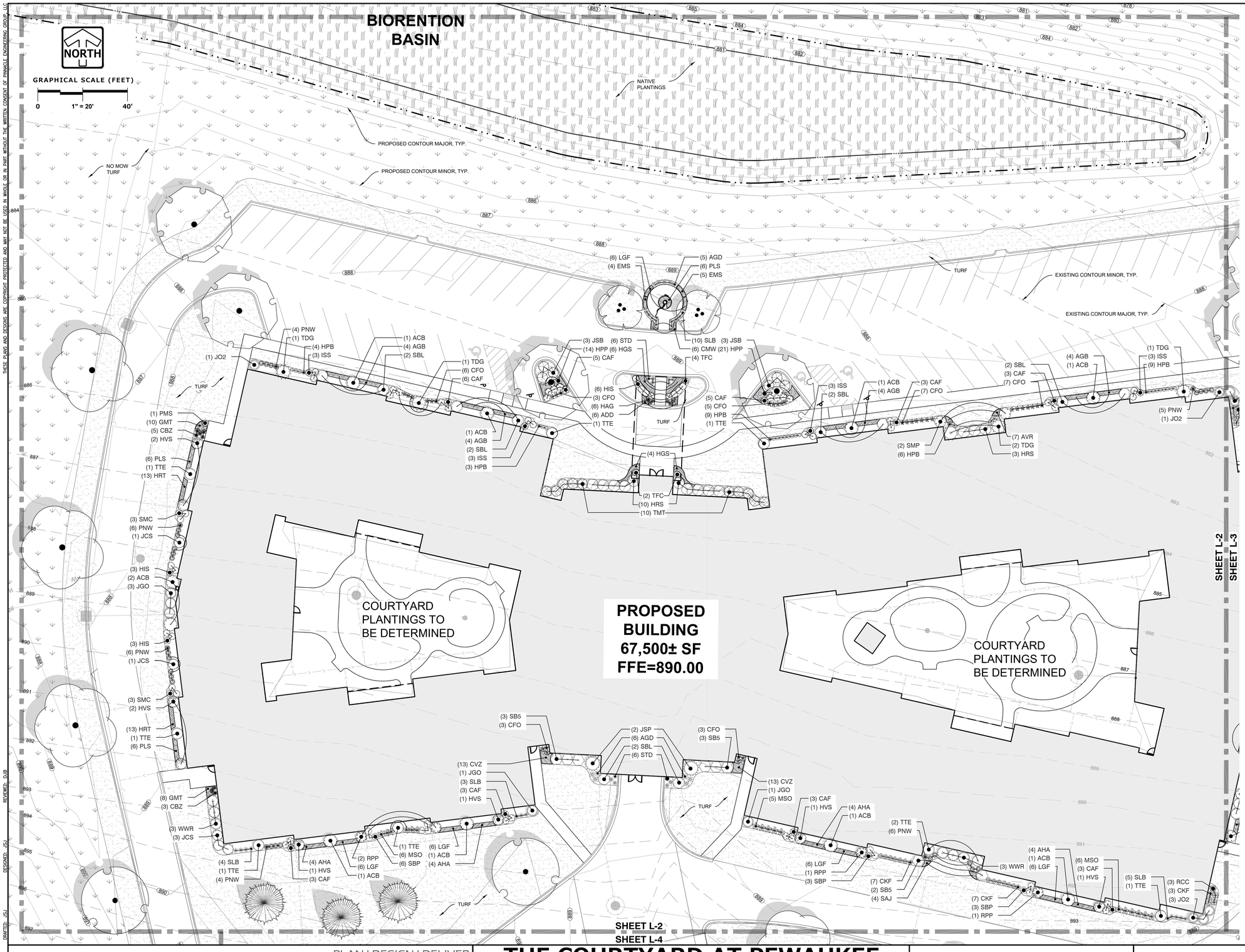
SHEET
L-1
L-6

LANDSCAPE OVERVIEW

www.pinnacle-engr.com

Z:\PROJECTS\2018\1338.10-WI\CAD\SHEETS\1338.10 LANDSCAPE PLAN.DWG

THESE PLANS AND DESIGNS ARE COPYRIGHT PROTECTED AND MAY NOT BE USED IN WHOLE OR IN PART WITHOUT THE WRITTEN CONSENT OF PINNACLE ENGINEERING GROUP, LLC



PLANT KEY

TREES	
DECIDUOUS	BOTANICAL / COMMON NAME
AFA	Acer freemanii `Autumn Fantasy` / Autumn Fantasy Maple
ASU	Acer saccharum / Sugar Maple
AFM	Acer saccharum `Flax Mill Majesty` / Flax Mill Majesty Maple
COH	Carya ovata / Shagbark Hickory
COP	Celtis occidentalis `Prairie Pride` / Prairie Pride Hackberry
GTS	Gleditsia triacanthos inermis `Shademaster` / Shademaster Locust
GDK	Gymnocladus dioica / Kentucky Coffee Tree
QXS	Quercus x schuetti / Swamp Bur Oak
TTS	Tilia tomentosa `Sterling` / Sterling Silver Linden

EVERGREEN	BOTANICAL / COMMON NAME
PAN	Picea abies / Norway Spruce
PEW	Pinus strobus / Eastern White Pine

ORNAMENTAL	BOTANICAL / COMMON NAME
AGA	Amelanchier x grandiflora `A B` / Autumn Brilliance Serviceberry
MPM	Malus x `Prairie Maid` / Prairie Maid Crabapple

STREET	BOTANICAL / COMMON NAME
AFA2	Acer freemanii `Autumn Fantasy` / Autumn Fantasy Maple
COP2	Celtis occidentalis `Prairie Pride` / Prairie Pride Hackberry
GDK2	Gymnocladus dioica / Kentucky Coffee Tree
QXS2	Quercus x schuetti / Swamp Bur Oak

SHRUBS	BOTANICAL / COMMON NAME
ACB	Aronia arbutifolia `Brilliantissima` / Brilliant Red Chokeberry
CAF	Cornus stolonifera `Arctic Fire` / Arctic Fire Dogwood
HIS	Hydrangea arborescens 'NCHA1' / Invincibelle Spirit Hydrangea
HVS	Hydrangea p `Vanilla Strawberry` / Vanilla Strawberry Hydrangea
HRS	Hydrangea quercifolia 'Ruby Slippers' / Ruby Slippers Hydrangea
ISS	Itea virginica 'SMNIVDFC' / Scentlandia Sweetspire
RPP	Rosa rugosa `Purple Pavement` / Purple Pavement Rugosa Rose
RCC	Rosa x `Coral Cove` / Coral Cove Rose
SBL	Sambucus nigra `Black Lace` / Black Lace Elderberry
SMC	Spiraea japonica `Magic Carpet` / Magic Carpet Spirea
SMP	Syringa meyeri `Palibin` / Dwarf Korean Lilac
SBP	Syringa x 'SMNJRPI' / Bloomerang Dwarf Pink Lilac
SB5	Syringa x 'SMSJBP7' TM / Bloomerang Dark Purple Lilac
WWR	Weigela florida `Wine & Roses` / Wine & Roses Weigela

EVERGREEN	BOTANICAL / COMMON NAME
JSP	Juniperus chinensis `J.N. Select Blue` / Star Power Juniper
JO2	Juniperus chinensis `Old Gold` / Old Gold Juniper
JCS	Juniperus chinensis `Sea Green` / Sea Green Juniper
JSB	Juniperus sabina `Buffalo` / Buffalo Juniper
JGO	Juniperus virginiana `Grey Owl` / Eastern Redcedar Juniper
PMS	Pinus mugo `Slowmound` / Slowmound Mugo Pine
TMT	Taxus x media `Tauntonii` / Tauton Yew
TTE	Thuja occidentalis `BailJohn` / Technito Arborvitae
TDG	Thuja occidentalis `Nigra` / Dark Green Arborvitae
TFC	Thuja occidentalis 'Congabe' / Fire Chief Arborvitae

GRASSES	
ORNAMENTAL	BOTANICAL / COMMON NAME
AGD	Andropogon gerardii `Dancing Wind` / Dancing Wind Big Blue Stem
CKF	Calamagrostis x a `Karl Foerster` / Karl Foerster Reed Grass
CFO	Calamagrostis x a `Overdam` / Overdam Reed Grass
CBZ	Carex flacca 'Blue Zinger' / Blue Zinger Sedge
HAG	Hakonechloa macra 'Aureola' / Golden Variegated Forest Grass
HPB	Hystrix patula / Bottlebrush Grass
MSO	Miscanthus sinensis `Oktoberfest` / Oktoberfest Miscanthus
PNW	Panicum virgatum `Northwind` / Northwind Switch Grass
PBB	Pennisetum alopecuroides 'B B' / Burgundy Bunny Dwarf Fountain Grass
SLB	Schizachyrium scoparium `B H` / Blue Heaven Little Bluestem Grass
STD	Sporobolus heterolepis `Tara` / Prairie Dropseed

PERENNIALS	BOTANICAL / COMMON NAME
AHA	Amsonia c `Halfway to Arkansas` / Halfway to Arkansas Blue-star
AGB	Aruncus dioicus / Goatsbeard
AVR	Astilbe chinensis `Vision in Red` / Vision in Red Astilbe
ADD	Astilbe x `Deutschland` / Deutschland False Spiraea
CMW	Calamintha nepeta 'Montrose White' / Montrose White Calamint
CVZ	Coreopsis verticillata `Zagreb` / Zagreb Coreopsis
EMS	Echinacea purpurea `Magnus Superior` / Magnus Superior Coneflower
GMT	Geum x `Mai Tai` / Mai Tai Grecian Rose
HRT	Helenium a `Ruby Tuesday` / Ruby Tuesday Helen`s Flower
HPP	Heuchera m `Palace Purple` / Palace Purple Coral Bells
HGS	Hosta x `Gold Standard` / Gold Standard Hosta
LGF	Leucanthemum x superbum 'Goldfinch' / Goldfinch Shasta Daisy
PLS	Perovskia atriplicifolia 'Little Spire' / Little Spire Russian Sage
SAJ	Sedum `Autumn Joy` / Autumn Joy Sedum

GROUND COVERS	BOTANICAL / COMMON NAME
	Native Plantings / Agrecol Rainwater Renewal Seed Mix
	Turf Hydroseed / Reinders - Cadet 70/30 Fescue/Blue Mix
	Turf Hydroseed Low Grow / Reinders No Mow/Low Grow Mix

REVIEWED: DJB
DESIGNED: JSJ
DRAFTED: JSJ

PLAN | DESIGN | DELIVER
www.pinnacle-engr.com

PINNACLE ENGINEERING GROUP
ENGINEERING | NATURAL RESOURCES | SURVEYING

WISCONSIN OFFICE:
20725 WATERTOWN ROAD, SUITE 100
BROOKFIELD, WI 53186
(262) 754-8888
CHICAGO | MILWAUKEE :NATIONWIDE

THE COURTYARD AT PEWAUKEE

GOLF RD & MEADOWBROOK LN

LANDSCAPE ENLARGEMENT

REVISIONS

PEG JOB No. 1338.10
PEG PM MTS
START DATE 07-27-22
SCALE 1" = 20'

SHEET L-2 L-6

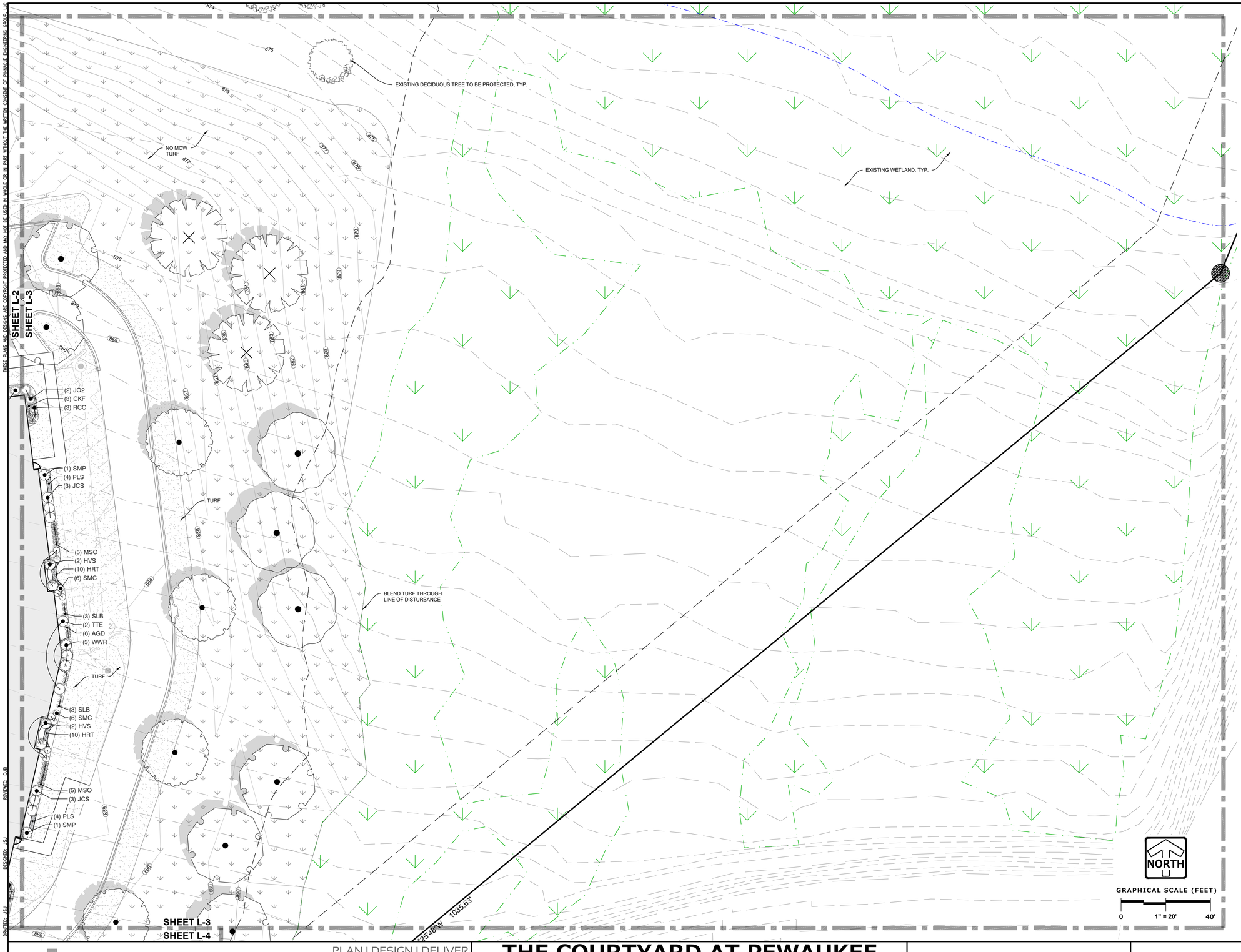
© COPYRIGHT 2023

LANDSCAPE ENLARGEMENT

www.pinnacle-engr.com

Z:\PROJECTS\2018\1338.10-WI\CAD\SHEETS\1338.10 LANDSCAPE PLAN.DWG

THESE PLANS AND DESIGNS ARE COPYRIGHT PROTECTED AND MAY NOT BE USED IN WHOLE OR IN PART WITHOUT THE WRITTEN CONSENT OF PINNACLE ENGINEERING GROUP LLC



PLANT KEY

TREES DECIDUOUS	BOTANICAL / COMMON NAME
AFA	Acer freemanii `Autumn Fantasy` / Autumn Fantasy Maple
ASU	Acer saccharum / Sugar Maple
AFM	Acer saccharum `Flax Mill Majesty` / Flax Mill Majesty Maple
COH	Carya ovata / Shagbark Hickory
COP	Celtis occidentalis `Prairie Pride` / Prairie Pride Hackberry
GTS	Gleditsia triacanthos inermis `Shademaster` / Shademaster Locust
GDK	Gymnocladus dioica / Kentucky Coffee Tree
QXS	Quercus x schuetti / Swamp Bur Oak
TTS	Tilia tomentosa `Sterling` / Sterling Silver Linden

EVERGREEN	BOTANICAL / COMMON NAME
PAN	Picea abies / Norway Spruce
PEW	Pinus strobus / Eastern White Pine

ORNAMENTAL	BOTANICAL / COMMON NAME
AGA	Amelanchier x grandiflora `A B` / Autumn Brilliance Serviceberry
MPM	Malus x `Prairie Maid` / Prairie Maid Crabapple

STREET	BOTANICAL / COMMON NAME
AFA2	Acer freemanii `Autumn Fantasy` / Autumn Fantasy Maple
COP2	Celtis occidentalis `Prairie Pride` / Prairie Pride Hackberry
GDK2	Gymnocladus dioica / Kentucky Coffee Tree
QXS2	Quercus x schuetti / Swamp Bur Oak

SHRUBS	BOTANICAL / COMMON NAME
ACB	Aronia arbutifolia `Brilliantissima` / Brilliant Red Chokeberry
CAF	Cornus stolonifera `Arctic Fire` / Arctic Fire Dogwood
HIS	Hydrangea arborescens 'NCHA1' / Invincibelle Spirit Hydrangea
HVS	Hydrangea p `Vanilla Strawberry` / Vanilla Strawberry Hydrangea
HRS	Hydrangea quercifolia 'Ruby Slippers' / Ruby Slippers Hydrangea
ISS	Itea virginica 'SMNIVDFC' / Scentlandia Sweetspire
RPP	Rosa rugosa `Purple Pavement` / Purple Pavement Rugosa Rose
RCC	Rosa x `Coral Cove` / Coral Cove Rose
SBL	Sambucus nigra `Black Lace` / Black Lace Elderberry
SMC	Spiraea japonica `Magic Carpet` / Magic Carpet Spirea
SMP	Syringa meyeri `Palibin` / Dwarf Korean Lilac
SBP	Syringa x 'SMNJRPI' / Bloomerang Dwarf Pink Lilac
SB5	Syringa x 'SMSJBP7' TM / Bloomerang Dark Purple Lilac
WWR	Weigela florida `Wine & Roses` / Wine & Roses Weigela

EVERGREEN	BOTANICAL / COMMON NAME
JSP	Juniperus chinensis `J.N. Select Blue` / Star Power Juniper
JO2	Juniperus chinensis `Old Gold` / Old Gold Juniper
JCS	Juniperus chinensis `Sea Green` / Sea Green Juniper
JSB	Juniperus sabina `Buffalo` / Buffalo Juniper
JGO	Juniperus virginiana `Grey Owl` / Eastern Redcedar Juniper
PMS	Pinus mugo `Slowmound` / Slowmound Mugo Pine
TMT	Taxus x media `Tauntonii` / Tauton Yew
TTE	Thuja occidentalis `BailJohn` / Technito Arborvitae
TDG	Thuja occidentalis `Nigra` / Dark Green Arborvitae
TFC	Thuja occidentalis 'Congabe' / Fire Chief Arborvitae

GRASSES ORNAMENTAL	BOTANICAL / COMMON NAME
AGD	Andropogon gerardii `Dancing Wind` / Dancing Wind Big Blue Stem
CKF	Calamagrostis x a `Karl Foerster` / Karl Foerster Reed Grass
CFO	Calamagrostis x a `Overdam` / Overdam Reed Grass
CBZ	Carex flacca 'Blue Zinger' / Blue Zinger Sedge
HAG	Hakonechloa macra 'Aureola' / Golden Variegated Forest Grass
HPB	Hystrix patula / Bottlebrush Grass
MSO	Miscanthus sinensis `Oktoberfest` / Oktoberfest Miscanthus
PNW	Panicum virgatum `Northwind` / Northwind Switch Grass
PBB	Pennisetum alopecuroides 'B B' / Burgundy Bunny Dwarf Fountain Grass
SLB	Schizachyrium scoparium `B H` / Blue Heaven Little Bluestem Grass
STD	Sporobolus heterolepis `Tara` / Prairie Dropseed

PERENNIALS	BOTANICAL / COMMON NAME
AHA	Amsonia c `Halfway to Arkansas` / Halfway to Arkansas Blue-star
AGB	Aruncus dioicus / Goatsbeard
AVR	Astilbe chinensis `Vision in Red` / Vision in Red Astilbe
ADD	Astilbe x `Deutschland` / Deutschland False Spiraea
CMW	Calamintha nepeta 'Montrose White' / Montrose White Calamint
CVZ	Coreopsis verticillata `Zagreb` / Zagreb Coreopsis
EMS	Echinacea purpurea `Magnus Superior` / Magnus Superior Coneflower
GMT	Geum x `Mai Tai` / Mai Tai Grecian Rose
HRT	Helenium a `Ruby Tuesday` / Ruby Tuesday Helen`s Flower
HPP	Heuchera m `Palace Purple` / Palace Purple Coral Bells
HGS	Hosta x `Gold Standard` / Gold Standard Hosta
LGF	Leucanthemum x superbum 'Goldfinch' / Goldfinch Shasta Daisy
PLS	Perovskia atriplicifolia 'Little Spire' / Little Spire Russian Sage
SAJ	Sedum `Autumn Joy` / Autumn Joy Sedum

GROUND COVERS	BOTANICAL / COMMON NAME
	Native Plantings / Agrecol Rainwater Renewal Seed Mix
	Turf Hydroseed / Reinders - Cadet 70/30 Fescue/Blue Mix
	Turf Hydroseed Low Grow / Reinders No Mow/Low Grow Mix

DRAWN: JSJ
DESIGNED: JSJ
REVIEWED: DJB

PLAN I DESIGN I DELIVER
www.pinnacle-engr.com

PINNACLE ENGINEERING GROUP
ENGINEERING I NATURAL RESOURCES I SURVEYING

WISCONSIN OFFICE:
20725 WATERTOWN ROAD, SUITE 100
BROOKFIELD, WI 53186
(262) 754-8888
CHICAGO I MILWAUKEE - NATIONWIDE

THE COURTYARD AT PEWAUKEE

GOLF RD & MEADOWBROOK LN

LANDSCAPE ENLARGEMENT

REVISIONS

PEG JOB No. 1338.10
PEG PM MTS
START DATE 07-27-22
SCALE 1" = 20'

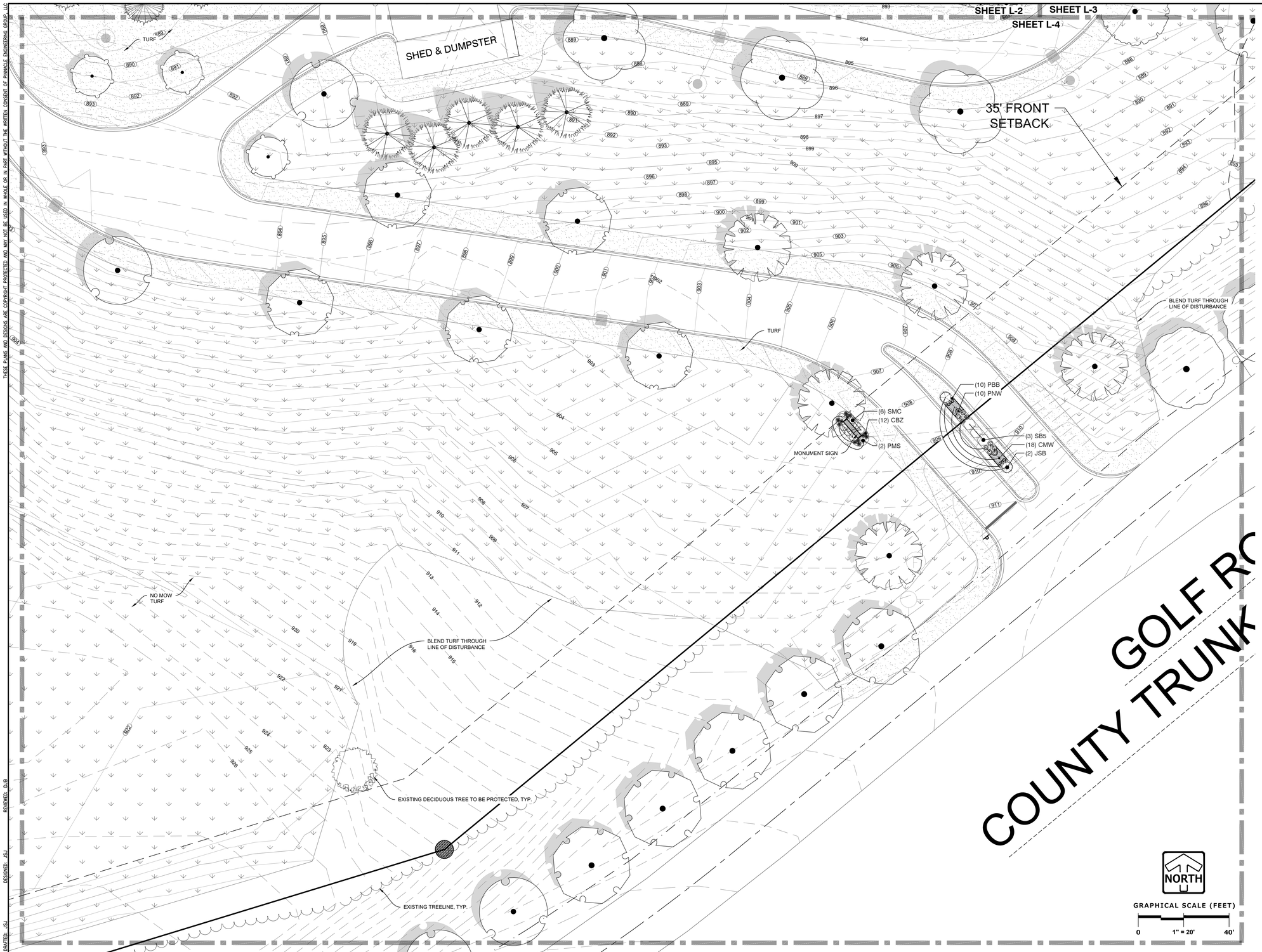
SHEET
L-3
L-6

©COPYRIGHT 2023

LANDSCAPE ENLARGEMENT

www.pinnacle-engr.com

THESE PLANS AND DESIGNS ARE COPYRIGHT PROTECTED AND MAY NOT BE USED IN WHOLE OR IN PART WITHOUT THE WRITTEN CONSENT OF PINNACLE ENGINEERING GROUP, LLC.



PLANT KEY

TREES

DECIDUOUS	BOTANICAL / COMMON NAME
AFA	Acer freemanii `Autumn Fantasy` / Autumn Fantasy Maple
ASU	Acer saccharum / Sugar Maple
AFM	Acer saccharum `Flax Mill Majesty` / Flax Mill Majesty Maple
COH	Carya ovata / Shagbark Hickory
COP	Celtis occidentalis `Prairie Pride` / Prairie Pride Hackberry
GTS	Gleditsia triacanthos inermis `Shademaster` / Shademaster Locust
GDK	Gymnocladus dioica / Kentucky Coffee Tree
QXS	Quercus x schuetti / Swamp Bur Oak
TTS	Tilia tomentosa `Sterling` / Sterling Silver Linden

EVERGREEN	BOTANICAL / COMMON NAME
PAN	Picea abies / Norway Spruce
PEW	Pinus strobus / Eastern White Pine

ORNAMENTAL	BOTANICAL / COMMON NAME
AGA	Amelanchier x grandiflora `A B` / Autumn Brilliance Serviceberry
MPM	Malus x `Prairie Maid` / Prairie Maid Crabapple

STREET	BOTANICAL / COMMON NAME
AFA2	Acer freemanii `Autumn Fantasy` / Autumn Fantasy Maple
COP2	Celtis occidentalis `Prairie Pride` / Prairie Pride Hackberry
GDK2	Gymnocladus dioica / Kentucky Coffee Tree
QXS2	Quercus x schuetti / Swamp Bur Oak

SHRUBS

SHRUBS	BOTANICAL / COMMON NAME
ACB	Aronia arbutifolia `Brilliantissima` / Brilliant Red Chokeberry
CAF	Cornus stolonifera `Arctic Fire` / Arctic Fire Dogwood
HIS	Hydrangea arborescens 'NCHA1' / Invincibelle Spirit Hydrangea
HVS	Hydrangea p `Vanilla Strawberry` / Vanilla Strawberry Hydrangea
HRS	Hydrangea quercifolia 'Ruby Slippers' / Ruby Slippers Hydrangea
ISS	Itea virginica 'SMNIVDFC' / Scentlandia Sweetspire
RPP	Rosa rugosa `Purple Pavement` / Purple Pavement Rugosa Rose
RCC	Rosa x `Coral Cove` / Coral Cove Rose
SBL	Sambucus nigra `Black Lace` / Black Lace Elderberry
SMC	Spiraea japonica `Magic Carpet` / Magic Carpet Spirea
SMP	Syringa meyeri `Palibin` / Dwarf Korean Lilac
SBP	Syringa x 'SMNJRPI' / Bloomerang Dwarf Pink Lilac
SB5	Syringa x 'SMSJBP7' TM / Bloomerang Dark Purple Lilac
WWR	Weigela florida `Wine & Roses` / Wine & Roses Weigela

EVERGREEN

EVERGREEN	BOTANICAL / COMMON NAME
JSP	Juniperus chinensis `J.N. Select Blue` / Star Power Juniper
JO2	Juniperus chinensis `Old Gold` / Old Gold Juniper
JCS	Juniperus chinensis `Sea Green` / Sea Green Juniper
JSB	Juniperus sabina `Buffalo` / Buffalo Juniper
JGO	Juniperus virginiana `Grey Owl` / Eastern Redcedar Juniper
PMS	Pinus mugo `Slowmound` / Slowmound Mugo Pine
TMT	Taxus x media `Tauntonii` / Tauton Yew
TTE	Thuja occidentalis `BailJohn` / Technito Arborvitae
TDG	Thuja occidentalis `Nigra` / Dark Green Arborvitae
TFC	Thuja occidentalis 'Congabe' / Fire Chief Arborvitae

GRASSES

ORNAMENTAL	BOTANICAL / COMMON NAME
AGD	Andropogon gerardii `Dancing Wind` / Dancing Wind Big Blue Stem
CKF	Calamagrostis x a `Karl Foerster` / Karl Foerster Reed Grass
CFO	Calamagrostis x a `Overdam` / Overdam Reed Grass
CBZ	Carex flacca 'Blue Zinger' / Blue Zinger Sedge
HAG	Hakonechloa macra 'Aureola' / Golden Variegated Forest Grass
HPB	Hystrix patula / Bottlebrush Grass
MSO	Miscanthus sinensis `Oktoberfest` / Oktoberfest Miscanthus
PNW	Panicum virgatum `Northwind` / Northwind Switch Grass
PBB	Pennisetum alopecuroides 'B B' / Burgundy Bunny Dwarf Fountain Grass
SLB	Schizachyrium scoparium `B H` / Blue Heaven Little Bluestem Grass
STD	Sporobolus heterolepis `Tara` / Prairie Dropseed

PERENNIALS	BOTANICAL / COMMON NAME
AHA	Amsonia c `Halfway to Arkansas` / Halfway to Arkansas Blue-star
AGB	Aruncus dioicus / Goatsbeard
AVR	Astilbe chinensis `Vision in Red` / Vision in Red Astilbe
ADD	Astilbe x `Deutschland` / Deutschland False Spiraea
CMW	Calamintha nepeta 'Montrose White' / Montrose White Calamint
CVZ	Coreopsis verticillata `Zagreb` / Zagreb Coreopsis
EMS	Echinacea purpurea `Magnus Superior` / Magnus Superior Coneflower
GMT	Geum x `Mai Tai` / Mai Tai Grecian Rose
HRT	Helenium a `Ruby Tuesday` / Ruby Tuesday Helen`s Flower
HPP	Heuchera m `Palace Purple` / Palace Purple Coral Bells
HGS	Hosta x `Gold Standard` / Gold Standard Hosta
LGF	Leucanthemum x superbum 'Goldfinch' / Goldfinch Shasta Daisy
PLS	Perovskia atriplicifolia 'Little Spire' / Little Spire Russian Sage
SAJ	Sedum `Autumn Joy` / Autumn Joy Sedum

GROUND COVERS	BOTANICAL / COMMON NAME
	Native Plantings / Agrecol Rainwater Renewal Seed Mix
	Turf Hydroseed / Reinders - Cadet 70/30 Fescue/Blue Mix
	Turf Hydroseed Low Grow / Reinders No Mow/Low Grow Mix

REVIEWED: DJB
DESIGNED: JSJ
DRAFTED: JSJ

PLAN | DESIGN | DELIVER
www.pinnacle-engr.com

PINNACLE ENGINEERING GROUP
ENGINEERING | NATURAL RESOURCES | SURVEYING

WISCONSIN OFFICE:
20725 WATERTOWN ROAD, SUITE 100
BROOKFIELD, WI 53186
(262) 754-8888
CHICAGO | MILWAUKEE : NATIONWIDE

THE COURTYARD AT PEWAUKEE

GOLF RD & MEADOWBROOK LN

LANDSCAPE ENLARGEMENT

REVISIONS

PEG JOB No. 1338.10
PEG PM MTS
START DATE 07-27-22
SCALE 1" = 20'

SHEET
L-4
L-6

© COPYRIGHT 2023

LANDSCAPE ENLARGEMENT

www.pinnacle-engr.com

Z:\PROJECTS\2018\1338.10-WI\CAD\SHEETS\1338.10 LANDSCAPE PLAN.DWG

THESE PLANS AND DESIGNS ARE COPYRIGHT PROTECTED AND MAY NOT BE USED IN WHOLE OR IN PART WITHOUT THE WRITTEN CONSENT OF PINNACLE ENGINEERING GROUP LLC

GENERAL PLANTING NOTES

1. THE LAYOUT OF ALL PLANTING BEDS AND INDIVIDUAL TREES AND SHRUBS SHALL BE STAKED BY THE CONTRACTOR IN ADVANCE OF INSTALLATION. FLAGGING, STAKES, OR PAINT MAY BE USED TO DELINEATE LOCATIONS AS SCALED FROM THE PLANS. AN APPROVED REPRESENTATIVE WILL REVIEW THESE LOCATIONS WITH THE CONTRACTOR AND MAKE MINOR ADJUSTMENTS AS NECESSARY. BED LAYOUT SHALL ALSO INCLUDE PERENNIAL GROUPINGS BY SPECIES.
2. THE CONTRACTOR IS RESPONSIBLE FOR INDEPENDENTLY DETERMINING THE PLANT MATERIAL QUANTITIES REQUIRED BY THE LANDSCAPE PLANS. REPORT ANY DISCREPANCIES TO THE LANDSCAPE ARCHITECT.
3. NO PLANT MATERIAL OR PLANT SIZE SUBSTITUTIONS WILL BE ACCEPTED WITHOUT APPROVAL BY THE LANDSCAPE ARCHITECT. ANY CHANGES SHALL BE SUBMITTED TO THE LANDSCAPE ARCHITECT IN WRITING PRIOR TO INSTALLATION.
4. ALL BNB STOCK SHALL BE NURSERY GROWN IN A CLAY LOAM SOIL FOR A MINIMUM OF THREE GROWING SEASONS WITHIN 200 MILES OF PROJECT LOCATION, IN A ZONE COMPATIBLE WITH USDA HARDINESS ZONE 5A. SEED SHALL BE PROVIDED FROM A NURSERY (WITHIN 200 MILES) WITH A SIMILAR PLANT HARDINESS ZONE AS PROJECT LOCATION. EXISTING SOIL SHALL BE AMENDED PER SOIL ANALYSIS REPORT TO ENSURE A PROPER GROWING MEDIUM IS ACHIEVED.
5. ALL PLANT MATERIAL SHALL COMPLY WITH STANDARDS DESCRIBED IN AMERICAN STANDARD OF NURSERY STOCK - Z60.1 ANSI. LANDSCAPE ARCHITECT OR OWNERS AUTHORIZED REPRESENTATIVE RESERVES THE RIGHT TO INSPECT AND POTENTIALLY REJECT ANY PLANT MATERIAL DEEMED TO NOT MEET THE REQUIRED STANDARDS.
6. ALL STOCK SHALL BE FREE OF DISEASES AND HARMFUL INSECTS, DAMAGE, DISORDERS AND DEFORMITIES.
7. TREES SHALL HAVE SINGLE, STRAIGHT TRUNKS AND WELL BALANCED BRANCH SYSTEMS. MUTLI-STEM TREES SHALL HAVE 3-4 STRAIGHT TRUNKS AND WELL BALANCED BRANCH SYSTEMS. HEIGHT-TO-CALIPER RATIOS SHALL BE CONSISTENT WITH THE LATEST EDITION OF ANSI Z60.1.
8. ROOT SYSTEMS SHALL BE LARGE ENOUGH TO ALLOW FOR FULL RECOVERY OF THE TREE, AND SHALL CONFORM TO STANDARDS AS THEY APPEAR IN THE MOST CURRENT REVISION OF THE AMERICAN ASSOCIATION OF NURSERYMEN'S AMERICAN STANDARD OF NURSERY STOCK ANSI Z60.1.
9. BNB TREES SHALL BE DUG WITH A BALL OF SOIL, NOT SOFT BALLED OR POTTED AND SHALL BE FIRM IN THEIR ROOTBALL. ROOT BALL SHALL BE WRAPPED (WITH BIODEGRADABLE MATERIAL). THE TREE ROOT FLARE, OR COLLAR, SHALL BE AT OR WITHIN THE TOP THREE INCHES OF GRADE.
10. ALL SPRING TREES MUST BE FRESHLY DUG IN THE MOST RECENT SPRING.
11. ALL AUTUMN TREES MUST BE FRESHLY DUG IN THE MOST RECENT AUTUMN.
12. TREES SHALL BE ALIVE, HEALTHY AND APPROPRIATELY MOIST, AT TIME OF DELIVERY. TREES SHALL BE SUBJECT TO INSPECTION FOR CONFORMITY TO SPECIFICATION REQUIREMENTS AND APPROVAL BY THE LANDSCAPE ARCHITECT OR OWNERS REPRESENTATIVE. THE LANDSCAPE ARCHITECT OR OWNERS REPRESENTATIVE RESERVES THE RIGHT TO REJECT ANY TREES THAT DO NOT MEET THE SPECIFICATIONS OR THAT HAVE BEEN DAMAGED DURING SHIPMENT. THE LANDSCAPE INSTALLER MUST RECEIVE APPROVAL FROM LANDSCAPE ARCHITECT FOR ANY SUBSTITUTIONS OR ALTERATIONS.
13. ALL PLANT MATERIAL SHALL BE INSTALLED IN ACCORDANCE WITH PLANTING DETAILS.
14. ALL PLANTING BEDS SHALL HAVE A MINIMUM 10" DEPTH OF PREPARED SOIL. WITH APPROVAL, EXISTING SOIL MAY BE UTILIZED PROVIDED THE PROPER SOIL AMENDMENTS ARE TILLED THOROUGHLY INTO THE TOP 10" OF SOIL. REFER TO SOIL PLACEMENT NOTES.
15. WHILE PLANTING TREES AND SHRUBS, BACKFILL ⅔ OF PLANTING HOLE AND WATER TREE THOROUGHLY BEFORE INSTALLING THE REMAINDER OF SOIL MIXTURE. AFTER ALL SOIL HAS BEEN PLACED INTO THE PLANTING HOLE WATER THOROUGHLY AGAIN.
16. THE CONTRACTOR MUST LABEL ALL TREES WITH THE COMMON AND BOTANICAL NAMES PRIOR TO FINAL INSPECTION.
17. ALL PLANTING BEDS SHALL BE MULCHED WITH 3" DEEP SHREDDED HARDWOOD MULCH, AND ALL TREES PLANTED IN TURF AREAS SHALL RECEIVE A 3" DEEP SHREDDED HARDWOOD MULCHED RING AS SHOWN IN PLANTING DETAILS.
18. ALL PLANTING BEDS AND TREE RINGS SHALL HAVE A 4" DEEP TRENCHED BED EDGE CREATED BY EITHER A FLAT LANDSCAPE SPADE OR MECHANICAL EDGER. BED EDGES ARE TO BE CUT CLEAN AND SMOOTH AS SHOWN ON LANDSCAPE PLANS WITH A CLEAN DEFINITION BETWEEN TURF AND PLANTING AREAS.
19. ALL TURF SEED AREAS SHALL RECEIVE A MINIMUM OF 6" DEPTH OF TOPSOIL. WITH APPROVAL, EXISTING SOIL MAY BE UTILIZED PROVIDED THE PROPER SOIL AMENDMENTS ARE TILLED THOROUGHLY INTO THE TOP 6" OF SOIL AS INDICATED IN THE SOIL PLACEMENT NOTES. REQUIRED AMENDMENTS SHALL BE DETERMINED BASED ON A SOIL ANALYSIS TO BE PERFORMED. ALL TOPSOIL AMENDMENT SHALL BE AGED WEED FREE MANURE OR CLASS 1 ORGANIC MATTER.
20. FOR LAWN SEEDING, APPLY A STARTER FERTILIZER AND SEED UNIFORMLY AT THE RATE RECOMMENDED BY MANUFACTURER, AND PROVIDE A MULCH COVERING THAT IS SUITABLE TO PROMOTE SEED GERMINATION AND TURF ESTABLISHMENT. CONTRACTOR TO PROVIDE FERTILIZER, SEED, AND MULCH SPECIFICATIONS TO THE LANDSCAPE ARCHITECT FOR APPROVAL PRIOR TO INSTALLATION. EROSION CONTROL MEASURES ARE TO BE INSTALLED IN THOSE AREAS REQUIRING STABILIZATION (SWALES, SLOPES EXCEEDING 1:3, AND THOSE LOCATIONS INDICATED IN CIVIL DRAWINGS).
21. THE CONTRACTOR TO ENSURE A SMOOTH, UNIFORM QUALITY TURF IS ACHIEVED WITH NO BARE SPOTS LARGER THAN 6" X 6". ANY BARE SPOTS LARGER THAN 6" X6" AT THE END OF ESTABLISHMENT PERIOD SHALL BE RESEEDED AT THE CONTRACTORS EXPENSE TO OBTAIN A DENSE, UNIFORM LAWN.
22. ALL FINISH GRADING AND LAWN AREAS TO BE INSTALLED BY LANDSCAPE CONTRACTOR.
23. ALL DISTURBED AREAS WITHIN THE PROJECT SHALL BE RESTORED TO ORIGINAL OR BETTER CONDITION.
24. ALL DISTURBED AREAS OUTSIDE THE LIMITS OF WORK SHALL BE RESTORED TO ORIGINAL OR BETTER CONDITION AT NO ADDITIONAL COST TO THE OWNER.
25. THE CONTRACTOR SHALL VERIFY ALL EXISTING UTILITIES, INCLUDING ANY IRRIGATION LINES, PRIOR TO DIGGING. CONSULT DIGGERS HOTLINE.
26. TREES SHALL BE INSTALLED NO CLOSER THAN:
    - -10 FEET FROM ANY FIRE HYDRANT
    - - 7 FEET FROM STORM SEWER, SANITARY SEWER LATERALS, AND WATER SERVICE
27. THE CONTRACTOR SHALL ENSURE THAT SOIL CONDITIONS AND COMPACTION ARE ADEQUATE TO ALLOW FOR PROPER DRAINAGE AROUND THE CONSTRUCTION SITE. UNDESIRABLE CONDITIONS SHALL BE BROUGHT TO THE ATTENTION OF THE LANDSCAPE ARCHITECT PRIOR TO BEGINNING OF WORK. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO ENSURE PROPER SURFACE AND SUBSURFACE DRAINAGE IN ALL AREAS
28. THE CONTRACTOR IS RESPONSIBLE FOR ALL PERMITS, FEES, AND LICENSES NECESSARY FOR THE INSTALLATION OF THIS PLAN.
29. THE CONTRACTOR IS TO REVIEW ALL SITE ENGINEERING DOCUMENTS PRIOR TO INSTALLATION. ANY CONFLICTS MUST BE REPORTED TO THE LANDSCAPE ARCHITECT. THESE LANDSCAPE DRAWINGS ARE FOR THE INSTALLATION OF PLANT MATERIALS ONLY UNLESS OTHERWISE STATED.
30. THE CONTRACTOR SHALL PROVIDE WATERING AND MAINTENANCE SERVICES FOR A PERIOD OF 60 DAYS TO ENSURE VEGETATIVE ESTABLISHMENT. UPON COMPLETION OF THE PROJECT, CONTRACTOR SHALL SUPPLY THE OWNER IN WRITING WITH ONGOING WATERING AND MAINTENANCE INSTRUCTIONS.
31. PLANT MATERIALS SHALL BE GUARANTEED FOR A PERIOD OF ONE (1) YEAR FROM TIME OF OWNER ACCEPTANCE. ONLY ONE REPLACEMENT PER PLANT WILL BE REQUIRED DURING THE WARRANTY PERIOD EXCEPT IN THE EVENT OF FAILURE TO COMPLY WITH THE SPECIFIED REQUIREMENTS.
32. THE CONTRACTOR IS RESPONSIBLE TO CONDUCT A FINAL WALK THROUGH WITH THE LANDSCAPE ARCHITECT AND OR OWNERS REPRESENTATIVE TO ANSWER QUESTIONS, PROVIDE INSTRUCTIONS, AND ENSURE THAT PROJECT REQUIREMENTS HAVE BEEN MET.

SOIL PLACEMENT NOTES

1. LOOSEN SUBGRADE TO A MINIMUM DEPTH INDICATED IN PLANTING NOTES USING A CULTI-MULCHER OR SIMILAR EQUIPMENT, AND REMOVE STONES MEASURING OVER 1-1/2 INCHES IN ANY DIMENSION, STICKS, RUBBISH AND OTHER EXTRANEOUS MATTER. AREAS ADJACENT TO WALKS AND PAVEMENT SHALL BE FREE OF EXCESS STONE AND PAVING MATERIALS SO AS TO PROVIDE AN UNINTERRUPTED CROSS SECTION OF SOIL. INTERNAL PARKING ISLANDS SHALL BE LOOSENED TO A DEPTH OF 30".
2. THOROUGHLY BLEND PLANTING SOIL MIX FOR PLANTING BED AREAS. (1 PART EXISTING SOIL, 1 PART TOPSOIL, 1 PART ORGANIC SOIL AMENDMENT, 2.9 POUNDS PER CUBIC YARD OF 4-4-4 ANALYSIS SLOW-RELEASE FERTILIZER)
3. TREE AND SHRUB HOLES SHALL BE FILLED WITH A PREPARED PLANTING MIXTURE OF 1 PART TOPSOIL, 2 PARTS PLANTING SOIL MIX.
4. SPREAD SOIL AND SOIL AMENDMENTS TO DEPTH INDICATED ON DRAWINGS, BUT NOT LESS THAN REQUIRED TO MEET FINISH GRADES AFTER NATURAL SETTLEMENT. (FINISH GRADE OF PLANTING BEDS SHALL BE 3" BELOW ALL ADJACENT SURFACES. FINISH GRADE OF TURF SEEDING AREAS SHALL BE 1" BELOW ALL ADJACENT HARD SURFACES, WALKS, AND CURBS.)
5. PLACE APPROXIMATELY 1/2 OF TOTAL AMOUNT OF SOIL REQUIRED. WORK INTO TOP OF LOOSENED SUBGRADE TO CREATE A TRANSITION LAYER, THEN PLACE REMAINDER OF THE SOIL. SOIL TRANSITION LAYER SHALL BE TILLED TO A MINIMUM DEPTH OF 6" BELOW THE DEPTH OF NEWLY PLACED SOIL. PARKING LOT ISLANDS SHALL BE CROWNED TO A HEIGHT OF 6" TO PROVIDE PROPER DRAINAGE UNLESS OTHERWISE NOTED.
6. DO NOT SPREAD IF PLANTING SOIL OR SUBGRADE IS FROZEN, MUDDY, OR EXCESSIVELY WET.
7. FINISH GRADING: GRADE SOIL TO A SMOOTH, UNIFORM SURFACE PLANE WITH A LOOSE, UNIFORMLY FINE TEXTURE.
8. ROLL AND RAKE, REMOVE RIDGES, AND FILL DEPRESSIONS TO MEET FINISH GRADES.
9. RESTORE PLANTING BEDS IF ERODED OR OTHERWISE DISTURBED AFTER FINISH GRADING AND BEFORE PLANTING.

NATIVE SEEDING PLANTINGS

ESTABLISHMENT OF A VIABLE VEGETATION COMMUNITY WITHIN THE BIO INFILTRATION BASINS WILL BE COMPLETED BY HAND-BROADCASTING OF PRE-DESIGNED SEED MIXES AND PLANTING OF PERENNIALS TO CREATE A DYNAMIC PLANTING.

PRIOR TO SEEDING PLANTING:

A. ALL WEEDS AND EXISTING VEGETATION SHALL BE REMOVED. EXISTING VEGETATION SHALL BE TREATED WITH GLYPHOSATE OR SIMILAR HERBICIDE BY A LICENSED PROFESSIONAL. TREATMENT SHALL OCCUR A MINIMUM OF 10 DAYS PRIOR TO SEEDING/PLANTING. VEGETATION STILL ALIVE AFTER INITIAL HERBICIDE TREATMENT SHALL BE TREATED A SECOND TIME PRIOR TO TILLING INTO THE SOIL.TREATED VEGETATION SHALL BE TILLED INTO THE SOIL NO EARLIER THAN 1 DAY PRIOR TO SEEDING.

B. PREPARATION OF SOIL PRIOR TO SEEDING
   1. REFER TO CIVIL PLANS FOR SOIL MIXTURE.
   2. ALL FOREIGN MATERIALS LARGER THAN 1-INCH SHALL BE REMOVED FROM THE SOIL PRIOR TO SEEDING OR PLANTING.
   3. AREA SHOULD BE FREE FROM UNSIGHTLY VARIATIONS, RIDGES, AND DEPRESSIONS.
   4. AVOID DRIVING OVER THE SPECIFIED AREA WITH MACHINERY.

SPECIFICATIONS FOR HAND BROADCASTING:

SEEDING SHALL BE CONDUCTED IN LATE FALL (SEPTEMBER 1- SOIL FREEZE) SO THAT SEEDS MAY LIE DORMANT DURING THE WINTER, ALLOWING FOR STRATIFICATION, OR SPRING (MARCH 1-JUNE 1) TO ALLOW A COMPLETE GROWING SEASON TO BECOME ESTABLISHED.

A. COVER CROP
   1. ANNUAL RYE SHALL BE SPREAD AT A DENSITY OF 20 POUNDS PER ACRE DURING THE PLANTING OR SEEDING OF THE NATIVE PLANT SPECIES TO STABILIZE THE SOIL AND REDUCE THE GROWTH OF UNWANTED VEGETATION. THIS ANNUAL GRASS GROWS RAPIDLY WITHOUT COMPETING WITH THE WILDFLOWERS AND GRASSES THAT ARE PLANTED IN THE TARGET AREAS.
   2. WINTER WHEAT OR PERENNIAL RYE SHALL NOT BE USED AS A COVER CROP. THESE GRASSES MAY OUT COMPETE PRAIRIE SEEDLINGS, LEADING TO A REDUCTION IN THE SUCCESS OF THE PLANTINGS.

B. SEED MIX:
   1. MIX ALL NATIVE SEED WITH VERMICULITE ACCORDING TO AGRECOL RECOMMENDATIONS AND INSTALLATION GUIDELINES.
   2. BROADCAST HALF THE SEED OVER THE ENTIRE SITE OR TARGET AREA.
   3. BROADCAST THE OTHER HALF OF SEED PERPENDICULAR TO THE DIRECTION THAT THE FIRST HALF OF THE SEED WAS BROADCAST.
   4. COVER SEED WITH ¼ -INCH TO ½ -INCH OF SOIL (USE ANY EXCESS SOIL FROM THE SITE) WITH RAKE OR DRAG.
   5. ROLL SITE TO ENSURE FIRM SEED-TO-GROUND CONTACT.
   6. KEEP SEED CONSTANTLY WET THROUGH GERMINATION PERIOD. GENERALLY 3 WEEKS.

ALL SEEDING SHALL BE COVERED WITH 1-INCH OF CLEAN, NON-INVASIVE STRAW (NO MARSH HAY, OR REED CANARY GRASS) WITHOUT SEEDS, WITHIN SEVEN DAYS. WHEAT, RYE, OATS, OR BARLEY ARE ACCEPTABLE FORMS OF STRAW. THOSE AREAS OF SLOPES STEEPER THAN 8:1 (EIGHT FEET HORIZONTAL TO ONE FOOT VERTICAL) SHALL BE PLANTED NO LATER THAN OCTOBER 1 AND STAKED WITH AN EROSION CONTROL BLANKET TO PREVENT EROSION.

NATIVE PLANTINGS:

WEED SUPPRESSION MEASURES:

1st YEAR - PERFORM SPOT SPRAY WITH HERBICIDE TO SUPPRESS WEEDS. THIS SHOULD OCCUR APPROXIMATELY EVERY MONTH OF THE GROWING SEASON AFTER NATIVE PLANTINGS HAVE BEEN ROUGH GRADED.

2nd YEAR - IN MAY/JUNE MOW NATIVE PLANTINGS AT 6" HEIGHT TO SUPPRESS THE WEEDS. PERFORM SPOT SPRAY WITH HERBICIDE TO SUPPRESS WEEDS. HAVE PROFESSIONAL ASSESS PLANTINGS. REPEAT MOWING NATIVE PLANTINGS AND SPOT-SPRAY IN EARLY JULY.

3rd YEAR - IN MAY/JUNE MOW NATIVE PLANTINGS AT 8" HEIGHT TO SUPPRESS THE WEEDS. PERFORM SPOT SPRAY WITH HERBICIDE TO SUPPRESS WEEDS.

4th YEAR - IN MAY PERFORM A PRESCRIBED BURN. IN JUNE HAVE A QUALIFIED PROFESSIONAL ASSESS PLANTINGS. IF A PRESCRIBED BURN CAN NOT BE UTILIZED, NATIVE PLANTINGS SHALL BE CUT TO THE GROUND AND ALL CUT MATERIAL SHALL BE REMOVED AND DISPOSED OF OFF SITE.

REVIEWED: DJB
DESIGNED: JSJ
DRAFTED: JSJ

PLAN | DESIGN | DELIVER
www.pinnacle-engr.com
PINNACLE ENGINEERING GROUP
ENGINEERING | NATURAL RESOURCES | SURVEYING
WISCONSIN OFFICE:
20725 WATERTOWN ROAD, SUITE 100
BROOKFIELD, WI 53186
(262) 754-8888
CHICAGO | MILWAUKEE : NATIONWIDE

THE COURTYARD AT PEWAUKEE

GOLF RD & MEADOWBROOK LN

LANDSCAPE GENERAL NOTES

REVISIONS

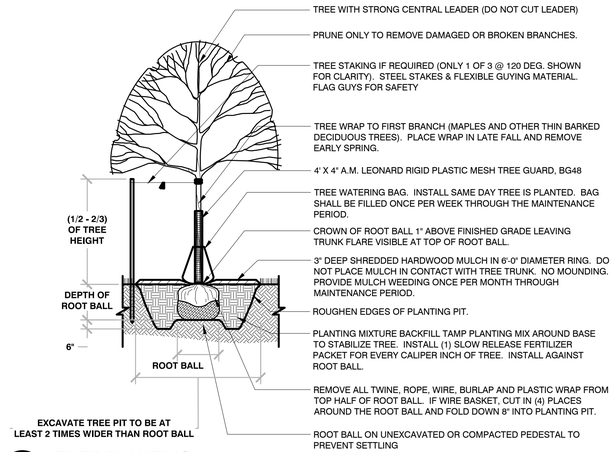
PEG JOB No. 1338.10
PEG PM MTS
START DATE 07-27-22
SCALE NA

SHEET
L-5
L-6

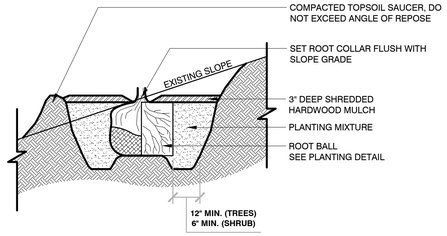
www.pinnacle-engr.com
LANDSCAPE GENERAL NOTES
© COPYRIGHT 2023

THESE PLANS AND DESIGNS ARE COPYRIGHT PROTECTED AND MAY NOT BE USED IN WHOLE OR IN PART WITHOUT THE WRITTEN CONSENT OF PINNACLE ENGINEERING GROUP LLC

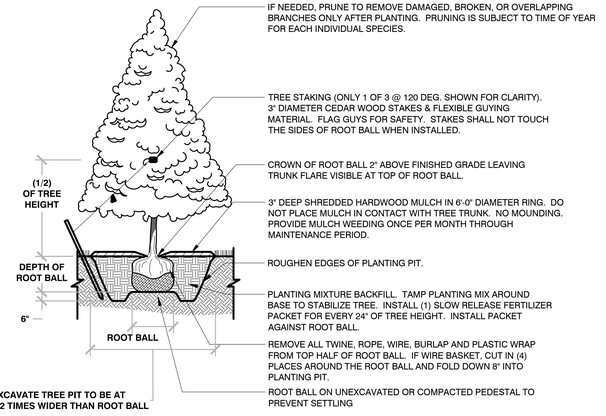
www.pinnacle-engr.com



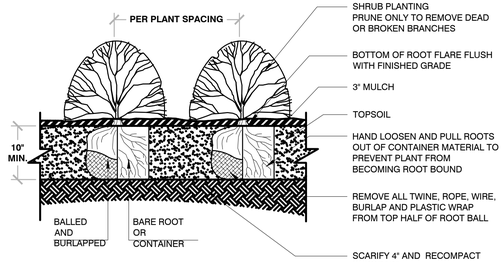
1 TREE PLANTING
1/4" = 1'-0" 329343-01



2 TREE PLANTING ON SLOPE
3/8" = 1'-0" 329343-02

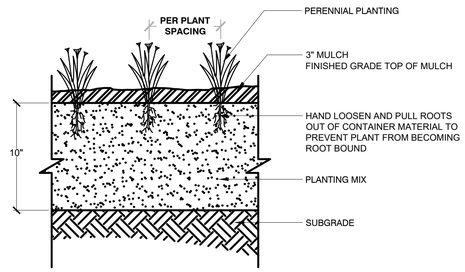


3 EVERGREEN TREE PLANTING
1/4" = 1'-0" 329343-03

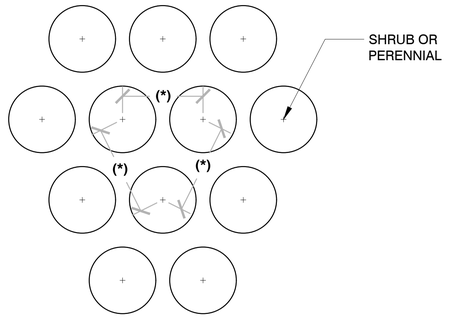


BAREROOT PLANTING NOTES:
1. SOAK ROOTS IN WATER FOR AT LEAST ONE HOUR BUT NOT MORE THAN 24 HOURS PRIOR TO PLANTING.
2. SCARIFY SIDES AND BOTTOMS OF HOLE.
3. PROCEED WITH CORRECTIVE PRUNING OF THE TOP AND BOTTOM ROOTS.
4. TRANSFER PLANT DIRECTLY FROM WATER TO HOLE. SET PLANT SO THE ROOT FLARE IS APPROXIMATELY AT THE FINISHED SOIL ELEVATION. SPREAD ROOTS OUT EVENLY. PLUMB AND IMMEDIATELY BACKFILL WITH PLANTING SOIL MIX.
5. WATER THOROUGHLY WITHIN 2 HOURS TO SETTLE PLANTS AND FILL VOIDS.
6. BACKFILL VOIDS AND WATER SECOND TIME.
7. PLACE MULCH WITHIN 48 HOURS OF THE SECOND WATERING UNLESS SOIL MOISTURE IS EXCESSIVE.

4 SHRUB PLANTING
1/2" = 1'-0" 329333-02

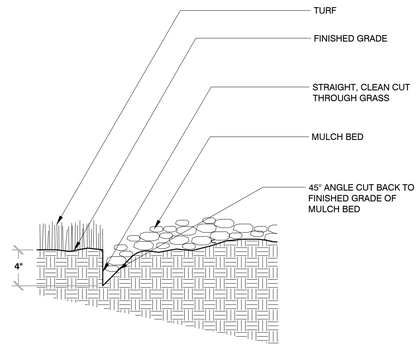


5 PERENNIAL PLANTING
1" = 1'-0" 3293-01



(*) = SPECIFIED PLANT SPACING PER PLANTING LIST

6 PLANT SPACING
3/4" = 1'-0" 3293-02



7 TRENCHED BED EDGE
3/4" = 1'-0" 3293-03

DRAWN: JSJ
DESIGNED: JSJ
REVIEWED: DJB

PLAN I DESIGN I DELIVER
www.pinnacle-engr.com
PINNACLE ENGINEERING GROUP
ENGINEERING I NATURAL RESOURCES I SURVEYING
WISCONSIN OFFICE: 20725 WATERTOWN ROAD, SUITE 100 BROOKFIELD, WI 53186 (262) 754-8888
CHICAGO I MILWAUKEE : NATIONWIDE

THE COURTYARD AT PEWAUKEE

GOLF RD & MEADOWBROOK LN

LANDSCAPE DETAILS

REVISIONS

PEG JOB No. 1338.10
PEG PM MTS
START DATE 07-27-22
SCALE VARIES

SHEET L-6 L-6

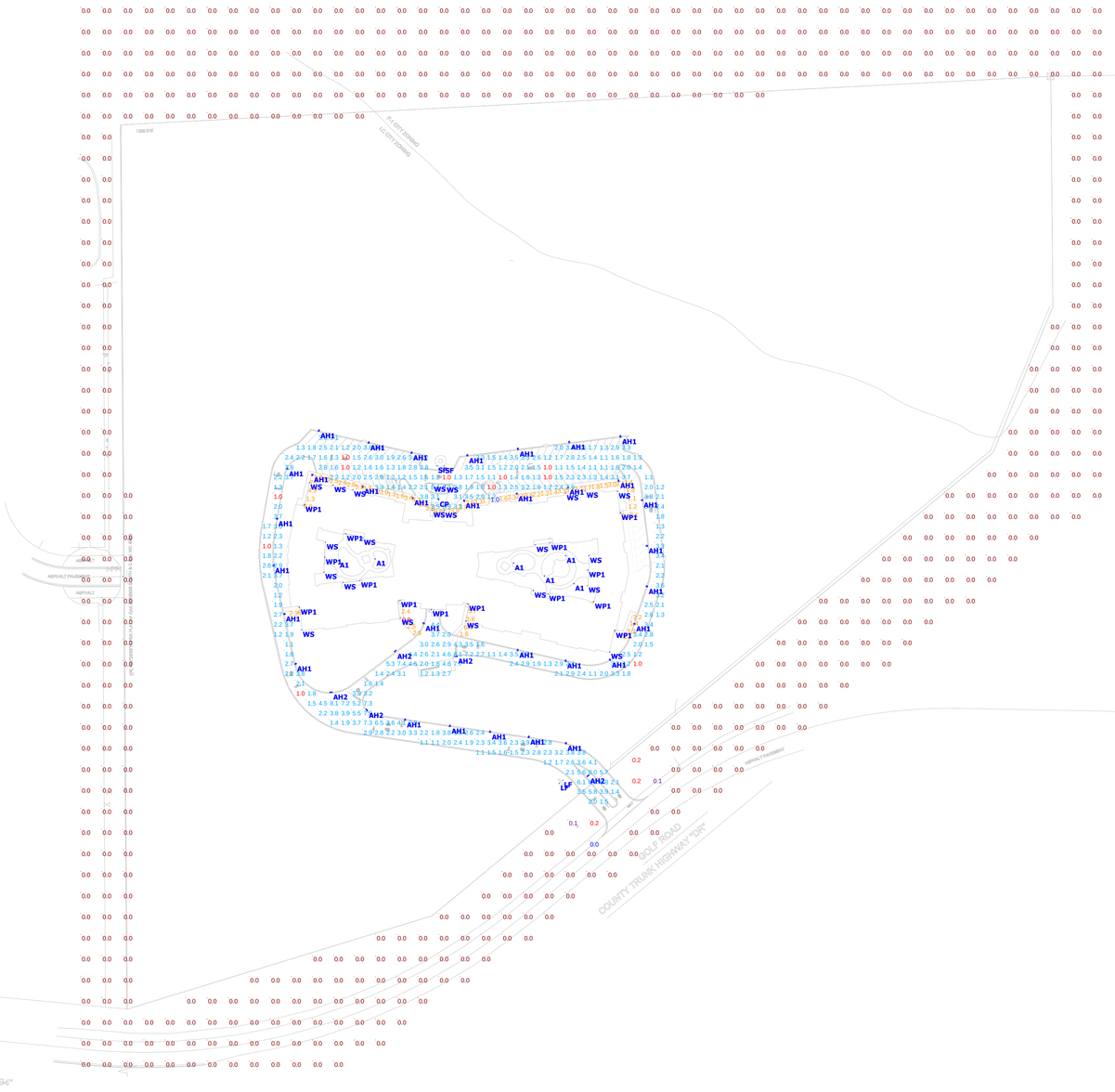
©COPYRIGHT 2023

LANDSCAPE DETAILS

Z:\PROJECTS\2018\1338.10-WI\CAD\SHEETS\1338.10 LANDSCAPE PLAN.DWG

Schedule				
Symbol	Label	Quantity	Manufacturer	Catalog Number
	A1	6	RAB LIGHTING INC.	ALED5T52N/D10 w\ 10ft Pole
	AH1	32	RAB LIGHTING INC. RC LIGHTING	IVAT2-75LPA740ZU w\ 15ft pole
	AH2	5	RAB LIGHTING INC.	IVAT5S-100LPA740ZU w\ 15ft pole
	CP	1	RAB	VANLED10NFFR
	LF	2	RAB LIGHTING INC. RC LIGHTING	FFLEDS/PCU
	SF	2	RAB LIGHTING INC. RC LIGHTING	BULLET12NA w\ MPMP17A
	WP1	14	RAB Lighting Inc.	SLIM17FA15ADJ
	WS	22	RAB LIGHTING INC. RC LIGHTING	CDLED4WD-20W-80D940-K

Statistics						
Description	Symbol	Avg	Max	Min	Max/Min	Avg/Min
Drive Lane & Parking	+	2.7 fc	8.9 fc	1.0 fc	8.9:1	2.7:1
End Of Driveway	+	0.1 fc	0.2 fc	0.0 fc	N/A	N/A
Outside Property	+	0.0 fc	0.0 fc	0.0 fc	N/A	N/A
Sidewalk	+	3.4 fc	9.9 fc	1.0 fc	9.9:1	3.4:1



Plan View
Scale - 1" = 100ft

Courtyard at Pewaukee

Designer	
Date	1/23/2023
Scale	Not to Scale
Drawing No.	
Summary	

1 of 1

ALED5T52N



High output LED pole top area light with IES type V circular distribution. Wide and uniform 360 degree pattern ideal for large outdoor areas such as parking lots, corporate parks, and retail settings.

Color: Bronze

Weight: 22.1 lbs

Project:	Type:
Prepared By:	Date:

Driver Info

Type	Constant Current
120V	0.45A
208V	0.26A
240V	0.23A
277V	0.19A
Input Watts	52.8W

LED Info

Watts	52W
Color Temp	4000K (Neutral)
Color Accuracy	70 CRI
L70 Lifespan	100,000 Hours
Lumens	6,978 lm
Efficacy	132.2 lm/W

Technical Specifications

Compliance

UL Listed:

Suitable for wet locations

IESNA LM-79 & LM-80 Testing:

RAB LED luminaires and LED components have been tested by an independent laboratory in accordance with IESNA LM-79 and LM-80

DLC Listed:

This product is on the Design Lights Consortium (DLC) Qualified Products List and is eligible for rebates from DLC Member Utilities. Designed to meet DLC 5.1 requirements.
DLC Product Code: PIUUV79T

LED Characteristics

LEDs:

4x13W high-output, long-life LEDs

Color Consistency:

3-step MacAdam Ellipse binning to achieve consistent fixture-to-fixture color

Color Stability:

LED color temperature is warrantied to shift no more than 200K in color temperature over a 5-year period

Color Uniformity:

RAB's range of Correlated Color Temperature follows the guidelines of the American National Standard for Specifications for the Chromaticity of Solid State Lighting (SSL) Products, ANSI C78.377-2017.

Performance

Lifespan:

100,000-Hour LED lifespan based on IES LM-80 results and TM-21 calculations

Wattage Equivalency:

Equivalent to 150W Metal Halide

Construction

Cold Weather Starting:

The minimum starting temperature is -40°C (-40°F)

Maximum Ambient Temperature:

Suitable for use in up to 40°C (104°F)

Effective Projected Area:

EPA = 1.2

Housing:

Precision die-cast aluminum, Type V distribution

Support Arms:

Extruded aluminum

Copyright © 2023 RAB Lighting All Rights Reserved Note: Specifications are subject to change at anytime without notice

Technical Specifications (continued)

Construction

Lens:

Clear tempered glass lens

Reflector:

Specular vacuum-metallized polycarbonate, Type V distribution

Gaskets:

High-temperature silicone

Finish:

Formulated for high durability and long-lasting color

Green Technology:

Mercury and UV free. RoHS-compliant components.

Optical

BUG Rating:

B3 U0 G2

Other

Patents:

The designs of the ALED5T52 are protected by patents pending in US, Canada, China, Taiwan and Mexico

Warranty:

RAB warrants that our LED products will be free from defects in materials and workmanship for a period of five (5) years from the date of delivery to the end user, including coverage of light output, color stability, driver performance and fixture finish. RAB's warranty is subject to all terms and conditions found at rablighting.com/warranty.

Buy American Act Compliance:

RAB values USA manufacturing! Upon request, RAB may be able to manufacture this product to be compliant with the Buy American Act (BAA). Please contact customer service to request a quote for the product to be made BAA compliant.

Electrical

Drivers:

Constant Current, Class 2 with 6kV surge protection, 120-277VAC, 50/60 Hz, 120V: 0.45A, 208V: 0.26A, 240V: 0.19A, 277V: 0.12A

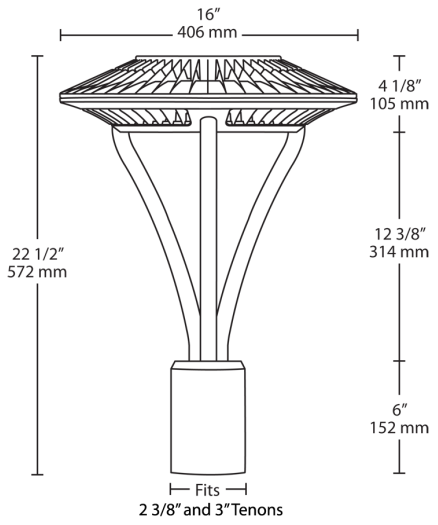
THD:

3.27% at 120V, 6.42% at 277V

Power Factor:

99.9% at 120V, 96.4% at 277V

Dimensions



Features

- IES type V (circular) distribution
- 100,000-hour LED lifespan
- Compatible with standard 2 3/8" and 3" tenons
- "Air-Flow" fins for maximum heat dissipation
- 5-Year, No-Compromise Warranty

Ordering Matrix

Family	Distribution	Wattage	Color Temp	Finish	Driver Option	Options	Other Options
ALED	5T	52	N				
	5T = Type V	**26 =** 26W **52 =** 52W **78 =** 78W	**Blank =** 5000K Cool **N =** 4000K Neutral **Y =** 3000K Warm	**Blank =** Bronze **W =** White **K =** Black **RG =** Gray	**Blank =** 120-277V **/D10 =** Dimmable **/BL =** Bi-Level **/480 =** 480V **/480/D10 =** 480V w/ Dimmable	**Blank =** No Option **/LC =** Lightcloud® Controller **/PCT =** 120-277V Twistlock Photocell **/PCT4 =** 480V Twistlock Photocell	**Blank =** Standard **USA =** BAA Compliant

Copyright © 2023 RAB Lighting All Rights Reserved Note: Specifications are subject to change at any time without notice

Copyright © 2023 RAB Lighting All Rights Reserved Note: Specifications are subject to change at any time without notice

BULLET12NA



12W LED equivalent to 75W BR30/halogen/wide flood. Available in black, white, bronze and verde green.

Color: Bronze

Weight: 1.7 lbs

Project:	Type:
Prepared By:	Date:

Driver Info

Type	Constant Current
120V	0.10A
208V	N/A
240V	N/A
277V	N/A
Input Watts	11.2W

LED Info

Watts	12W
Color Temp	4000K (Neutral)
Color Accuracy	85 CRI
L70 Lifespan	100,000 Hours
Lumens	1,071 lm
Efficacy	95.6 lm/W

Technical Specifications

Compliance

UL Listed:

Suitable for wet locations. Suitable for mounting within 4 feet of the ground.

IESNA LM-79 & LM-80 Testing:

RAB LED luminaires and LED components have been tested by an independent laboratory in accordance with IESNA LM-79 and LM-80.

Other

Note:

All values are typical (tolerance +/- 10%)

Warranty:

RAB warrants that our LED products will be free from defects in materials and workmanship for a period of five (5) years from the date of delivery to the end user, including coverage of light output, color stability, driver performance and fixture finish. RAB's warranty is subject to all terms and conditions found at rablighting.com/warranty.

Buy American Act Compliance:

RAB values USA manufacturing! Upon request, RAB may be able to manufacture this product to be compliant with the Buy American Act (BAA). Please contact customer service to request a quote for the product to be made BAA compliant.

LED Characteristics

LEDs:

Multi-chip, high-output, long-life LEDs

Color Stability:

LED color temperature is warrantied to shift no more than 200K in color temperature over a 5-year period

Color Uniformity:

RAB's range of Correlated Color Temperature follows the guidelines of the American National Standard for Specifications for the Chromaticity of Solid State Lighting (SSL) Products, ANSI C78.377-2017.

Performance

Lifespan:

100,000-Hour LED lifespan based on IES LM-80 results and TM-21 calculations

Wattage Equivalency:

75W PAR30

Construction

Thermal Management:

Superior heat sinking with external Air-Flow fins

Housing:

Die-cast aluminum housing, lens frame and mounting plate

Reflector:

Semi-specular, vacuum-metalized polycarbonate

Lens:

Microprismatic diffusion lens for smooth and even light distribution

Copyright © 2023 RAB Lighting All Rights Reserved Note: Specifications are subject to change at any time without notice

Technical Specifications (continued)

Construction

Mounting:

Heavy-duty mounting arm with "O" ring seal and stainless steel screws

Gaskets:

High-temperature silicone gaskets

Finish:

Our environmentally friendly polyester powder coatings are formulated for high-durability and long-lasting color

Green Technology:

Mercury and UV free. RoHS-compliant components.

Optical

NEMA Type:

NEMA Beam Spread of 6H x 6V

Electrical

Driver:

Innovative integrated driver technology with 120V TRIAC and ELV dimming

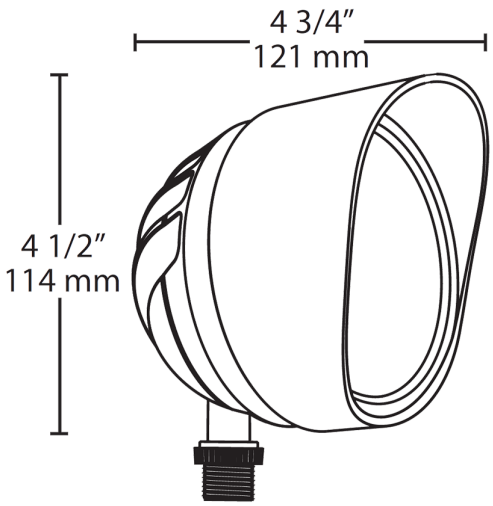
THD:

11.9% at 120V

Power Factor:

99% at 120V

Dimensions



Features

- 12W LED equivalent to 75W BR30/halogen/wide flood
- Mount as an uplight or downlight on a RAB Mighty Post or junction box
- Microprismatic diffusion lens for smooth and even light distribution
- 100,000-hour LED Lifespan

Ordering Matrix

Family	Wattage	Color Temp	Finish	Other Options
BULLET	12	N	A	
	12 = 12W	**Blank =** 5000K Cool **N =** 4000K Neutral **Y =** 3000K Warm	**A =** Bronze **B =** Black **VG =** Verde Green **W =** White	**Blank =** Standard

Copyright © 2023 RAB Lighting All Rights Reserved Note: Specifications are subject to change at any time without notice

CDLED4WD-20W-80D940-K



Cylinders are a complete design solution. They are available in various sizes, mounting options, colors and beam angles, and suitable for indoor/outdoor use.

Color: Matte black

Weight: 5.1 lbs

Project:	Type:
Prepared By:	Date:

Driver Info

Type	Constant Current
120V	0.18A
208V	0.11A
240V	0.10A
277V	0.09A
Input Watts	19.8W

LED Info

Watts	20W
Color Temp	4000K (Neutral)
Color Accuracy	90 CRI
R9	52
L70 Lifespan	50,000 Hours
Lumens	1,808 lm
Efficacy	91.3 lm/W

Technical Specifications

Compliance

UL Listed:

Suitable for wet locations

IESNA LM-79 & LM-80 Testing:

RAB LED luminaires and LED components have been tested by an independent laboratory in accordance with IESNA LM-79 and LM-80

Electrical

Driver:

Constant Current, Class 2, 120-277V, 50/60 Hz, 120V: 0.18A, 208V: 0.11A, 240V: 0.10A, 277V: 0.09A

Dimming Driver:

0 - 10V (at 120-277V), TRIAC and ELV (at 120V only)

THD:

13.6% at 120V, 23.1% at 277V

Power Factor:

98.1% at 120V, 85.9% at 277V

Optical

Optics:

80°

Performance

Lifespan:

50,000-Hour LED lifespan based on IES LM-80 results and TM-21 calculations

LED Characteristics

LEDs:

Long-life, high-efficacy, surface-mount LEDs

Color Stability:

LED color temperature is warrantied to shift no more than 200K in color temperature over a 5-year period

Construction

Cold Weather Starting:

The minimum starting temperature is -30°C (-22°F)

Maximum Ambient Temperature:

Suitable for use in up to 40°C (104°F)

Lens:

Solite Glass Lens and Microprismatic Diffusion Lens

Reflector:

Vacuum-metalized polycarbonate

Copyright © 2023 RAB Lighting All Rights Reserved Note: Specifications are subject to change at anytime without notice

Technical Specifications (continued)

Construction

Housing:

Extruded aluminum

Mounting:

Wall direct light only

Gaskets:

High-temperature silicone

Green Technology:

Mercury and UV free. RoHS-compliant components.

Finish:

Formulated for high durability and long-lasting color

Other

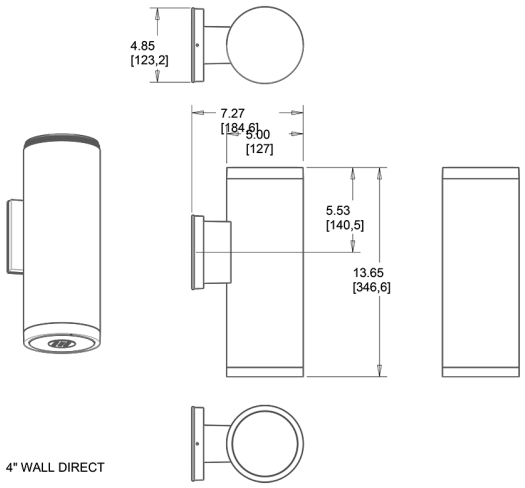
Warranty:

RAB warrants that our LED products will be free from defects in materials and workmanship for a period of five (5) years from the date of delivery to the end user, including coverage of light output, color stability, driver performance and fixture finish. RAB's warranty is subject to all terms and conditions found at rablighting.com/warranty.

Buy American Act Compliance:

RAB values USA manufacturing! Upon request, RAB may be able to manufacture this product to be compliant with the Buy American Act (BAA). Please contact customer service to request a quote for the product to be made BAA compliant.

Dimensions



Features

- Sleek, contemporary, architectural-grade design
- Universal dimming driver (TRIAC, ELV and 0-10V)
- 50,000-Hour LED lifespan

Ordering Matrix

Family	Size	Mounting		Wattage		Optic	CRI/Color Temp		Finish
CDLED	4	WD	–	20W	–	80D	940	–	K
	2 = 2"	**WD** = Wall Direct (Downlight) Only		**10W** = 10W		**20D** = 20°	**927** = 90 CRI, 2700K		**W** = Matte White
	4 = 4"	**WU** = Wall Indirect (Uplight) Only		**20W** = 20W		**30D** = 30°	**930** = 90 CRI, 3000K		**K** = Matte Black
	6 = 6"	**W** = Wall Direct/Indirect (Downlight/Uplight)		**26W** = 26W		**40D** = 40°	**935** = 90 CRI, 3500K		**S** = Matte Silver
		S = Surface (Ceiling Mount)		**40W** = 40W		**50D** = 50°	**940** = 90 CRI, 4000K		**Z** = Bronze
		PC = Pendant Cord 48" Standard				**80D** = 80°	**950** = 90 CRI, 5000K		
		PS = Pendant Stem				**WW** = Wall Wash			

Copyright © 2023 RAB Lighting All Rights Reserved Note: Specifications are subject to change at any time without notice

IVAT2-75LPA740ZU



Low profile, low glare. Edge-lit technology unlike any other.

Color: Bronze

Weight: 14.0 lbs

Project:	Type:
Prepared By:	Date:

Driver Info

Type	Constant Current
120V	0.58A
208V	0.34A
240V	0.29A
277V	0.25A
Input Watts	67W

LED Info

Watts	67W
Color Temp	4000K (Neutral)
Color Accuracy	73 CRI
L70 Lifespan	100,000 Hours
Lumens	7,484 lm
Efficacy	111.7 lm/W

Technical Specifications

Compliance

UL Listed:

Suitable for wet locations

IESNA LM-79 & LM-80 Testing:

RAB LED luminaires have been tested by an independent laboratory in accordance with IESNA LM-79 and LM-80

Title 24 Compliant:

An IVELOT edge-lit area light can be used with a motion sensor or photocell control option to comply with 2016 Title 24 Part 6 Section 130.2 (a,b,v)

IP Rating:

Ingress protection rating of IP66 for dust and water

DLC Listed:

This product is on the Design Lights Consortium (DLC) Qualified Products List and is eligible for rebates from DLC Member Utilities. Designed to meet DLC 5.1 requirements.
DLC Product Code: S-GDPZ7M

Electrical

Driver:

Class 2, 50/60Hz, 120-277V, 4kV standard, 10kV optional

Dimming Driver:

Driver includes dimming control wiring for 0-10V dimming systems. Requires separate 0-10V DC dimming circuit. Dims down to 10%.

THD:

12.82% at 120V, 13.68% at 277V

Power Factor:

98.7% at 120V, 93.4% at 277V

Performance

Lifespan:

100,000-Hour LED lifespan based on IES LM-80 results and TM-21 calculations at 25°C

LED Characteristics

LEDs:

Long-life, high-efficacy, surface-mount LEDs

Color Stability:

LED color temperature is warrantied to shift no more than 200K in color temperature over a 5-year period

Color Uniformity:

RAB's range of Correlated Color Temperature follows the guidelines of the American National Standard for Specifications for the Chromaticity of Solid State Lighting (SSL) Products, ANSI C78.377-2017.

Construction

Cold Weather Starting:

The minimum starting temperature is -40°C (-40°F)

Copyright © 2023 RAB Lighting All Rights Reserved Note: Specifications are subject to change at any time without notice

Technical Specifications (continued)

Construction

Maximum Ambient Temperature:

Suitable for use in up to 40°C (104°F)

Housing:

Precision die-cast aluminum

IES Classification:

The Type II distribution is ideal for wide walkways, on ramps and entrance roadways, bike paths and other long and narrow lighting applications. This type is meant for lighting larger areas and usually is located near the roadside. This type of lighting is commonly found on smaller side streets or jogging paths.

Mounting:

Universal pole adapter

Lens:

Diffused Polymethyl Methacrylate (PMMA)

Effective Projected Area:

EPA = 0.61

Finish:

Formulated for high durability and long-lasting color

Green Technology:

Mercury and UV free. RoHS-compliant components.

Optical

BUG Rating:

B2 U0 G2

Other

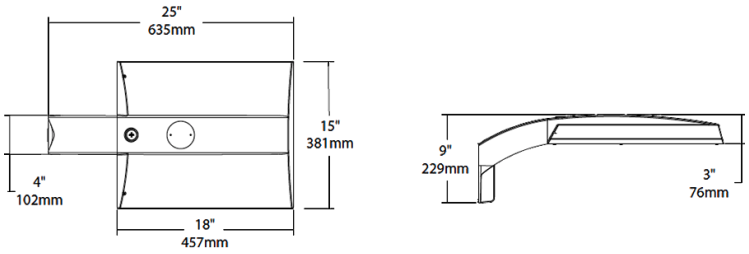
Warranty:

RAB warrants that our LED products will be free from defects in materials and workmanship for a period of five (5) years from the date of delivery to the end user, including coverage of light output, color stability, driver performance and fixture finish. RAB's warranty is subject to all terms and conditions found at rablighting.com/warranty.

Buy American Act Compliance:

RAB values USA manufacturing! Upon request, RAB may be able to manufacture this product to be compliant with the Buy American Act (BAA). Please contact customer service to request a quote for the product to be made BAA compliant.

Dimensions



Features

0-10V Dimming, standard

100,000-Hour LED lifespan

Copyright © 2023 RAB Lighting All Rights Reserved Note: Specifications are subject to change at any time without notice

Ordering Matrix

Family	Distribution		Lumen Output	Mounting	CRI/Color Temp	Finish	Voltage/Driver	Sensor Options	Lightcloud Option
IVA	T2	–	75L	PA	740	Z	U		
	T2 = Type II * **T3 =** Type III * **T4 =** Type IV * **T5S =** Type V Square * **FT =** Forward Throw *		**45L =** 4,500 lumens (38W) **75L =** 7,500 lumens (67W) **100L =** 10,000 lumens (94W) **130L =** 13,000 lumens (117W) [1]	**PA =** Universal Pole Mount **WM =** Wall mount **SF =** Slipfitter	**750 =** 70CRI 5000K **740 =** 70CRI 4000K **730 =** 70CRI 3000K	**Z =** Bronze **W =** White **G =** Roadway Gray **K =** Black	**U =** 120-277V 0-10V Dimming **H =** 347-480V, 0-10V Dimming	**Blank =** No Options **/WS =** 8ft lens Wattstopper **/WS2 =** 20ft lens Wattstopper **/WS4 =** 40ft lens Wattstopper **/7PR =** 7-Pin receptacle	**Blank =** No Lightcloud® **/LC =** Lightcloud® Controller [2]

[1] *Applies to Type IV, V Square*

[2] *Applies 120-277V*

* *All values are nominal with +/- 10% tolerance. See spec sheet for more details.*

Copyright © 2023 RAB Lighting All Rights Reserved Note: Specifications are subject to change at any time without notice

IVAT5S-100LPA740ZU



Low profile, low glare. Edge-lit technology unlike any other.

Color: Bronze

Weight: 15.0 lbs

Project:	Type:
Prepared By:	Date:

Driver Info

Type	Constant Current
120V	0.83A
208V	0.48A
240V	0.42A
277V	0.36A
Input Watts	94.6W

LED Info

Watts	94W
Color Temp	4000K (Neutral)
Color Accuracy	72 CRI
L70 Lifespan	100,000 Hours
Lumens	11,508 lm
Efficacy	121.6 lm/W

Technical Specifications

Compliance

UL Listed:

Suitable for wet locations

IESNA LM-79 & LM-80 Testing:

RAB LED luminaires have been tested by an independent laboratory in accordance with IESNA LM-79 and LM-80

Title 24 Compliant:

An IVELOT edge-lit area light can be used with a motion sensor or photocell control option to comply with 2016 Title 24 Part 6 Section 130.2 (a,b,v)

IP Rating:

Ingress protection rating of IP66 for dust and water

DLC Listed:

This product is listed by Design Lights Consortium (DLC) as an ultra-efficient premium product that qualifies for the highest tier of rebates from DLC Member Utilities. Designed to meet DLC 5.1 requirements.
DLC Product Code: S-VW1OGJ

Electrical

Driver:

Class 2, 50/60Hz, 120-277V, 4kV standard, 10kV optional

Dimming Driver:

Driver includes dimming control wiring for 0-10V dimming systems. Requires separate 0-10V DC dimming circuit. Dims down to 10%.

THD:

4.8% at 120V, 8.3% at 277V

Power Factor:

99.8% at 120V, 96.6% at 277V

Performance

Lifespan:

100,000-Hour LED lifespan based on IES LM-80 results and TM-21 calculations at 25°C

LED Characteristics

LEDs:

Long-life, high-efficacy, surface-mount LEDs

Color Stability:

LED color temperature is warrantied to shift no more than 200K in color temperature over a 5-year period

Color Uniformity:

RAB's range of Correlated Color Temperature follows the guidelines of the American National Standard for Specifications for the Chromaticity of Solid State Lighting (SSL) Products, ANSI C78.377-2017.

Construction

Cold Weather Starting:

The minimum starting temperature is -40°C (-40°F)

Copyright © 2023 RAB Lighting All Rights Reserved Note: Specifications are subject to change at any time without notice

Technical Specifications (continued)

Construction

Maximum Ambient Temperature:

Suitable for use in up to 40°C (104°F)

Housing:

Precision die-cast aluminum

IES Classification:

Type VS distributes light in a square symmetrical pattern and is meant for large, commercial parking lot lighting as well as areas where sufficient, evenly distributed light is necessary

Mounting:

Universal pole adapter

Lens:

Diffused Polymethyl Methacrylate (PMMA)

Effective Projected Area:

EPA = 0.61

Finish:

Formulated for high durability and long-lasting color

Green Technology:

Mercury and UV free. RoHS-compliant components.

Optical

BUG Rating:

B3 U0 G3

Other

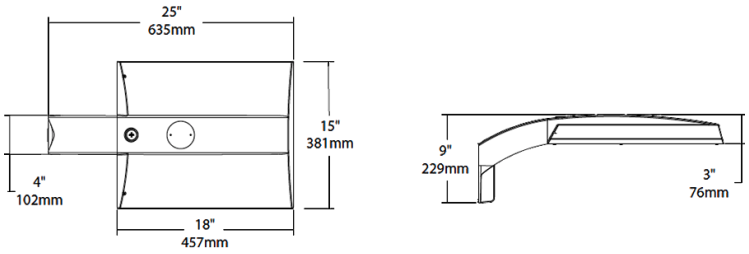
Warranty:

RAB warrants that our LED products will be free from defects in materials and workmanship for a period of five (5) years from the date of delivery to the end user, including coverage of light output, color stability, driver performance and fixture finish. RAB's warranty is subject to all terms and conditions found at rablighting.com/warranty.

Buy American Act Compliance:

RAB values USA manufacturing! Upon request, RAB may be able to manufacture this product to be compliant with the Buy American Act (BAA). Please contact customer service to request a quote for the product to be made BAA compliant.

Dimensions



Features

0-10V Dimming, standard

100,000-Hour LED lifespan

Copyright © 2023 RAB Lighting All Rights Reserved Note: Specifications are subject to change at any time without notice

Ordering Matrix

Family	Distribution		Lumen Output	Mounting	CRI/Color Temp	Finish	Voltage/Driver	Sensor Options	Lightcloud Option
IVA	T5S	–	100L	PA	740	Z	U		
	T2 = Type II **T3 =** Type III **T4 =** Type IV **T5S =** Type V Square **FT =** Forward Throw		**45L =** 4,500 lumens (38W) **75L =** 7,500 lumens (67W) **100L =** 10,000 lumens (94W) **130L =** 13,000 lumens (117W)	**PA =** Universal Pole Mount **WM =** Wall mount **SF =** Slipfitter	**750 =** 70CRI 5000K **740 =** 70CRI 4000K **730 =** 70CRI 3000K	**Z =** Bronze **W =** White **G =** Roadway Gray **K =** Black	**U =** 120-277V 0-10V Dimming **H =** 347-480V, 0-10V Dimming	**Blank =** No Options **/WS =** 8ft lens Wattstopper **/WS2 =** 20ft lens Wattstopper **/WS4 =** 40ft lens Wattstopper **/7PR =** 7-Pin receptacle	**Blank =** No Lightcloud® **/LC =** Lightcloud® Controller

Copyright © 2023 RAB Lighting All Rights Reserved Note: Specifications are subject to change at any time without notice

FFLEDS/PCU



Color: Bronze

Weight: 5.1 lbs

Project:	Type:
Prepared By:	Date:

Driver Info

Type	Constant Current
120V	0.25A
208V	0.14A
240V	0.13A
277V	0.11A
Input Watts	18-46.4W

LED Info

Watts	26W
Color Temp	4000K/5000K
Color Accuracy	82-83 CRI
L70 Lifespan	100,000 Hours
Lumens	2615-6243 lm
Efficacy	134.5-145.8 lm/W

Technical Specifications

Field Adjustability

Field Adjustable:

Field Adjustable Light Output:
39W/26W/18W (factory default 39W)
Color temperature (selectable by 4000K and 5000K)

Compliance

UL Listed:

Suitable for wet locations. Suitable for mounting within 1.2m (4ft) of the ground.

IP Rating:

Ingress protection rating of IP66 for dust and water

IESNA LM-79 & LM-80 Testing:

RAB LED luminaires and LED components have been tested by an independent laboratory in accordance with IESNA LM-79 and LM-80.

DLC Listed:

This product is listed by Design Lights Consortium (DLC) as an ultra-efficient premium product that qualifies for the highest tier of rebates from DLC Member Utilities. Designed to meet DLC 5.1 requirements.
DLC Product Code: P201EN30

LED Characteristics

LEDs:

Long-life, high-efficacy, discrete, surface-mount LEDs

Color Consistency:

7-step MacAdam Ellipse binning to achieve consistent fixture-to-fixture color

Color Stability:

LED color temperature is warrantied to shift no more than 200K in color temperature over a 5-year period

Color Uniformity:

RAB's range of Correlated Color Temperature follows the guidelines of the American National Standard for (SSL) Products, ANSI C78.377-2017.

Electrical

Driver:

18W: Constant Current, Class 2, 120-277V, 50/60 Hz, 120V: 0.15A, 208V: 0.09A, 240V: 0.08A, 277V: 0.07A

26W: Constant Current, Class 2, 120-277V, 50/60 Hz, 120V: 0.25A, 208V: 0.14A, 240V: 0.13A, 277V: 0.11A

39W: Constant Current, Class 2, 120-277V, 50/60 Hz, 120V: 0.38A, 208V: 0.22A, 240V: 0.19A, 277V: 0.17A

Dimming Driver:

Driver includes dimming control wiring for 0-10V dimming systems. Requires separate 0-10V DC dimming circuit. Dims down to 10%.

THD:

1.93% at 120V, 10.57% at 277V

Power Factor:

99.92% at 120V, 90.54% at 277V

Photocell:

120-277V Button photocell included. Photocell is compatible with 120V-277V.

Copyright © 2023 RAB Lighting All Rights Reserved Note: Specifications are subject to change at any time without notice

Technical Specifications (continued)

Electrical

Surge Protection:

4kV

Performance

Lifespan:

100,000-Hour LED lifespan based on IES LM-80 results and TM-21 calculations

Wattage Equivalency:

39W: 200W Metal Halide
26W: 150W Metal Halide
18W: 100W Metal Halide

Optical

NEMA Type:

NEMA Beam Spread of 7H x 6V

Construction

Cold Weather Starting:

The minimum starting temperature is -40°C (-40°F)

Ambient Temperature:

Suitable for use in up to 40°C (104°F)

Housing:

Die-cast aluminum

Mounting:

Robust knuckle mount with 180° adjustable swivel arm. Tilt angle in 10° increments.

Effective Projected Area:

EPA = 0.32

Lens:

Ultra clear, tempered glass

Reflector:

Vacuum metalized polycarbonate

Gaskets:

High-temperature silicone gaskets

Finish:

Formulated for high durability and long-lasting color

Green Technology:

Mercury and UV free. RoHS-compliant components.

Other

Warranty:

RAB warrants that our LED products will be free from defects in materials and workmanship for a period of ten (10) years from the date of delivery to the end user, including coverage of light output, color stability, driver performance and fixture finish. RAB's warranty is subject to all terms and conditions found at rablighting.com/warranty.

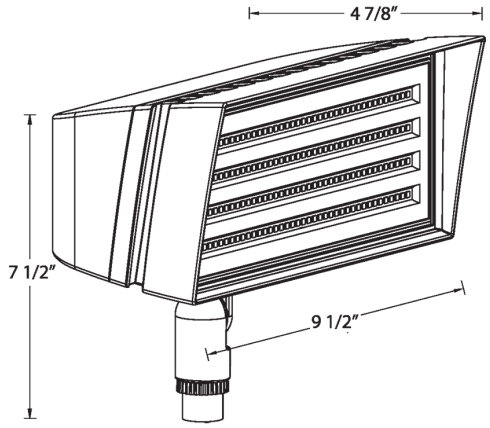
Trade Agreements Act Compliant:

This product is a product of Cambodia and a "designated country" end product that complies with the Trade Agreements Act

Buy American Act Compliance:

RAB values USA manufacturing! Upon request, RAB may be able to manufacture this product to be compliant with the Buy American Act (BAA). Please contact customer service to request a quote for the product to be made BAA compliant.

Dimensions



Features

- Ultra-efficient LED and optical design
- 100,000-hour life based on LM-80 results and TM-21 calculations
- DLC Premium Listed
- 10-Year, No-Compromise Warranty

Copyright © 2023 RAB Lighting All Rights Reserved Note: Specifications are subject to change at any time without notice

Ordering Matrix

Family	Housing Size	Color Temp	Mounting	Finish	Voltage	Options
FFLED	S					/PCU
	XS = Field Adjustable 18W/13W/9W **S =** Field Adjustable 39W/26W/18W **M =** Field Adjustable 80W/52W **L =** Field Adjustable 230W/180W/120W	**Blank =** Field Adjustable 5000K/4000K **Y =** 3000K Warm	**Blank =** Knuckle Mount **SF =** Slipfitter **T =** Trunnion	**Blank =** Bronze **W =** White	**Blank =** 120-277V, 0-10V Dimming **/480 =** 480V, 0-10V Dimming	**Blank =** No Option **/7PR =** 7Pin Receptacle **/PCU =** 120-277V Button Photocell

Copyright © 2023 RAB Lighting All Rights Reserved Note: Specifications are subject to change at anytime without notice

SLIM17FA15ADJ



Color: Bronze

Weight: 3.0 lbs

Project:	Type:
Prepared By:	Date:

Driver Info

Type	Constant Current
120V	0.13A
208V	0.07A
240V	0.06A
277V	0.05A
Input Watts	14.2/14/14.2W

LED Info

Watts	15W
Color Temp	3000K/4000K/5000K
Color Accuracy	70 CRI
L70 Lifespan	100,000 Hours
Lumens	1761/1904/1852 lm
Efficacy	124/136.2/130.3 lm/W

Technical Specifications

Field Adjustability

Field Adjustable:

Color temperature selectable by 3000K, 4000K and 5000K

Compliance

UL Listed:

Suitable for wet locations

IESNA LM-79 & LM-80 Testing:

RAB LED luminaires and LED components have been tested by an independent laboratory in accordance with IESNA LM-79 and LM-80

IP Rating:

Ingress protection rating of IP65 for dust and water

DLC Listed:

This product is listed by Design Lights Consortium (DLC) as an ultra-efficient premium product that qualifies for the highest tier of rebates from DLC Member Utilities. Designed to meet DLC 5.1 requirements.
DLC Product Code: PL0MVJOV62Q3

Performance

Lifespan:

100,000-Hour LED lifespan based on IES LM-80 results and TM-21 calculations

Wattage Equivalency:

Equivalent to 70W Metal Halide

LED Characteristics

LEDs:

Long-life, high-efficiency, surface-mount LEDs

Electrical

Driver:

Constant Current, Class 2, 120-277V, 50/60 Hz, 120V: 0.13A, 208V: 0.07A, 240V: 0.06A, 277V: 0.05A

Dimming Driver:

Driver includes dimming control wiring for 0-10V dimming systems. Requires separate 0-10V DC dimming circuit. Dims down to 10%.

Photocell:

120-277V Integrated button photocell included.

Construction

Cold Weather Starting:

The minimum starting temperature is -40°C (-40°F)

Maximum Ambient Temperature:

Suitable for use in up to 50°C (122°F)

Housing:

Precision die-cast aluminum housing and door frame

Copyright © 2023 RAB Lighting All Rights Reserved Note: Specifications are subject to change at any time without notice

Technical Specifications (continued)

Construction

Lens:

Polycarbonate lens

Mounting:

Hinged wiring access and conduit entries on the back, sides, top and bottom make installation a snap

Cut Off:

Adjustable from 0° (full cutoff) to 90°. 7 settings at 15° each.

Finish:

Formulated for high durability and long-lasting color

Green Technology:

Mercury and UV free. RoHS-compliant components.

Other

Note:

All values are typical (tolerance +/- 10%)

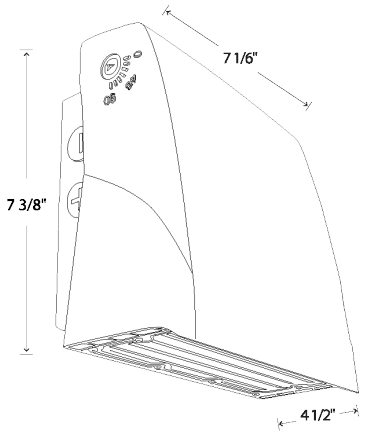
5 Yr Limited Warranty:

The RAB 5-year, limited warranty covers light output, driver performance and paint finish. RAB's warranty is subject to all terms and conditions found at rablighting.com/warranty.

Buy American Act Compliance:

RAB values USA manufacturing! Upon request, RAB may be able to manufacture this product to be compliant with the Buy American Act (BAA). Please contact customer service to request a quote for the product to be made BAA compliant.

Dimensions



Features

- Selectable CCT
- Adjustable cutoff
- Integrated photocell
- 0-10V dimming standard

Ordering Matrix

Family	Wattage	Style
SLIM17FA	15	ADJ
	15 = 15W **30 =** 30W	**ADJ =** Angle Adjustable

Copyright © 2023 RAB Lighting All Rights Reserved Note: Specifications are subject to change at any time without notice

VANLED10NFFR



Low-profile vandal-resistant fixture covers the footprint of most traditional canopy lights. Available in flat or drop lens with frosted and unfrosted options.

Color: Bronze

Weight: 10.8 lbs

Project:	Type:
Prepared By:	Date:

Driver Info

Type	Constant Current
120V	0.12A
208V	0.07A
240V	0.06A
277V	0.05A
Input Watts	14.6W

LED Info

Watts	10W
Color Temp	4000K (Neutral)
Color Accuracy	84 CRI
L70 Lifespan	100,000 Hours
Lumens	1,945 lm
Efficacy	133.2

Technical Specifications

Compliance

UL Listed:

Suitable for Wet Locations. Covered Ceiling Mount Only.

IESNA LM-79 & LM-80 Testing:

RAB LED luminaires and LED components have been tested by an independent laboratory in accordance with IESNA LM-79 and LM-80.

IP Rating:

Ingress protection rating of IP66 for dust and water

DLC Listed:

This product is listed by Design Lights Consortium (DLC) as an ultra-efficient premium product that qualifies for the highest tier of rebates from DLC Member Utilities. Designed to meet DLC 5.1 requirements.
DLC Product Code: PL6FU3H2 (DLC Premium: Stairwell and Passageway Luminaires)
DLC Product Code: S-RLSEHN (DLC Standard: Canopy Lighting)

Electrical

Driver:

Class 2, Constant Current, 120-277V, 50-60Hz, 120V: 0.12A, 208V: 0.07A, 240V: 0.06A, 277V: 0.05A

Dimming Driver:

Driver includes dimming control wiring for 0-10V dimming systems. Requires separate 0-10V DC dimming circuit. Dims down to 10%.

THD:

16.56% at 120V, 12.14% at 277V

Power Factor:

96.6% at 120V, 94% at 277V

LED Characteristics

LEDs:

Long-life, high-efficacy, surface-mount LEDs

Color Stability:

RAB LEDs exceed industry standards for chromatic stability

Color Uniformity:

RAB's range of Correlated Color Temperature follows the guidelines of the American National Standard for Specifications for the Chromaticity of Solid State Lighting (SSL) Products, ANSI C78.377-2017.

Construction

Maximum Ambient Temperature:

Suitable for use in up to 40°C (104°F)

Cold Weather Starting:

The minimum starting temperature is -40°C (-40°F)

Lens:

Vandal-resistant polycarbonate textured opaque for low glare frosted flat lens

Copyright © 2023 RAB Lighting All Rights Reserved Note: Specifications are subject to change at any time without notice

Technical Specifications (continued)

Construction

Housing:

Die-cast aluminum housing and lens frame with (4) 1/2" NPS side conduit entries and weatherproof rear wire plug and access plate

Mounting:

Ceiling mount to recessed junction with knockout template or directy to ceiling surface, utilizing side conduit entry points

Air Tight:

Housing certified Air Tight as per ASTM E283

Finish:

Our environmentally friendly polyester powder coatings are formulated for high-durability and long-lasting color

Other

Warranty:

RAB warrants that our LED products will be free from defects in materials and workmanship for a period of five (5) years from the date of delivery to the end user, including coverage of light output, color stability, driver performance and fixture finish. RAB's warranty is subject to all terms and conditions found at rablighting.com/warranty.

Buy American Act Compliance:

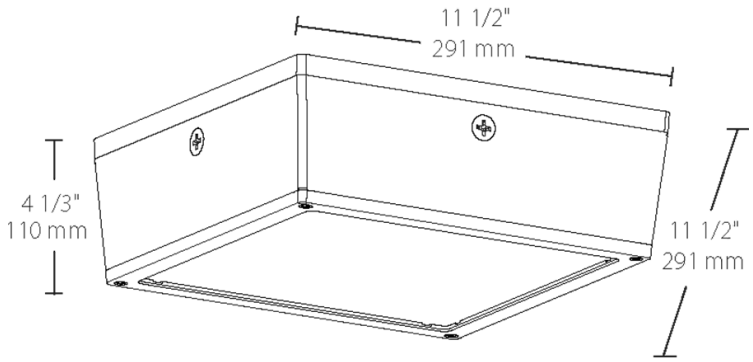
RAB values USA manufacturing! Upon request, RAB may be able to manufacture this product to be compliant with the Buy American Act (BAA). Please contact customer service to request a quote for the product to be made BAA compliant.

Performance

Wattage Equivalency:

Equivalent to 70W Metal Halide

Dimensions



Features

- Fits the footprint of older canopy lights
- Vandal resistant and UV resistant lens
- Ultra-high efficiency
- Clean, contemporary, low-profile design
- Available with drop lens or flat lens
- IP66 rated, keeps dust, bugs and water out
- Photo and motion sensor options available

Copyright © 2023 RAB Lighting All Rights Reserved Note: Specifications are subject to change at any time without notice

Ordering Matrix

Family	Wattage	Color Temp	Lens-Optics	Finish	Voltage	Options
VANLED	10	N	FFR			
	10 = 10W **20 =** 20W **28 =** 28W **40 =** 40W **52 =** 52W **65 =** 65W **75 =** 75W	**Blank =** 5000K Cool **N =** 4000K Neutral **Y =** 3000K Warm	**Blank =** Drop lens **F =** Flat lens [1] **FR =** Frosted Drop Lens **FFR =** Frosted Flat Lens [1]	**Blank =** Bronze **W =** White	**Blank =** 120-277V, 0-10V Dimming **/480 =** 480V, 0-10V Dimming	**/PCS =** 120V Swivel Photocell **/PCS2 =** 277V Swivel Photocell **/PCS4 =** 480V Swivel Photocell **/WS =** Wattstopper, 8ft **/WS2 =** Wattstopper, 20ft **/MVS =** Microwave Motion Sensor [1] **Blank =** No Options **/E2 =** Battery Backup, 120-277V only **/LC =** Lightcloud® Controller

[1] */MVS option not available with F and FFR lens*

Copyright © 2023 RAB Lighting All Rights Reserved Note: Specifications are subject to change at any time without notice

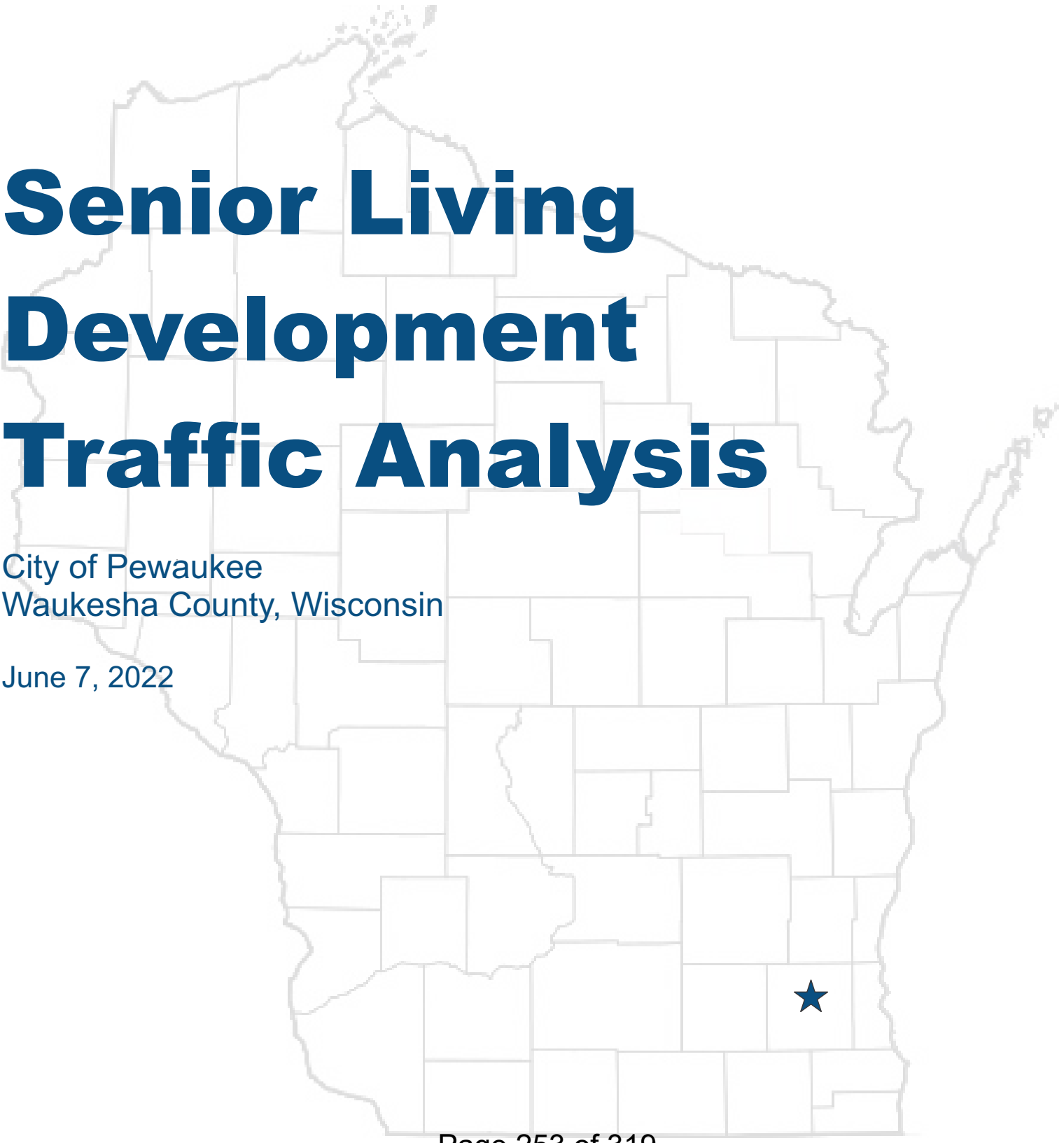
TRAFFIC ANALYSIS & DESIGN, INC.

P.O. Box 128
Cedarburg, WI 53012
800.605.3091
www.tadi-us.com

Senior Living Development Traffic Analysis

City of Pewaukee
Waukesha County, Wisconsin

June 7, 2022



Date: June 7, 2022

Traffic Impact Analysis

To: Michael D. Samuels
General Counsel

From: Don J. Lee, P.E.
John A. Bieberitz, P.E. PTOE

cc List:

Subject: Senior Living Development
CTH G/Golf Road
Waukesha County, Wisconsin

PART A – INTRODUCTION

A senior living development is proposed to be located north of County Trunk Highway (CTH) DR/Golf Road and west of CTH G/Meadowbrook Road in Waukesha County, Wisconsin.

This traffic study summarizes the trip generation and traffic operations anticipated with the completion of the proposed senior living development for the opening year traffic volume conditions.

PART B – STUDY AREA

An aerial of the study area with the site location is included in Exhibit 1. A conceptual site plan for the proposed development is shown in Exhibit 2.

Based on discussions with Waukesha County, the study area includes the CTH G intersection with CTH DR/Golf Road as well as the CTH G intersection with the proposed development driveway. Exhibit 3 shows the existing transportation detail of the study area intersection.

CTH G/Meadowbrook Road is a four-lane minor arterial highway with a posted speed limit of 35-mph and a year 2018 WisDOT AADT of 7,000 vehicles per day (vpd) north of CTH DR/Golf Road and 9,400-vpd (2019 count) to the south. A multi-use path is present on the east side of CTH G through the study area.

CTH DR/Golf Road is a two-lane undivided minor arterial highway with a posted speed limit of 45-mph east of CTH G and 50-mph west of CTH G. The year 2015 WisDOT AADT on CTH DR/Golf Road was 1,900-vpd immediately to the west of the development site. A multi-use path is present on the south side of CTH DR/Golf Road east of CTH G.

As part of the development, a new access driveway is being proposed with CTH DR/Golf Road approximately 600-feet (centerline-to-centerline) west of CTH G.

PART C – TRAFFIC VOLUMES

C1. Year 2022 Existing Traffic Volumes

TADI performed weekday morning (6:00 to 9:00am) and weekday evening (3:00 to 6:00pm) turning movement traffic counts at the CTH G intersection with CTH DR/Golf Road in late-May of 2022. The weekday morning and evening peak hours were identified as 7:00 to 8:00am and 3:30 to 4:30pm, respectively. Exhibit 4 shows the Year 2022 existing peak hour traffic volumes. The turning movement counts are included in Appendix A of this memorandum.

C2. Trip Generation

The traffic volumes expected to be generated by the senior living development are based on the development size of 126 units and on trip rates as published in the Institute of Transportation Engineers' (ITE) *Trip Generation Manual, 11th Edition.* The Continuing Care Retirement Community (CCRC) land use (LU255) was utilized for this study. Per the ITE description, this land use provides multiple elements of senior adult living. A CCRC enables a resident to transition in place from independent living to increased care as the medical needs of the resident change. Housing options may include various combinations of senior adult housing, congregate care, assisted living, and nursing home. The senior living development trip generation table is shown in Exhibit 5.

As shown, the proposed senior living development is expected to generate approximately 310 new trips (155 in/155 out) during a typical weekday (24-hour period), 20 new trips (15 in/5 out) during a typical weekday morning peak hour, and 25 new trips (10 in/15 out) during a typical weekday evening peak hour.

C3. Trip Distribution

The trip distribution for the proposed senior living development was determined based on the existing traffic patterns and the type of proposed land uses. The expected trip distribution for the proposed development, also shown in table format on Exhibit 5, is summarized as follows:

- 50% traffic to/from the south on CTH G
- 40% traffic to/from the north on CTH G
- 10% traffic to/from the west on Golf Road

C4. Trip Assignment

The senior living development new trips were assigned to the study area using the trip distribution previously outlined. The senior living development new trips are shown in Exhibit 6.

C5. Year 2022 Build Traffic Volumes

The Year 2022 build traffic volumes, shown in Exhibit 7, were determined by summing the Year 2022 existing traffic volumes (Exhibit 4) and the senior living development new trips (Exhibit 6).

PART D – INTERSECTION CAPACITY ANALYSIS

D1. Level of Service Definitions

The study area intersections were analyzed based on the procedures set forth in the *Highway Capacity Manual, 6th Edition* (HCM). Intersection operation is defined by "Level of Service". Level of Service (LOS) is a quantitative measure that refers to the overall quality of flow at an intersection ranging from very good, represented by LOS 'A', to very poor, represented by LOS 'F'. For the purpose of this study, and as is standard for use in urban areas in southeast Wisconsin, LOS D or better was used to define desirable peak hour operating conditions at the study area intersections. Descriptions of the various levels of service are as follows:

LOS A is the highest level of service that can be achieved. Under this condition, intersection approaches appear quite open, turning movements are easily made, and nearly all drivers find freedom of operation. At signalized and unsignalized intersections, average delays are less than 10 seconds.

LOS B represents stable operation. At signalized intersections, average vehicle delays are 10 to 20 seconds. At unsignalized intersections, average delays are 10 to 15 seconds.

LOS C still represents stable operation, but periodic backups of a few vehicles may develop behind turning vehicles. Most drivers begin to feel restricted, but not objectionably so. At signalized intersections, average vehicle delays are 20 to 35 seconds. At unsignalized intersections, average delays are 15 to 25 seconds.

LOS D represents increasing traffic restrictions as the intersection approaches instability. Delays to approaching vehicles may be substantial during short peaks within the peak period, but periodic clearance of long lines occurs, thus preventing excessive backups. At signalized intersections, average vehicle delays are 35 to 55 seconds. At unsignalized intersections, average delays are 25 to 35 seconds.

LOS E represents the capacity of the intersection. At signalized intersections, average vehicle delays are 55 to 80 seconds. At unsignalized intersections, average delays are 35 to 50 seconds.

LOS F represents jammed conditions where the intersection is over capacity and acceptable gaps for unsignalized intersections in the mainline traffic flow are minimal. At signalized intersections, average vehicle delays exceed 80 seconds. At unsignalized intersections, average delays exceed 50 seconds.

The analysis was performed using the HCM 6th Edition module in the Synchro 11 software. The LOS, delay (reported in seconds) and 95th percentile queue lengths (reported in feet) were reported from the HCM 6th Edition module.

D2. Intersection Operations

The Year 2022 existing and Year 2022 build (with proposed development) traffic volumes were analyzed using the existing transportation detail shown in Exhibit 3 and the existing traffic signal timings, which were obtained from Waukesha County. The traffic signal timings are included in Appendix B of this memorandum. Tables 1 and 2 show the results of the analysis (LOS, delay and queue length) for each movement and for each intersection under the Year 2022 existing and Year 2022 build (with proposed development) traffic conditions.

Table 1
Year 2022 Existing Traffic Peak Hour Operating Conditions
With Existing Geometrics and Traffic Control

Intersection	Peak Hour	Metric	Level of Service (LOS) per Movement by Approach												I/S LOS & Delay
			Eastbound			Westbound			Northbound			Southbound			
			↗	→	↘	↙	←	↖	↖	↑	↗	↘	↓	↙	
Node 100: CTH G & CTH DR (Golf Road) *Traffic Signal Control*		*Lanes->*	*1*	*1*	*1*	*1*	*1*		*1*	*2*	*1*	*1*	*2*	*1*	
	AM	LOS	B	B	B	B	B		A	A	A	A	A	A	A
		Delay	13	12	12	13	12		8	9	9	8	9	9	9
		Queue	25'	25'	25'	30'	25'		25'	55'	25'	25'	45'	25'	
	PM	LOS	B	B	B	B	B		A	A	A	A	B	A	B
		Delay	13	12	12	13	13		8	9	9	9	11	9	11
		Queue	25'	25'	25'	40'	50'		25'	65'	25'	25'	65'	25'	

(-) indicates a movement that is prohibited or does not exist; (*) indicates a freeflow movement.
Delay is reported in seconds. Queue is the maximum of the 50th & 95th percentile queue, measured in feet.

Table 2
Full Build Traffic Peak Hour Operating Conditions
With Existing Geometrics and Traffic Control

Intersection	Peak Hour	Metric	Level of Service (LOS) per Movement by Approach												I/S LOS & Delay
			Eastbound			Westbound			Northbound			Southbound			
			↗	→	↘	↙	←	↖	↖	↑	↗	↘	↓	↙	
Node 100: CTH G & CTH DR (Golf Road) *Traffic Signal Control*		*Lanes->*	*1*	*1*	*1*	*1*	*1*		*1*	*2*	*1*	*1*	*2*	*1*	
	AM	LOS	B	B	B	B	B		A	A	A	A	A	A	A
		Delay	13	12	12	13	12		8	9	9	8	9	9	9
		Queue	25'	25'	25'	30'	25'		25'	55'	25'	25'	45'	25'	
	PM	LOS	B	B	B	B	B		A	A	A	A	B	A	B
		Delay	13	12	12	13	13		8	9	9	9	11	9	11
		Queue	25'	25'	25'	40'	50'		25'	65'	25'	25'	65'	25'	
Node 200: CTH DR (Golf Road) & Private Drive *One-Way Stop Control*		*Lanes->*	*1*		-	-	*1*		-	-		*1*			
	AM	LOS	A		-	-	*		-	-		A			A
		Delay	7		-	-	*		-	-		9			1
		Queue	25'		-	-	*		-	-		25'			
	PM	LOS	A		-	-	*		-	-		A			A
		Delay	8		-	-	*		-	-		9			1
		Queue	25'		-	-	*		-	-		25'			

(-) indicates a movement that is prohibited or does not exist; (*) indicates a freeflow movement.
Delay is reported in seconds. Queue is the maximum of the 50th & 95th percentile queue, measured in feet.

As shown in Tables 1 and 2, all movements at study area intersections are expected to operate at LOS B or better conditions under existing conditions and with the full build out of the proposed senior living development with no geometric modifications and no modifications to the signal phasing or timing plans.

All analysis outputs are included in Appendices C & D.

PART E – RECOMMENDED MODIFICATIONS

The following modifications, shown in Exhibit 8, are recommended to accommodate traffic with the full build-out of the proposed senior living development.

Modifications are for jurisdictional consideration and are not legally binding. Waukesha County reserves the right to determine alternative solutions.

CTH G & CTH DR/Golf Road

- No modifications are expected to be necessary.

CTH DR/Golf Road & Proposed Driveway

- Provide one shared left-turn/right-turn lane on the north (southbound) approach.
- Install stop control on the north approach to CTH DR/Golf Road.

It is noted that left-turn lane and right-turn lane warrants were evaluated at the proposed driveway location onto Golf Road. Based on the low turning volumes expected from the proposed development, separate dedicated right-turn lane and left-turn lanes are neither warranted nor recommended. All warrant backup calculations are included in Appendix E.

In addition, a by-pass lane was also evaluated at the new intersection. Based on the Waukesha County Code of Ordinances (*Section 15-54; Access Point Design Criteria*), a by-pass lane is required at any new "T" type intersection when the mainline AADT volumes are greater than 2,500 vehicles per day (vpd). Based on historic WisDOT AADT count information, the CTH DR/Golf Road AADT within the limits of the new driveway connection under the existing (no development) conditions is approximately 1,900-vpd. Therefore, a by-pass lane is not required at the new driveway location per the Waukesha County code.

PART F – CONCLUSION

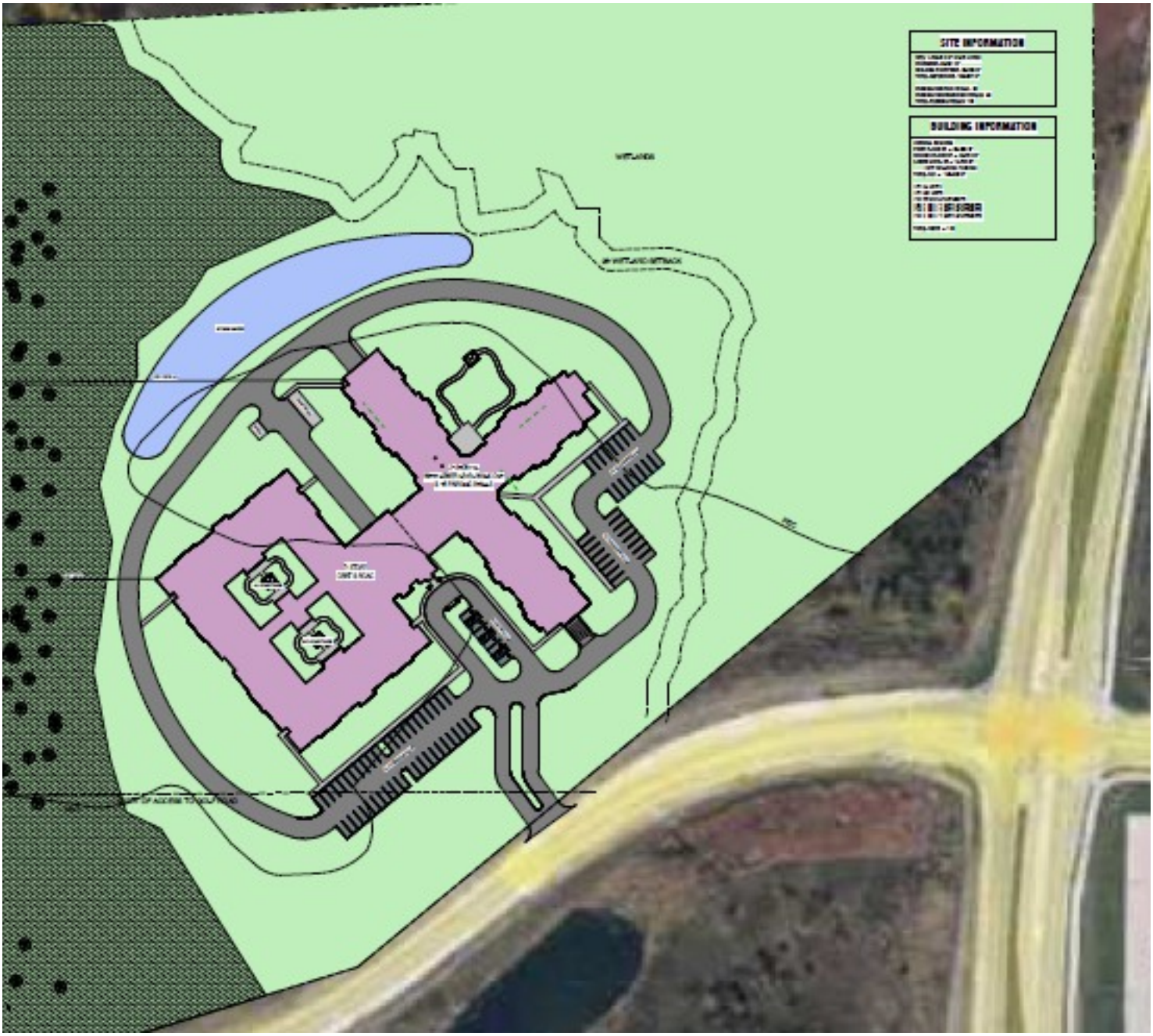
The CTH G intersection with CTH DR/Golf Road is expected to operate safely and efficiently with the full buildout of the proposed senior living development without any signal modifications. The proposed driveway intersection with CTH DR/Golf Road is expected to operate safely and efficiently if properly designed and constructed per Waukesha County guidelines.



TRAFFIC ANALYSIS & DESIGN, INC.
2888; 06-07-2022

EXHIBIT 1
STUDY AREA AERIAL

WAUKESHA COUNTY, WISCONSIN



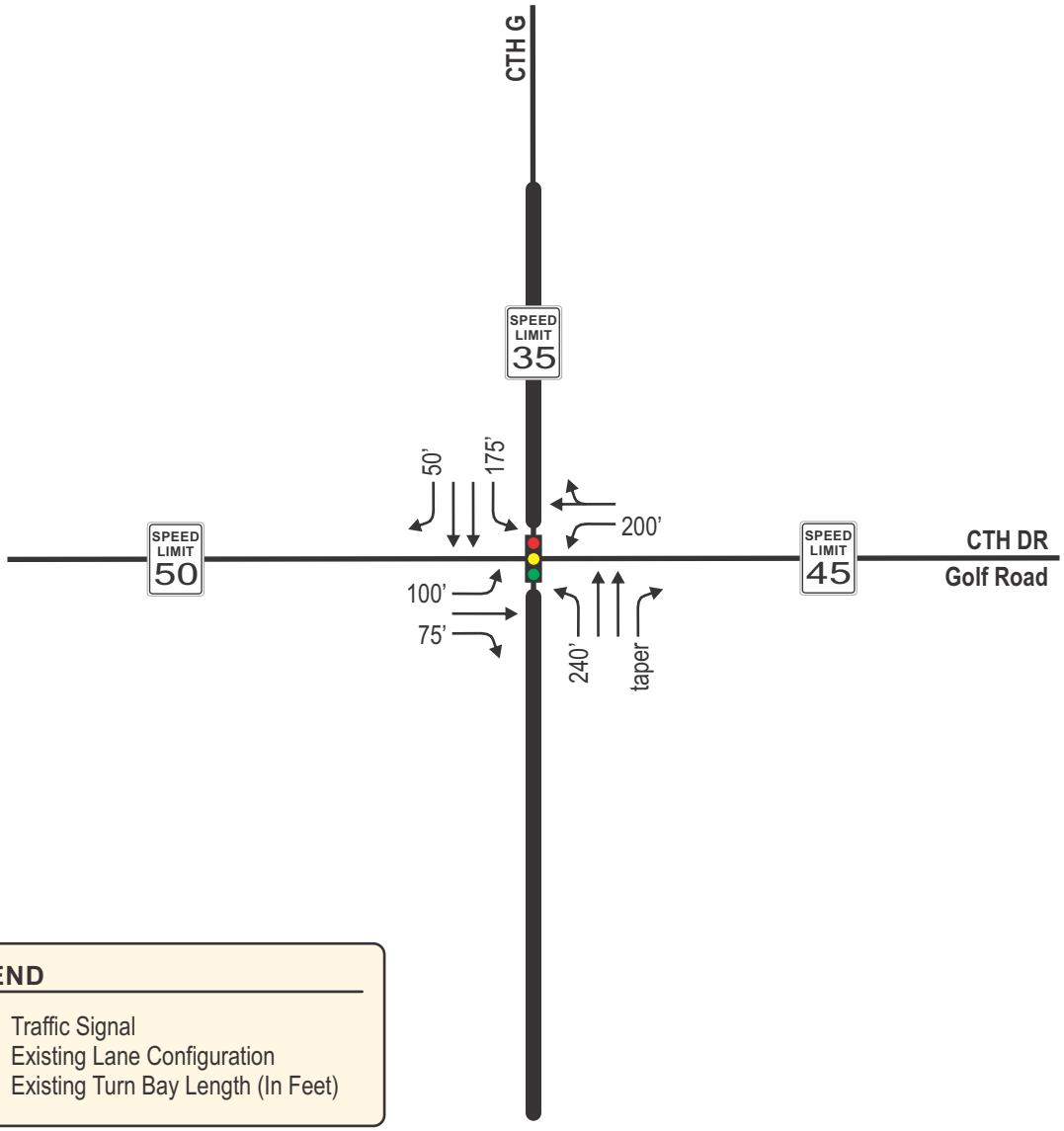
TRAFFIC ANALYSIS & DESIGN, INC.
2888; 06-07-2022

EXHIBIT 2
CONCEPTUAL SITE PLAN

WAUKESHA COUNTY, WISCONSIN

N

NOT TO SCALE



LEGEND

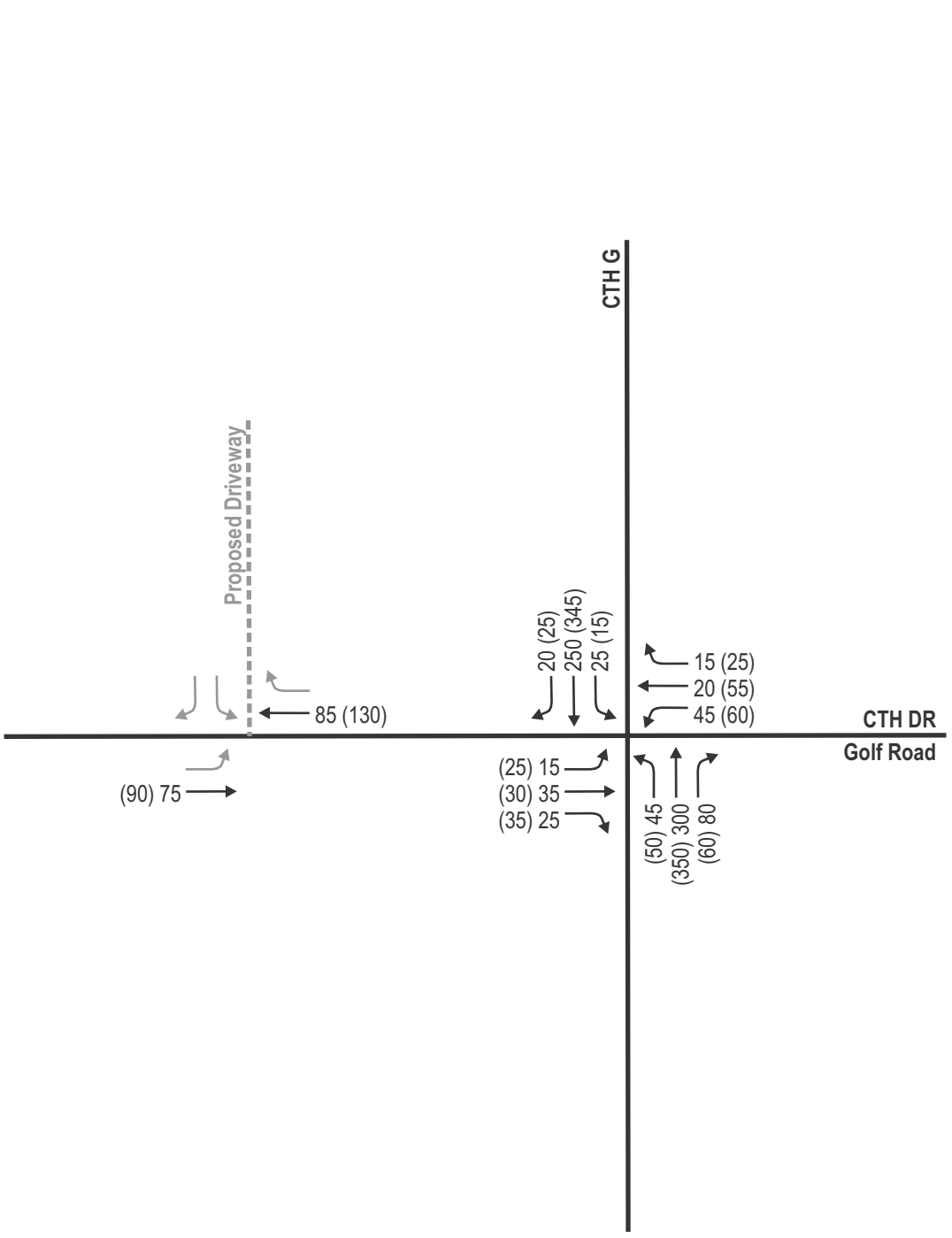
- Traffic Signal
- Existing Lane Configuration
- XX' Existing Turn Bay Length (In Feet)

TRAFFIC ANALYSIS & DESIGN, INC.

2888; 06-07-2022

EXHIBIT 3
EXISTING TRANSPORTATION DETAIL

WAUKESHA COUNTY, WISCONSIN



LEGEND

XX	AM Peak Hour Volumes (7:00:-8:00 AM)
(XX)	PM Peak Hour Volumes (3:30-4:30 PM)
–	Negligible Traffic Volumes (Fewer than 2 vph)

TRAFFIC ANALYSIS & DESIGN, INC.
2888; 06-07-2022

EXHIBIT 4
YEAR 2022 EXISTING TRAFFIC VOLUMES

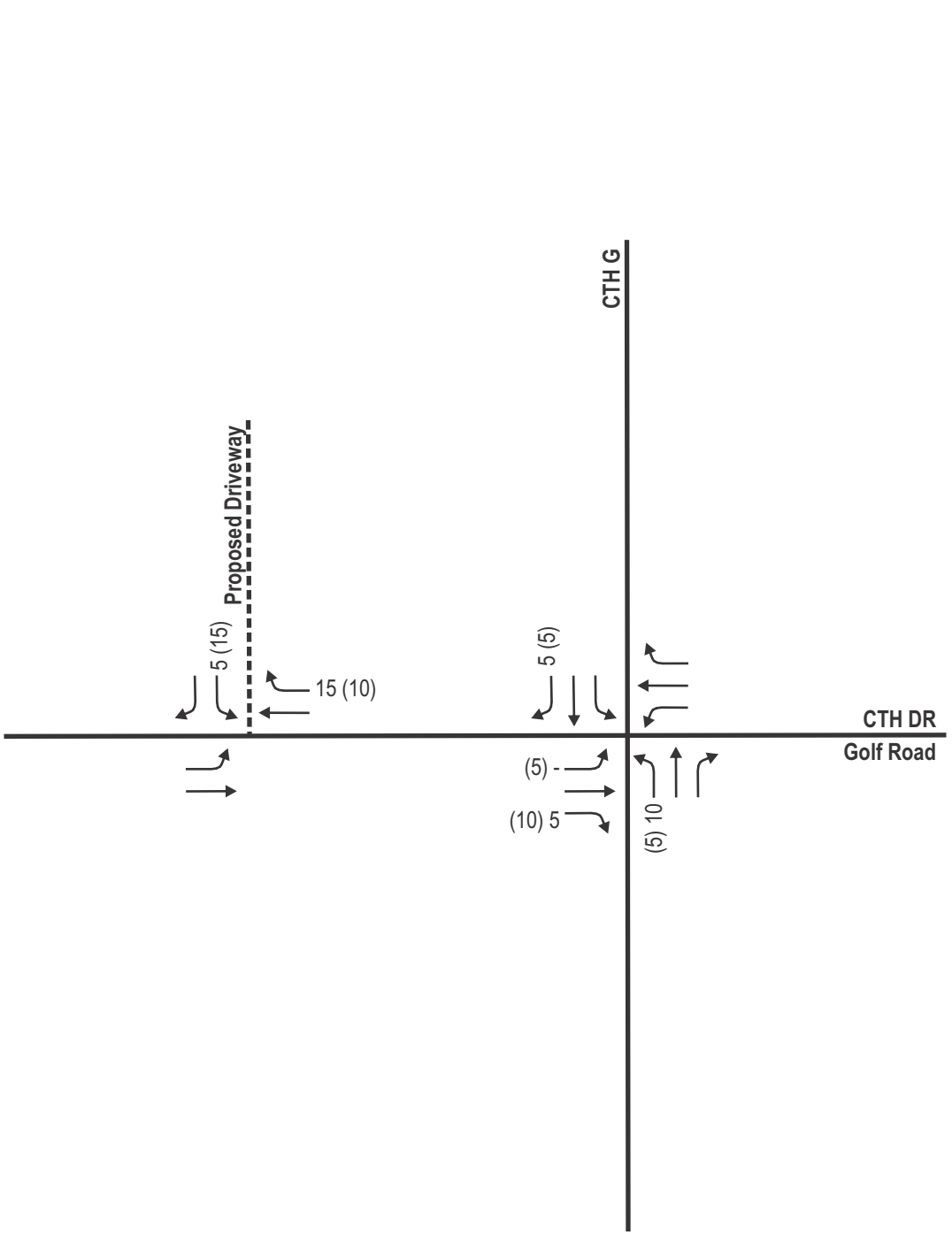
WAUKESHA COUNTY, WISCONSIN

Exhibit 5
Proposed Senior Living Development Trip Generation Table

Land Use	ITE Code	Proposed Size	Weekday Daily	AM Peak In	AM Peak Out	AM Peak Total	PM Peak In	PM Peak Out	PM Peak Total
Continuing Care Retirement Community	255	126 Units	310 (2.47)	15 (65%)	5 (35%)	20 (0.15)	10 (39%)	15 (61%)	25 (0.19)
Total New Trips			**310**	**15**	**5**	**20**	**10**	**15**	**25**

TRIP DISTRIBUTION

South on CTH G	50%	160	10	5		5	10
North on CTH G	40%	120	5	0		5	5
West on Golf Road	10%	30	0	0		0	0
	100%	***310***	***15***	***5***		***10***	***15***



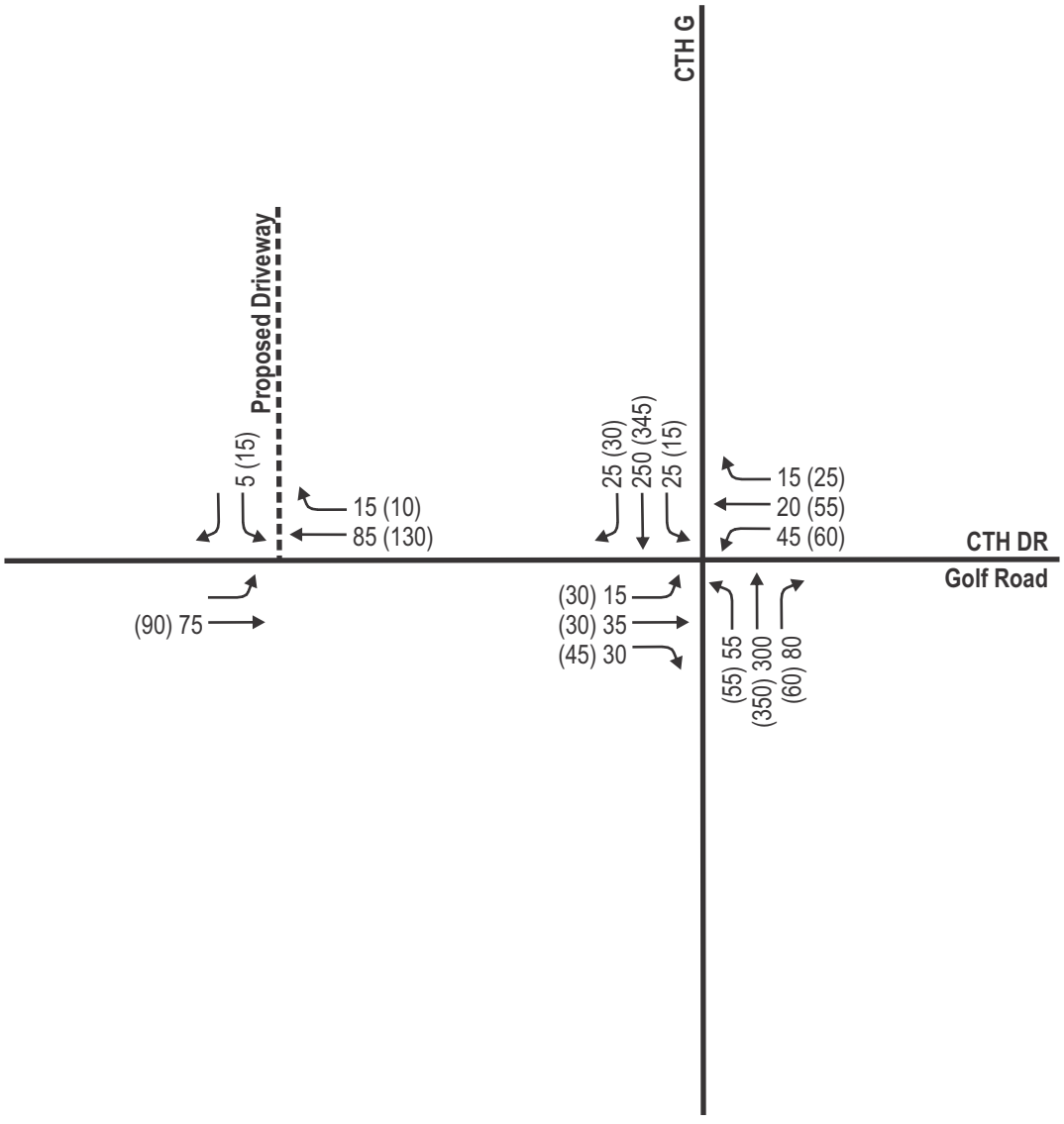
LEGEND

XX	AM Peak Hour Volumes (7:00:-8:00 AM)
(XX)	PM Peak Hour Volumes (3:30-4:30 PM)
–	Negligible Traffic Volumes (Fewer than 2 vph)

TRAFFIC ANALYSIS & DESIGN, INC.
2888; 06-07-2022

EXHIBIT 6
PROPOSED SENIOR LIVING DEVELOPMENT NEW TRIPS

WAUKESHA COUNTY, WISCONSIN



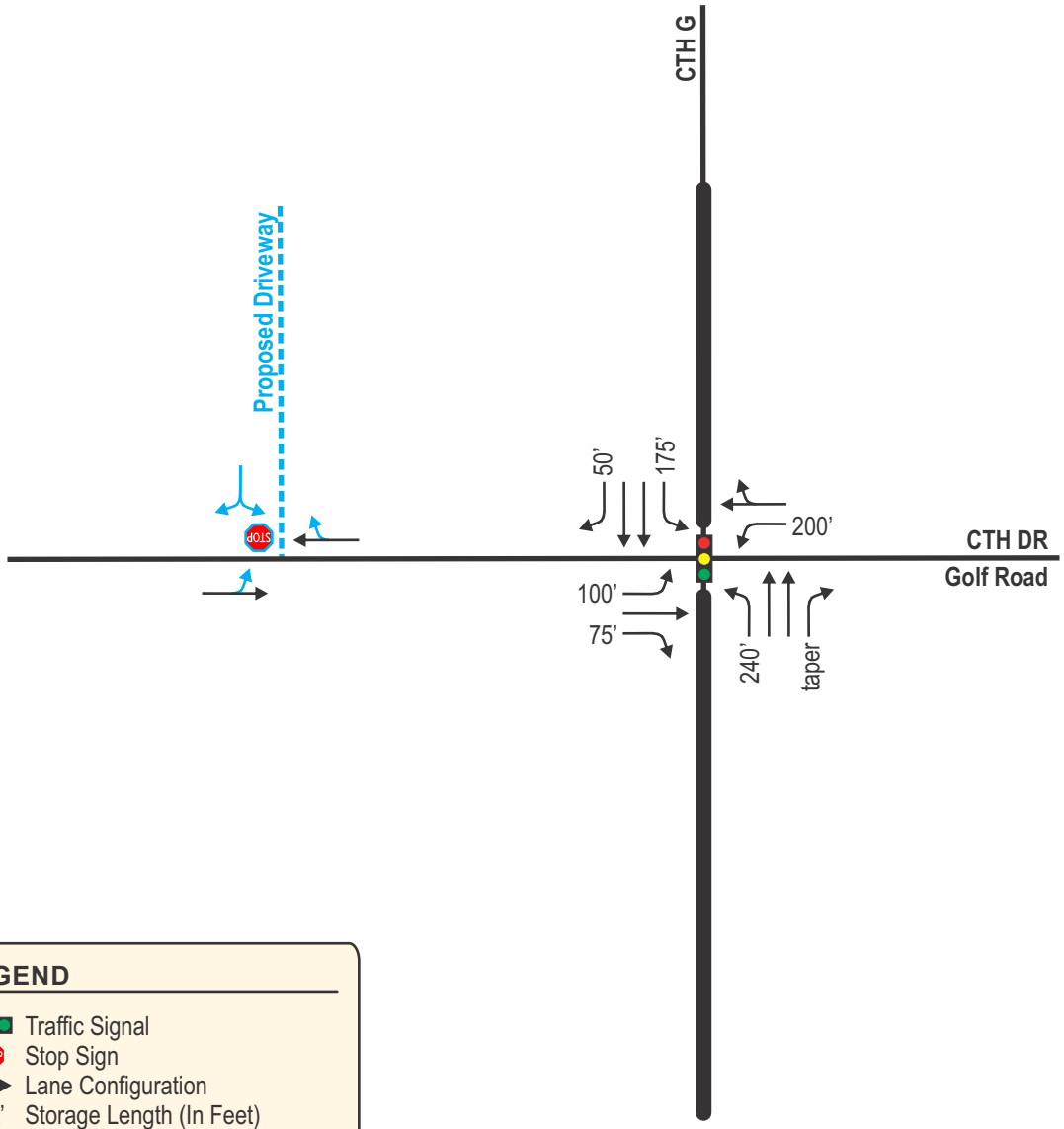
LEGEND

XX	AM Peak Hour Volumes (7:00:-8:00 AM)
(XX)	PM Peak Hour Volumes (3:30-4:30 PM)
–	Negligible Traffic Volumes (Fewer than 2 vph)

TRAFFIC ANALYSIS & DESIGN, INC.
2888; 06-07-2022

EXHIBIT 7
YEAR 2022 BUILD TRAFFIC VOLUMES
EXISTING PLUS SENIOR LIVING DEVELOPMENT

WAUKESHA COUNTY, WISCONSIN



LEGEND

- Traffic Signal
- Stop Sign
- Lane Configuration
- XX' Storage Length (In Feet)

BLACK Existing Configuration
BLUE Recommended Modification

TRAFFIC ANALYSIS & DESIGN, INC.
2888; 06-07-2022

EXHIBIT 8
RECOMMENDED MODIFICATIONS

APPENDIX A

Existing Traffic Counts

Intersection Traffic Volume Report

Count Basics	Version 2013.J4.1		Page 1 of 13
Start Date:	Wednesday, May 25, 2022	Weekday	Schools in Session
Total Number of Hours Counted: 6		Non-Holiday	No Special Events

Base Information, Observed (6) Hour and Estimated (24) Hour Volume Summaries

Intersection of: CTH G-Meadowbrook Rd and Golf Road

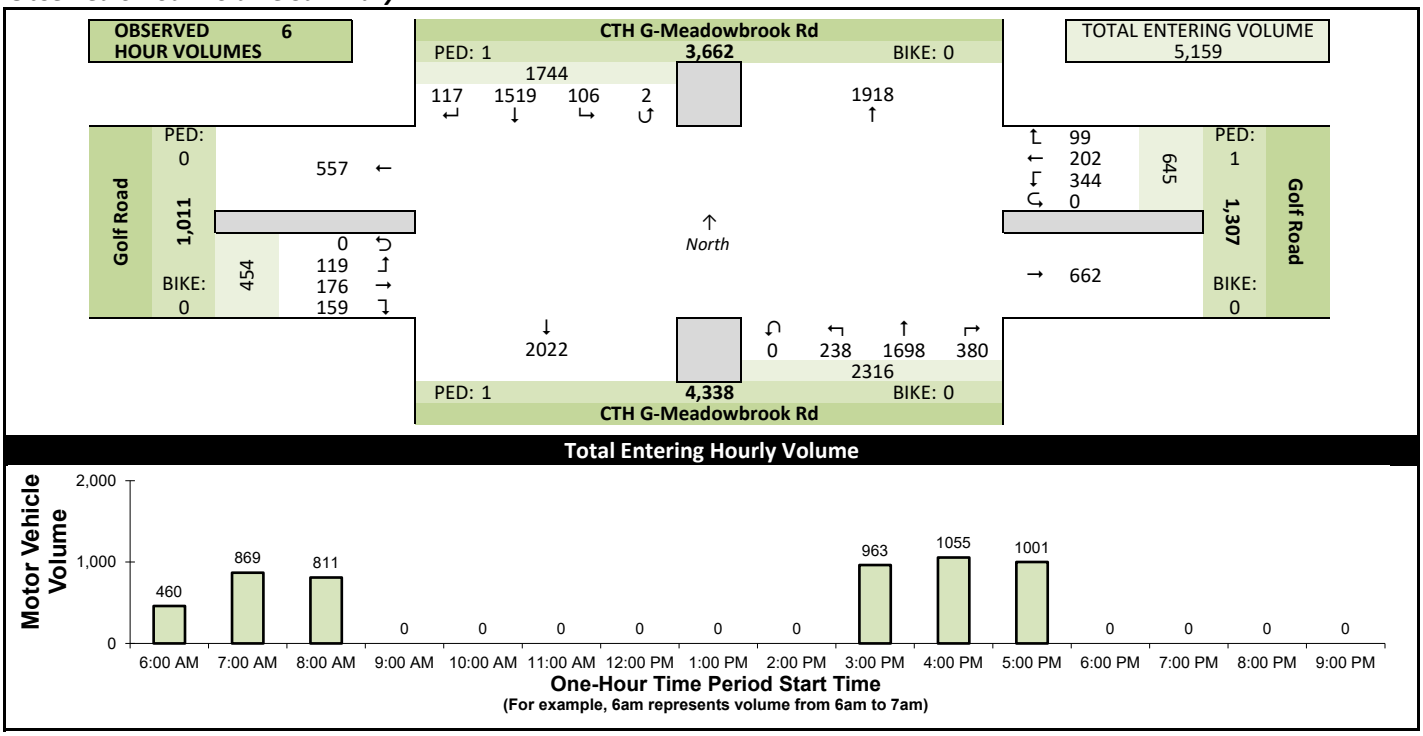
Site Information

Municipality	City of Pewaukee		
County	Waukesha	WisDOT Region	SE
Traffic Control	Traffic Signal		
Roadway Names		North Direction	↑
North Leg	CTH G-Meadowbrook Rd		
East Leg	Golf Road		
South Leg	CTH G-Meadowbrook Rd		
West Leg	Golf Road		
Special Considerations			
Schools	In Session		
Holidays	None		
Special Events	None		
Special Pedestrians Observed			
Pre-school children	None		
Elementry school age children	None		
Visually impaired (white cane/helper dog)	None		
Elderly/disabled (except wheelchairs)	None		
Wheelchairs/electric scooters	None		
Other (describe)	None		

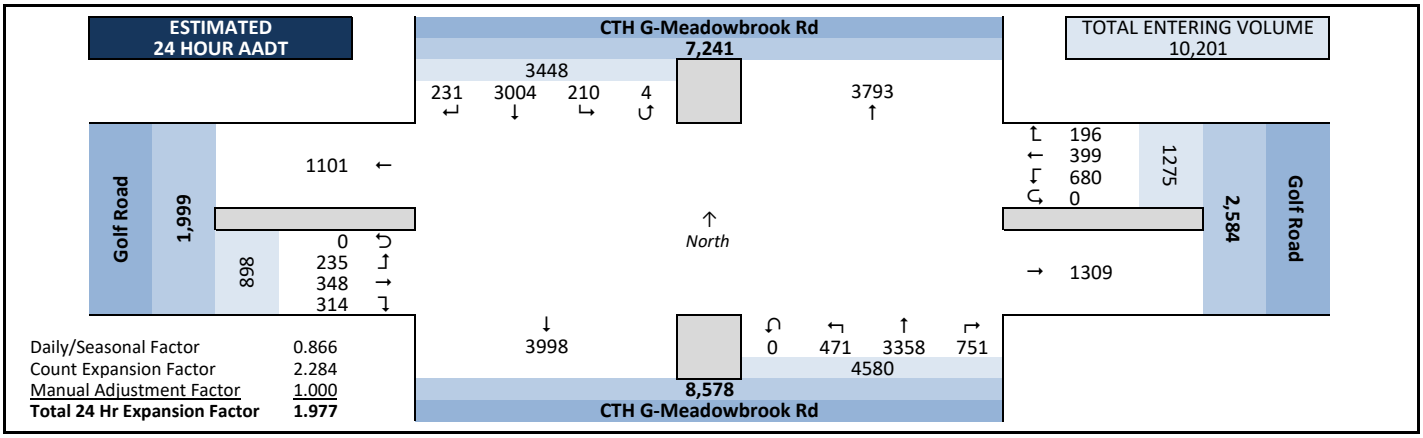
Count Information

Hrs Counted:	6:00 AM-9:00 AM and 3:00 PM-6:00 PM				
1st Day of Count	Wednesday, May 25, 2022			Weather	
AM Peak Period	Thursday, May 26, 2022			Clear & Dry	
Midday Peak Period	Thursday, May 26, 2022			Clear & Dry	
PM Peak Period	Wednesday, May 25, 2022			Clear & Dry	
Calculated Peak Hours					
AM	7:00-8:00am	MD		PM	3:30-4:30pm
Peak Hours Selected for Analysis					
AM	7:00-8:00am	MD		PM	3:30-4:30pm
Daily/Seasonal Adjustment Group	(2) Urban Arterials & Collectors				
Count Expansion Group	(2) Urban Arterials & Collectors				
Daily/Seasonal Adjustment Factor	0.866	Count Expansion Factor	2.284		
Company Name	TADI, Inc.			Manual Adj.	1.000
Observers	AM Peak Period	Amy Scheuerlein			
	Midday Peak Period	None			
	PM Peak Period	Emily Eissens			
Comments	2019 DOT Seasonal Factors				

Observed 6 Hour Volume Summary



Estimated 24 Hour AADT



Daily/Seasonal Factor	0.866
Count Expansion Factor	2.284
Manual Adjustment Factor	1.000
Total 24 Hr Expansion Factor	**1.977**

Intersection Traffic Volume Report

Count Basics			Page 2 of 13
Start Date:	Wednesday, May 25, 2022	Weekday	Schools in Session
Total Number of Hours Counted: 6		Non-Holiday	No Special Events

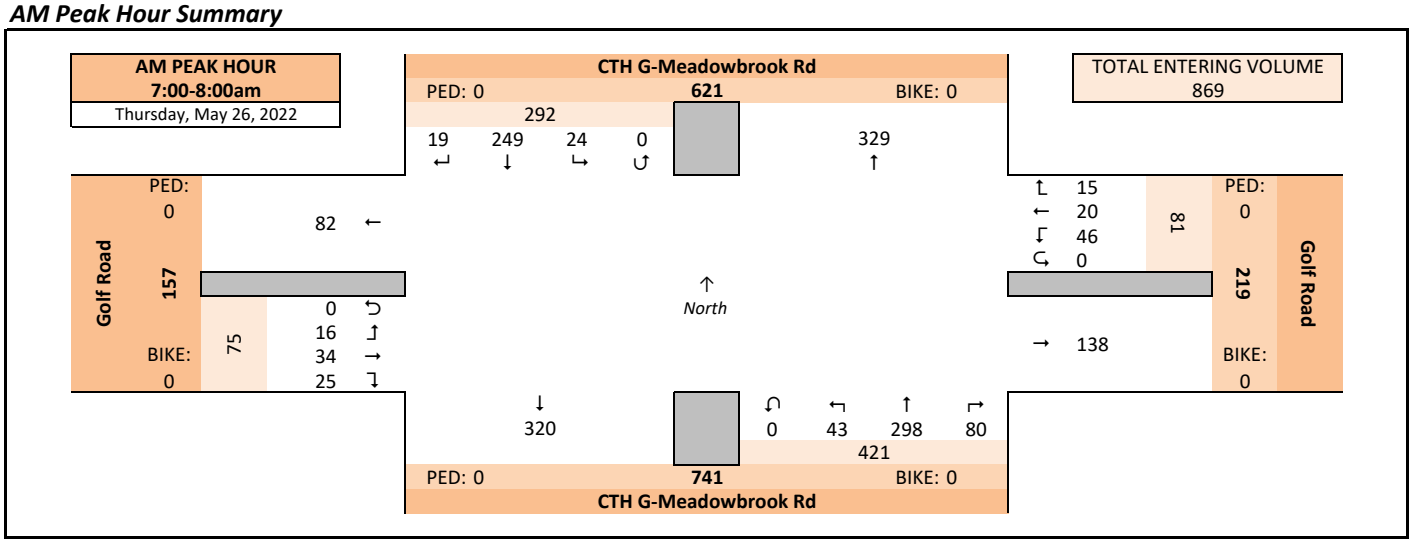
Peak Hour Volume Graphical Summary

CTH G-Meadowbrook Rd and Golf Road

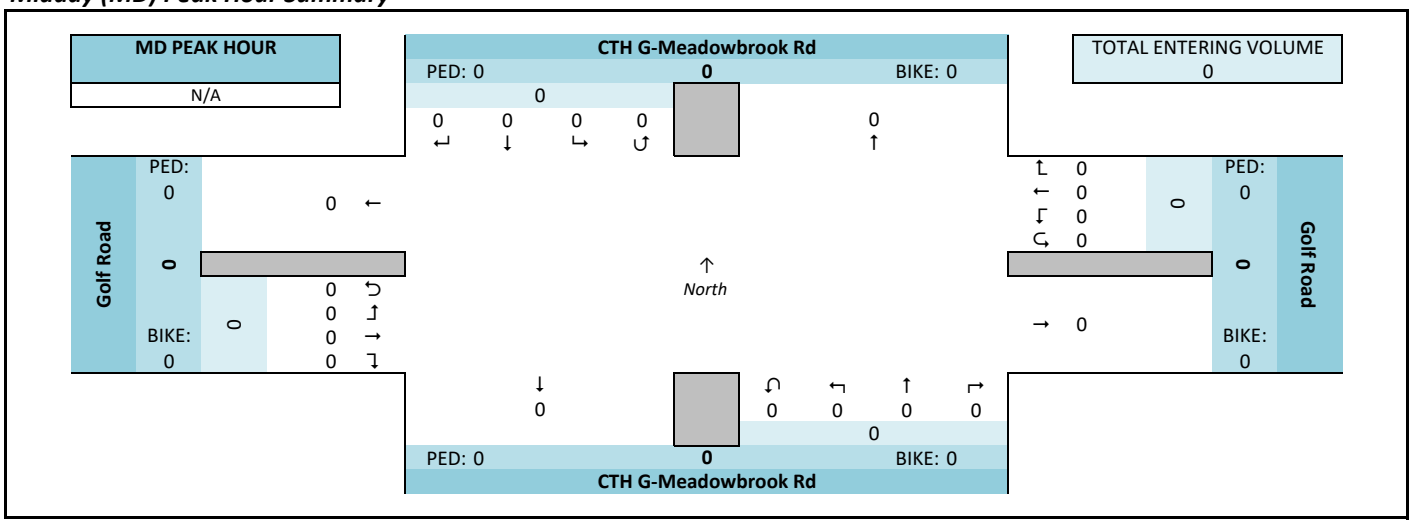
All Motor Vehicles



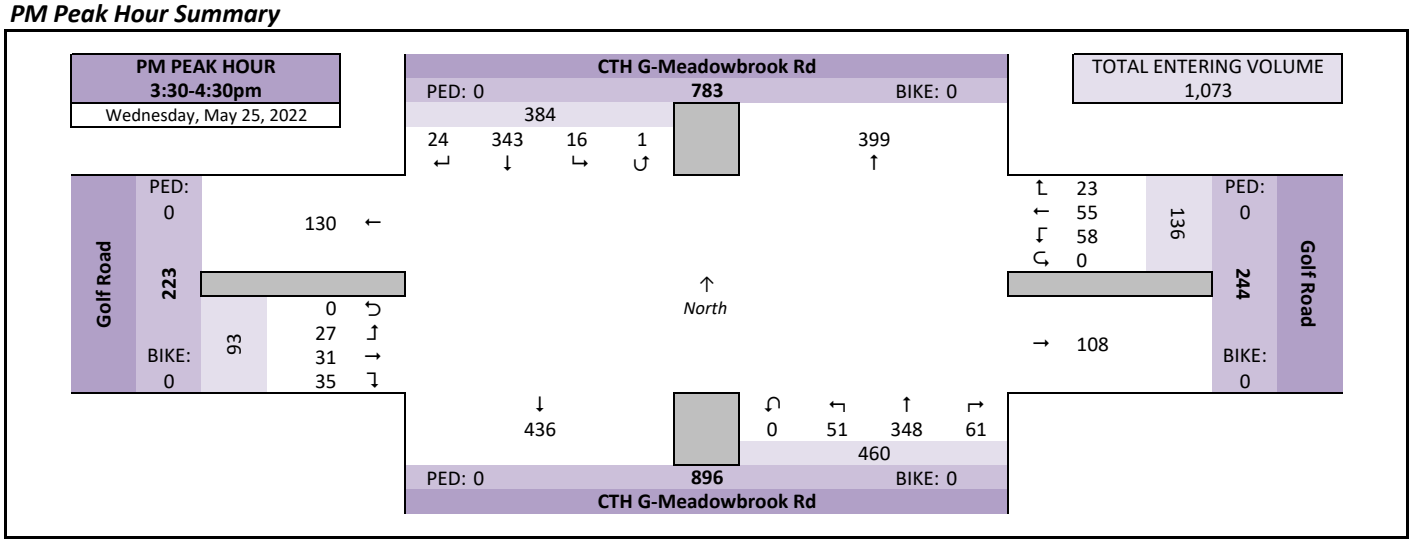
AM Peak Hour Summary



Midday (MD) Peak Hour Summary



PM Peak Hour Summary



Intersection Traffic Volume Report

Count Basics			Page 3 of 13
Start Date:	Wednesday, May 25, 2022	Weekday	Schools in Session
Total Number of Hours Counted: 6		Non-Holiday	No Special Events

Peak Hour Volume Summary

CTH G-Meadowbrook Rd and Golf Road

All Motor Vehicles



Peak Hour Volumes, Truck Percentages, and PHFs

Thursday, May 26, 2022		From North					From East					From South					From West					
	AM Peak Hour	CTH G-Meadowbrook Rd					Golf Road					CTH G-Meadowbrook Rd					Golf Road					
	Start Time	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Totals
AM Peak Hour	7:00 AM	7	54	5	0	66	4	5	9	0	18	13	81	8	0	102	4	9	3	0	16	202
	7:15 AM	5	59	5	0	69	3	7	15	0	25	30	62	18	0	110	10	8	4	0	22	226
	7:30 AM	3	74	8	0	85	4	3	14	0	21	17	75	7	0	99	6	10	4	0	20	225
	7:45 AM	4	62	6	0	72	4	5	8	0	17	20	80	10	0	110	5	7	5	0	17	216
	Peak Hour Volume	19	249	24	0	292	15	20	46	0	81	80	298	43	0	421	25	34	16	0	75	869
	Rounded Hourly Volume	20	250	25	0	295	15	20	45	0	80	80	300	45	0	425	25	35	15	0	75	875
	% Single Unit Trucks	5.3	2.4	0.0	0.0	2.4	6.7	10.0	4.3	0.0	6.2	0.0	5.0	9.3	0.0	4.5	8.0	0.0	0.0	0.0	2.7	3.8
	% Heavy Trucks	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.2	0.0	1.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
	% Trucks (Total)	5.3	2.4	0.0	0.0	2.4	6.7	10.0	6.5	0.0	7.4	0.0	5.0	9.3	0.0	4.5	8.0	0.0	0.0	0.0	2.7	3.9
	Peak Hour Factor (PHF)	0.68	0.84	0.75	0.00	0.86	0.94	0.71	0.77	0.00	0.81	0.67	0.92	0.60	0.00	0.96	0.62	0.85	0.80	0.00	0.85	0.96

N/A		From North					From East					From South					From West					
	MD Peak Hour	CTH G-Meadowbrook Rd					Golf Road					CTH G-Meadowbrook Rd					Golf Road					
	Start Time	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Totals
Midday (MD) Peak Hour	12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Peak Hour Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Rounded Hourly Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	% Single Unit Trucks	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	% Heavy Trucks	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	% Trucks (Total)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Peak Hour Factor (PHF)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Wednesday, May 25, 2022		From North					From East					From South					From West					
	PM Peak Hour	CTH G-Meadowbrook Rd					Golf Road					CTH G-Meadowbrook Rd					Golf Road					
	Start Time	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Totals
PM Peak Hour	3:30 PM	6	86	6	0	98	1	12	11	0	24	15	95	15	0	125	5	8	5	0	18	265
	3:45 PM	7	97	4	1	109	3	9	9	0	21	16	69	13	0	98	9	10	6	0	25	253
	4:00 PM	6	76	5	0	87	14	20	25	0	59	15	82	13	0	110	6	8	11	0	25	281
	4:15 PM	5	84	1	0	90	5	14	13	0	32	15	102	10	0	127	15	5	5	0	25	274
	Peak Hour Volume	24	343	16	1	384	23	55	58	0	136	61	348	51	0	460	35	31	27	0	93	1073
	Rounded Hourly Volume	25	345	15	0	385	25	55	60	0	140	60	350	50	0	460	35	30	25	0	90	1075
	% Single Unit Trucks	4.2	2.3	0.0	0.0	2.3	4.3	0.0	3.4	0.0	2.2	1.6	1.4	2.0	0.0	1.5	0.0	0.0	3.7	0.0	1.1	1.9
	% Heavy Trucks	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.7	0.0	0.7	1.6	0.0	2.0	0.0	0.4	0.0	0.0	0.0	0.0	0.0	0.3
	% Trucks (Total)	4.2	2.3	0.0	0.0	2.3	4.3	0.0	5.2	0.0	2.9	3.3	1.4	3.9	0.0	2.0	0.0	0.0	3.7	0.0	1.1	2.1
	Peak Hour Factor (PHF)	0.86	0.88	0.67	0.25	0.88	0.41	0.69	0.58	0.00	0.58	0.95	0.85	0.85	0.00	0.91	0.58	0.77	0.61	0.00	0.93	0.95

Peak Hour Pedestrian and Bicyclist Volumes

Pedestrians and Bicyclists		Crossing North Approach			Crossing East Approach			Crossing South Approach			Crossing West Approach			Total Ped & Bike Volume
		CTH G-Meadowbrook Rd			Golf Road			CTH G-Meadowbrook Rd			Golf Road			
	15-Minute Start Time	Pedestrian	Bicyclist	Total	Pedestrian	Bicyclist	Total	Pedestrian	Bicyclist	Total	Pedestrian	Bicyclist	Total	
AM	7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	Total	0	0	0	0	0	0	0	0	0	0	0	0	0
MD	12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	Total	0	0	0	0	0	0	0	0	0	0	0	0	0
PM	3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	Total	0	0	0	0	0	0	0	0	0	0	0	0	0

Intersection Traffic Volume Report

Count Basics			Page 4 of 13
Start Date:	Wednesday, May 25, 2022	Weekday	Schools in Session
Total Number of Hours Counted: 6		Non-Holiday	No Special Events

Hourly Volume Summary - Motor Vehicle Data

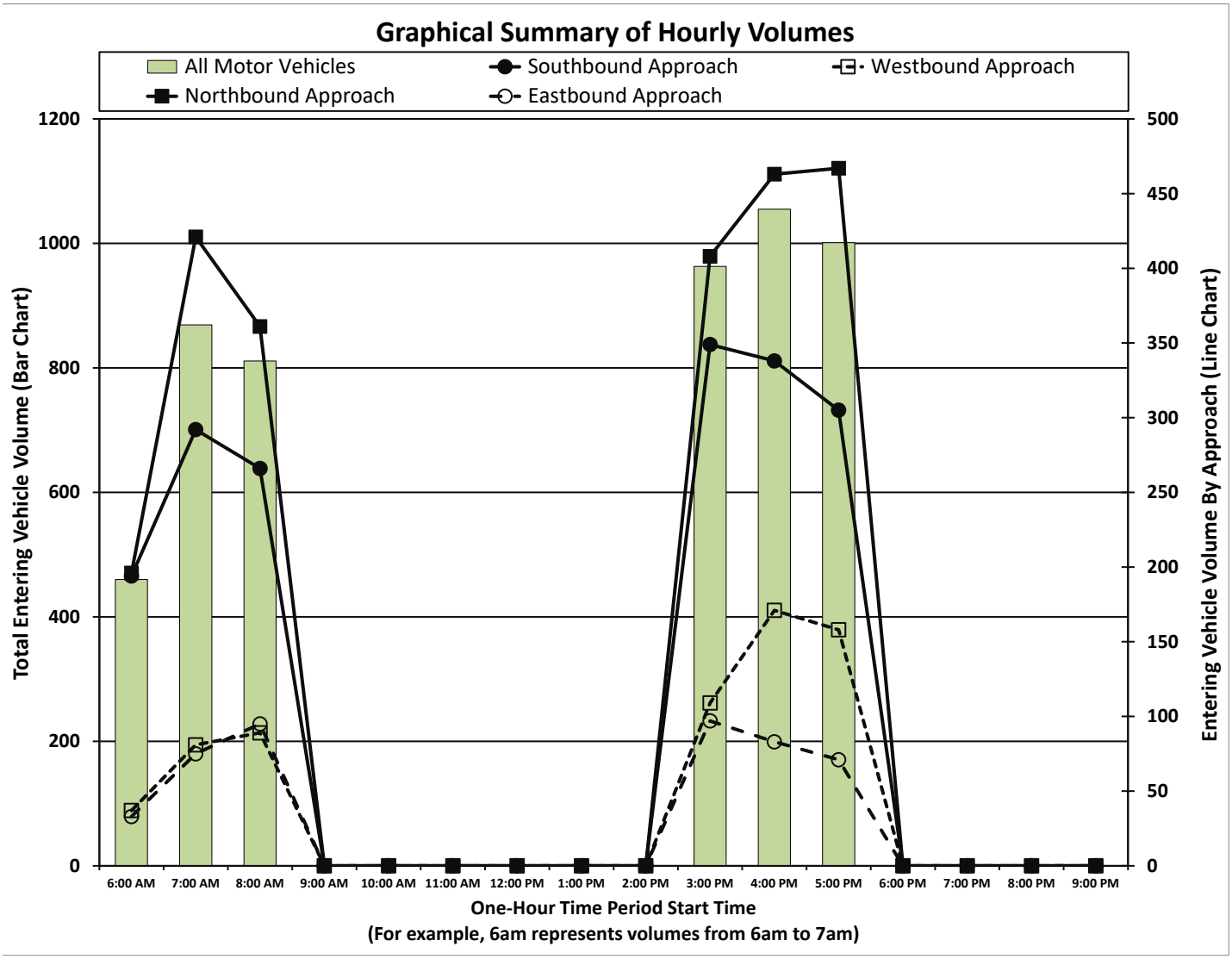
All Motor Vehicles



CTH G-Meadowbrook Rd and Golf Road

One-Hour Motor Vehicle Data

One-Hour Time Period Start Time		From North (↓) CTH G-Meadowbrook Rd					From East (←) Golf Road					From South (↑) CTH G-Meadowbrook Rd					From West (→) Golf Road					Total Vehicle Volume	Directional Volume Totals	
		Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total		E/W	N/S
AM	6:00 AM	9	170	15	0	194	7	10	20	0	37	38	142	16	0	196	12	14	7	0	33	460	70	390
AM	7:00 AM	19	249	24	0	292	15	20	46	0	81	80	298	43	0	421	25	34	16	0	75	869	156	713
AM	8:00 AM	22	217	26	1	266	12	30	47	0	89	97	220	44	0	361	36	42	17	0	95	811	184	627
AM	9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MD	10:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MD	11:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MD	12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MD	1:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PM	2:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PM	3:00 PM	26	305	17	1	349	15	41	53	0	109	59	300	49	0	408	32	36	29	0	97	963	206	757
PM	4:00 PM	20	308	10	0	338	29	59	83	0	171	51	365	47	0	463	31	28	24	0	83	1055	254	801
PM	5:00 PM	21	270	14	0	305	21	42	95	0	158	55	373	39	0	467	23	22	26	0	71	1001	229	772
PM	6:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PM	7:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PM	8:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PM	9:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Totals		117	1519	106	2	1744	99	202	344	0	645	380	1698	238	0	2316	159	176	119	0	454	5159	1099	4060



Intersection Traffic Volume Report

Count Basics			Page 5 of 13
Start Date:	Wednesday, May 25, 2022	Weekday	Schools in Session
Total Number of Hours Counted: 6		Non-Holiday	No Special Events

15-Minute Motor Vehicle Data

All Motor Vehicles



CTH G-Meadowbrook Rd and Golf Road

15-Minute Motor Vehicle Data

15-Minute Time Period		From North (↓) CTH G-Meadowbrook Rd					From East (←) Golf Road					From South (↑) CTH G-Meadowbrook Rd					From West (→) Golf Road					15-Min	Hourly	
	Start Time	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Totals	Sum	PHF
AM Peak Period	6:00 AM	2	24	5	0	31	1	3	3	0	7	11	11	3	0	25	2	0	2	0	4	67	460	0.71
	6:15 AM	2	31	6	0	39	1	1	8	0	10	10	25	2	0	37	2	4	2	0	8	94	595	0.74
	6:30 AM	1	54	2	0	57	1	3	6	0	10	5	49	5	0	59	3	7	1	0	11	137	727	0.80
	6:45 AM	4	61	2	0	67	4	3	3	0	10	12	57	6	0	75	5	3	2	0	10	162	815	0.90
	7:00 AM	7	54	5	0	66	4	5	9	0	18	13	81	8	0	102	4	9	3	0	16	202	869	0.96
	7:15 AM	5	59	5	0	69	3	7	15	0	25	30	62	18	0	110	10	8	4	0	22	226	864	0.96
	7:30 AM	3	74	8	0	85	4	3	14	0	21	17	75	7	0	99	6	10	4	0	20	225	824	0.92
	7:45 AM	4	62	6	0	72	4	5	8	0	17	20	80	10	0	110	5	7	5	0	17	216	819	0.93
	8:00 AM	6	50	4	0	60	3	7	13	0	23	20	59	11	0	90	9	5	10	0	24	197	811	0.92
	8:15 AM	3	52	3	0	58	5	6	9	0	20	19	49	11	0	79	12	14	3	0	29	186		
	8:30 AM	9	64	9	0	82	2	7	12	0	21	33	53	13	0	99	5	12	1	0	18	220		
	8:45 AM	4	51	10	1	66	2	10	13	0	25	25	59	9	0	93	10	11	3	0	24	208		
	9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	9:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	9:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	9:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Midday Peak Period	10:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	10:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	10:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	10:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	11:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	11:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	11:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	11:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	1:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	1:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	1:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	1:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
PM Peak Period	2:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	2:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	2:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	2:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	3:00 PM	6	66	3	0	75	8	11	19	0	38	17	79	9	0	105	7	10	12	0	29	247	963	0.91
	3:15 PM	7	56	4	0	67	3	9	14	0	26	11	57	12	0	80	11	8	6	0	25	198	997	0.89
	3:30 PM	6	86	6	0	98	1	12	11	0	24	15	95	15	0	125	5	8	5	0	18	265	1073	0.95
	3:45 PM	7	97	4	1	109	3	9	9	0	21	16	69	13	0	98	9	10	6	0	25	253	1062	0.94
	4:00 PM	6	76	5	0	87	14	20	25	0	59	15	82	13	0	110	6	8	11	0	25	281	1055	0.94
	4:15 PM	5	84	1	0	90	5	14	13	0	32	15	102	10	0	127	15	5	5	0	25	274	1032	0.94
	4:30 PM	4	82	2	0	88	6	15	21	0	42	8	95	9	0	112	2	6	4	0	12	254	1033	0.94
	4:45 PM	5	66	2	0	73	4	10	24	0	38	13	86	15	0	114	8	9	4	0	21	246	1033	0.94
	5:00 PM	8	70	1	0	79	9	12	35	0	56	17	77	10	0	104	6	8	5	0	19	258	1001	0.91
	5:15 PM	7	76	10	0	93	6	9	22	0	37	16	99	6	0	121	5	9	10	0	24	275		
	5:30 PM	3	66	2	0	71	3	8	21	0	32	8	114	12	0	134	7	3	7	0	17	254		
	5:45 PM	3	58	1	0	62	3	13	17	0	33	14	83	11	0	108	5	2	4	0	11	214		
	6:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	6:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	6:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	6:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	7:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	7:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	7:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	7:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	8:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	8:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	8:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	8:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	9:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	9:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	9:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	9:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Totals		117	1519	106	2	1744	99	202	344	0	645	380	1698	238	0	2316	159	176	119	0	454	5159		

Peak Hour All Vehicle Volume Summary

Hourly Time Period		From North (↓) CTH G-Meadowbrook Rd					From East (←) Golf Road					From South (↑) CTH G-Meadowbrook Rd					From West (→) Golf Road					Total Hourly	
	Start Time	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Volume	PHF
AM	7:00 AM	19	249	24	0	292	15	20	46	0	81	80	298	43	0	421	25	34	16	0	75	869	0.96
MD	12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
PM	3:30 PM	24	343	16	1	384	23	55	58	0	136	61	348	51	0	460	35	31	27	0	93	1073	0.95

Intersection Traffic Volume Report

Count Basics			*Page 6 of 13*
Start Date:	Wednesday, May 25, 2022	Weekday	Schools in Session
Total Number of Hours Counted: 6		Non-Holiday	No Special Events

15-Minute Automobile Data

Automobiles (Cars, Light Trucks, & Motorcycles)



CTH G-Meadowbrook Rd and Golf Road

15-Minute Automobile Data

15-Minute Time Period		From North (↓) CTH G-Meadowbrook Rd					From East (←) Golf Road					From South (↑) CTH G-Meadowbrook Rd					From West (→) Golf Road					15-Min	Hourly
	Start Time	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Totals	Sum
AM Peak Period	6:00 AM	1	24	5	0	30	0	3	3	0	6	9	11	3	0	23	2	0	2	0	4	63	437
	6:15 AM	2	31	6	0	39	1	1	7	0	9	10	24	2	0	36	2	4	2	0	8	92	564
	6:30 AM	1	54	2	0	57	0	3	6	0	9	4	45	5	0	54	3	7	1	0	11	131	693
	6:45 AM	3	58	2	0	63	3	3	2	0	8	10	54	6	0	70	5	3	2	0	10	151	779
	7:00 AM	6	51	5	0	62	4	4	8	0	16	13	76	7	0	96	4	9	3	0	16	190	835
	7:15 AM	5	59	5	0	69	3	6	13	0	22	30	61	18	0	109	9	8	4	0	21	221	828
	7:30 AM	3	72	8	0	83	3	3	14	0	20	17	71	6	0	94	6	10	4	0	20	217	787
	7:45 AM	4	61	6	0	71	4	5	8	0	17	20	75	8	0	103	4	7	5	0	16	207	783
	8:00 AM	6	49	4	0	59	3	7	11	0	21	18	55	9	0	82	7	5	9	0	21	183	778
	8:15 AM	3	51	3	0	57	4	6	7	0	17	19	49	10	0	78	11	14	3	0	28	180	
	8:30 AM	9	61	9	0	79	2	7	11	0	20	32	51	13	0	96	5	12	1	0	18	213	
	8:45 AM	4	47	10	1	62	2	10	12	0	24	25	59	8	0	92	10	11	3	0	24	202	
	9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	9:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	9:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	9:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Midday Peak Period	10:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	10:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	10:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	10:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	11:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	11:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	11:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	11:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	1:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	1:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	1:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	1:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
PM Peak Period	2:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	2:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	2:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	2:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	3:00 PM	5	65	3	0	73	8	10	17	0	35	17	77	9	0	103	7	10	12	0	29	240	940
	3:15 PM	7	52	4	0	63	3	9	14	0	26	10	56	12	0	78	11	8	5	0	24	191	973
	3:30 PM	6	81	6	0	93	1	12	11	0	24	15	95	15	0	125	5	8	5	0	18	260	1050
	3:45 PM	7	97	4	1	109	3	9	9	0	21	14	69	11	0	94	9	10	6	0	25	249	1035
	4:00 PM	6	75	5	0	86	13	20	23	0	56	15	79	13	0	107	6	8	10	0	24	273	1027
	4:15 PM	4	82	1	0	87	5	14	12	0	31	15	100	10	0	125	15	5	5	0	25	268	1008
	4:30 PM	4	76	2	0	82	6	15	21	0	42	7	93	9	0	109	2	6	4	0	12	245	1012
	4:45 PM	5	64	2	0	71	4	10	22	0	36	13	85	15	0	113	8	9	4	0	21	241	1019
	5:00 PM	8	70	1	0	79	9	12	35	0	56	15	75	10	0	100	6	8	5	0	19	254	989
	5:15 PM	7	76	10	0	93	6	9	21	0	36	15	98	6	0	119	5	9	10	0	24	272	
	5:30 PM	3	66	2	0	71	3	8	21	0	32	8	113	12	0	133	6	3	7	0	16	252	
	5:45 PM	3	55	1	0	59	3	13	17	0	33	14	83	11	0	108	5	2	4	0	11	211	
	6:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	6:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	6:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	6:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	7:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	7:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	7:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	7:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	8:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	8:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	8:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	8:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	9:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	9:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	9:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	9:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Totals		112	1477	106	2	1697	93	199	325	0	617	365	1654	228	0	2247	153	176	116	0	445	5006	

Peak Hour Automobile Volume Summary

Hourly Time Period		From North (↓) CTH G-Meadowbrook Rd					From East (←) Golf Road					From South (↑) CTH G-Meadowbrook Rd					From West (→) Golf Road					Total Hourly
	Start Time	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Volume
AM	7:00 AM	18	243	24	0	285	14	18	43	0	75	80	283	39	0	402	23	34	16	0	73	835
MD	12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PM	3:30 PM	23	335	16	1	375	22	55	55	0	132	59	343	49	0	451	35	31	26	0	92	1050

Intersection Traffic Volume Report

Count Basics			*Page 7 of 13*
Start Date:	Wednesday, May 25, 2022	Weekday	Schools in Session
Total Number of Hours Counted: 6		Non-Holiday	No Special Events

15-Minute Single Unit (SU) Truck & Bus Data

Single Unit (SU) Trucks & Buses



CTH G-Meadowbrook Rd and Golf Road

15-Minute Single Unit (SU) Truck & Bus Data

15-Minute Time Period	Start Time	From North (↓) CTH G-Meadowbrook Rd					From East (←) Golf Road					From South (↑) CTH G-Meadowbrook Rd					From West (→) Golf Road					15-Min Totals	Hourly Sum
		Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total		
AM Peak Period	6:00 AM	1	0	0	0	1	1	0	0	0	1	2	0	0	0	2	0	0	0	0	0	4	22
	6:15 AM	0	0	0	0	0	0	0	1	0	1	0	1	0	0	1	0	0	0	0	0	2	30
	6:30 AM	0	0	0	0	0	1	0	0	0	1	0	4	0	0	4	0	0	0	0	0	5	32
	6:45 AM	1	3	0	0	4	1	0	1	0	2	2	3	0	0	5	0	0	0	0	0	11	35
	7:00 AM	1	3	0	0	4	0	1	1	0	2	0	5	1	0	6	0	0	0	0	0	12	33
	7:15 AM	0	0	0	0	0	0	1	1	0	2	0	1	0	0	1	1	0	0	0	1	4	35
	7:30 AM	0	2	0	0	2	1	0	0	0	1	0	4	1	0	5	0	0	0	0	0	8	37
	7:45 AM	0	1	0	0	1	0	0	0	0	0	0	5	2	0	7	1	0	0	0	1	9	36
	8:00 AM	0	1	0	0	1	0	0	2	0	2	2	4	2	0	8	2	0	1	0	3	14	33
	8:15 AM	0	1	0	0	1	1	0	2	0	3	0	0	1	0	1	1	0	0	0	1	6	
	8:30 AM	0	3	0	0	3	0	0	1	0	1	1	2	0	0	3	0	0	0	0	0	7	
	8:45 AM	0	4	0	0	4	0	0	1	0	1	0	0	1	0	1	0	0	0	0	0	6	
	9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	9:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	9:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	9:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Midday Peak Period	10:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	10:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	10:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	10:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	11:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	11:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	11:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	11:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	1:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	1:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	1:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	1:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
PM Peak Period	2:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	2:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	2:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	2:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	3:00 PM	1	1	0	0	2	0	1	2	0	3	0	2	0	0	2	0	0	0	0	0	7	19
	3:15 PM	0	3	0	0	3	0	0	0	0	0	0	1	0	0	1	0	0	1	0	1	5	20
	3:30 PM	0	5	0	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	20
	3:45 PM	0	0	0	0	0	0	0	0	0	0	1	0	1	0	2	0	0	0	0	0	2	24
	4:00 PM	0	1	0	0	1	1	0	2	0	3	0	3	0	0	3	0	0	1	0	1	8	27
	4:15 PM	1	2	0	0	3	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	5	23
	4:30 PM	0	6	0	0	6	0	0	0	0	0	1	2	0	0	3	0	0	0	0	0	9	21
	4:45 PM	0	2	0	0	2	0	0	2	0	2	0	1	0	0	1	0	0	0	0	0	5	14
	5:00 PM	0	0	0	0	0	0	0	0	0	0	2	2	0	0	4	0	0	0	0	0	4	12
	5:15 PM	0	0	0	0	0	0	0	1	0	1	1	1	0	0	2	0	0	0	0	0	3	
	5:30 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1	0	0	0	1	2	
	5:45 PM	0	3	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	
	6:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	6:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	6:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	6:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	7:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	7:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	7:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	7:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	8:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	8:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	8:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	8:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	9:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	9:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	9:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	9:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Totals		5	41	0	0	46	6	3	17	0	26	12	44	9	0	65	6	0	3	0	9	146	

Peak Hour Single Unit (SU) Truck & Buses Volume Summary

Hourly Time Period	Start Time	From North (↓) CTH G-Meadowbrook Rd					From East (←) Golf Road					From South (↑) CTH G-Meadowbrook Rd					From West (→) Golf Road					Total Hourly Volume
		Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	
AM	7:00 AM	1	6	0	0	7	1	2	2	0	5	0	15	4	0	19	2	0	0	0	2	33
MD	12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PM	3:30 PM	1	8	0	0	9	1	0	2	0	3	1	5	1	0	7	0	0	1	0	1	20

Intersection Traffic Volume Report

Count Basics			*Page 8 of 13*
Start Date:	Wednesday, May 25, 2022	Weekday	Schools in Session
Total Number of Hours Counted: 6		Non-Holiday	No Special Events

15-Minute Semi-Truck Data

Semi-Trucks



CTH G-Meadowbrook Rd and Golf Road

15-Minute Semi-Truck Data

15-Minute Time Period		From North (↓)					From East (←)					From South (↑)					From West (→)					15-Min	Hourly
		CTH G-Meadowbrook Rd					Golf Road					CTH G-Meadowbrook Rd					Golf Road						
Start Time		Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Totals	Sum
AM Peak Period	6:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
	6:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
	6:30 AM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	1	2
	6:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
	7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
	7:15 AM	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	1	1
	7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	9:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	9:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	9:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Midday Peak Period	10:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	10:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	10:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	10:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	11:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	11:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	11:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	11:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	1:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	1:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	1:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	1:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
PM Peak Period	2:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	2:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	2:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	2:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	3:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4
	3:15 PM	0	1	0	0	1	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	2	4
	3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
	3:45 PM	0	0	0	0	0	0	0	0	0	0	1	0	1	0	2	0	0	0	0	0	2	3
	4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
	4:15 PM	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	1	1
	4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	6:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	6:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	6:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	6:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	7:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	7:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	7:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	7:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	8:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	8:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	8:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	8:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	9:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	9:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	9:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	9:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Totals		0	1	0	0	1	0	0	2	0	2	3	0	1	0	4	0	0	0	0	0	7	

Peak Hour Semi-Truck Volume Summary

Hourly Time Period		From North (↓)					From East (←)					From South (↑)					From West (→)					Total Hourly
		CTH G-Meadowbrook Rd					Golf Road					CTH G-Meadowbrook Rd					Golf Road					
Start Time		Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Volume
AM	7:00 AM	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	1
MD	12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PM	3:30 PM	0	0	0	0	0	0	0	1	0	1	1	0	1	0	2	0	0	0	0	0	3

Intersection Traffic Volume Report

Count Basics			*Page 9 of 13*
Start Date:	Wednesday, May 25, 2022	Weekday	Schools in Session
Total Number of Hours Counted: 6		Non-Holiday	No Special Events

15-Minute Heavy Vehicle Data

Heavy Vehicles (Single-Unit Trucks, Buses & Semi-Trucks)



CTH G-Meadowbrook Rd and Golf Road

15-Minute Heavy Vehicle Data

15-Minute Time Period		From North (↓) CTH G-Meadowbrook Rd					From East (←) Golf Road					From South (↑) CTH G-Meadowbrook Rd					From West (→) Golf Road					15-Min	Hourly
	Start Time	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Totals	Sum
AM Peak Period	6:00 AM	1	0	0	0	1	1	0	0	0	1	2	0	0	0	2	0	0	0	0	0	4	23
	6:15 AM	0	0	0	0	0	0	0	1	0	1	0	1	0	0	1	0	0	0	0	0	2	31
	6:30 AM	0	0	0	0	0	1	0	0	0	1	1	4	0	0	5	0	0	0	0	0	6	34
	6:45 AM	1	3	0	0	4	1	0	1	0	2	2	3	0	0	5	0	0	0	0	0	11	36
	7:00 AM	1	3	0	0	4	0	1	1	0	2	0	5	1	0	6	0	0	0	0	0	12	34
	7:15 AM	0	0	0	0	0	0	1	2	0	3	0	1	0	0	1	1	0	0	0	1	5	36
	7:30 AM	0	2	0	0	2	1	0	0	0	1	0	4	1	0	5	0	0	0	0	0	8	37
	7:45 AM	0	1	0	0	1	0	0	0	0	0	0	5	2	0	7	1	0	0	0	1	9	36
	8:00 AM	0	1	0	0	1	0	0	2	0	2	2	4	2	0	8	2	0	1	0	3	14	33
	8:15 AM	0	1	0	0	1	1	0	2	0	3	0	0	1	0	1	1	0	0	0	1	6	
	8:30 AM	0	3	0	0	3	0	0	1	0	1	1	2	0	0	3	0	0	0	0	0	7	
	8:45 AM	0	4	0	0	4	0	0	1	0	1	0	0	1	0	1	0	0	0	0	0	6	
	9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	9:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	9:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	9:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Midday Peak Period	10:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	10:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	10:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	10:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	11:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	11:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	11:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	11:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	1:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	1:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	1:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	1:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
PM Peak Period	2:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	2:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	2:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	2:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	3:00 PM	1	1	0	0	2	0	1	2	0	3	0	2	0	0	2	0	0	0	0	0	7	23
	3:15 PM	0	4	0	0	4	0	0	0	0	0	1	1	0	0	2	0	0	1	0	1	7	24
	3:30 PM	0	5	0	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	23
	3:45 PM	0	0	0	0	0	0	0	0	0	0	2	0	2	0	4	0	0	0	0	0	4	27
	4:00 PM	0	1	0	0	1	1	0	2	0	3	0	3	0	0	3	0	0	1	0	1	8	28
	4:15 PM	1	2	0	0	3	0	0	1	0	1	0	2	0	0	2	0	0	0	0	0	6	24
	4:30 PM	0	6	0	0	6	0	0	0	0	0	1	2	0	0	3	0	0	0	0	0	9	21
	4:45 PM	0	2	0	0	2	0	0	2	0	2	0	1	0	0	1	0	0	0	0	0	5	14
	5:00 PM	0	0	0	0	0	0	0	0	0	0	2	2	0	0	4	0	0	0	0	0	4	12
	5:15 PM	0	0	0	0	0	0	0	1	0	1	1	1	0	0	2	0	0	0	0	0	3	
	5:30 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1	0	0	0	1	2	
	5:45 PM	0	3	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	
	6:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	6:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	6:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	6:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	7:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	7:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	7:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	7:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	8:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	8:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	8:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	8:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	9:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	9:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	9:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	9:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Totals		5	42	0	0	47	6	3	19	0	28	15	44	10	0	69	6	0	3	0	9	153	

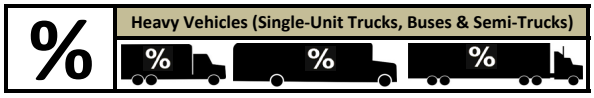
Peak Hour Heavy Vehicle Volume Summary

Hourly Time Period		From North (↓) CTH G-Meadowbrook Rd					From East (←) Golf Road					From South (↑) CTH G-Meadowbrook Rd					From West (→) Golf Road					Total Hourly
	Start Time	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Volume
AM	7:00 AM	1	6	0	0	7	1	2	3	0	6	0	15	4	0	19	2	0	0	0	2	34
MD	12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PM	3:30 PM	1	8	0	0	9	1	0	3	0	4	2	5	2	0	9	0	0	1	0	1	23

Intersection Traffic Volume Report

Count Basics			*Page 10 of 13*
Start Date:	Wednesday, May 25, 2022	Weekday	Schools in Session
Total Number of Hours Counted: 6		Non-Holiday	No Special Events

15-Minute Heavy Vehicle Percentages



CTH G-Meadowbrook Rd and Golf Road

15-Minute Heavy Vehicle Percentages

15-Minute Time Period		From North (↓) CTH G-Meadowbrook Rd					From East (←) Golf Road					From South (↑) CTH G-Meadowbrook Rd					From West (→) Golf Road					Total Heavy Vehicle	Hourly Heavy Vehicle
Start Time		Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Percent	Percent
AM Peak Period	6:00 AM	50.0	0.0	0.0	0.0	3.2	100.0	0.0	0.0	0.0	14.3	18.2	0.0	0.0	0.0	8.0	0.0	0.0	0.0	0.0	0.0	6.0	5.0
	6:15 AM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	12.5	0.0	10.0	0.0	4.0	0.0	0.0	2.7	0.0	0.0	0.0	0.0	0.0	2.1	5.2
	6:30 AM	0.0	0.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0	10.0	20.0	8.2	0.0	0.0	8.5	0.0	0.0	0.0	0.0	0.0	4.4	4.7
	6:45 AM	25.0	4.9	0.0	0.0	6.0	25.0	0.0	33.3	0.0	20.0	16.7	5.3	0.0	0.0	6.7	0.0	0.0	0.0	0.0	0.0	6.8	4.4
	7:00 AM	14.3	5.6	0.0	0.0	6.1	0.0	20.0	11.1	0.0	11.1	0.0	6.2	12.5	0.0	5.9	0.0	0.0	0.0	0.0	0.0	5.9	3.9
	7:15 AM	0.0	0.0	0.0	0.0	0.0	0.0	14.3	13.3	0.0	12.0	0.0	1.6	0.0	0.0	0.9	10.0	0.0	0.0	0.0	4.5	2.2	4.2
	7:30 AM	0.0	2.7	0.0	0.0	2.4	25.0	0.0	0.0	0.0	4.8	0.0	5.3	14.3	0.0	5.1	0.0	0.0	0.0	0.0	0.0	3.6	4.5
	7:45 AM	0.0	1.6	0.0	0.0	1.4	0.0	0.0	0.0	0.0	0.0	0.0	6.2	20.0	0.0	6.4	20.0	0.0	0.0	0.0	5.9	4.2	4.4
	8:00 AM	0.0	2.0	0.0	0.0	1.7	0.0	0.0	15.4	0.0	8.7	10.0	6.8	18.2	0.0	8.9	22.2	0.0	10.0	0.0	12.5	7.1	4.1
	8:15 AM	0.0	1.9	0.0	0.0	1.7	20.0	0.0	22.2	0.0	15.0	0.0	0.0	9.1	0.0	1.3	8.3	0.0	0.0	0.0	3.4	3.2	
	8:30 AM	0.0	4.7	0.0	0.0	3.7	0.0	0.0	8.3	0.0	4.8	3.0	3.8	0.0	0.0	3.0	0.0	0.0	0.0	0.0	0.0	3.2	
	8:45 AM	0.0	7.8	0.0	0.0	6.1	0.0	0.0	7.7	0.0	4.0	0.0	0.0	11.1	0.0	1.1	0.0	0.0	0.0	0.0	0.0	2.9	
	9:00 AM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
	9:15 AM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
	9:30 AM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
	9:45 AM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Midday Peak Period	10:00 AM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
	10:15 AM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
	10:30 AM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
	10:45 AM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
	11:00 AM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
	11:15 AM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
	11:30 AM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
	11:45 AM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
	12:00 PM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
	12:15 PM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
	12:30 PM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
	12:45 PM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
	1:00 PM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
	1:15 PM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
	1:30 PM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
	1:45 PM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
PM Peak Period	2:00 PM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
	2:15 PM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
	2:30 PM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
	2:45 PM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
	3:00 PM	16.7	1.5	0.0	0.0	2.7	0.0	9.1	10.5	0.0	7.9	0.0	2.5	0.0	0.0	1.9	0.0	0.0	0.0	0.0	0.0	2.8	2.4
	3:15 PM	0.0	7.1	0.0	0.0	6.0	0.0	0.0	0.0	0.0	0.0	9.1	1.8	0.0	0.0	2.5	0.0	0.0	16.7	0.0	4.0	3.5	2.4
	3:30 PM	0.0	5.8	0.0	0.0	5.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.9	2.1
	3:45 PM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	12.5	0.0	15.4	0.0	4.1	0.0	0.0	0.0	0.0	0.0	1.6	2.5
	4:00 PM	0.0	1.3	0.0	0.0	1.1	7.1	0.0	8.0	0.0	5.1	0.0	3.7	0.0	0.0	2.7	0.0	0.0	9.1	0.0	4.0	2.8	2.7
	4:15 PM	20.0	2.4	0.0	0.0	3.3	0.0	0.0	7.7	0.0	3.1	0.0	2.0	0.0	0.0	1.6	0.0	0.0	0.0	0.0	0.0	2.2	2.3
	4:30 PM	0.0	7.3	0.0	0.0	6.8	0.0	0.0	0.0	0.0	0.0	12.5	2.1	0.0	0.0	2.7	0.0	0.0	0.0	0.0	0.0	3.5	2.0
	4:45 PM	0.0	3.0	0.0	0.0	2.7	0.0	0.0	8.3	0.0	5.3	0.0	1.2	0.0	0.0	0.9	0.0	0.0	0.0	0.0	0.0	2.0	1.4
	5:00 PM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	11.8	2.6	0.0	0.0	3.8	0.0	0.0	0.0	0.0	0.0	1.6	1.2
	5:15 PM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.5	0.0	2.7	6.2	1.0	0.0	0.0	1.7	0.0	0.0	0.0	0.0	0.0	1.1	
	5:30 PM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.9	0.0	0.0	0.7	14.3	0.0	0.0	0.0	5.9	0.8	
	5:45 PM	0.0	5.2	0.0	0.0	4.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.4	
	6:00 PM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
	6:15 PM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
	6:30 PM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
	6:45 PM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
	7:00 PM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
	7:15 PM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
	7:30 PM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
	7:45 PM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
	8:00 PM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
	8:15 PM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
	8:30 PM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
	8:45 PM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
	9:00 PM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
	9:15 PM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
	9:30 PM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
	9:45 PM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Totals		4.3	2.8	0.0	0.0	2.7	6.1	1.5	5.5	0.0	4.3	3.9	2.6	4.2	0.0	3.0	3.8	0.0	2.5	0.0	2.0	3.0	

Peak Hour Heavy Vehicle Percentages Summary

Hourly Time Period		From North (↓) CTH G-Meadowbrook Rd					From East (←) Golf Road					From South (↑) CTH G-Meadowbrook Rd					From West (→) Golf Road					Hourly Heavy Vehicle
Start Time		Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Percent
AM	7:00 AM	5.3	2.4	0.0	0.0	2.4	6.7	10.0	6.5	0.0	7.4	0.0	5.0	9.3	0.0	4.5	8.0	0.0	0.0	0.0	2.7	3.9
MD	12:00 PM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PM	3:30 PM	4.2	2.3	0.0	0.0	2.3	4.3	0.0	5.2	0.0	2.9	3.3	1.4	3.9	0.0	2.0	0.0	0.0	3.7	0.0	1.1	2.1

Intersection Traffic Volume Report

Count Basics			Page 11 of 13
Start Date:	Wednesday, May 25, 2022	Weekday	Schools in Session
Total Number of Hours Counted: 6		Non-Holiday	No Special Events

15-Minute Pedestrian and Bicyclist Data

Pedestrians and Bicyclists

CTH G-Meadowbrook Rd and Golf Road

15-Minute Pedestrian and Bicyclist Data

	15-Minute	Crossing North Approach			Crossing East Approach			Crossing South Approach			Crossing West Approach				
	Time Period	CTH G-Meadowbrook Rd			Golf Road			CTH G-Meadowbrook Rd			Golf Road			15-Min	Hourly
	Start Time	Pedestrian	Bicyclist	Total	Pedestrian	Bicyclist	Total	Pedestrian	Bicyclist	Total	Pedestrian	Bicyclist	Total	Totals	Sum
AM Peak Period	6:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	6:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	6:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	6:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	1
	7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	1
	8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	3
	8:15 AM	0	0	0	0	0	0	1	0	1	0	0	0	1	
	8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	
	8:45 AM	1	0	1	1	0	1	0	0	0	0	0	0	2	
	9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	
	9:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	
	9:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	
	9:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	
Midday Peak Period	10:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	
	10:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	
	10:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	
	10:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	
	11:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	
	11:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	
	11:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	
	11:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	
	12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	
	12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	
	12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	
	12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	
	1:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	
	1:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	
	1:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	
	1:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	
PM Peak Period	2:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	
	2:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	
	2:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	
	2:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	
	3:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	
	5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	
	5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	
	6:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	
	6:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	
	6:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	
	6:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	
	7:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	
	7:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	
	7:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	
	7:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	
	8:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	
	8:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	
	8:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	
	8:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	
	9:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	
	9:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	
	9:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	
	9:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	
Totals		1	0	1	1	0	1	1	0	1	0	0	0	3	

Special Pedestrians

Pedestrian Type	None	1 or 2	A Few	Several	Many	Unknown
Pre-school Children	x					
Elementry School Age Children	x					
Visually Impaired (white cane/helper dog)	x					
Elderly/Disabled (except wheelchairs)	x					
Wheelchairs/Electric Scooters	x					
Other (None)	x					

Intersection Traffic Volume Report

Count Basics			Page 12 of 13
Start Date:	Wednesday, May 25, 2022	Weekday	Schools in Session
Total Number of Hours Counted: 6		Non-Holiday	No Special Events

15-Minute Adult & Children Count (Manual Entry)

Adults & Children

CTH G-Meadowbrook Rd and Golf Road

15-Minute Adult & Children Pedestrian Data

15-Minute Time Period		Crossing North Approach			Crossing East Approach			Crossing South Approach			Crossing West Approach			15-Min	Hourly
		CTH G-Meadowbrook Rd			Golf Road			CTH G-Meadowbrook Rd			Golf Road				
	Start Time	Adults	Children	Total	Adults	Children	Total	Adults	Children	Total	Adults	Children	Total	Totals	Sum
AM Peak Period	6:00 AM	0		0	0		0	0		0	0		0	0	0
	6:15 AM	0		0	0		0	0		0	0		0	0	0
	6:30 AM	0		0	0		0	0		0	0		0	0	0
	6:45 AM	0		0	0		0	0		0	0		0	0	0
	7:00 AM	0		0	0		0	0		0	0		0	0	0
	7:15 AM	0		0	0		0	0		0	0		0	0	0
	7:30 AM	0		0	0		0	0		0	0		0	0	1
	7:45 AM	0		0	0		0	0		0	0		0	0	1
	8:00 AM	0		0	0		0	0		0	0		0	0	3
	8:15 AM	0		0	0		0	1		1	0		0	1	3
	8:30 AM	0		0	0		0	0		0	0		0	0	2
	8:45 AM	1		1	1		1	0		0	0		0	2	2
	9:00 AM	0		0	0		0	0		0	0		0	0	0
	9:15 AM	0		0	0		0	0		0	0		0	0	0
	9:30 AM	0		0	0		0	0		0	0		0	0	0
	9:45 AM	0		0	0		0	0		0	0		0	0	0
Midday Peak Period	10:00 AM	0		0	0		0	0		0	0		0	0	0
	10:15 AM	0		0	0		0	0		0	0		0	0	0
	10:30 AM	0		0	0		0	0		0	0		0	0	0
	10:45 AM	0		0	0		0	0		0	0		0	0	0
	11:00 AM	0		0	0		0	0		0	0		0	0	0
	11:15 AM	0		0	0		0	0		0	0		0	0	0
	11:30 AM	0		0	0		0	0		0	0		0	0	0
	11:45 AM	0		0	0		0	0		0	0		0	0	0
	12:00 PM	0		0	0		0	0		0	0		0	0	0
	12:15 PM	0		0	0		0	0		0	0		0	0	0
	12:30 PM	0		0	0		0	0		0	0		0	0	0
	12:45 PM	0		0	0		0	0		0	0		0	0	0
	1:00 PM	0		0	0		0	0		0	0		0	0	0
	1:15 PM	0		0	0		0	0		0	0		0	0	0
	1:30 PM	0		0	0		0	0		0	0		0	0	0
	1:45 PM	0		0	0		0	0		0	0		0	0	0
PM Peak Period	2:00 PM	0		0	0		0	0		0	0		0	0	0
	2:15 PM	0		0	0		0	0		0	0		0	0	0
	2:30 PM	0		0	0		0	0		0	0		0	0	0
	2:45 PM	0		0	0		0	0		0	0		0	0	0
	3:00 PM	0		0	0		0	0		0	0		0	0	0
	3:15 PM	0		0	0		0	0		0	0		0	0	0
	3:30 PM	0		0	0		0	0		0	0		0	0	0
	3:45 PM	0		0	0		0	0		0	0		0	0	0
	4:00 PM	0		0	0		0	0		0	0		0	0	0
	4:15 PM	0		0	0		0	0		0	0		0	0	0
	4:30 PM	0		0	0		0	0		0	0		0	0	0
	4:45 PM	0		0	0		0	0		0	0		0	0	0
	5:00 PM	0		0	0		0	0		0	0		0	0	0
	5:15 PM	0		0	0		0	0		0	0		0	0	0
	5:30 PM	0		0	0		0	0		0	0		0	0	0
	5:45 PM	0		0	0		0	0		0	0		0	0	0
	6:00 PM	0		0	0		0	0		0	0		0	0	0
	6:15 PM	0		0	0		0	0		0	0		0	0	0
	6:30 PM	0		0	0		0	0		0	0		0	0	0
	6:45 PM	0		0	0		0	0		0	0		0	0	0
	7:00 PM	0		0	0		0	0		0	0		0	0	0
	7:15 PM	0		0	0		0	0		0	0		0	0	0
	7:30 PM	0		0	0		0	0		0	0		0	0	0
	7:45 PM	0		0	0		0	0		0	0		0	0	0
	8:00 PM	0		0	0		0	0		0	0		0	0	0
	8:15 PM	0		0	0		0	0		0	0		0	0	0
	8:30 PM	0		0	0		0	0		0	0		0	0	0
	8:45 PM	0		0	0		0	0		0	0		0	0	0
	9:00 PM	0		0	0		0	0		0	0		0	0	0
	9:15 PM	0		0	0		0	0		0	0		0	0	
	9:30 PM	0		0	0		0	0		0	0		0	0	
	9:45 PM	0		0	0		0	0		0	0		0	0	
Totals		**1**	**0**	**1**	**1**	**0**	**1**	**1**	**0**	**1**	**0**	**0**	**0**	**3**	

Intersection Traffic Volume Report

Count Basics			*Page 13 of 13*
Start Date:	Wednesday, May 25, 2022	Weekday	Schools in Session
Total Number of Hours Counted: 6		Non-Holiday	No Special Events

15-Minute Bicycle Turning Movement Count (Manual Entry)

Bicyclists


CTH G-Meadowbrook Rd and Golf Road

15-Minute Bicycle Data

15-Minute Time Period Start Time		From North (↓) CTH G-Meadowbrook Rd					From East (←) Golf Road					From South (↑) CTH G-Meadowbrook Rd					From West (→) Golf Road					15-Min Totals	Hourly Sum
		Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total		
AM Peak Period	6:00 AM					0					0					0					0	0	0
	6:15 AM					0					0					0					0	0	0
	6:30 AM					0					0					0					0	0	0
	6:45 AM					0					0					0					0	0	0
	7:00 AM					0					0					0					0	0	0
	7:15 AM					0					0					0					0	0	0
	7:30 AM					0					0					0					0	0	0
	7:45 AM					0					0					0					0	0	0
	8:00 AM					0					0					0					0	0	0
	8:15 AM					0					0					0					0	0	0
	8:30 AM					0					0					0					0	0	0
	8:45 AM					0					0					0					0	0	0
	9:00 AM					0					0					0					0	0	0
	9:15 AM					0					0					0					0	0	0
	9:30 AM					0					0					0					0	0	0
	9:45 AM					0					0					0					0	0	0
Midday Peak Period	10:00 AM					0					0					0					0	0	0
	10:15 AM					0					0					0					0	0	0
	10:30 AM					0					0					0					0	0	0
	10:45 AM					0					0					0					0	0	0
	11:00 AM					0					0					0					0	0	0
	11:15 AM					0					0					0					0	0	0
	11:30 AM					0					0					0					0	0	0
	11:45 AM					0					0					0					0	0	0
	12:00 PM					0					0					0					0	0	0
	12:15 PM					0					0					0					0	0	0
	12:30 PM					0					0					0					0	0	0
	12:45 PM					0					0					0					0	0	0
	1:00 PM					0					0					0					0	0	0
	1:15 PM					0					0					0					0	0	0
	1:30 PM					0					0					0					0	0	0
	1:45 PM					0					0					0					0	0	0
PM Peak Period	2:00 PM					0					0					0					0	0	0
	2:15 PM					0					0					0					0	0	0
	2:30 PM					0					0					0					0	0	0
	2:45 PM					0					0					0					0	0	0
	3:00 PM					0					0					0					0	0	0
	3:15 PM					0					0					0					0	0	0
	3:30 PM					0					0					0					0	0	0
	3:45 PM					0					0					0					0	0	0
	4:00 PM					0					0					0					0	0	0
	4:15 PM					0					0					0					0	0	0
	4:30 PM					0					0					0					0	0	0
	4:45 PM					0					0					0					0	0	0
	5:00 PM					0					0					0					0	0	0
	5:15 PM					0					0					0					0	0	0
	5:30 PM					0					0					0					0	0	0
	5:45 PM					0					0					0					0	0	0
	6:00 PM					0					0					0					0	0	0
	6:15 PM					0					0					0					0	0	0
	6:30 PM					0					0					0					0	0	0
	6:45 PM					0					0					0					0	0	0
	7:00 PM					0					0					0					0	0	0
	7:15 PM					0					0					0					0	0	0
	7:30 PM					0					0					0					0	0	0
	7:45 PM					0					0					0					0	0	0
	8:00 PM					0					0					0					0	0	0
	8:15 PM					0					0					0					0	0	0
	8:30 PM					0					0					0					0	0	0
	8:45 PM					0					0					0					0	0	0
	9:00 PM					0					0					0					0	0	0
	9:15 PM					0					0					0					0	0	
	9:30 PM					0					0					0					0	0	
	9:45 PM					0					0					0					0	0	
Totals		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	

Peak Hour Bicycle Turning Movement Volume Summary

Hourly Time Period Start Time		From North (↓) CTH G-Meadowbrook Rd					From East (←) Golf Road					From South (↑) CTH G-Meadowbrook Rd					From West (→) Golf Road					Total Hourly Volume
		Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	
AM	7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MD	12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PM	3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Saturation Flow Rate Calculations for Traffic Signalized Intersections (TEOpS 16-15-5.2.2)

Project: Pewaukee Senior Living
Scenario: Existing
User: TJM
Date: 6/1/2022
Population: 1,376,476
Range: 704,500+

Intersection	Direction	Approach Lanes	Posted Speed	Shared Lt/Th?	Shared Th/Rt?	Sat Flow (pcphpl) - Equation			Sat Flow (pcphpl) - Factors		
						Left	Thru	Right	Left	Thru	Right
CTH G at Golf Road	EB	3	50	N	N	1900	1996	1900	1900	1977	1900
	WB	2	45	N	Y	1900	1914	1914	1900	1898	1898
	NB	4	35	N	N	1900	1893	1900	1900	1882	1900
	SB	4	35	N	N	1900	1893	1900	1900	1882	1900

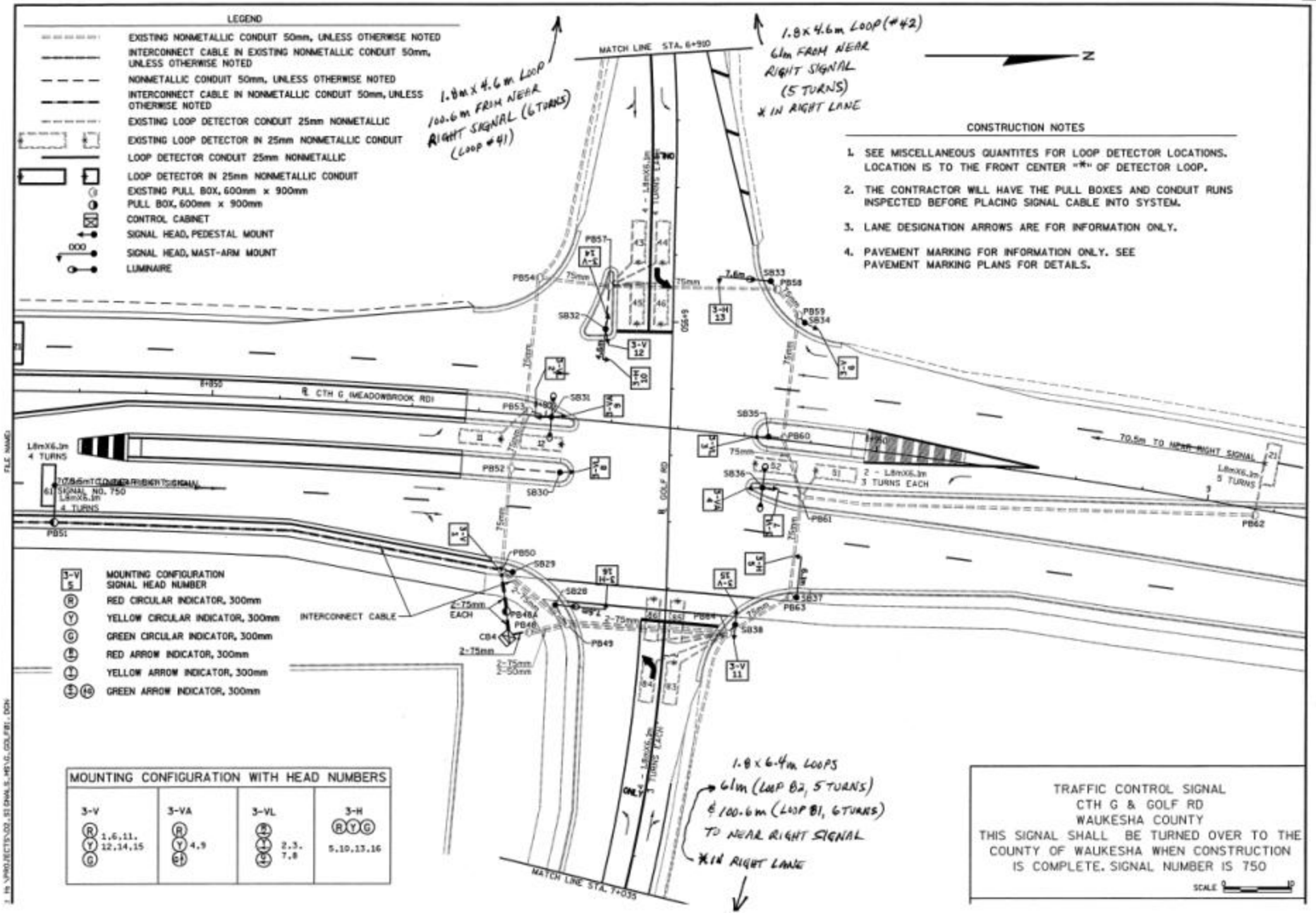
- Per TEOpS 16-15-5.2.2.2, when calculated value <1750 pcphpl, consider field study or HCM6 default values.
HCM6 default values are 1900 with population > 250,000 and 1750 with population ≤ 250,000.

Special Notes:

TADI Worksheet, Updated 8-10-2020 (MPM)

APPENDIX B

Existing Traffic Signal Timings



ORIGINATOR: DISTRICT 2 - TRAFFIC OPERATIONS
PLOT SCALED: 500.000000:1.000000
PLOTTED BY: DOTCYB
PLOT DATE: 14-DEC-1999 13:53
FILE NAME:
BUILT IN '00

SEPAC ECOM All Data

9/14/2020
3:12:30PM

Intersection Name: **Cth DR & Cth G**

Intersection Alias: **drg**

Access Data

1 :**1200 Baud**
3 :**1200 Baud**

Access Code: **9999**

Channel: 1

Address: **0**

Revision: **2.33**

IP Address:

Phase Initialization Data

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Initial	1-Inact	4-Grn	0-None	1-Inact	1-Inact	4-Grn	0-None	1-Inact	0-None	0-None	0-None	0-None	0-None	0-None	0-None	0-None

PHASE DATA

	Vehical Basic Timings						Misc Timings						Pedestrian Timings						
Phase	Min Green	Passage	Max1	Max2	Yellow	All Red	Green Delay	Yellow Delay	Walk Offset Time	Walk Offset Mode	Bike Green	Bike Psg	Walk	Ped Clr	Alt Walk	Alt Ped Clr	Flash Walk	Ext Ped Clr	Actuated Rest in Walk
1	6	1.5	20	25	3.5	0.0	0.0	0.0	0	0-Advance	0.0	0.0	0	0	0	0	No	0	No
2	10	4.5	40	50	4.1	2.0	0.0	0.0	0	0-Advance	0.0	0.0	0	0	0	0	No	0	No
3	0	0.0	0	0	3.5	0.0	0.0	0.0	0	0-Advance	0.0	0.0	0	0	0	0	No	0	No
4	8	3.0	30	30	4.8	2.0	0.0	0.0	0	0-Advance	0.0	0.0	0	0	0	0	No	0	No
5	6	1.5	20	25	3.5	0.0	0.0	0.0	0	0-Advance	0.0	0.0	0	0	0	0	No	0	No
6	10	4.5	40	50	4.1	2.0	0.0	0.0	0	0-Advance	0.0	0.0	7	25	0	0	No	0	No
7	0	0.0	0	0	3.5	0.0	0.0	0.0	0	0-Advance	0.0	0.0	0	0	0	0	No	0	No
8	8	3.0	30	30	4.8	2.0	0.0	0.0	0	0-Advance	0.0	0.0	0	0	0	0	No	0	No
9	0	0.0	0	0	3.0	0.0	0.0	0.0	0	0-Advance	0.0	0.0	0	0			No	0	No
10	0	0.0	0	0	3.0	0.0	0.0	0.0	0	0-Advance	0.0	0.0	0	0			No	0	No
11	0	0.0	0	0	3.0	0.0	0.0	0.0	0	0-Advance	0.0	0.0	0	0			No	0	No
12	0	0.0	0	0	3.0	0.0	0.0	0.0	0	0-Advance	0.0	0.0	0	0			No	0	No
13	0	0.0	0	0	3.0	0.0	0.0	0.0	0	0-Advance	0.0	0.0	0	0			No	0	No
14	0	0.0	0	0	3.0	0.0	0.0	0.0	0	0-Advance	0.0	0.0	0	0			No	0	No
15	0	0.0	0	0	3.0	0.0	0.0	0.0	0	0-Advance	0.0	0.0	0	0			No	0	No
16	0	0.0	0	0	3.0	0.0	0.0	0.0	0	0-Advance	0.0	0.0	0	0			No	0	No

	Vehicle Density Timings						General Control				Miscellaneous					Special Sequence		
Ph.	Added Initial	Max Initial	Time B4 Redu	Car B4 Redu	Time To Redu	Min Gap	Non-Act Response	Veh Recall	Ped Recall	Recall Delay	Non Lock	Dual Entry	Last Car Pass	Condit Service	No Simu Gap Out	Omit	Minus Yel	Omit Call
1	0.0	6	20	0	0	1.5	None	None	None	0	Yes	No	No	No	No	0	0	0
2	1.2	22	22	0	18	2.0	None	Min	None	0	No	Yes	No	No	No	0	0	0
3	0.0	0	0	0	0	0.0	None	None	None	0	Yes	No	No	No	No	0	0	0
4	0.0	8	30	0	0	1.5	None	None	None	0	Yes	Yes	No	No	No	0	0	0
5	0.0	6	20	0	0	1.5	None	None	None	0	Yes	No	No	No	No	0	0	0
6	1.2	22	22	0	18	2.0	None	Min	None	0	No	Yes	No	No	No	0	0	0
7	0.0	0	0	0	0	0.0	None	None	None	0	Yes	No	No	No	No	0	0	0
8	0.0	8	30	0	0	1.5	None	None	None	0	Yes	Yes	No	No	No	0	0	0
9	0.0	0	0	0	0	0.0	None	None	None	0	No	No	No	No	No	0	0	0
10	0.0	0	0	0	0	0.0	None	None	None	0	No	No	No	No	No	0	0	0
11	0.0	0	0	0	0	0.0	None	None	None	0	No	No	No	No	No	0	0	0
12	0.0	0	0	0	0	0.0	None	None	None	0	No	No	No	No	No	0	0	0
13	0.0	0	0	0	0	0.0	None	None	None	0	No	No	No	No	No	0	0	0
14	0.0	0	0	0	0	0.0	None	None	None	0	No	No	No	No	No	0	0	0

15	0.0	0	0	0	0	0.0	None	None	None	0	No	No	No	No	No	0	0	0
16	0.0	0	0	0	0	0.0	None	None	None	0	No	No	No	No	No	0	0	0

Vehical Detector Phase Assignment

	Assign Phase	Mode	Switch Phase	Extend	Delay
Default Data					

Pedestrian Detector

	Assign Phase	Mode	Switch Phase	Extend	Delay
Default Data					

Special Detector Phase Assignment

	Assign Phase	Mode	Switch Phase	Extend	Delay
:					
Default Data					

Unit Data

General Control

Startup Time: 7 sec
Startup State: All Red
Red Revert: 2.0 sec
Auto Ped Clr: No
Stop T Reset: No
Alt Sequence: 0
Special Seq: 0-Standard

Ring	Input Respons	Output Selection
1	Ring 1	Ring 1
2	Ring 2	Ring 2
3	None	None
4	None	Ring 2

I/O Modes:

ABC Input(Entry) Modes: 0
D Input(Entry) Modes: 0
ABC Output(O/STS) Modes: 0
D Output(O/STS) Modes: 0

Remote Flash

Test A = Flash No

Phase	Entry	Exit
2		Yes
6		Yes

Default Data
- No Flash

Overlaps

Overlaps

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
Phase(s)																

Start Green

Overlaps

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
Phase(s)																

Ring

Phase	Ring	Next Phase
1	1	2
2	1	3
4	1	1
5	2	6
6	2	7
8	2	5

Phase(s)

Concurrent Phases	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
	1	2	3	4	1	1	3	3								
	5	5	7	7	2	2	4	4								
	6	6	8	8	5	6	7	8								

Alternate Sequences

	Ph. Pair 1	Ph. Pair 2	Ph. Pair 3	Ph. Pair 4
Alt. Seq. 1	**1/2**			
Alt. Seq. 2	**3/4**			
Alt. Seq. 3	**1/2**	**3/4**		
Alt. Seq. 4	**5/6**			
Alt. Seq. 5	**1/2**	**5/6**		
Alt. Seq. 6	**3/4**	**5/6**		
Alt. Seq. 7	**1/2**	**3/4**	**5/6**	
Alt. Seq. 8	**7/8**			
Alt. Seq. 9	**1/2**	**7/8**		
Alt. Seq. 10	**3/4**	**7/8**		
Alt. Seq. 11	**1/2**	**3/4**	**7/8**	
Alt. Seq. 12	**5/6**	**7/8**		
Alt. Seq. 13	**1/2**	**5/6**	**7/8**	
Alt. Seq. 14	**3/4**	**5/6**	**7/8**	
Alt. Seq. 15	**1/2**	**3/4**	**5/6**	**7/8**

Port 1 Data

BIU Addr	Port Status	Basic Det	Message 40

Default Data

Signal Driver Ouput

Channel	Control	Hardware Pins
1	1 - Veh Phase 1	1 - Phase 1 RYG
2	2 - Veh Phase 2	2 - Phase 2 RYG
3	3 - Veh Phase 3	3 - Phase 3 RYG
4	4 - Veh Phase 4	4 - Phase 4 RYG
5	5 - Veh Phase 5	5 - Phase 5 RYG
6	6 - Veh Phase 6	6 - Phase 6 RYG
7	7 - Veh Phase 7	7 - Phase 7 RYG
8	8 - Veh Phase 8	8 - Phase 8 RYG
9	18 - Ped Phase 2	10 - Phase 2 DPW
10	20 - Ped Phase 4	12 - Phase 4 DPW
11	22 - Ped Phase 6	14 - Phase 6 DPW
12	24 - Ped Phase 8	16 - Phase 8 DPW
13	33 - Overlap A	17 - Overlap A RYG
14	34 - Overlap B	18 - Overlap B RYG
15	35 - Overlap C	19 - Overlap C RYG
16	36 - Overlap D	20 - Overlap D RYG
17	17 - Ped Phase 1	9 - Phase 1 DPW
18	19 - Ped Phase 3	11 - Phase 3 DPW
19	21 - Ped Phase 5	13 - Phase 5 DPW
20	23 - Ped Phase 7	15 - Phase 7 DPW
21	37 - Overlap E	21 - Phase 1 ONC
22	38 - Overlap F	22 - Phase 2 ONC
23	39 - Overlap G	23 - Phase 3 ONC
24	40 - Overlap H	24 - Phase 4 ONC

Coordination Data

General Coordination Data

Operation Mode: 0=Free
Coordination Mode: 0=Permissive
Maximun Mode: 2=Max 2
Correction Mode: 2=Short Way

Offset Mode: 0=Beg Grn
Force Mode: 0=Plan
Max Dwell Time: 15
Yield Period: 0

Manual Dial: 1
Manual Split: 1
Manual Offset: 1

Dial/Split	Cycle
1/1	90
2/1	75

Split Times and Phase Modes

Dial 1 / **Split** 1

Ph.	Splits	Ph. Mode	Ph.	Splits	Ph. Mode	Ph.	Splits	Ph. Mode	Ph.	Splits	Ph. Mode
1	23	0=Actuated	2	47	1=Coordinate	4	20	0=Actuated	5	17	0=Actuated
6	53	1=Coordinate	8	20	0=Actuated						

Dial 2 / **Split** 1

Ph.	Splits	Ph. Mode	Ph.	Splits	Ph. Mode	Ph.	Splits	Ph. Mode	Ph.	Splits	Ph. Mode
1	19	0=Actuated	2	39	1=Coordinate	4	17	0=Actuated	5	14	0=Actuated
6	44	1=Coordinate	8	17	0=Actuated						

Traffic Plan Data

Plan: 1/1/1	Offset Time: 38	Alternat Sequence: 0	Rg 2 Lag Time: 0	Rg 3 Lag Time: 0	Rg 4 Lag Time: 0
	Mode: 0=Normal	Special Function: 0	Correction Mode: 0=No		
Plan: 2/1/1	Offset Time: 38	Alternat Sequence: 0	Rg 2 Lag Time: 0	Rg 3 Lag Time: 0	Rg 4 Lag Time: 0
	Mode: 0=Normal	Special Function: 0	Correction Mode: 0=No		

Local TBC Data

Start of Daylight Saving Month: 3 Week: 2 Cycle Zero Reference Hours: 24 Min: 0

End of Daylight Saving Month: 11 Week: 1

Source Day	Equate Days 1	2	3	4	5	6	7
1	7	0	0	0	0	0	0
2	3	4	5	6	0	0	0

Traffic Data

Event	Day	Time	D/S/O	flash	PHASE FUNCTION 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1	1	0:1	0/0/4		☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
2	1	9:0	2/1/1		☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
3	1	18:0	0/0/4		☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
4	2	0:1	0/0/4		☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
5	2	6:0	1/1/1		☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
6	2	19:0	2/1/1		☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
7	2	22:0	0/0/4		☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐

AUX. Events

Event	Program Day	Hour	Min.	Aux Ouputs 1	2	3	Det. Diag. D1	Det. Rpt. D2	Det. Mult100 D3	Dimming	Special Function Outputs 1	2	3	4	5	6	7	8
				☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐

Default Data - No Special Day(s) or Week(s) Programmed

Special Functions

Function

SF1	SF2	SF3	SF4	SF5	SF6	SF7	SF8	SF9	SF10	SF11	SF12	SF13	SF14	SF15	SF16
☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐

Phase Function

PF1	PF2	PF3	PF4	PF5	PF6	PF7	PF8	PF9	PF10	PF11	PF12	PF13	PF14	PF15	PF16
☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐

Phase Omit

PF1	PF2	PF3	PF4	PF5	PF6	PF7	PF8	PF9	PF10	PF11	PF12	PF13	PF14	PF15	PF16
☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐

Ped Omit

PF1	PF2	PF3	PF4	PF5	PF6	PF7	PF8	PF9	PF10	PF11	PF12	PF13	PF14	PF15	PF16
☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐

Veh Det Coord ReSvc

PF1	PF2	PF3	PF4	PF5	PF6	PF7	PF8	PF9	PF10	PF11	PF12	PF13	PF14	PF15	PF16
☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐

Function Phase Recall

PF1	PF2	PF3	PF4	PF5	PF6	PF7	PF8	PF9	PF10	PF11	PF12	PF13	PF14	PF15	PF16
☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐

Phase Min Recall

PF1	PF2	PF3	PF4	PF5	PF6	PF7	PF8	PF9	PF10	PF11	PF12	PF13	PF14	PF15	PF16
☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐

Veh Det Ped Recall

PF1	PF2	PF3	PF4	PF5	PF6	PF7	PF8	PF9	PF10	PF11	PF12	PF13	PF14	PF15	PF16
☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐

Veh Det Bike Recall

PF1	PF2	PF3	PF4	PF5	PF6	PF7	PF8	PF9	PF10	PF11	PF12	PF13	PF14	PF15	PF16
☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐

Vehicle Function

Veh Det Switch Omit	PF1	PF2	PF3	PF4	PF5	PF6	PF7	PF8	PF9	PF10	PF11	PF12	PF13	PF14	PF15	PF16
	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐

Veh Det Switch Now	PF1	PF2	PF3	PF4	PF5	PF6	PF7	PF8	PF9	PF10	PF11	PF12	PF13	PF14	PF15	PF16
	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐

Veh Det Switch Also	PF1	PF2	PF3	PF4	PF5	PF6	PF7	PF8	PF9	PF10	PF11	PF12	PF13	PF14	PF15	PF16
	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐

Overlap Function

	PF1	PF2	PF3	PF4	PF5	PF6	PF7	PF8	PF9	PF10	PF11	PF12	PF13	PF14	PF15	PF16
	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐

Dimming Data

Default Data - No Dimming Programmed

Lane Defination

Lanes	Name	Green Inbound	Yellow Inbound	Red Inbound	Green Outbound	Yellow Outbound

Default Data - Lane Defination

program_day program_hour program_minute LanePhFun

Preemption Data

General Preemption Data

Flash > Preempt	Preempt 2 = Preempt 3	Preempt 4 = Preempt 5
Preempt 1 = Preempt 2	Preempt 3 = Preempt 4	Preempt 5 = Preempt 6

Preempt	NLock	Link to Pmpt	Preempt Timers Del	Ext	Dur	Max Call	Lock-Out	De Bounce	Gate Ext	Min G | W	Select Ped Clear	Yel	Red	Track Grn	Ped	Yel	Red	Dwell Green	Return Ped Clear	Yel	Red	Sel Ret Mode
1	N	0	0	0	0	0	0	0.0	0	0	0	0.0	0.0	0	0	0.0	0.0	10	0	0.0	0.0	F Aut
2	N	0	0	0	0	0	0	0.0	0	0	0	0.0	0.0	0	0	0.0	0.0	10	0	0.0	0.0	F Aut
3	N	0	0	0	0	0	0	0.0	0	0	0	0.0	0.0	0	0	0.0	0.0	10	0	0.0	0.0	F Aut
4	N	0	0	0	0	0	0	0.0	0	0	0	0.0	0.0	0	0	0.0	0.0	10	0	0.0	0.0	F Aut
5	N	0	0	0	0	0	0	0.0	0	0	8	4.0	2.0	10	8	4.0	2.0	10	8	4.0	2.0	F Aut
6	N	0	0	0	0	0	0	0.0	0	0	8	4.0	2.0	10	8	4.0	2.0	10	8	4.0	2.0	F Aut

Preempt 1			Preempt 2			Preempt 3			Preempt 4			Preempt 5			Preempt 6		
Phase	Exit Phase	Exit Calls	Phase	Exit Phase	Exit Calls	Phase	Exit Phase	Exit Calls	Phase	Exit Phase	Exit Calls	Phase	Exit Phase	Exit Calls	Phase	Exit Phase	Exit Calls
1	No	Yes	1	No	Yes	1	No	Yes	1	No	Yes	1	No	Yes	1	No	Yes
2	Yes	Yes	2	Yes	Yes	2	No	Yes	2	No	Yes	2	Yes	Yes	2	Yes	Yes
3	No	Yes	3	No	Yes	3	No	Yes	3	No	Yes	3	No	Yes	3	No	Yes
4	No	Yes	4	No	Yes	4	Yes	Yes	4	Yes	Yes	4	No	Yes	4	No	Yes
5	No	Yes	5	No	Yes	5	No	Yes	5	No	Yes	5	No	Yes	5	No	Yes
6	Yes	Yes	6	Yes	Yes	6	No	Yes	6	No	Yes	6	Yes	Yes	6	Yes	Yes
7	No	Yes	7	No	Yes	7	No	Yes	7	No	Yes	7	No	Yes	7	No	Yes
8	No	Yes	8	No	Yes	8	Yes	Yes	8	Yes	Yes	8	No	Yes	8	No	Yes

Priority Timers

Priority	Non-Locking	Delay	Extend	Free Dial	Free Split	Min Green	No Lock out	Lock out A	Lock out B	Max Green	Pre-Green	Recall	Excl-co Phase Svc.	Transit Overlap	
														Signal Type	Blankout

Priority Detector Channels

Priority

Detector

Priority Fixed Phases

Priority

Legend: 0 FALSE 1 TRUE
CO-PHASE
QJ-PHASE

Priority

Priority Bank : Level

Partial Priority	Full Priority	Recovery
Alt Seq	Freq. Override	Method
Alt Seq Enabled	Ped skip	Return
Min Walk	Force full Priority	PedWait
	Frequency	PedOverride
	Freq. Level	

Codes: 0 FALSE X TRUE

Priority :	Priority :	Priority :
Priority Bank :	Priority Bank :	Priority Bank :
Queue Phase Detector Time	Queue Phase Detector Time	Queue Phase Detector Time
Default data	Default data	Default data

Priority :	Priority :	Priority :
Priority Bank :	Priority Bank :	Priority Bank :
Queue Phase Detector Time	Queue Phase Detector Time	Queue Phase Detector Time
Default data	Default data	Default data

Priority :	Priority :
Bank	Bank
Detector PE 1A 2A 3A 4A 5A 6A B	Detector PE 1A 2A 3A 4A 5A 6A B
Default Data	Default Data

Priority :	Priority :
Bank	Bank
Detector PE 1A 2A 3A 4A 5A 6A B	Detector PE 1A 2A 3A 4A 5A 6A B
Default Data	Default Data

Priority :	Priority :
Bank	Bank
Detector PE 1A 2A 3A 4A 5A 6A B	Detector PE 1A 2A 3A 4A 5A 6A B
Default Data	Default Data

Preempt 1

Vehical Phases				Pedestrian Phases				Overlaps				
Ph.	Track	Dwell	Cycle	Ph	Track	Dwell	Cycle	Ovlp	Track	Dwell	Cycle	Trail Grn
2	Red	Green	No									
5	Red	Green	No	Default Data				Default Data				

Preempt 2

Vehical Phases				Pedestrian Phases				Overlaps				
Ph.	Track	Dwell	Cycle	Ph.	Track	Dwell	Cycle	Ovlp.	Track	Dwell	Cycle	Trail Grn
1	Red	Green	No									
6	Red	Green	No	Default Data				Default Data				

Preempt 3

Vehical Phases				Pedestrian Phases				Overlaps				
Ph.	Track	Dwell	Cycle	Ph.	Track	Dwell	Cycle	Ovlp.	Track	Dwell	Cycle	Trail Grn
4	Red	Green	No									
8	Red	Green	No	Default Data				Default Data				

Preempt 4

Vehical Phases				Pedestrian Phases				Overlaps				
Ph.	Track	Dwell	Cycle	Ph.	Track	Dwell	Cycle	Ovlp.	Track	Dwell	Cycle	Trail Grn
4	Red	Green	No									
8	Red	Green	No	Default Data				Default Data				

Preempt 5

Vehical Phases				Pedestrian Phases				Overlaps				
Ph.	Track	Dwell	Cycle	Ph.	Track	Dwell	Cycle	Ovlp.	Track	Dwell	Cycle	Trail Grn

Default Data **Default Data** **Default Data**

Preempt 6

Vehical Phases				Pedestrian Phases				Overlaps				
Ph.	Track	Dwell	Cycle	Ph.	Track	Dwell	Cycle	Ovlp.	Track	Dwell	Cycle	Trail Grn

Default Data **Default Data** **Default Data**

System/Detectors Data

Local Critical Alarms

Revert to Backup: 15 1st Phone:

Local Free: No Cycle Failure: No Coord Failure: No Conflict Flash: No Remote Flash: No 2nd Phone:

Local Fash: No Cycle Fault: No Coord Fault: No Premption: No Voltage Monitor: No

Special Status 1: No Special Status 2: No Special Status 3: No Special Status 4: No Special Status 5: No Special Status 6: No

Traffic Responsive

System Detector	Detector Channel	Name	Veh/ Hr	Average Time(mins)	Occupancy Correction/10	Min Volume %	Queue 1 Detectors	System Detectors	Weight Factor	Queue 2 Detectors	System Detectors	Weight Factor

Default Data **Default Data** **Default Data**

Sample Interval: 0

Queue: 1 Input Selection: 0=Average

Detector Failed Level : 0

Queue: 2 Input Selection: 0=Average

Detector Failed Level : 0

Queue:

Level	Enter	Leave	Dial / Split / Offset
			/ /

Default Data

Vehical Detector Diagnostic Value 0

Detector	Max Presence	No Activity	Erratic Count

Vehical Detector Diagnostic Value 1

Detector	Max Presence	No Activity	Erratic Count

Special Detector Diagnostic Value 0

Detector	Max Presence	No Activity	Erratic Count

Default Data - Diag 0 Values **Default Data - No Diag 1 Values** **Default Data - No Diag 0 Valu**

Pedestrian Detector Diagnostic Value 0

Detector	Max Presence	No Activity	Erratic Count

Pedestrian Detector Diagnostic Value 1

Detector	Max Presence	No Activity	Erratic Count

Special Detector Diagnostic Value 1

Detector	Max Presence	No Activity	Erratic Count

Default Data - No Diag 0 Values **Default Data - No Diag 1 Values** **Default Data - No Diag 1 Values**

Speed Trap Data

Speed Trap:

Measurement:

Detector 1 Detector_2 Distance :

Dial/Split/Offset

//

Default Data

Speed Trap Low Treshold	Speed Trap High Treshold

Default Data

Volume Detector Data

Report Interval 0

Volume Detector Number	Controller Detector Channel

Default Data

APPENDIX C

Year 2022 Existing Traffic Analysis Outputs

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	15	35	25	45	20	15	45	300	80	25	250	20
Future Volume (vph)	15	35	25	45	20	15	45	300	80	25	250	20
Ideal Flow (vphpl)	1900	1996	1900	1900	1914	1914	1900	1893	1900	1900	1893	1900
Storage Length (ft)	100		100	225		0	235		50	200		50
Storage Lanes	1		1	1		0	1		1	1		1
Taper Length (ft)	75			75			75			75		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Ped Bike Factor	1.00		0.99	1.00	0.99		1.00		0.98	1.00		0.98
Frt			0.850		0.935				0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1752	1938	1568	1687	1662	0	1719	3425	1538	1770	3526	1583
Flt Permitted	0.870			0.870			0.557			0.562		
Satd. Flow (perm)	1603	1938	1545	1543	1662	0	1007	3425	1504	1046	3526	1548
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		50			45			35			35	
Link Distance (ft)		657			1139			553			943	
Travel Time (s)		9.0			17.3			10.8			18.4	
Confl. Peds. (#/hr)	1		1	1		1	1		1	1		1
Confl. Bikes (#/hr)			1			1			1			1
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Growth Factor	100%	100%	62%	100%	100%	100%	100%	100%	62%	100%	100%	62%
Heavy Vehicles (%)	3%	3%	3%	7%	7%	7%	5%	5%	5%	2%	2%	2%
Adj. Flow (vph)	16	36	16	47	21	16	47	313	52	26	260	13
Shared Lane Traffic (%)												
Lane Group Flow (vph)	16	36	16	47	37	0	47	313	52	26	260	13
Enter Blocked Intersection	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			42			42	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	0.94	1.00	1.00	0.99	0.99	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2		1	2	1	1	2	1
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	20	100	20	20	100		20	100	20	20	100	20
Trailing Detector (ft)	0	0	0	0	0		0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0		0	0	0	0	0	0
Detector 1 Size(ft)	20	6	20	20	6		20	6	20	20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA	Perm	Perm	NA		pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases		4			8		1	6		5	2	
Permitted Phases	4		4	8			6		6	2		2
Detector Phase	4	4	4	8	8		1	6	6	5	2	2
Switch Phase												
Minimum Initial (s)	8.0	8.0	8.0	8.0	8.0		6.0	10.0	10.0	6.0	10.0	10.0
Minimum Split (s)	14.8	14.8	14.8	14.8	14.8		9.5	16.1	16.1	9.5	16.1	16.1
Total Split (s)	30.0	30.0	30.0	30.0	30.0		25.0	50.0	50.0	25.0	50.0	50.0
Total Split (%)	28.6%	28.6%	28.6%	28.6%	28.6%		23.8%	47.6%	47.6%	23.8%	47.6%	47.6%
Maximum Green (s)	23.2	23.2	23.2	23.2	23.2		21.5	43.9	43.9	21.5	43.9	43.9
Yellow Time (s)	4.8	4.8	4.8	4.8	4.8		3.5	4.1	4.1	3.5	4.1	4.1
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0		0.0	2.0	2.0	0.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.8	6.8	6.8	6.8	6.8		3.5	6.1	6.1	3.5	6.1	6.1
Lead/Lag							Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		1.5	4.5	4.5	1.5	4.5	4.5
Minimum Gap (s)	1.5	1.5	1.5	1.5	1.5		1.5	2.0	2.0	1.5	2.0	2.0
Time Before Reduce (s)	30.0	30.0	30.0	30.0	30.0		20.0	22.0	22.0	20.0	22.0	22.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0		0.0	18.0	18.0	0.0	18.0	18.0
Recall Mode	None	None	None	None	None		None	Min	Min	None	Min	Min
Act Effct Green (s)	8.4	8.4	8.4	8.4	8.4		22.9	22.2	22.2	22.3	20.5	20.5
Actuated g/C Ratio	0.24	0.24	0.24	0.24	0.24		0.65	0.63	0.63	0.63	0.58	0.58
v/c Ratio	0.04	0.08	0.04	0.13	0.09		0.06	0.15	0.06	0.03	0.13	0.01
Control Delay	14.0	13.9	14.1	14.4	14.1		4.6	7.5	8.6	4.6	9.2	10.8
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	14.0	13.9	14.1	14.4	14.1		4.6	7.5	8.6	4.6	9.2	10.8
LOS	B	B	B	B	B		A	A	A	A	A	B
Approach Delay		14.0			14.3			7.3			8.9	
Approach LOS		B			B			A			A	

Intersection Summary			
Area Type:	Other		
Cycle Length: 105			
Actuated Cycle Length: 35.5			
Natural Cycle: 45			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.15			
Intersection Signal Delay: 9.0		Intersection LOS: A	
Intersection Capacity Utilization 38.1%		ICU Level of Service A	
Analysis Period (min) 15			

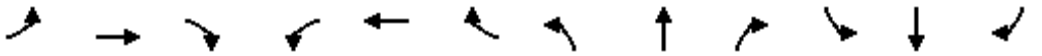
Splits and Phases: 100: CTH G & CTH DR/Golf Rd





Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	16	36	16	47	37	47	313	52	26	260	13
v/c Ratio	0.04	0.08	0.04	0.13	0.09	0.06	0.15	0.06	0.03	0.13	0.01
Control Delay	14.0	13.9	14.1	14.4	14.1	4.6	7.5	8.6	4.6	9.2	10.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	14.0	13.9	14.1	14.4	14.1	4.6	7.5	8.6	4.6	9.2	10.8
Queue Length 50th (ft)	2	4	2	6	4	4	18	6	2	15	1
Queue Length 95th (ft)	15	25	15	31	26	13	56	27	9	47	11
Internal Link Dist (ft)		577			1059		473			863	
Turn Bay Length (ft)	100		100	225		235		50	200		50
Base Capacity (vph)	1082	1309	1043	1042	1122	1169	3395	1491	1204	3495	1534
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.01	0.03	0.02	0.05	0.03	0.04	0.09	0.03	0.02	0.07	0.01

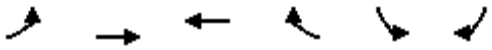
Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	15	35	25	45	20	15	45	300	80	25	250	20
Future Volume (veh/h)	15	35	25	45	20	15	45	300	80	25	250	20
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	1.00		0.98	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1949	1856	1796	1810	1810	1826	1819	1826	1870	1863	1870
Adj Flow Rate, veh/h	16	36	16	47	21	16	47	312	52	26	260	13
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	3	3	3	7	7	7	5	5	5	2	2	2
Cap, veh/h	422	345	275	417	168	128	566	1080	473	524	1019	446
Arrive On Green	0.18	0.18	0.18	0.18	0.18	0.18	0.06	0.31	0.31	0.04	0.29	0.29
Sat Flow, veh/h	1358	1949	1550	1297	946	721	1739	3456	1512	1781	3541	1549
Grp Volume(v), veh/h	16	36	16	47	0	37	47	312	52	26	260	13
Grp Sat Flow(s),veh/h/ln	1358	1949	1550	1297	0	1667	1739	1728	1512	1781	1770	1549
Q Serve(g_s), s	0.3	0.5	0.3	1.1	0.0	0.6	0.6	2.4	0.9	0.3	2.0	0.2
Cycle Q Clear(g_c), s	1.0	0.5	0.3	1.6	0.0	0.6	0.6	2.4	0.9	0.3	2.0	0.2
Prop In Lane	1.00		1.00	1.00		0.43	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	422	345	275	417	0	295	566	1080	473	524	1019	446
V/C Ratio(X)	0.04	0.10	0.06	0.11	0.00	0.13	0.08	0.29	0.11	0.05	0.26	0.03
Avail Cap(c_a), veh/h	1089	1302	1035	1053	0	1113	1533	4367	1911	1558	4474	1957
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	12.4	12.0	11.9	12.7	0.0	12.0	7.6	9.0	8.5	8.0	9.5	8.9
Incr Delay (d2), s/veh	0.0	0.1	0.1	0.1	0.0	0.2	0.0	0.3	0.2	0.0	0.2	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.1	0.3	0.1	0.4	0.0	0.3	0.3	1.2	0.4	0.2	1.0	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	12.5	12.1	12.0	12.8	0.0	12.2	7.6	9.3	8.7	8.1	9.7	8.9
LnGrp LOS	B	B	B	B	A	B	A	A	A	A	A	A
Approach Vol, veh/h		68			84			411			299	
Approach Delay, s/veh		12.2			12.5			9.0			9.6	
Approach LOS		B			B			A			A	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	5.7	16.1		13.0	4.8	17.0		13.0				
Change Period (Y+Rc), s	3.5	6.1		6.8	3.5	6.1		6.8				
Max Green Setting (Gmax), s	21.5	43.9		23.2	21.5	43.9		23.2				
Max Q Clear Time (g_c+I1), s	2.6	4.0		3.0	2.3	4.4		3.6				
Green Ext Time (p_c), s	0.0	3.0		0.2	0.0	3.9		0.2				

Intersection Summary			
HCM 6th Ctrl Delay		9.8	
HCM 6th LOS		A	



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	0	75	85	0	0	0
Future Volume (vph)	0	75	85	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	100			100	0	0
Storage Lanes	0			0	1	0
Taper Length (ft)	75				75	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt						
Flt Protected						
Satd. Flow (prot)	0	1845	1776	0	1863	0
Flt Permitted						
Satd. Flow (perm)	0	1845	1776	0	1863	0
Link Speed (mph)		50	50		25	
Link Distance (ft)		758	657		466	
Travel Time (s)		10.3	9.0		12.7	
Confl. Peds. (#/hr)	1			1	1	1
Confl. Bikes (#/hr)				1		1
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	3%	3%	7%	7%	2%	2%
Adj. Flow (vph)	0	78	89	0	0	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	78	89	0	0	0
Enter Blocked Intersection	Yes	Yes	Yes	Yes	Yes	Yes
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		12	12		12	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Sign Control		Free	Free		Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 15.1%		ICU Level of Service A	
Analysis Period (min) 15			

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	75	85	0	0	0
Future Vol, veh/h	0	75	85	0	0	0
Conflicting Peds, #/hr	1	0	0	1	1	1
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	96	96	96	96	96	96
Heavy Vehicles, %	3	3	7	7	2	2
Mvmt Flow	0	78	89	0	0	0

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	90	0	-	0	169	91
Stage 1	-	-	-	-	90	-
Stage 2	-	-	-	-	79	-
Critical Hdwy	4.13	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.227	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1499	-	-	-	821	967
Stage 1	-	-	-	-	934	-
Stage 2	-	-	-	-	944	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1498	-	-	-	819	965
Mov Cap-2 Maneuver	-	-	-	-	819	-
Stage 1	-	-	-	-	933	-
Stage 2	-	-	-	-	943	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	0
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1498	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	0	-	-	-	0
HCM Lane LOS	A	-	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	-

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	25	30	35	60	55	25	50	350	60	15	345	25
Future Volume (vph)	25	30	35	60	55	25	50	350	60	15	345	25
Ideal Flow (vphpl)	1900	1996	1900	1900	1914	1914	1900	1893	1900	1900	1893	1900
Storage Length (ft)	100		100	225		0	235		50	200		50
Storage Lanes	1		1	1		0	1		1	1		1
Taper Length (ft)	75			75			75			75		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Ped Bike Factor	1.00		0.99	1.00	1.00		1.00		0.98	1.00		0.98
Frt			0.850		0.954				0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1787	1976	1599	1752	1765	0	1770	3526	1583	1770	3526	1583
Flt Permitted	0.702			0.736			0.501			0.533		
Satd. Flow (perm)	1319	1976	1576	1356	1765	0	933	3526	1548	992	3526	1548
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		50			45			35			35	
Link Distance (ft)		657			1139			553			943	
Travel Time (s)		9.0			17.3			10.8			18.4	
Confl. Peds. (#/hr)	1		1	1		1	1		1	1		1
Confl. Bikes (#/hr)			1			1			1			1
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	62%	100%	100%	100%	100%	100%	62%	100%	100%	62%
Heavy Vehicles (%)	1%	1%	1%	3%	3%	3%	2%	2%	2%	2%	2%	2%
Adj. Flow (vph)	26	32	23	63	58	26	53	368	39	16	363	16
Shared Lane Traffic (%)												
Lane Group Flow (vph)	26	32	23	63	84	0	53	368	39	16	363	16
Enter Blocked Intersection	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			42			42	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	0.94	1.00	1.00	0.99	0.99	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2		1	2	1	1	2	1
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	20	100	20	20	100		20	100	20	20	100	20
Trailing Detector (ft)	0	0	0	0	0		0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0		0	0	0	0	0	0
Detector 1 Size(ft)	20	6	20	20	6		20	6	20	20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA	Perm	Perm	NA		pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases		4			8		1	6		5	2	
Permitted Phases	4		4	8			6		6	2		2
Detector Phase	4	4	4	8	8		1	6	6	5	2	2
Switch Phase												
Minimum Initial (s)	8.0	8.0	8.0	8.0	8.0		6.0	10.0	10.0	6.0	10.0	10.0
Minimum Split (s)	14.8	14.8	14.8	14.8	14.8		9.5	16.1	16.1	9.5	16.1	16.1
Total Split (s)	30.0	30.0	30.0	30.0	30.0		25.0	50.0	50.0	25.0	50.0	50.0
Total Split (%)	28.6%	28.6%	28.6%	28.6%	28.6%		23.8%	47.6%	47.6%	23.8%	47.6%	47.6%
Maximum Green (s)	23.2	23.2	23.2	23.2	23.2		21.5	43.9	43.9	21.5	43.9	43.9
Yellow Time (s)	4.8	4.8	4.8	4.8	4.8		3.5	4.1	4.1	3.5	4.1	4.1
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0		0.0	2.0	2.0	0.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.8	6.8	6.8	6.8	6.8		3.5	6.1	6.1	3.5	6.1	6.1
Lead/Lag							Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		1.5	4.5	4.5	1.5	4.5	4.5
Minimum Gap (s)	1.5	1.5	1.5	1.5	1.5		1.5	2.0	2.0	1.5	2.0	2.0
Time Before Reduce (s)	30.0	30.0	30.0	30.0	30.0		20.0	22.0	22.0	20.0	22.0	22.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0		0.0	18.0	18.0	0.0	18.0	18.0
Recall Mode	None	None	None	None	None		None	Min	Min	None	Min	Min
Act Effct Green (s)	8.6	8.6	8.6	8.6	8.6		20.8	18.6	18.6	20.2	17.0	17.0
Actuated g/C Ratio	0.23	0.23	0.23	0.23	0.23		0.56	0.50	0.50	0.54	0.46	0.46
v/c Ratio	0.08	0.07	0.06	0.20	0.20		0.08	0.21	0.05	0.02	0.22	0.02
Control Delay	15.0	14.4	14.7	15.9	15.3		5.0	8.6	8.9	4.6	10.3	10.7
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	15.0	14.4	14.7	15.9	15.3		5.0	8.6	8.9	4.6	10.3	10.7
LOS	B	B	B	B	B		A	A	A	A	B	B
Approach Delay		14.7			15.6			8.2			10.1	
Approach LOS		B			B			A			B	

Intersection Summary			
Area Type:	Other		
Cycle Length: 105			
Actuated Cycle Length: 37.1			
Natural Cycle: 45			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.22			
Intersection Signal Delay: 10.4		Intersection LOS: B	
Intersection Capacity Utilization 39.3%		ICU Level of Service A	
Analysis Period (min) 15			

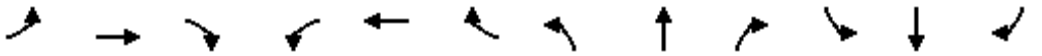
Splits and Phases: 100: CTH G & CTH DR/Golf Rd





Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	26	32	23	63	84	53	368	39	16	363	16
v/c Ratio	0.08	0.07	0.06	0.20	0.20	0.08	0.21	0.05	0.02	0.22	0.02
Control Delay	15.0	14.4	14.7	15.9	15.3	5.0	8.6	8.9	4.6	10.3	10.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	15.0	14.4	14.7	15.9	15.3	5.0	8.6	8.9	4.6	10.3	10.7
Queue Length 50th (ft)	3	4	3	8	11	5	22	4	1	22	2
Queue Length 95th (ft)	21	24	19	40	48	15	66	23	7	65	13
Internal Link Dist (ft)		577			1059		473			863	
Turn Bay Length (ft)	100		100	225		235		50	200		50
Base Capacity (vph)	855	1281	1021	879	1144	1138	3468	1523	1143	3468	1523
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.03	0.02	0.02	0.07	0.07	0.05	0.11	0.03	0.01	0.10	0.01

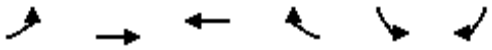
Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	25	30	35	60	55	25	50	350	60	15	345	25
Future Volume (veh/h)	25	30	35	60	55	25	50	350	60	15	345	25
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	1.00		0.98	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1885	1980	1885	1856	1869	1869	1870	1863	1870	1870	1863	1870
Adj Flow Rate, veh/h	26	32	23	63	58	26	53	368	39	16	363	16
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	1	1	1	3	3	3	2	2	2	2	2	2
Cap, veh/h	410	395	314	448	242	109	517	1137	498	481	982	429
Arrive On Green	0.20	0.20	0.20	0.20	0.20	0.20	0.07	0.32	0.32	0.02	0.28	0.28
Sat Flow, veh/h	1323	1980	1575	1336	1216	545	1781	3541	1549	1781	3541	1548
Grp Volume(v), veh/h	26	32	23	63	0	84	53	368	39	16	363	16
Grp Sat Flow(s),veh/h/ln	1323	1980	1575	1336	0	1762	1781	1770	1549	1781	1770	1548
Q Serve(g_s), s	0.6	0.5	0.4	1.5	0.0	1.4	0.7	2.8	0.6	0.2	3.0	0.3
Cycle Q Clear(g_c), s	2.1	0.5	0.4	1.9	0.0	1.4	0.7	2.8	0.6	0.2	3.0	0.3
Prop In Lane	1.00		1.00	1.00		0.31	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	410	395	314	448	0	351	517	1137	498	481	982	429
V/C Ratio(X)	0.06	0.08	0.07	0.14	0.00	0.24	0.10	0.32	0.08	0.03	0.37	0.04
Avail Cap(c_a), veh/h	998	1274	1013	1042	0	1134	1457	4311	1886	1499	4311	1885
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	13.0	11.7	11.7	12.5	0.0	12.1	8.0	9.3	8.5	8.9	10.5	9.5
Incr Delay (d2), s/veh	0.1	0.1	0.1	0.1	0.0	0.3	0.0	0.3	0.1	0.0	0.4	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.2	0.3	0.2	0.6	0.0	0.8	0.3	1.4	0.3	0.1	1.6	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	13.1	11.8	11.8	12.7	0.0	12.5	8.1	9.5	8.6	8.9	10.9	9.6
LnGrp LOS	B	B	B	B	A	B	A	A	A	A	B	A
Approach Vol, veh/h		81			147			460			395	
Approach Delay, s/veh		12.2			12.6			9.3			10.8	
Approach LOS		B			B			A			B	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	6.0	16.1		14.0	4.4	17.7		14.0				
Change Period (Y+Rc), s	3.5	6.1		6.8	3.5	6.1		6.8				
Max Green Setting (Gmax), s	21.5	43.9		23.2	21.5	43.9		23.2				
Max Q Clear Time (g_c+I1), s	2.7	5.0		4.1	2.2	4.8		3.9				
Green Ext Time (p_c), s	0.0	4.3		0.2	0.0	4.6		0.5				

Intersection Summary			
HCM 6th Ctrl Delay		10.5	
HCM 6th LOS		B	



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	0	90	130	0	0	0
Future Volume (vph)	0	90	130	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	100			100	0	0
Storage Lanes	0			0	1	0
Taper Length (ft)	75				75	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt						
Flt Protected						
Satd. Flow (prot)	0	1881	1845	0	1863	0
Flt Permitted						
Satd. Flow (perm)	0	1881	1845	0	1863	0
Link Speed (mph)		50	50		30	
Link Distance (ft)		758	657		466	
Travel Time (s)		10.3	9.0		10.6	
Confl. Peds. (#/hr)	1			1	1	1
Confl. Bikes (#/hr)				1		1
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	1%	1%	3%	3%	2%	2%
Adj. Flow (vph)	0	95	137	0	0	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	95	137	0	0	0
Enter Blocked Intersection	Yes	Yes	Yes	Yes	Yes	Yes
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		12	12		12	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Sign Control		Free	Free		Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 17.4%		ICU Level of Service A	
Analysis Period (min) 15			

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	90	130	0	0	0
Future Vol, veh/h	0	90	130	0	0	0
Conflicting Peds, #/hr	1	0	0	1	1	1
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	1	1	3	3	2	2
Mvmt Flow	0	95	137	0	0	0

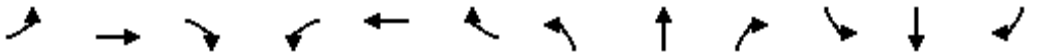
Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	138	0	-	0	234	139
Stage 1	-	-	-	-	138	-
Stage 2	-	-	-	-	96	-
Critical Hdwy	4.11	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.209	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1452	-	-	-	754	909
Stage 1	-	-	-	-	889	-
Stage 2	-	-	-	-	928	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1451	-	-	-	752	907
Mov Cap-2 Maneuver	-	-	-	-	752	-
Stage 1	-	-	-	-	888	-
Stage 2	-	-	-	-	927	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	0
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1451	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	0	-	-	-	0
HCM Lane LOS	A	-	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	-

APPENDIX D

Year 2022 Build Traffic Analysis Outputs



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	15	35	30	45	20	15	55	300	80	25	250	25
Future Volume (vph)	15	35	30	45	20	15	55	300	80	25	250	25
Ideal Flow (vphpl)	1900	1996	1900	1900	1914	1914	1900	1893	1900	1900	1893	1900
Storage Length (ft)	100		100	225		0	235		50	200		50
Storage Lanes	1		1	1		0	1		1	1		1
Taper Length (ft)	75			75			75			75		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Ped Bike Factor	1.00		0.99	1.00	0.99		1.00		0.98	1.00		0.98
Frt			0.850		0.935				0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1752	1938	1568	1687	1662	0	1719	3425	1538	1770	3526	1583
Flt Permitted	0.870			0.870			0.557			0.562		
Satd. Flow (perm)	1603	1938	1545	1543	1662	0	1007	3425	1504	1046	3526	1548
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		50			45			35			35	
Link Distance (ft)		657			1139			553			943	
Travel Time (s)		9.0			17.3			10.8			18.4	
Confl. Peds. (#/hr)	1		1	1		1	1		1	1		1
Confl. Bikes (#/hr)			1			1			1			1
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Growth Factor	100%	100%	62%	100%	100%	100%	100%	100%	62%	100%	100%	62%
Heavy Vehicles (%)	3%	3%	3%	7%	7%	7%	5%	5%	5%	2%	2%	2%
Adj. Flow (vph)	16	36	19	47	21	16	57	313	52	26	260	16
Shared Lane Traffic (%)												
Lane Group Flow (vph)	16	36	19	47	37	0	57	313	52	26	260	16
Enter Blocked Intersection	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			42			42	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	0.94	1.00	1.00	0.99	0.99	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2		1	2	1	1	2	1
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	20	100	20	20	100		20	100	20	20	100	20
Trailing Detector (ft)	0	0	0	0	0		0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0		0	0	0	0	0	0
Detector 1 Size(ft)	20	6	20	20	6		20	6	20	20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA	Perm	Perm	NA		pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases		4			8		1	6		5	2	
Permitted Phases	4		4	8			6		6	2		2
Detector Phase	4	4	4	8	8		1	6	6	5	2	2
Switch Phase												
Minimum Initial (s)	8.0	8.0	8.0	8.0	8.0		6.0	10.0	10.0	6.0	10.0	10.0
Minimum Split (s)	14.8	14.8	14.8	14.8	14.8		9.5	16.1	16.1	9.5	16.1	16.1
Total Split (s)	30.0	30.0	30.0	30.0	30.0		25.0	50.0	50.0	25.0	50.0	50.0
Total Split (%)	28.6%	28.6%	28.6%	28.6%	28.6%		23.8%	47.6%	47.6%	23.8%	47.6%	47.6%
Maximum Green (s)	23.2	23.2	23.2	23.2	23.2		21.5	43.9	43.9	21.5	43.9	43.9
Yellow Time (s)	4.8	4.8	4.8	4.8	4.8		3.5	4.1	4.1	3.5	4.1	4.1
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0		0.0	2.0	2.0	0.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.8	6.8	6.8	6.8	6.8		3.5	6.1	6.1	3.5	6.1	6.1
Lead/Lag							Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		1.5	4.5	4.5	1.5	4.5	4.5
Minimum Gap (s)	1.5	1.5	1.5	1.5	1.5		1.5	2.0	2.0	1.5	2.0	2.0
Time Before Reduce (s)	30.0	30.0	30.0	30.0	30.0		20.0	22.0	22.0	20.0	22.0	22.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0		0.0	18.0	18.0	0.0	18.0	18.0
Recall Mode	None	None	None	None	None		None	Min	Min	None	Min	Min
Act Effct Green (s)	8.5	8.5	8.5	8.5	8.5		22.6	21.9	21.9	22.0	20.3	20.3
Actuated g/C Ratio	0.24	0.24	0.24	0.24	0.24		0.64	0.62	0.62	0.63	0.58	0.58
v/c Ratio	0.04	0.08	0.05	0.13	0.09		0.07	0.15	0.06	0.03	0.13	0.02
Control Delay	14.0	13.9	14.1	14.4	14.1		4.6	7.5	8.6	4.6	9.2	10.7
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	14.0	13.9	14.1	14.4	14.1		4.6	7.5	8.6	4.6	9.2	10.7
LOS	B	B	B	B	B		A	A	A	A	A	B
Approach Delay		14.0			14.2			7.2			8.9	
Approach LOS		B			B			A			A	

Intersection Summary			
Area Type:	Other		
Cycle Length: 105			
Actuated Cycle Length: 35.1			
Natural Cycle: 45			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.15			
Intersection Signal Delay: 9.0		Intersection LOS: A	
Intersection Capacity Utilization 38.1%		ICU Level of Service A	
Analysis Period (min) 15			

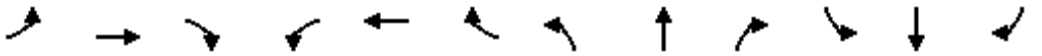
Splits and Phases: 100: CTH G & CTH DR/Golf Rd





Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	16	36	19	47	37	57	313	52	26	260	16
v/c Ratio	0.04	0.08	0.05	0.13	0.09	0.07	0.15	0.06	0.03	0.13	0.02
Control Delay	14.0	13.9	14.1	14.4	14.1	4.6	7.5	8.6	4.6	9.2	10.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	14.0	13.9	14.1	14.4	14.1	4.6	7.5	8.6	4.6	9.2	10.7
Queue Length 50th (ft)	2	4	2	6	4	5	18	6	2	15	2
Queue Length 95th (ft)	15	25	17	31	26	15	56	27	9	47	12
Internal Link Dist (ft)		577			1059		473			863	
Turn Bay Length (ft)	100		100	225		235		50	200		50
Base Capacity (vph)	1102	1332	1062	1060	1142	1175	3395	1491	1210	3495	1534
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.01	0.03	0.02	0.04	0.03	0.05	0.09	0.03	0.02	0.07	0.01

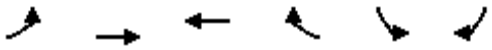
Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	15	35	30	45	20	15	55	300	80	25	250	25
Future Volume (veh/h)	15	35	30	45	20	15	55	300	80	25	250	25
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	1.00		0.98	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1949	1856	1796	1810	1810	1826	1819	1826	1870	1863	1870
Adj Flow Rate, veh/h	16	36	19	47	21	16	57	312	52	26	260	16
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	3	3	3	7	7	7	5	5	5	2	2	2
Cap, veh/h	420	346	275	414	168	128	576	1101	482	528	1006	440
Arrive On Green	0.18	0.18	0.18	0.18	0.18	0.18	0.07	0.32	0.32	0.04	0.28	0.28
Sat Flow, veh/h	1358	1949	1550	1293	946	721	1739	3456	1512	1781	3541	1549
Grp Volume(v), veh/h	16	36	19	47	0	37	57	312	52	26	260	16
Grp Sat Flow(s),veh/h/ln	1358	1949	1550	1293	0	1667	1739	1728	1512	1781	1770	1549
Q Serve(g_s), s	0.4	0.5	0.4	1.1	0.0	0.7	0.8	2.4	0.9	0.4	2.0	0.3
Cycle Q Clear(g_c), s	1.0	0.5	0.4	1.7	0.0	0.7	0.8	2.4	0.9	0.4	2.0	0.3
Prop In Lane	1.00		1.00	1.00		0.43	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	420	346	275	414	0	296	576	1101	482	528	1006	440
V/C Ratio(X)	0.04	0.10	0.07	0.11	0.00	0.13	0.10	0.28	0.11	0.05	0.26	0.04
Avail Cap(c_a), veh/h	1074	1285	1021	1037	0	1099	1511	4310	1886	1547	4415	1931
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	12.6	12.1	12.1	12.8	0.0	12.2	7.6	9.0	8.5	8.2	9.7	9.1
Incr Delay (d2), s/veh	0.0	0.1	0.1	0.1	0.0	0.2	0.0	0.2	0.2	0.0	0.2	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.1	0.3	0.2	0.4	0.0	0.3	0.3	1.2	0.4	0.2	1.0	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	12.6	12.3	12.2	13.0	0.0	12.4	7.6	9.2	8.6	8.2	10.0	9.2
LnGrp LOS	B	B	B	B	A	B	A	A	A	A	A	A
Approach Vol, veh/h		71			84			421			302	
Approach Delay, s/veh		12.3			12.7			8.9			9.8	
Approach LOS		B			B			A			A	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	6.1	16.1		13.0	4.8	17.3		13.0				
Change Period (Y+Rc), s	3.5	6.1		6.8	3.5	6.1		6.8				
Max Green Setting (Gmax), s	21.5	43.9		23.2	21.5	43.9		23.2				
Max Q Clear Time (g_c+I1), s	2.8	4.0		3.0	2.4	4.4		3.7				
Green Ext Time (p_c), s	0.0	3.0		0.2	0.0	3.9		0.2				

Intersection Summary			
HCM 6th Ctrl Delay		9.9	
HCM 6th LOS		A	



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	1	75	85	15	5	1
Future Volume (vph)	1	75	85	15	5	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	100			100	0	0
Storage Lanes	0			0	1	0
Taper Length (ft)	75				75	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt			0.979		0.977	
Flt Protected		0.999			0.960	
Satd. Flow (prot)	0	1843	1738	0	1747	0
Flt Permitted		0.999			0.960	
Satd. Flow (perm)	0	1843	1738	0	1747	0
Link Speed (mph)		50	50		25	
Link Distance (ft)		758	657		466	
Travel Time (s)		10.3	9.0		12.7	
Confl. Peds. (#/hr)	1			1	1	1
Confl. Bikes (#/hr)				1		1
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	3%	3%	7%	7%	2%	2%
Adj. Flow (vph)	1	78	89	16	5	1
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	79	105	0	6	0
Enter Blocked Intersection	Yes	Yes	Yes	Yes	Yes	Yes
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		12	12		12	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Sign Control		Free	Free		Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 16.0%		ICU Level of Service A	
Analysis Period (min) 15			

Intersection	
Int Delay, s/veh	0.4

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	1	75	85	15	5	1
Future Vol, veh/h	1	75	85	15	5	1
Conflicting Peds, #/hr	1	0	0	1	1	1
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	96	96	96	96	96	96
Heavy Vehicles, %	3	3	7	7	2	2
Mvmt Flow	1	78	89	16	5	1

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	106	0	-	0	179	99
Stage 1	-	-	-	-	98	-
Stage 2	-	-	-	-	81	-
Critical Hdwy	4.13	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.227	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1479	-	-	-	811	957
Stage 1	-	-	-	-	926	-
Stage 2	-	-	-	-	942	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1478	-	-	-	809	955
Mov Cap-2 Maneuver	-	-	-	-	809	-
Stage 1	-	-	-	-	924	-
Stage 2	-	-	-	-	941	-

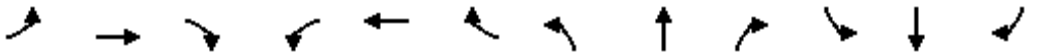
Approach	EB	WB	SB
HCM Control Delay, s	0.1	0	9.4
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1478	-	-	-	830
HCM Lane V/C Ratio	0.001	-	-	-	0.008
HCM Control Delay (s)	7.4	0	-	-	9.4
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	32	32	29	63	84	58	368	39	16	363	20
v/c Ratio	0.10	0.07	0.08	0.20	0.20	0.09	0.21	0.05	0.02	0.22	0.03
Control Delay	15.1	14.4	14.8	15.9	15.3	5.0	8.6	8.9	4.6	10.3	10.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	15.1	14.4	14.8	15.9	15.3	5.0	8.6	8.9	4.6	10.3	10.7
Queue Length 50th (ft)	4	4	4	8	11	5	22	4	1	22	2
Queue Length 95th (ft)	25	24	22	40	48	16	66	23	7	65	15
Internal Link Dist (ft)		577			1059		473			863	
Turn Bay Length (ft)	100		100	225		235		50	200		50
Base Capacity (vph)	855	1281	1021	879	1144	1138	3468	1523	1143	3468	1523
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.04	0.02	0.03	0.07	0.07	0.05	0.11	0.03	0.01	0.10	0.01

Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	30	30	45	60	55	25	55	350	60	15	345	30
Future Volume (veh/h)	30	30	45	60	55	25	55	350	60	15	345	30
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	1.00		0.98	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1885	1980	1885	1856	1869	1869	1870	1863	1870	1870	1863	1870
Adj Flow Rate, veh/h	32	32	29	63	58	26	58	368	39	16	363	20
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	1	1	1	3	3	3	2	2	2	2	2	2
Cap, veh/h	410	397	316	447	244	109	521	1146	501	482	974	426
Arrive On Green	0.20	0.20	0.20	0.20	0.20	0.20	0.07	0.32	0.32	0.02	0.28	0.28
Sat Flow, veh/h	1323	1980	1575	1329	1216	545	1781	3541	1549	1781	3541	1548
Grp Volume(v), veh/h	32	32	29	63	0	84	58	368	39	16	363	20
Grp Sat Flow(s),veh/h/ln	1323	1980	1575	1329	0	1762	1781	1770	1549	1781	1770	1548
Q Serve(g_s), s	0.8	0.5	0.5	1.5	0.0	1.5	0.8	2.9	0.6	0.2	3.0	0.3
Cycle Q Clear(g_c), s	2.2	0.5	0.5	1.9	0.0	1.5	0.8	2.9	0.6	0.2	3.0	0.3
Prop In Lane	1.00		1.00	1.00		0.31	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	410	397	316	447	0	353	521	1146	501	482	974	426
V/C Ratio(X)	0.08	0.08	0.09	0.14	0.00	0.24	0.11	0.32	0.08	0.03	0.37	0.05
Avail Cap(c_a), veh/h	989	1264	1005	1029	0	1124	1444	4276	1871	1491	4276	1870
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	13.1	11.8	11.8	12.6	0.0	12.2	8.0	9.3	8.5	9.0	10.6	9.7
Incr Delay (d2), s/veh	0.1	0.1	0.1	0.1	0.0	0.3	0.0	0.3	0.1	0.0	0.4	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.3	0.3	0.3	0.6	0.0	0.8	0.4	1.4	0.3	0.1	1.6	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	13.2	11.9	12.0	12.7	0.0	12.5	8.0	9.6	8.6	9.0	11.0	9.8
LnGrp LOS	B	B	B	B	A	B	A	A	A	A	B	A
Approach Vol, veh/h		93			147			465			399	
Approach Delay, s/veh		12.4			12.6			9.3			10.9	
Approach LOS		B			B			A			B	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	6.2	16.1		14.1	4.4	17.9		14.1				
Change Period (Y+Rc), s	3.5	6.1		6.8	3.5	6.1		6.8				
Max Green Setting (Gmax), s	21.5	43.9		23.2	21.5	43.9		23.2				
Max Q Clear Time (g_c+I1), s	2.8	5.0		4.2	2.2	4.9		3.9				
Green Ext Time (p_c), s	0.0	4.3		0.2	0.0	4.6		0.5				

Intersection Summary			
HCM 6th Ctrl Delay		10.6	
HCM 6th LOS		B	

Intersection	
Int Delay, s/veh	0.7

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	1	90	130	10	15	1
Future Vol, veh/h	1	90	130	10	15	1
Conflicting Peds, #/hr	1	0	0	1	1	1
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	1	1	3	3	2	2
Mvmt Flow	1	95	137	11	16	1

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	149	0	-	0	242	145
Stage 1	-	-	-	-	144	-
Stage 2	-	-	-	-	98	-
Critical Hdwy	4.11	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.209	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1439	-	-	-	746	902
Stage 1	-	-	-	-	883	-
Stage 2	-	-	-	-	926	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1438	-	-	-	744	900
Mov Cap-2 Maneuver	-	-	-	-	744	-
Stage 1	-	-	-	-	881	-
Stage 2	-	-	-	-	925	-

Approach	EB	WB	SB
HCM Control Delay, s	0.1	0	9.9
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1438	-	-	-	752
HCM Lane V/C Ratio	0.001	-	-	-	0.022
HCM Control Delay (s)	7.5	0	-	-	9.9
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0.1

APPENDIX E

Left-turn Lane Warrant Backup
Right-turn Lane Warrant Backup

OPERATIONAL WARRANTS FOR LEFT-TURN LANES AT INTERSECTIONS ON TWO-LANE HIGHWAYS

Project:
Scenario: 2022 Full Build
Analyst: TJM
Date:

Location	Operating Speed (mph)	Opposing Volume (veh/hr)	Advancing Volume (veh/hr)	Left-Turn Volume (veh/hr)	Calculated Left-Turn Percentage**	Advancing Volume Threshold* (veh/hr)	Is Advancing Volume Threshold Met?	By How Much?
2022 - CTH DR @ Proposed Drive - AM Peak	50	100	75	5	6.7%	557	NO	short 482 veh/hr
2022 - CTH DR @ Proposed Drive - PM Peak	50	140	90	5	5.6%	567	NO	short 477 veh/hr

** Advanced volume threshold based on exponential trendlines fit to the data in WisDOT FDM 11-25 Table 5.1. As a result, thresholds may differ slightly from data provided in Table 5.1.*

*** Calculated left-turn percentage must be between 5 and 40 percent to provide threshold.*

Notes

Operating speed is posted speed limit plus 5-mph.
Opposing volume = Opposing Through and Right
Advancing Volume = Advancing Left, Through, and Right

* For AM/PM Peak volumes, 5 left-turning vehicles were shown (actual is 0) in order for threshold to be shown. Left-turn warrant is NOT needed.

igure 2 - 6. Guideline for determining the need for a major-road right-turn bay at a two-way stop-controlled intersection.

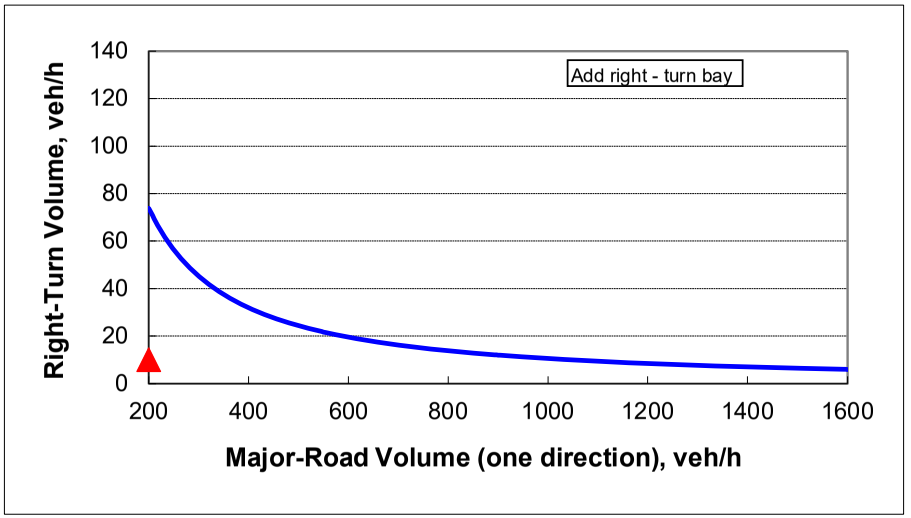
INPUT

Roadway geometry:	2-lane roadw ay

Variable	Value
Major-road speed, mph:	50
Major-road volume (one direction), veh/h:	200
Right-turn volume, veh/h:	10

OUTPUT

Variable	Value
Limiting right-turn volume, veh/h:	74
Guidance for determining the need for a major-road right-turn bay for a 2-lane roadway:	
Do NOT add right-turn bay.	



CITY OF PEWAUKEE
PLAN COMMISSION AGENDA ITEM 10.

DATE: March 16, 2023

DEPARTMENT: Planning

PROVIDED BY:

SUBJECT:

Discussion Regarding the Community Development and Building Services Annual Report for 2022

BACKGROUND:

FINANCIAL IMPACT:

RECOMMENDED MOTION:

ATTACHMENTS:

Description

Annual Report 2022

Office of the Planner & Community Development Director
W240 N3065 Pewaukee Road
Pewaukee, Wisconsin 53072
Phone (262) 691-0770 Fax (262) 691-1798
fuchs@pewaukee.wi.us

Community Development & Building Services Annual Report: 2022

Prepared for:
Mayor Steve Bierce
City of Pewaukee Common Council
City of Pewaukee Plan Commission

Prepared by:
Nick Fuchs, Planner & Community Development Director
Ami Hurd, Deputy Clerk & Community Development Coordinator
Building Services – Shawn Olson, Barb Tsoris, Randy Romens, Mary Strankowski, Charlie Dwyer

City of Pewaukee Purpose Statement: It is our purpose to sustain a safe, fiscally sound, and thriving community for City of Pewaukee residents, businesses, property owners, and visitors.

City of Pewaukee Vision: Serving people, providing essentials, and delivering quality.

Part 1: Community Development

INTRODUCTION

The City of Pewaukee's Community Development Department oversees planning, zoning, and nonresidential development activities and is responsible for administration of the City of Pewaukee's Zoning Code and implementation of the City's Comprehensive Master Plan. A primary responsibility of the Department is to coordinate development applications and submittals with other City departments, boards, commissions, and public officials.

Other responsibilities include assisting with the preparation of resolutions and ordinances; Conditional Use Permits; municipal code amendments, primarily related to Chapter 17 Zoning; review of new home and other building permits; review and approval of Business Plan of Operation Applications and Sign Permits; providing zoning letters; and assisting with complaints and property maintenance enforcement issues.

The Department also provides staff support to the Plan Commission and assists the Clerk's Office with the Zoning Board of Appeals. Further, the Community Development Department serves as the economic development arm of the City and acts as a liaison for businesses and property owners. Generally, the Department strives to be responsive and provide information to the general public, businesses, and property owners in a timely manner.

Office of the Planner & Community Development Director
W240 N3065 Pewaukee Road
Pewaukee, Wisconsin 53072
Phone (262) 691-0770 Fax (262) 691-1798
fuchs@pewaukee.wi.us

This report provides a summary of the Community Development Department's activities during 2022 related to the review of permits and applications, special projects, and community growth issues. To put the activity in some perspective, this report also contains a table outlining quantities for different permit types from previous years. Please note that this is not a comprehensive list of projects, applications, reviews, or undertakings of the Department.

Going into 2023, the Department has set the following Department Goals:

- Assist in the implementation of eCode 360.
- Continue the Zoning Code update/rewrite process.
- Continue review of future land use designations.
- Continue to develop process efficiencies.
- Promote the development of certain key sites within the City.
- Continue to work with the Pewaukee sustainability citizen group and explore opportunities to implement elements of the Propelling Pewaukee Sustainability Plan.
- Assist in the planning and fundraising efforts for an all-inclusive playground and splash pad at the Pewaukee Sports Complex.
- Revise and update the Department webpage.

ZONING AND LAND DIVISION ACTIVITIES

Municipal Code Amendments

The following Zoning and Municipal Code amendments were brought forward in 2022 by or with assistance from Community Development. The Common Council's action on each item is noted below.

- Accessory Structures and Temporary Structures and Uses Amendment was a comprehensive review of these sections as well as related definitions and brought forward as part of the Zoning Code Re-Write Project that the Planning & Community Development Department has undertaken. Through this re-write, staff aimed to generally keep the same standards as the existing code, with a few exceptions, while better identifying and detailing standards for specific uses and structures. The intent was not to create nonconforming structures or situations, but to better clarify standards and uses and correct any discrepancies that currently exist within these sections. This amendment was approved by the Common Council at their September 19, 2022 meeting.
- Rm-3 Zoning District Amendment allows buildings to contain more than 40 dwelling units; reduced the minimum PUD development area to 10 acres; allowed the maximum net density to be increased; allowed more than 40 dwelling units within an individual building and reduced the minimum parking spaces required for Housing for the Elderly or Assisted Living Housing units; and revised parking standards for multifamily developments to a suggested minimum. This amendment was approved by the Common Council at their May 2, 2022, meeting.

Office of the Planner & Community Development Director
W240 N3065 Pewaukee Road
Pewaukee, Wisconsin 53072
Phone (262) 691-0770 Fax (262) 691-1798
fuchs@pewaukee.wi.us

- F-1 Floodplain Zoning District Amendment allows for the floodplain to be filled with a 2:1 mitigation standard, opposed to the previous standard of 4:1. This amendment was approved by the Common Council at their June 20, 2022, meeting.
- Outdoor Entertainment revisions generally eliminated the need for annual permits. This amendment was brought forth by staff and approved by the Common Council at their March 7, 2022 Common Council meeting.

Comprehensive Master Plan Amendments

Five developments in 2022 included a Comprehensive Master Plan Amendment to change the future land use designation of the Year 2050 Land Use/Transportation map. Note Comprehensive Master Plan Amendments are required by State Statute at the time of rezoning to provide consistency between the zoning and future land use of a property.

- Interstate Partners Ridgeview Apartments
- Over the Top Roofing office use
- The Waters senior living community
- DPW salt shed and fueling station
- Lake Park Sanitary District office and garage

Rezoning

The city approved seven rezoning requests in 2022, which are all noted below.

- H&F Properties LLC as part of a land division request (from A-2 to Rs-2)
- BA(EN)2 Acres LLC as part of a land division (from A-2 to Rs-2)
- Interstate Partners LLC to allow a multi-family development, the Ridgeview Apartments (from A-2, UC, LC to Rm-3)
- Wistl farm to allow a property line adjustment and construction of an agricultural building (from Rs-2 to A-2)
- Over the Top Roofing to allow for conversion and restoration of a farmhouse to office use (from Rs-1 to B-3)
- Interstate Partners Green Road LLC to allow vacant residential land for industrial development (from Rs-3 to M-2)
- Interstate Partners Green Road LLC to change the zoning of existing industrial land (from M-6 to M-2)

The City also denied a rezoning request submitted by Lake Pewaukee Sanitary District for a proposed office and garage development upon property located at N25W27675 Prospect Avenue.

Land Divisions and Combinations (Certified Survey Maps and Plats)

Often property owners or developers propose to subdivide existing parcels or combine multiple properties into a single lot. Minor land divisions (4 lots or less) may be done via Certified Survey Map, while creating five or more lots requires review and approval of a Preliminary and Final Plat. Note the City also reviews Condominium Plats.

Office of the Planner & Community Development Director
W240 N3065 Pewaukee Road
Pewaukee, Wisconsin 53072
Phone (262) 691-0770 Fax (262) 691-1798
fuchs@pewaukee.wi.us

Certified Survey Maps

- H & F Properties LLC/ Duplainville Road
- BA(EN)2 Acres LLC/Northview Road
- Fedel/Hilltop Drive
- Interstate Partners/Green Road

Final Plats

- Woodleaf Reserve Addition No. 4
- Woodleaf Reserve Addition No. 5

Conditional Use Permits

Conditional Use Permits are required for certain uses based upon individual zoning districts. The Zoning Code also allows unspecified uses to be reviewed through the Conditional Use process. Applicants must present substantial evidence that the use is appropriate within a zoning district and the City must present substantial evidence in granting or denying the proposed use. Below are Conditional Uses that were approved in 2022.

- Brookfield Center for the Arts
- Zeilhofer Properties, LLC
- Momentum Early Learning
- Over the Top Roofing
- Leibfried Boathouse
- Interstate Partners/Marincic apartments (PUD)
- Bridger Tower
- Hydro-Thermal Corporation
- CFR Engines
- Broken Bat Enterprises

A Conditional Use Permit for allowance of a new boathouse was also submitted; however, that application was denied. There were no other denials of Conditional Use Applications in 2022.

Conceptual Reviews

Concept Reviews allow applicants to discuss a potential development with the Plan Commission and receive preliminary input. This process step is optional, but for larger developments or if a rezoning or Comprehensive Master Plan Amendment is needed, a concept review is typically encouraged. Applicants are generally supportive and want to take advantage of this opportunity and process, prior to investing significant time and money on site and building plans.

There were five Conceptual Review Applications submitted in 2022. Of those five, only one has submitted detailed applications to date, which was the Spring Creek Church teen center addition.

Site & Building Plans

New developments and more significant additions or remodeling projects require a Site & Building Plan Review Application and review and approval by the Plan Commission. At times, for more minor projects, staff will require a Minor Site Plan Amendment Application, which then gets routed to different

Office of the Planner & Community Development Director
W240 N3065 Pewaukee Road
Pewaukee, Wisconsin 53072
Phone (262) 691-0770 Fax (262) 691-1798
fuchs@pewaukee.wi.us

departments for review, but only requires staff approval. Below are Plan Commission reviewed Site & Building Plan Applications for 2022.

- Wistl agricultural storage building
- Interstate Partners Ridgeview Apartments
- Moment Early Learning childcare facility
- Over the Top Roofing farmhouse conversion
- Kowal Investment Group office building
- Spring Creek Church teen center and picnic pavilion
- DPW salt shed and fueling station
- Pewaukee DPW garage
- Interstate Partners Green Road industrial building
- Stroschein second dwelling
- Waukesha Gun Club shooting structure

It can also be noted that not all of these projects came to fruition. For example, Momentum Early Learning's proposed new construction did not occur as they later submitted to occupy within a nearby vacant building. The Kowal Investment office building and Over the Top Roofing have also not moved forward.

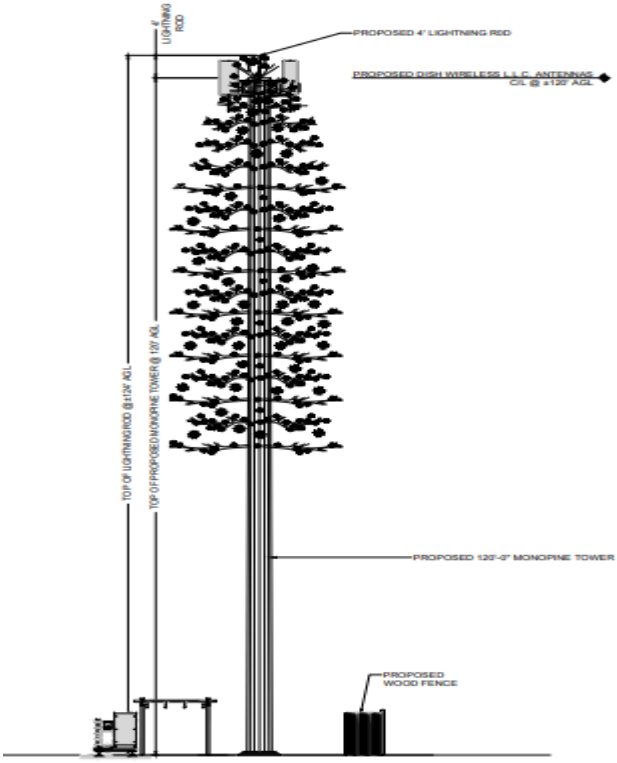
A few of these projects are featured below.



CFR Engines addition
N8W22577 Johnson Drive
10,938 square foot building

Office of the Planner & Community Development

W240 N3065 Pewaukee Road
Pewaukee, Wisconsin 53072
Phone (262) 691-0770 Fax (262) 691-1798
fuchs@pewaukee.wi.us



Bridger Tower
W229N2467 Redford Boulevard
120-foot-tall wireless communication tower



Jeff Wistl
W262N4521 Ryan Road
5,760 square foot agricultural storage building

Office of the Planner & Community Development

W240 N3065 Pewaukee Road
Pewaukee, Wisconsin 53072
Phone (262) 691-0770 Fax (262) 691-1798
fuchs@pewaukee.wi.us





Interstate Partners Ridgeview Apartments
Ridgeview Parkway
Three 39 unit 3-story buildings, two 22 unit 2-story buildings, a clubhouse and patio area

Office of the Planner & Community Development

W240 N3065 Pewaukee Road
Pewaukee, Wisconsin 53072
Phone (262) 691-0770 Fax (262) 691-1798
fuchs@pewaukee.wi.us

Variances

Variance requests are heard by the Zoning Board of Appeals (ZBA), which is staffed by the Clerk's Office. Individual projects and requests are reviewed by the City Planner. In 2022, the following four variance requests were reviewed by the City Planner and ZBA.

- Phillip Mattix (garage)
- Brian Lipman (sport court)
- Bill Russo (garage)
- WE Energies (light poles)

Of these requests, the reduced setback request for the Lipman sport court was denied as well as the detached garage proposed by Mr. Russo.

Zoning Compliance Letters

Zoning letter requests range anywhere from simply identifying the current zoning of a property to a time-consuming investigation of previous approvals and the history of a property. Nine letters were written in 2022.

Development Review Team Meetings

At these monthly meetings, applicants meet with staff to discuss their projects in detail. This is an important and valuable step in the process and allows applicants to revise plans prior to Plan Commission to address staff concerns and any code issues. Following these meetings, applicants submit final plans for review and staff prepares a report for the Plan Commission that includes staff's final comments and recommendations.

These meetings were put on hold throughout the COVID-19 pandemic and are currently held less often compared to years prior; however, it continues to be a goal to encourage applicants to attend and take advantage of this step in the process, particularly for large-scale projects.

Special Projects

Towards the end of the year, staff began more diligently working on rewriting the city's Zoning Code. This is a project that will continue throughout 2023 and into 2024.

The Community Development and Parks & Recreation staff have been planning and pursuing funding for an all-inclusive playground and splash pad project at the Pewaukee Sports Complex. This project will also continue throughout 2023 and into 2024.

Other special projects will include website updates and revisions as well as updates and improvements to BS&A, which is the software used by both Planning and Building Services.

Office of the Planner & Community Development Director
W240 N3065 Pewaukee Road
Pewaukee, Wisconsin 53072
Phone (262) 691-0770 Fax (262) 691-1798
fuchs@pewaukee.wi.us

ECONOMIC DEVELOPMENT

Staff's approach to economic development includes meeting with developers, businesses, and property owners as needed to work through property and development issues to potentially make a development project or business location feasible in Pewaukee. This is done on an almost daily basis.

Further, as time permits, Staff attends special events, such as ground breakings, grand openings, and networking events. Staff was not aware of any ground breaking events in 2022. Networking was also limited as most events were attended by staff virtually. It is anticipated that these types of opportunities will occur more often in 2023.

OTHER PLANNING ACTIVITIES

In addition to the tasks above, on a daily basis staff will answer questions from residents, business owners, developers, and brokers. Staff is also continually reviewing future land uses and ordinances and proposing changes or initiating further discussions as may be needed. Finally, Community Development staff is also responsible for updating and distributing the state required annual Housing Affordability Report and New Housing Fee Report.

Part 2: Building Services

INTRODUCTION

The Building Services Department reviews, processes, and issues building related permits for both residential and nonresidential development. The Department handles all permit types including new Residential and Commercial Building Permits, building additions and remodels, plumbing permits, electrical permits, and HVAC permits. The Department also issues Zoning Permits, Business Plan of Operations Applications, and Sign Permits.

In addition, Building Services investigates and responds to all property maintenance complaints.

Building Services staff also fulfills the agreement with the Village of Pewaukee, providing the Village with Inspection and Property Maintenance services. Based upon a renegotiated agreement, in 2022 the City received about $1,200 per month to cover administrative services and 65% of the permit fees. This totaled $144,017.09.

Going into 2023, the Department has set the following Department Goals:

- Continue providing a high level of customer service.

Office of the Planner & Community Development Director
W240 N3065 Pewaukee Road
Pewaukee, Wisconsin 53072
Phone (262) 691-0770 Fax (262) 691-1798
fuchs@pewaukee.wi.us

- Inspections scheduled within 24 hours.
- Residential plan reviews completed and permits issued within ten business days.
- Complaints reviewed and inspected within one week.
- Improvements and updates for BS&A.
- Creation of an internal process/procedure manual.
- Revise and update the Department webpage.

PERMITS

Business Plan of Operations

Permitted Uses within zoning districts require a Business Plan of Operations Application to ensure a particular use is allowed and compliant with the zoning district standards.

Building Permits

Building Services issued a total of 2,780 permits in 2022, including 87 permits for new homes. This is a high level of activity compared to previous years, but it is about 472 less permits compared to 2021. A further breakdown can be found in the table at the end of this report.

CODE ENFORCEMENT/PROPERTY MAINTENANCE

The City responded to and enforced as necessary on 58 code enforcement and property maintenance complaints in 2022. This is significantly down from last year (103 enforcements) as well as most of the years past.

OTHER BUILDING SERVICES ACTIVITIES

Related to the Department's focus on customer service, significant time is spent answering resident inquiries and questions from contractors in a timely manner. Anecdotally, it is safe to say the Building Services phone is consistently ringing. The office takes roughly one hundred or more calls per day on average.

Residents, contractors, business owners, etc. also frequently stop in the office to seek assistance from staff.

ANTICIPATED PROJECTS IN 2023

Major projects envisioned for the Community Development and Building Services Departments in 2023 include:

Office of the Planner & Community Development Director
W240 N3065 Pewaukee Road
Pewaukee, Wisconsin 53072
Phone (262) 691-0770 Fax (262) 691-1798
fuchs@pewaukee.wi.us

Community Development

- Review of current and incoming projects and applications. Submittals already under review in 2023 include:
  - Quattro Development Guidelpost Montessori School
  - Regal self-storage facility
  - Multiple boathouses
- Continue review and updates to the City's Zoning Code
- Continue assistance with the all-inclusive playground and splash pad project at the Pewaukee Sports Complex.

Building Services

- Recently approved projects such as the Wistl agricultural building, the Ridgeview Apartments, and the Interstate Partners Green Road industrial building are all anticipated to apply for Building Permits in 2023.
- Residential development will continue within the Swan View Farms, Cardinal Meadows, and Woodleaf Reserve subdivisions as well as the Glen at Parkway Ridge condominium development.
- The Waters senior living community continues to be under construction and requires a significant number of inspections with 161 total units.
- BS&A updates and improvements
- Scanning and archiving old permits and plans

SUMMARY

Below is a table that summarizes the quantity of application types and activities over a 5-year period for both the Community Development Department and Building Services. It can be noted that a project submitted to the Department may often consist of a number of separate applications. For example, a single project could include a Certified Survey Map, Conditional Use, and Rezoning. The Department tracks all applications within a project separately.

Office of the Planner & Community Development Director
W240 N3065 Pewaukee Road
Pewaukee, Wisconsin 53072
Phone (262) 691-0770 Fax (262) 691-1798
fuchs@pewaukee.wi.us

Community Development Department	2018	2019	2020	2021	2022
Chapter 17 Zoning Code Amendments	1	0	3	1	4
Other Municipal Code Amendments	1	0	0	3	0
Comprehensive Master Plan Amendments	0	6	2	1	5
Rezoning Applications	9	14	6	5	8
Certified Survey Maps/Land Combinations	10	18	7	7	4
Preliminary Plats	4	2	0	1	0
Final Plats	1	0	1	2	2
Conditional Use/Planned Development Districts	0	1	0	1	0
Conditional Use Permits	7	7	6	7	12
Conditional Use Amendments	0	0	0	1	0
Conceptual Reviews	8	3	0	6	5
Site Plans & Site Plan Amendments	11	10	10	9	11
Minor Site Plan Amendments	1	0	0	4	1
Right of Way Vacations	0	1	0	0	0
Variances	3	7	4	2	4
Zoning Board of Appeals meetings	3	8	4	3	3
Zoning Compliance Letters	2	6	13	12	9
Plan Commission meetings	12	11	9	11	9
Common Council meetings	23	25	14	22	14
Miscellaneous (general planning and land use discussions, Plan Commission determinations, kennel licenses, etc.)	7	6	15	14	4
Special Events (grand openings, ground breakings, Chamber of Commerce events, conferences, etc.)	2	4	6	8	7
Building Services Department	**2018**	**2019**	**2020**	**2021**	**2022**
Chapter 14 Building Code Amendments	1	0	0	0	0
Business Plan of Operation Applications	45	38	18	50	52
Building Permits (does not include new homes)	297	325	336	499	676
Building Permits - New Homes	45	36	35	119	87
Culvert Permits	4	7	1	0	1
Electrical Permits	534	570	506	1,078	669
Erosion Control	51	46	39	100	89
HVAC Permits	347	343	323	690	313
Plumbing Permits	423	396	384	635	545
Sign Permits	20	32	31	32	31
Zoning Permits	48	47	71	99	71
Driveway Permits	-	-	-	-	94
Land & Grade Permits	-	-	-	-	94
Complaints/Enforcements, including Building and Zoning	124	117	57	103	58