

CITY OF FRANKLIN
PLAN COMMISSION MEETING*
FRANKLIN CITY HALL COUNCIL CHAMBERS
9229 W. LOOMIS ROAD, FRANKLIN, WISCONSIN
AGENDA
THURSDAY, DECEMBER 9, 2021, 7:00 P.M.

The YouTube channel “City of Franklin WI” will be live streaming the Plan Commission meeting so that the public will be able to watch and listen to the meeting.

<https://www.youtube.com/c/CityofFranklinWIGov>.

A. **Call to Order and Roll Call**

B. **Approval of Minutes**

1. Approval of regular meeting of November 18, 2021.

C. **Public Hearing Business Matters** (action may be taken on all matters following the respective Public Hearing thereon)

1. **CAPE CROSSING DEVELOPMENT: CREATION OF A NEW SINGLE-FAMILY RESIDENTIAL SUBDIVISION PLANNED DEVELOPMENT DISTRICT.** Planned Development District and Rezoning application by Neumann Developments, Inc., Franklin DC Land, LLC, current property owner, to create The Villas at Cape Crossing/The Estates at Cape Crossing, a new single-family residential subdivision planned development district which includes a total of 142 units (54 “The Estates” units and 88 “The Villas” units), with private neighborhood amenities such as a pool, playground and firepit and access to a proposed interurban trail, on approximately 84.0074 acres of land located at 12200 West Ryan Road, and to rezone the property from R-3 Suburban/Estate Single-Family Residence District and C-1 Conservancy District to Planned Development District No. 40 (*currently named Cape Crossing*); Tax Key Nos. 890-9991-001 and 890-9991-002. **A PUBLIC HEARING IS SCHEDULED FOR THIS MEETING UPON THIS MATTER.**
2. **SECTION 15-3.0603 TABLE OF PERMITTED AND SPECIAL USES IN ALL NONRESIDENTIAL ZONING DISTRICTS AMENDMENTS: STANDARD INDUSTRIAL CLASSIFICATION CODE CHANGES IN THE B-2 GENERAL BUSINESS DISTRICT, B-5 HIGHWAY BUSINESS DISTRICT AND M-1 LIMITED INDUSTRIAL DISTRICT [CITY-WIDE].** Unified Development Ordinance Text Amendment application by the City of Franklin, to amend Section 15-3.0603 Table of Permitted and Special Uses in all Nonresidential Zoning Districts to change certain special trade contractor uses for the following Standard Industrial Classification (SIC) Code Nos. from special to permitted uses (excluding special trade contractors with outdoor storage) in the B-

2 General Business District, B-5 Highway Business District and M-1 Limited Industrial District: 1711 Plumbing, Heating and Air-Conditioning; 1721 Painting and Paper Hanging; 1731 Electrical Work; 1741 Masonry, Stone Setting, and Other Stone Work; 1742 Plastering, Drywall, Acoustical, and Insulation Work; 1743 Terrazzo, Tile, Marble, and Mosaic Work; 1751 Carpentry Work; 1752 Floor Laying and Other Floor Work, Not Elsewhere Classified and 1761 Roofing, Siding, and Sheet Metal Work. **A PUBLIC HEARING IS SCHEDULED FOR THIS MEETING UPON THIS MATTER.**

3. **BEAR DEVELOPMENT, LLC SINGLE-FAMILY RESIDENTIAL SUBDIVISION DEVELOPMENT.** Comprehensive Master Plan Amendment and Rezoning applications by Stephen R. Mills, President of Bear Development, LLC (Ignasiak Investment Co., LLC, property owner), to amend the Future Land Use Map designation for an area consisting of one property designated as Recreational Use, covering approximately 35 acres, from Recreational Use and Areas of Natural Resource Features Use to Residential Use, and to rezone that area of land from A-2 Prime Agricultural District and C-1 Conservancy District to R-5 Suburban Single-Family Residence District (area consisting of one property (892-9999-002) and containing a corridor zoned C-1 Conservancy District which is an obsolete zoning district because the current Unified Development Ordinance requires protection of natural resources through conservation easements), property generally located on the east side of South 112th Street, east of the Ryan Meadows subdivision and west of the Franklin Savanna Natural Area (totaling approximately 34.54 acres). **A PUBLIC HEARING IS SCHEDULED FOR THIS MEETING UPON THE REZONING APPLICATION OF THIS MATTER.**

D. **Business Matters** (no Public Hearing is required upon the following matters; action may be taken on all matters)

1. **ZBIERANEK/ESCAMILLA FOOD TRUCK OPERATION.** Temporary Use application by Dale Zbieranek/Anthony R. Escamilla, to allow for a food truck (Tony's Taco Truck/Tony's Food Truck) operation in a paved parking lot located at 3030 West Ryan Road, from May 2, 2022 to May 1, 2023, with business hours from 11:00 a.m. to 7:00 p.m., Monday through Sunday (applicant has a base kitchen in the City of Milwaukee), property zoned B-2 General Business District; Tax Key No. 879-9981-001.
2. **FRANKLIN HIGH SCHOOL TURF INSTALLATION.** Site Plan Amendment application by Franklin Public Schools to allow for installation of a synthetic turf surface, requiring minor regrading and related stormwater management via underground drainage stone storage and a collector pipe system,

to replace the existing grass varsity baseball/softball fields [the project will disturb approximately 3.6 acres of land], upon property zoned I-1 Institutional District, FW Floodway District and C-1 Conservancy District, located at 8222 South 51st Street; Tax Key No. 807-9999-001.

E. Adjournment

*Supporting documentation and details of these agenda items are available at City hall during normal business hours.

**Notice is given that a majority of the Common Council may attend this meeting to gather information about an agenda item over which they have decision-making responsibility. This may constitute a meeting of the Common Council per *State ex rel. Badke v. Greendale Village Board*, even though the Common Council will not take formal action at this meeting.

[Note: Upon reasonable notice, efforts will be made to accommodate the needs of disabled individuals through appropriate aids and services. For additional information, contact the City Clerk's office at (414) 425-7500.]

REMINDERS:

Next Regular Plan Commission Meeting: January 6, 2022

**City of Franklin
Plan Commission Meeting
November 18, 2021
Minutes**

unapproved

A. Call to Order and Roll Call

Mayor Steve Olson called the November 18, 2021, regular Plan Commission meeting to order at 7:00 p.m. in the Council Chambers at Franklin City Hall, 9229 West Loomis Road, Franklin, Wisconsin.

Present were Mayor Steve Olson, Alderwoman Shari Hanneman, Commissioners Patricia Hogan, Adam Burckhardt and Patrick Leon and City Engineer Glen Morrow. Commissioner Kevin Haley was absent. Also present were Planning Manager Heath Eddy and Principal Planner Régulo Martínez-Montilva.

B. Approval of Minutes

1. Regular Meeting of November 4, 2021

Commissioner Leon moved and Commissioner Burckhardt seconded approval of the November 4, 2021 regular meeting minutes. On voice vote, all voted 'aye'. Motion carried (5-0-1).

C. Public Hearing Business Matters

1. None.

D. Business Matters

1. **CUSTOM FABRICATING & SUPPLY, INC. DRIVEWAY WIDTH WAIVER.** Miscellaneous application by Henry Asik, President of Custom Fabricating & Supply, Inc., to allow for a 40 foot wide driveway (to provide safe access to proposed new loading docks directly off of South 54th Street) as part of the expansion project for Custom Fabricating & Supply, Inc., in the Franklin Industrial Park (the proposed driveway would have a width of 40 feet measured at the property line and 46 feet at the edge of South 54th Street [according to the Unified Development Ordinance (UDO) Section 15-5.0207B., “openings for vehicular ingress and egress shall not exceed 24 feet at the street right-of-way line and 30 feet at the roadway, unless a greater distance is approved by the Plan Commission in a non-residential district”]), property

Principal Planner Martínez-Montilva presented the request by Henry Asik, President of Custom Fabricating & Supply, Inc., to allow for a 40 foot wide driveway (to provide safe access to proposed new loading docks directly off of South 54th Street) as part of the expansion project for Custom Fabricating & Supply, Inc., in the Franklin Industrial Park (the proposed driveway would have a width of 40 feet measured at the property line and 46 feet at the edge of South 54th Street [according to the Unified Development Ordinance (UDO) Section 15-5.0207B., “openings for vehicular ingress and egress shall not exceed 24 feet at the street right-of-way line and 30 feet at the roadway, unless a greater distance is approved by the Plan Commission in a non-residential district”]), property located at 5500 West Oakwood Park Drive, zoned Planned Development District No. 7 (Franklin Industrial Park); Tax Key No. 931-0005-000

City Engineer moved and Commissioner Hogan seconded a motion to adopt a Resolution authorizing a 40 foot driveway width as part of the expansion project for Custom Fabricating & Supply, Inc. located in the Franklin Industrial Park, at 5500 West Oakwood Park Drive (tax key no. 931-0005-000).

located at 5500 West Oakwood Park Drive, zoned Planned Development District No. 7 (Franklin Industrial Park); Tax Key No. 931-0005-000

On voice vote, all voted ‘aye’; motion carried. (5-0-1).

2. PLANNED DEVELOPMENT DISTRICT NO. 37 (THE ROCK SPORTS COMPLEX/BALLPARK COMMONS) YMCA OF METROPOLITAN MILWAUKEE 24/7 OPERATION. Unified Development Ordinance §15-3.0442A.D.6. Planned Development District No. 37 (The Rock Sports Complex/Ballpark Commons) minor Amendment application by Christopher D. Buday, River Rock Performance Properties, LLC, applicant, BPC County Land, LLC, property owner, to add the use “Fitness Studio/Gym” with 24/7 hours of operation for the YMCA of Metropolitan Milwaukee, Monday through Sunday, within the Indoor Sports Complex (portions of the 1st and 2nd floors in the Midwest Orthopedic Specialty Hospital (MOSH) Performance Center) at Ballpark Commons, located at 7095 South Ballpark Drive, property zoned Planned Development District No. 37 (The Rock Sports Complex/Ballpark Commons); Tax Key No. 744-1005-000.

Principal Planner Martinez-Montilva presented the request by Christopher D. Buday, River Rock Performance Properties, LLC, applicant, BPC County Land, LLC, property owner, to add the use “Fitness Studio/Gym” with 24/7 hours of operation for the YMCA of Metropolitan Milwaukee, Monday through Sunday, within the Indoor Sports Complex (portions of the 1st and 2nd floors in the Midwest Orthopedic Specialty Hospital (MOSH) Performance Center) at Ballpark Commons, located at 7095 South Ballpark Drive, property zoned Planned Development District No. 37 (The Rock Sports Complex/Ballpark Commons); Tax Key No. 744-1005-000.

Planned Development District

Commissioner Hogan moved and Commissioner Leon seconded a motion to recommend approval of an Ordinance to amend §15-3.0442 of the Unified Development Ordinance, Planned Development District No. 37 (the Rock Sports Complex/Ballpark Commons) to add a use and hours of operation for the indoor sports complex (Midwest Orthopedic Specialty Hospital (MOSH) Performance Center) for the YMCA of Metropolitan Milwaukee Fitness Studio/gym use (7095 South Ballpark Drive). On voice vote, all voted ‘aye’; motion carried. (5-0-1).

Minor Amendment Determination

Alderwoman Hanneman moved and City Engineer Morrow seconded a motion determining the proposed amendment to be a Minor Amendment. On voice vote, all voted ‘aye’; motion carried. (5-0-1).

Adjournment

Commissioner Hogan moved and Commissioner Leon seconded to adjourn the Plan Commission meeting of November 18, 2021 at 7:03 p.m. On voice vote, all voted ‘aye’; motion carried. (5-0-1).



CITY OF FRANKLIN
REPORT TO THE PLAN COMMISSION

Item C.1.

Meeting of December 9, 2021

Planned Development District (PDD) No. 40 – Cape Crossing

RECOMMENDATION: City Development staff does not recommend approval of Planned Development District No. 40 Cape Crossing as presented by the applicant.

However, City Development staff would recommend approval of this Planned Development District, subject to the conditions set forth in the attached draft ordinance for consideration of the Plan Commission.

Project Name:	Planned Development District (PDD) No. 40 – Cape Crossing
Project Address:	12200 W Ryan Road
Applicant:	Neumann Developments, Inc
Agent:	Bryan Lindgren. Neumann Developments, Inc.
Property Owner:	Franklin DC Land LLC
Current Zoning:	R-3 – Suburban/Estate Single-Family Residence and C-1 Conservancy District
2025 Comprehensive Plan:	Residential and Areas of Natural Resources Features
Use of Surrounding Properties:	Floodplain and natural resources areas on properties owned by Wisconsin DNR to the north and Milwaukee Metropolitan Sewage District to the east, Wisconsin Electric Power Co. right-of-way to the southeast (future S.116 th Street trail), residential single-family zoned multifamily to the south, residential subdivisions and golf course in the city of Muskego to the west.
Applicant’s Action Requested:	Recommendation to the Common Council for approval of this new Planned Development District.
Planner:	Régulo Martínez-Montilva, Principal Planner

Introduction:

Before you is a request to create a new Planned Development District (PDD) to allow for a residential development with 142 single-family units on this 84-acre site. If approved, this development will be the PDD No. 40.

The property is currently zoned R-3 – Suburban/Estate Single-Family Residence District, which allows up to 1.72 dwelling units per acre based on the maximum gross density, 144 units for this property. The proposed minimum lot sizes: 12,000 sf for “The Estates” and 9,000 sf for “The Villages” are below the minimum lot area required in the R-3 zoning district, which is 20,000 sf.

According to the applicant, the total estimated project cost would be around 12 million dollars and the anticipated home prices would start in the low-\$400's for "The Villas" and the low-\$500's for "The Estates".

Concept Review

A Concept Review for this project was presented before the Common Council on August 3, 2021. The previous version has 180 lots while the current design has 142 lots. The lot dimensional standards were uniform across the entire development which are now different in the "The Villas" and "The Estates".

Project Description/Analysis

The subject project site encompasses two properties (Tax Key 890 9991 001 & 002) with total areas of approximately 84 acres, but subtracting the WE energies right-of-way and the triangle-shaped land remnant in the southeast corner, the project site is reduced to approximately 82 acres. The site width (west of the WE energies right-of-way) is approximately 1,020 feet and the depth is 2,600 feet. This site is not located in the Tax Incremental District (TID) No. 6 "Mixed-Use District".

Most of the project site is currently zoned R-3 Suburban/Estate Single-Family Residence, with a relatively small area (0.7 Ac) zoned C-1 Conservancy near the northeast corner. However, this C-1 area is identified as wetlands in the Natural Resource Protection Plan (NRPP) and this development would not encroach into this wetland.

Planned Development District

The primary reason for this Planned Development District proposal is the minimum lot area and lot width, for example newly created lots in the R-3 zoning district must be at least 20,000 square feet (sf) for conventional subdivisions and 13,000 sf for open space subdivisions¹. Neither "The Estates" nor "The Villas" meet the required lot area for open space subdivisions in the R-3 zoning district. Therefore, the applicant is seeking to create a new Planned Development District with reduced lot area and lot width:

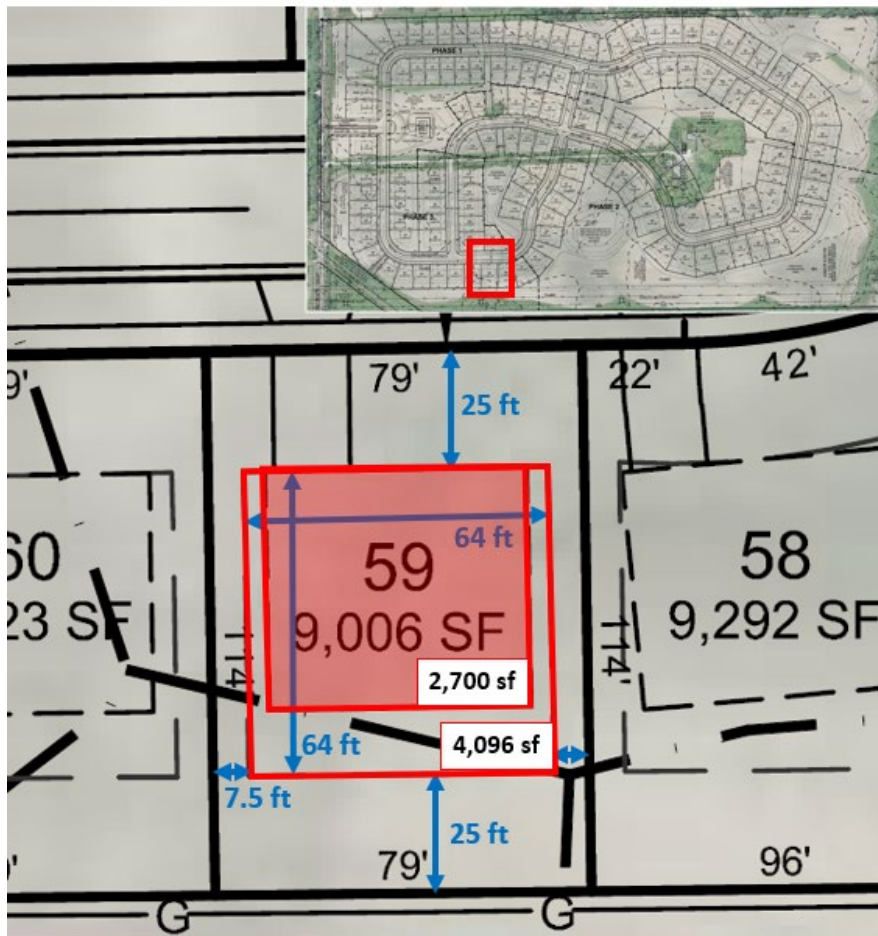
District	Minimum Lot Area Unit: square feet	Minimum Lot Width Unit: feet
Cape Crossing - The Estates	12,000	85
Cape Crossing -The Villas	9,000	70 / 90 (corner)
R-3 – Conventional subdivision	20,000	100 / 110 (corner)

¹ Open space subdivisions need to set aside undisturbed land for natural resource protection, agriculture or recreational purposes. The Cape Crossing design is considered as an open space subdivision with an open space ratio (OSR) of 37% (34 acres).

R-3 – Open space subdivision Option 2	13,000	90 / 105 (corner)
VR – Village Residential (Village of St. Martins)	7,200	60 / 75 (corner)

Given this PDD request is for residential lots with reduced sizes. It is worth to take a closer look of the smallest lot (#59) in the subdivision for a dimensional analysis. The area of Lot #59 is 9,006 sf and the lot width 79 feet, so this lot is just above the minimum requirements for “The Villas” development standards. The building pad created by all the required setback is approximately 4,096 square feet and the maximum building footprint is 2,700 square feet based on the lot coverage of 30%.

For reference, the minimum living area for a dwelling unit in the R-3 zoning district is 1,700 sf for a single-story home and 1,100 sf for a multi-story home, therefore, the smallest lot in the subdivision could easily accommodate a dwelling unit that meets dimensional standards of the current zoning district without the need of a variance. Additionally, the remaining buildable area allows for residential accessory structures, such as pools, sheds, etc.

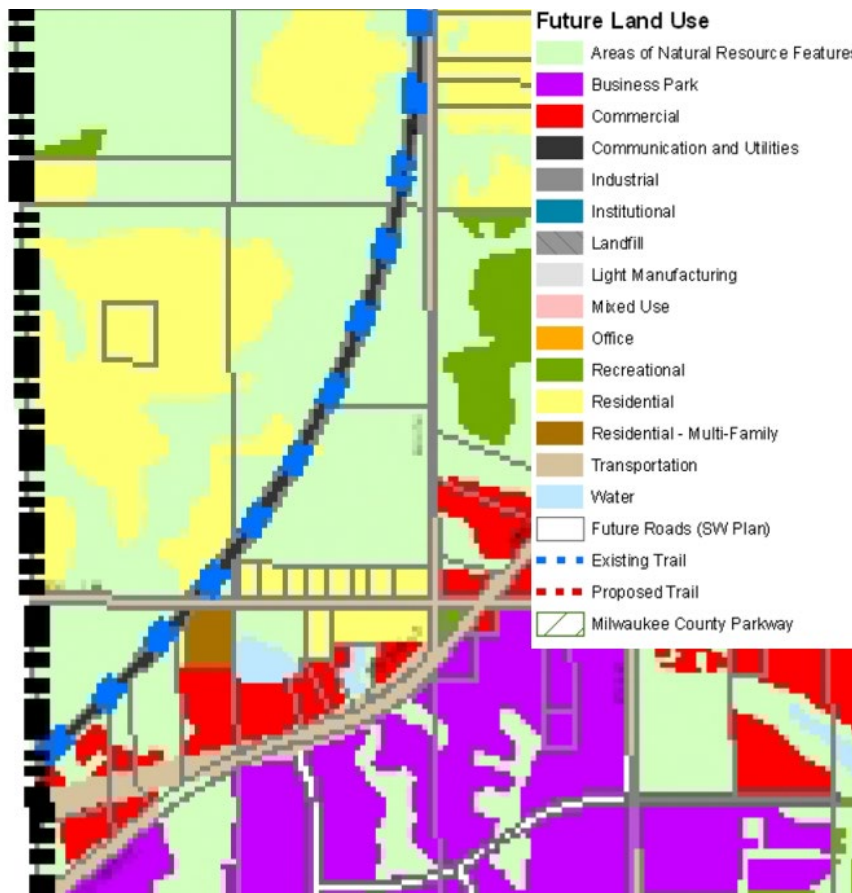


Dimensional analysis of the smallest lot (#59)

Consistency with Comprehensive Master Plan

The subject property is designated as Residential Single-Family and Areas of Natural Resource Features in the 2025 Future Land Use Map. The proposed Planned Development District for a residential single-family subdivision is consistent with the Comprehensive Plan in terms of land use.

With regards to the Areas of Natural Resource Features, the applicant submitted a Natural Resource Protection Plan (NRPP) prepared by Stantec Consulting Services, dated August 14, 2017, and attached to this packet. The NRPP identifies the protected natural resources present on this site, including wetlands, wetland setbacks, wetland buffers, mature woodlands and 100-year floodplain. The development as presented would not impact these natural resources, with the exception of overlapping of some lots (for example lots #34 and #35) and stormwater management areas into the wetland setback. Conservation easements will be required in these cases to protect the 50-foot wetland buffer.



City of Franklin 2025 Future Land Use Map

The Comprehensive Master Plan also incorporated the Franklin First plans (the Ticknor & Associates plan dated March 2000 and the R.A. Smith & Associates plan dated October 2001) by reference. The Ticknor report identified 12 areas which it believed must be reserved for their commercial, office, or industrial development potential in order to strive toward the City’s 70/30 goal, i.e. expanding the City’s nonresidential tax base to 30 percent in order to reduce the residential tax burden. The subject area is outside the Area G (Southwest Environs) which was envisioned for a future “industrial park” at time of the report, now Ryan Meadows. Therefore, the proposed Cape Crossing residential development does not contradict the Ticknor & Associates report.

Planned Development District ordinance

If this request is approved, the attached draft Planned Development District (PDD) ordinance will set forth the development standards for the Cape Crossing subdivision and its two areas: The Estates and The Villas. Note that subdivision design will be subject to further review as part of the Preliminary and Final Plat processes. These development standards are listed below:

Cape Crossing Planned Development District

- a. Permitted uses: Single-family residential, clubhouse and amenity areas
- b. Total lots: 142 lots, maximum
- c. Maximum gross density: 1.85 dwelling units/acre
- d. Maximum net density: 2.85 dwelling units/acre
- e. Minimum open space ratio: 0.37

The Estates

- a. Lots: 54 lots, maximum
- b. Minimum lot size: 12,000 square feet
- c. Minimum lot width: 85 feet, measured at setback line
- d. Minimum front setback: 25 feet
- e. Minimum corner setback: 25 feet
- f. Minimum side setback: 10 feet
- g. Minimum rear setback: 25 feet
- h. Maximum lot coverage: 0.25²
- i. Maximum building height,
 - Principal structure: 2.5 stories / 30 feet, whichever is greater
 - Accessory structure: 1 story / 15 feet, whichever is greater

The Villas

² The applicant originally proposed a maximum lot coverage of 0.30 (30 %) for “The Estates” area, City Development staff recommended to reduce it to 0.25 in the memorandum dated November 16. The applicant agreed to reduce the lot coverage as indicated in the revised concept plan attached to this packet.

- a. Lots: 88 lots, maximum
- b. Minimum lot size: 9,000 square feet
- c. Minimum lot width; 70 feet/ 90 feet for corner lots, measured at setback line
- d. Minimum front setback: 25 feet
- e. Minimum corner setback: 25 feet
- f. Minimum side setback: 7.5 feet
- g. Minimum rear setback: 25 feet
- h. Maximum lot coverage: 0.30
- i. Maximum building height,
 - Principal structure: 2.5 stories / 30 feet, whichever is greater
 - Accessory structure: 1 story / 15 feet, whichever is greater

Ingress/egress

The proposed development would be served by a single boulevard-type access point, 80-foot right-of-way, 24-foot lane in each direction, median with landscaping, 10-foot curb lawn on both sides with street trees but no sidewalk. This boulevard access is depicted in the “Concept Entrance Landscape Plan” attached to this packet.

As previously pointed out during the Concept Review and the review memorandum, City Development staff has concerns with only one access point for residential development with 142 dwelling units. Therefore, City Development staff recommends a second access point in the case that wetland W-4 is deemed exempt from state and federal wetland regulations. If wetland W-4 is subject to state and/or wetland regulations, this condition shall be void.

It is important to note that road connections from this development to adjacent properties are extremely difficult due to the presence of a gas pipeline, overhead utility line to the east, wetland and floodplain to the east and north, as well as wetlands, woodlands and city limits to the west. Future road connections to this development other than access to Ryan Road is not anticipated.

In the responses to the review memorandum, the applicant stated that “The boulevard is proposed so if one side of the boulevard is blocked, the other side has the width (24’ on either side of boulevard) to allow for two-way traffic. This entry boulevard is only 275 feet long before it reaches the internal loop road system. Additionally, in the unlikely event of a complete blockage in front of the dual entrance a secondary 12’ paved emergency access is proposed in the southeast corner connecting to the future trailhead area”.

The Police Department is satisfied with the applicant’s justification per e-mail dated November 22, attached to the meeting packet (Appendix #2).

It is worth mentioning that City Development staff objected to the original location of the single access point due to reduced visibility created by a street grade change on Ryan Rd. The applicant addressed this issue by shifting this access point further to the west.

Landscape buffering

City Development staff recommended a 25-foot landscape bufferyard along the west property line or city limits, excluding natural resource areas such as wetlands and woodlands, to provide screening between the proposed development and the existing subdivisions and golf course located in the City of Muskego.

The applicant partially addressed this recommendation by adding a landscape bufferyard easement in the rear of lots 22-44, per responses to staff memorandum: “A 25’ landscape easement can be provided on lots 22-24 and that is now shown on the revised concept plan.” However, staff recommends to revise the concept plan to depict a 25-foot wide landscape bufferyard easement instead of a 15-foot easement.

With regards the landscape bufferyard recommended in the rear of lots 6-15, the applicant stated that “The existing topography in this area shows drainage flowing from west to east. To provide proper drainage on the project site, a swale will be installed along this west subdivision line on lots 6-15 to direct drainage to outlot 2 (between lots 12 and 13) which then drains easterly into outlot 6, outlot 7 and then into outlot 3. There will be a 25’ drainage easement on the rears of these lots (lots 6-15) that covers the proposed swale. Due to the providing proper drainage, there will not be any landscaping along this west subdivision line at lots 6-15”.

City Development staff objects to the applicant’s justification because landscaping may be installed within a drainage easement as long as it is approved by the City Engineer. Per input received from Assistant City Engineer Tyler Beinlich: “Our standard storm drainage easement document does state that landscaping can be in the storm drainage easement as approved by the City Engineer. I don’t really see an issue with landscaping on the top of a berm/backside of a ditch so long as it doesn’t impede the actual ditch. I think with a wider easement 25’ (vs the 20’ we typically see) would help to allow for plantings as a buffer without impacting the drainage way. It all really depends on what their design entails for the drainage easement”.

City Development staff recommends that the drainage easement along the west property line (or city limits) should include landscaping screening between lots 6-15 as long as it is acceptable to the Engineering Department, a landscape plan for this area should be submitted with the preliminary or final plat.

West Shore pipeline

On the east side of the project area, between the overhead high tension power line and the proposed residential lots and stormwater management areas, there is the 15-foot west shore pipe line easement. Even though, residential lots and stormwater management areas would be outside the easement, grading may be limited near this easement. According to the applicant, “contact has been made with Aric Aufdermauer with West Shore Pipeline. Will require application for any crossings of pipeline and grading plans when available”.

City Development staff recommends written approval from the easement holder as a requirement for the grading plans associated with the preliminary plat.

City Department comments

Fire Department comments

- Area is poorly served by existing fire station locations and staffing. Response times for Effective Response Force for fire and EMS calls-for-service, and emergency incident types will likely exceed accepted industry standards.
- Further comments forthcoming upon site plan review.

Police Department comments

- As previously indicated in an email from me on July 12, 2021:
“The Police Department has concerns with this development, which includes 183 lots, being served by a single road access. In the event of an emergency at or near the one entry/exit point to the development residents would have no way to access/leave their residence until the emergency could be resolved.
The Police Department would suggest the development include a second access point to West Ryan Road.”

It appears that the number of home / lots has since changed from the original plans referred to in my previous email from 183 down to 142 home / lots, however the same concern regarding a single access point to the subdivision remains.

Any emergency or disturbance at the only entrance to the subdivision on West Ryan Rd may not only prevent residents from entering/leaving the subdivision, but more importantly prevent first responders from accessing the subdivision, in a timely manner, to provide emergency assistance needed elsewhere in the subdivision.

Note: see e-mail dated November 22, appendix #2.

Engineering Department comments

- No comments.

- See attached e-mail regarding access point.

Inspection Services Department comments

- Inspection Services has no comments on the proposal at this time.

Staff Recommendation:

City Development staff does not recommend approval of Planned Development District No. 40 Cape Crossing as presented by the applicant.

However, City Development staff would recommend approval of this Planned Development District, subject to the conditions set forth in the draft ordinance for consideration of the Plan Commission.

To summarize, recommended conditions are listed below and included in the draft ordinance in Section 2.H “Conditions of Approval”. The Plan Commission may opt to remove these conditions:

1. In the case that wetland W-4 is deemed exempt from state and federal wetland regulations. The applicant should include a second access point to Ryan Road as part of the Preliminary Plat, such access point shall meet the dimensional requirements for typical “Minor Streets” as set forth in Table 15-5-.0103 of the Unified Development Ordinance. If wetland W-4 is subject to state and/or wetland regulations, this condition shall be void.
2. The drainage easement along the west property line (or city limits) should include landscaping screening between lots 6-15 as long as it is acceptable to the Engineering Department. The applicant should submit a landscape plan for this area should with the Preliminary Plat.
3. The applicant should submit written approval from the holder of the 15-foot West Shore pipe line easement (Doc. 3875551) as a requirement for the grading plans associated with the Preliminary Plat.
4. The applicant shall increase the width of the landscape bufferyard easement from 15 feet to 25 feet between lots 22-24, this change shall be depicted in the Preliminary Plat.

Appendices:

1. E-mail from Assistant Engineer Tyler Beinlich regarding landscaping in storm drainage easement received on December 1, 2021
2. E-mail from Bryan Lindgren of Neumann Developments, Inc. regarding Police Department comments received on November 22, 2021

ORDINANCE NO. 2021-____

AN ORDINANCE TO CREATE SECTION 15-3.0445 OF THE
FRANKLIN UNIFIED DEVELOPMENT ORDINANCE ESTABLISHING
PLANNED DEVELOPMENT DISTRICT NO. 40 (*CAPE CROSSING*) AND
TO REZONE PROPERTY FROM R-3 SUBURBAN/ESTATE SINGLE-FAMILY
RESIDENCE DISTRICT AND C-1 CONSERVANCY DISTRICT
TO PLANNED DEVELOPMENT DISTRICT NO. 40
(12200 WEST RYAN ROAD)

WHEREAS, a petition for zoning change having been filed to change the zoning on a tract of land from R-3 Suburban/Estate Single-Family Residence District and C-1 Conservancy District to a Planned Development District, which tract of land is located at 12200 West Ryan Road, bearing Tax Key Nos. 890-9991-001 and 890-9991-002, and which is more particularly described below; and

WHEREAS, the Plan Commission having determined that the proposed Planned Development District No. 40 (*Cape Crossing*) is in conformance with the City of Franklin Comprehensive Master Plan and contains more than 3 acres; and

WHEREAS, a Public Hearing was held before the Plan Commission on the 9th day of December, 2021, and the Plan Commission having reviewed the Planned Development District No. 40 petition and having found that the proposed Planned Development District conforms to the standards for adoption of a Planned Development District, and having recommended to the Common Council that the creation of Planned Development District No. 40 be approved; and

WHEREAS, the Common Council having reviewed the petition and recommendation following the Public Hearing and having determined that the adoption of an ordinance to create Planned Development District No. 40 will promote the health, safety and welfare of the Community.

NOW, THEREFORE, the Mayor and Common Council of the City of Franklin, Wisconsin, do ordain as follows:

SECTION 1: §15-3.0102 (Zoning Map) of the Unified Development Ordinance of the City of Franklin, Wisconsin, is hereby amended to provide that the zoning district designation for the property described below be changed from R-3 Suburban/Estate Single-Family Residence District and C-1 Conservancy District to Planned Development District No. 40 (*Cape Crossing*) as is created under SECTION 2 of this ordinance:

LEGAL DESCRIPTION: Being a part of the Southwest 1/4 and Northwest 1/4 of the Southwest 1/4 of Section 19, Township 5 North, Range 21 East, City of Franklin, Milwaukee County, Wisconsin, described as follows: Beginning at the southwest corner of the Southwest 1/4 of said Section 19; thence North 01°22'14" West along the west line of said Southwest 1/4, 2658.45 feet to the northwest corner of said Southwest 1/4; thence South 89°33'48" East along the north line of said Southwest 1/4, 1413.03 feet to the east line of the west 1/2 of said Southwest 1/4 as described by the Original Section Survey; thence South 00°36'57" East along said east line, 2174.70 feet to the northwesterly line of The Milwaukee Electric Railway and Light Company (now Wisconsin Electric Power Company) as recorded in the Register of Deeds office for Milwaukee County, in Volume 1395, Page 367 and a point on a curve; thence southwesterly 599.21 feet along the arc of said curve to the right, whose radius is 7777.60 feet and whose chord bears South 36°38'24" West, 599.06 feet to the south line of said Southwest 1/4; thence North 89°31'45" West along said south line, 1015.31 feet to the Point of Beginning.

ALSO

That part of the Southwest 1/4 of the Southwest 1/4 of Section 19, Township 5 North, Range 21 East, City of Franklin, Milwaukee County, Wisconsin, described as follows: Commencing at the southwest corner of the Southwest 1/4 of said Section 19; thence South 89°31'45" East along the south line of said Southwest 1/4, 1142.36 feet to the southeasterly line of The Milwaukee Electric Railway and Light Company (now Wisconsin Electric Power Company) as recorded in the Register of Deeds office for Milwaukee County, in Volume 1395, Page 367, a point on a curve and the Point of Beginning 2; Thence northeasterly 387.26 feet along the arc of said curve to the left, whose radius is 7877.60 feet and whose chord bears North 36°51'54" East, 387.22 feet to the east line of the west 1/2 of said Southwest 1/4 as described by the Original Section Survey; thence South 00°36'57" East along said east line, 311.75 feet to the south line of said Southwest 1/4; thence North 89°31'45" West along said south line, 235.67 feet to the Point of Beginning 2.

SECTION 2: §15-3.0445 of the Unified Development Ordinance of the City of Franklin, Wisconsin, is hereby created to read as follows:

Section 15-3.0445 PLANNED DEVELOPMENT DISTRICT NO. 40 (*CAPE CROSSING*)

A. **Definitions.**

This Planned Development District shall be constructed, operated and maintained in conformance with the following listed Exhibits, all containing matters approved hereunder or by the separate approval of the Common Council as set forth below, and all applicable terms and provisions of the Municipal Code and the Unified Development Ordinance not enumerated herein and not contrary to the terms or provisions of this ordinance, including, but not limited to such permits as are required under Division 15-8.0200 Construction, Division 15-8.0300 Construction Site Erosion Control and Division 15-8.0600, as well as the Development Agreement required as a condition of approval of Exhibit A, below. The plans contained in the following listed Exhibits may be adjusted in minor detail and so noted prior to construction upon the written approval of the City Engineer or City Planning manager in order to comply with all of the conditions of this Ordinance.

1. **Exhibit A:** Concept Plan entitled “Cape Crossing” prepared by Anthony Zanon, Pinnacle Engineering Group, dated November 23, 2021.
2. **Exhibit B:** Natural Resource Protection Plan prepared by Eric C. Parker, Stantec Consulting Services, Inc. dated August 14, 2017.
3. **Developer:** The applicant, Neumann Developments, Inc.

B. **District Intent.** It is the intent of the Planned Development District No. 40 (Cape Crossing) to allow for single-family residential development with reduced lot size and increased lot coverage. The Planned Development District No. 40 consists of two (2) areas with different development standards: The Estates Area and The Villas Area.

C. **General Requirements.**

1. The site shall be developed in substantial compliance with the district standards and specific development standards for The Estates Area and The Villas Area set forth in this Ordinance.

D. **District Standards.** Planned Development District No. 40 is further intended to have the following development standards:

- | | | |
|-----|------------------------|---|
| (a) | Permitted uses: | Single-family residential, clubhouse and amenity areas depicted in Exhibit A. |
| (b) | Total lots: | 142 lots, maximum |
| (c) | Maximum gross density: | 1.85 dwelling units/acre |
| (d) | Maximum net density: | 2.85 dwelling units/acre |

- (e) Minimum open space ratio: 0.37

E. The Estates Area.

1. **Development Standards.** The Estates Area is further intended to have the following development standards:

- (a) Lots: 54 lots, maximum
- (b) Minimum lot size: 12,000 square feet
- (c) Minimum lot width, 85 feet, measured at setback line
- (d) Minimum front setback: 25 feet
- (e) Minimum corner setback: 25 feet
- (f) Minimum side setback: 10 feet
- (g) Minimum rear setback: 25 feet
- (h) Maximum lot coverage: 0.25
- (i) Maximum building height,
 - Principal structure: 2.5 stories / 30 feet, whichever is greater
 - Accessory structure: 1 story / 15 feet, whichever is greater

F. The Villas Area.

1. **Development Standards.** The Villas Area is further intended to have the following development standards:

- (a) Lots: 88 lots, maximum
- (b) Minimum lot size: 9,000 square feet
- (c) Minimum lot width, 70 feet/ 90 feet for corner lots, measured at setback line
- (d) Minimum front setback: 25 feet
- (e) Minimum corner setback: 25 feet
- (f) Minimum side setback: 7.5 feet
- (g) Minimum rear setback: 25 feet
- (h) Maximum lot coverage: 0.30
- (i) Maximum building height,
 - Principal structure: 2.5 stories / 30 feet, whichever is greater
 - Accessory structure: 1 story / 15 feet, whichever is greater

D. Plat Review.

1. The applicant shall be responsible for filing a Preliminary Plat of Subdivision consistent with all requirements of the Unified Development Ordinance.
2. The applicant shall submit a Landscape Plan and Lighting Plan, as defined in the Unified Development Ordinance as part of the Preliminary Plat submittal.
3. The applicant shall be responsible for filing a Final Plat of Subdivision consistent with all requirements of the Unified Development Ordinance.
4. The applicant shall be responsible for filing a Subdivision Development Agreement consistent with all regulations of the Unified Development Ordinance and Municipal Code, as may be amended, for the Final Plat. Said Subdivision Development Agreement shall be approved by the Common Council.
5. A Homeowner Association document shall accompany the Final Plat including deed restrictions specifying the maintenance of common areas. Said document shall be recorded after approval by the City of Franklin Attorney.
6. Grading, stormwater management, erosion control and utility plans shall be subject to review by the Engineering Department.
7. All protected natural resources indicated in the Natural Resource Protection Plan, including wetlands, wetland buffers, wetland setbacks and mature woodlands shall be protected by a conservation easement in accordance with the Unified Development Ordinance.

H. Conditions of Approval.

The development of PDD No. 40 upon the adoption of 15-3.0445 shall occur and be in compliance with the Exhibit A Concept Plan (including the conditions of approval below, which are to be completed prior to the approval of the Final Plat).

1. In the case that wetland W-4 is deemed exempt from state and federal wetland regulations. The applicant should include a second access point to Ryan Road as part of the Preliminary Plat, such access point shall meet the dimensional requirements for typical "Minor Streets" as set forth in Table 15-5-.0103 of the Unified Development Ordinance. If wetland W-4 is subject to state and/or wetland regulations, this condition shall be void.
2. The drainage easement along the west property line (or city limits) should include landscaping screening between lots 6-15 as long as it is acceptable to the Engineering Department. The applicant should submit a landscape plan for this area should with the Preliminary Plat.
3. The applicant should submit written approval from the holder of the 15-foot West Shore pipe line easement (Doc. 3875551) as a requirement for the grading plans associated with the Preliminary Plat.
4. The applicant shall increase the width of the landscape bufferyard easement

from 15 feet to 25 feet between lots 22-24, this change shall be depicted in the Preliminary Plat.

SECTION 3: The terms and provisions of this ordinance are severable. Should any term or provision of this ordinance be found to be invalid by a court of competent jurisdiction, the remaining terms and provisions shall remain in full force and effect.

SECTION 4: All ordinances and parts of ordinances in contravention to this ordinance are hereby repealed.

SECTION 5: This ordinance shall take effect and be in force from and after its passage and publication.

Introduced at a regular meeting of the Common Council of the City of Franklin this _____ day of _____, 2021, by Alderman _____.

Passed and adopted at a regular meeting of the Common Council of the City of Franklin this _____ day of _____, 2021.

APPROVED:

Stephen R. Olson, Mayor

ATTEST:

Sandra L. Wesolowski, City Clerk

AYES _____ NOES _____ ABSENT _____

Regulo Martinez-Montilva

From: Tyler Beinlich
Sent: Wednesday, December 1, 2021 10:08 AM
To: Regulo Martinez-Montilva
Subject: Landscaping in Storm Drainage Easement

Follow Up Flag: Follow up
Flag Status: Flagged

Regulo,

Our standard storm drainage easement document does state that landscaping can be in the storm drainage easement as approved by the City Engineer. I don't really see an issue with landscaping on the top of a berm/backside of a ditch so long as it doesn't impede the actual ditch. I think with a wider easement 25' (vs the 20' we typically see) would help to allow for plantings as a buffer without impacting the drainage way. It all really depends on what their design entails for the drainage easement.

*"That no structure, fence, plantings, or other improvements may be placed within the limits of the Easement Area by the Grantor except that improvement such as walks, pavements for driveways and parking lot surfacing, and **landscaping may be constructed or placed within the Easement Area as approved by the City Engineer.**"*

Thanks,

Tyler Beinlich, PE
Assistant City Engineer
City of Franklin
9229 W. Loomis Rd.
Franklin, WI 53132
(414) 425-7510



Regulo Martinez-Montilva

From: Bryan Lindgren <blindgren@neumanncompanies.com>
Sent: Monday, November 22, 2021 3:28 PM
To: Regulo Martinez-Montilva
Cc: Steve DeCleene; Steve Olson; Eric Obarski
Subject: FW: 12200 W Ryan Road Development

Follow Up Flag: Follow up
Flag Status: Flagged

Hi Regulo,

We have followed up with the Police Chief as requested and with further explanation of the design and plan he is supportive of the boulevard access as we have designed.

Thanks,

Bryan Lindgren

N27 W24025 Paul Ct., Suite 100 | Pewaukee, WI 53072
 O 262.542.9200 | C 608.215.4934
www.neumannland.com



From: Rick Oliva <ROliva@franklinwi.gov>
Sent: Monday, November 22, 2021 3:23 PM
To: Bryan Lindgren <blindgren@neumanncompanies.com>; Craig Liermann <CLiermann@franklinwi.gov>
Cc: Eric Obarski <eobarski@neumanncompanies.com>
Subject: RE: 12200 W Ryan Road Development

Bryan,

Based on below explanation, the police department is satisfied with your plans.

Rick Oliva
 Chief of Police
 Franklin Police Department
 9455 W. Loomis Road
 Franklin, WI 53132
 (414) 425-2522
police.franklinwi.gov



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From: Bryan Lindgren <blindgren@neumanncompanies.com>
Sent: Monday, November 22, 2021 2:34 PM
To: Craig Liermann <CLiermann@franklinwi.gov>
Cc: Eric Obarski <eobarski@neumanncompanies.com>; Rick Oliva <ROliva@franklinwi.gov>
Subject: 12200 W Ryan Road Development

Hi Asst Chief Liermann,

Thank you for reviewing our plans for development of the property at 12200 W Ryan Road. We received your comment in regards to the single access point to the neighborhood.

We have met with Mayor Olson as well as the planning and engineering staff in regards to the design. After providing more detail on the specifications and reasoning to the Mayor, staff, and Alderman Nelson, they all seem supportive of keeping the boulevard as is with the only change being to shift it slightly west so that the viewing distances can be improved. There are a couple of details that are important that don't show up clearly on the site plan. First, the dual entrance area is 80' wide with two separate 24' wide lanes. In case one side is blocked the other will support two way traffic. This initial boulevard section is also only 275' long. Once past this point there are multiple internal access routes to anywhere in the neighborhood. Additionally, if both of these lanes gets blocked, there is a 12' wide paved emergency access path in the southeast corner that leads across the bike path and into the future parking lot at the trail head.

There is also limited road frontage on Ryan Road to work with, and two entrances spaced farther apart would force each to be placed on separate sides of the hill that peaks around the current entrance location. This would likely result in limited traffic visibility from both locations. A second access point would have been considered to the north, east, or west, but these areas are all either developed or containing wetlands and environmental areas that will never be developed. Taking all of these things into consideration, we felt the best and safest option was to create the oversized dual entrance boulevard along with an emergency access point. Does this additional info about the increased width of each lane of entrance as well as providing the emergency access address your concerns for the design of the development? We appreciate your opinion and definitely want to design a neighborhood that is both attractive and safe for the new residents. Thank you and I look forward to any additional feedback you can provide.

Thanks,

Bryan Lindgren

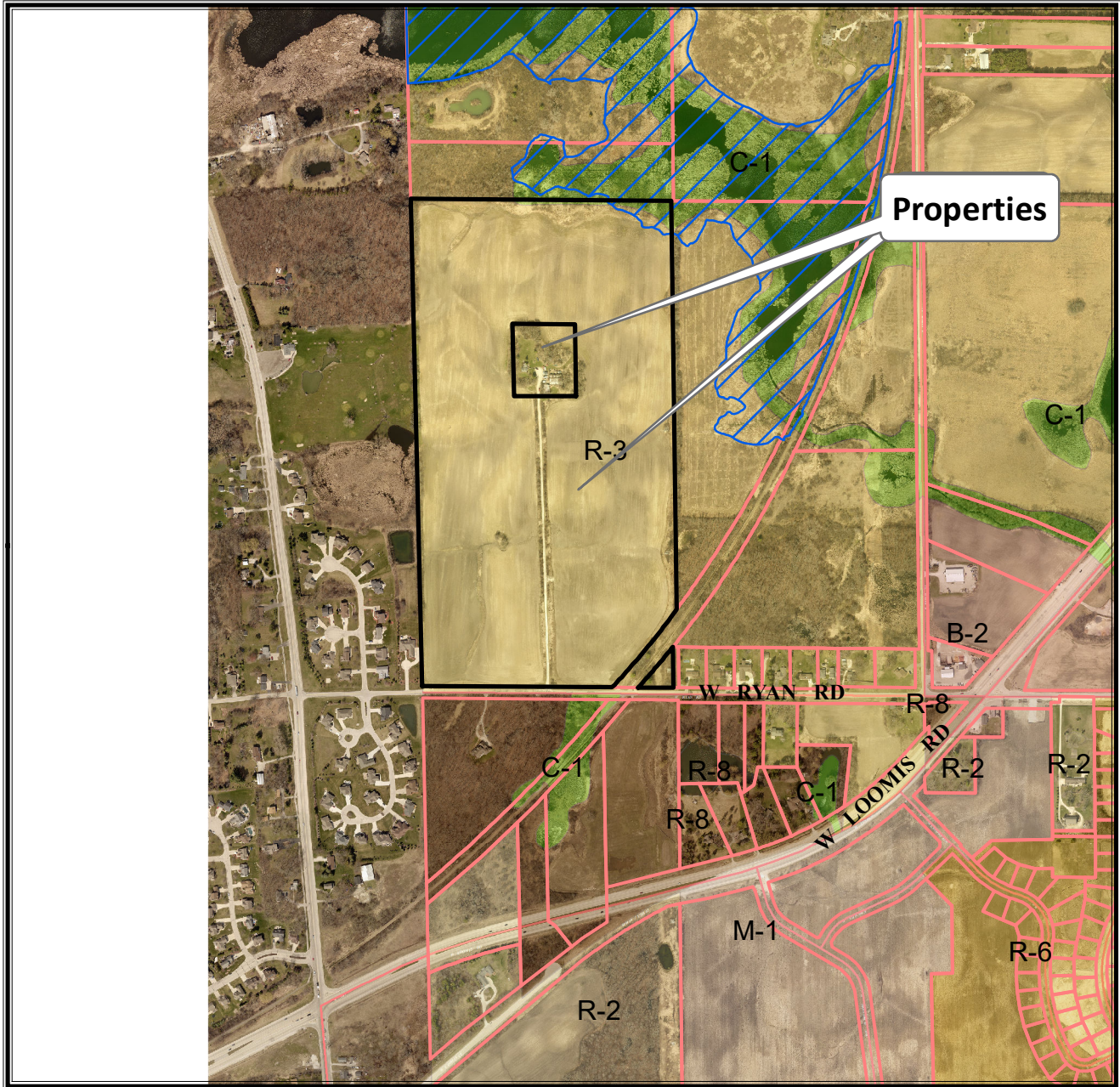
N27 W24025 Paul Ct., Suite 100 | Pewaukee, WI 53072

O 262.542.9200 | C 608.215.4934

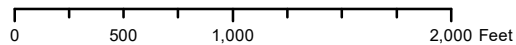
www.neumannland.com



Address: 12200 W. Ryan Road
 TKNs: 890-9991-001 and 890-9991-002



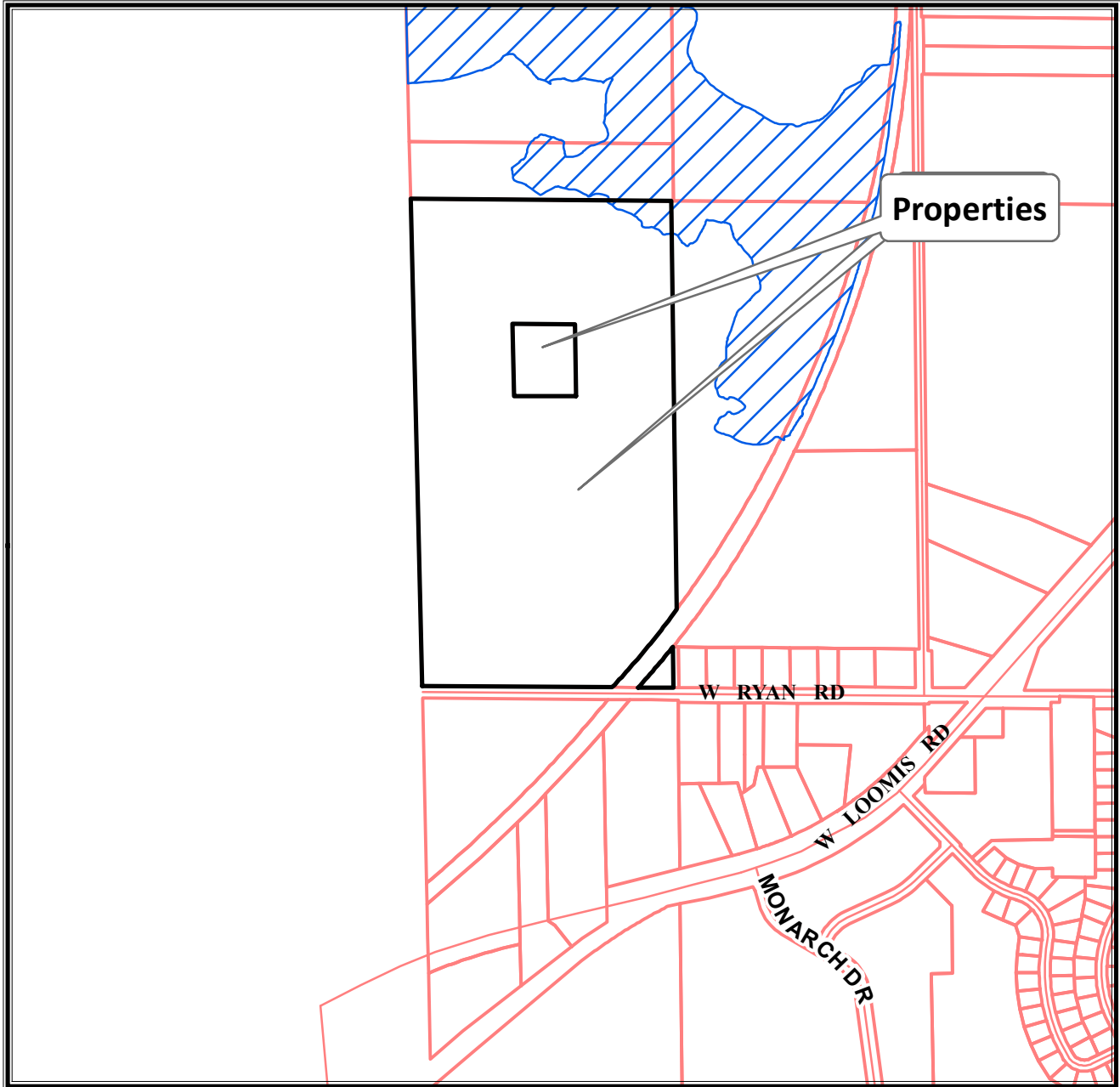
Planning Department
 (414) 425-4024



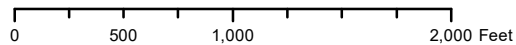
2021 Aerial Photo

This map shows the approximate relative location of property boundaries but was not prepared by a professional land surveyor. This map is provided for informational purposes only and may not be sufficient or appropriate for legal, engineering, or surveying purposes.

Address: 12200 W. Ryan Road
TKNs: 890-9991-001 and 890-9991-002



Planning Department
(414) 425-4024



This map shows the approximate relative location of property boundaries but was not prepared by a professional land surveyor. This map is provided for informational purposes only and may not be sufficient or appropriate for legal, engineering, or surveying purposes.



MEMORANDUM

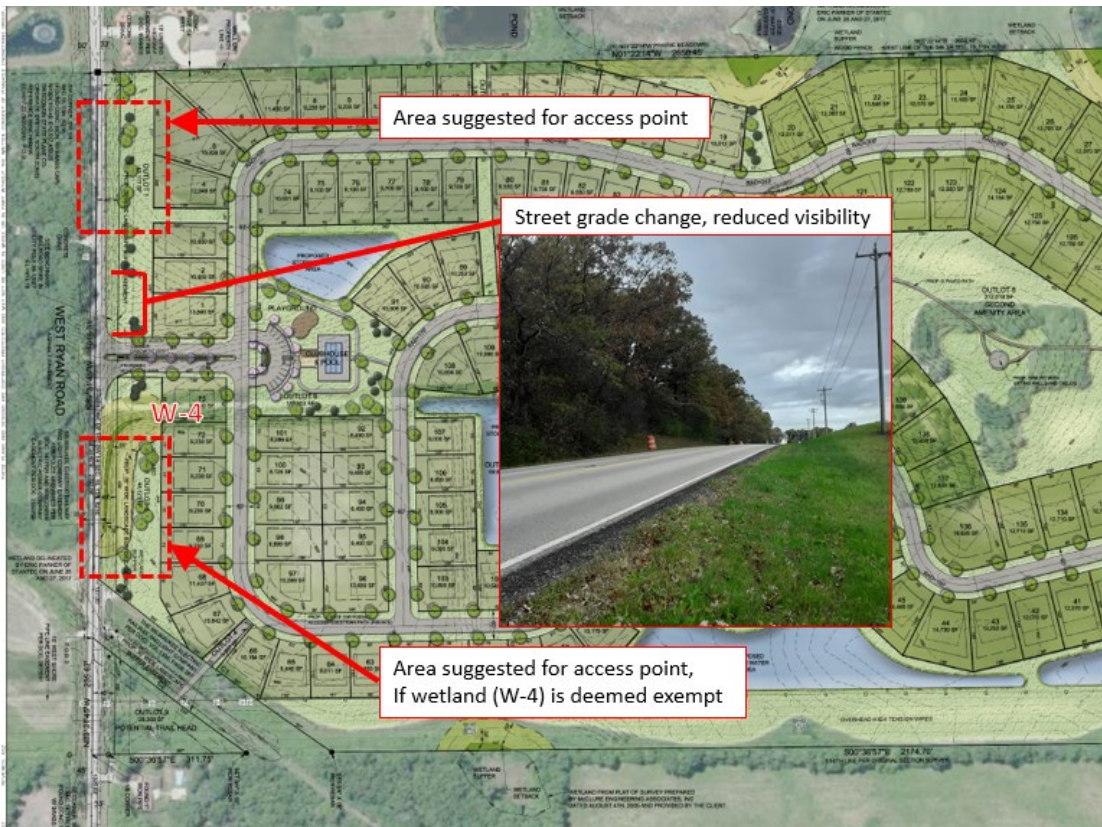
Date: November 16, 2021
To: Bryan Lindgren. Neumann Developments, Inc.
From: Department of City Development
Régulo Martínez-Montilva, Principal Planner
RE: Review comments - Cape Crossing Planned Development District for residential single-family subdivision. 12200 W Ryan Rd.

Please be advised that city staff has reviewed this Planned Development District (PDD) application received on September 30, 2021. Department comments are as follows:

City Development Department comments

1. **Second access point strongly recommended.** As pointed out during the Concept Review, City Development staff has concerns with the proposed residential development to be served by a single access point. The Police Department also has concerns with regards to this matter (see Police Department comments). **The development has continuous loop roads throughout with no cul-de-sacs which provides multiple internal access routes. The preferred access to West Ryan Road is one access point which will have a boulevard. The boulevard is proposed so if one side of the boulevard is blocked, the other side has the width (24' on either side of boulevard) to allow for two-way traffic. This entry boulevard is only 275 feet long before it reaches the internal loop road system. Additionally, in the unlikely event of a complete blockage in front of the dual entrance a secondary 12' paved emergency access is proposed in the southeast corner connecting to the future trailhead area.**

Additionally, City Development staff has concerns about the location of the access point, which is too close to a significant street grade change and may limit the visibility of vehicles leaving the subdivision and turning left into Ryan Road. City Development staff recommends relocation of the proposed access point and a second access point provided that wetland W-4 is deemed exempt from state and federal wetlands regulations, see image below for reference: **The access road to West Ryan Road was shifted to the west as shown on the revised concept site plan.**



- 2. Landscape bufferyard recommended.** City Development staff recommends a 25-foot landscape bufferyard along the west property line or city limits, excluding natural resource areas such as wetlands and woodlands, to provide screening between the proposed development and the existing subdivisions and golf course located in the City of Muskego. See image below for reference: **The existing topography in this area shows drainage flowing from west to east. To provide proper drainage on the project site, a swale will be installed along this west subdivision line on lots 6-15 to direct drainage to outlot 2 (between lots 12 and 13) which then drains easterly into outlot 6, outlot 7 and then into outlot 3. There will be a 25' drainage easement on the rears of these lots (lots 6-15) that covers the proposed swale. Due to the providing proper drainage, there will not be any landscaping along this west subdivision line at lots 6-15. A 25' landscape easement can be provided on lots 22-24 and that is now shown on the revised concept plan.**



3. **Maximum Lot Coverage for The Estates Area.** For consistency with the Unified Development Ordinance (UDO), City Development staff recommends to reduce the lot coverage in The Estates Area to 0.25. The Estates Area is similar to the R-6 Suburban Single-Family Residence District in terms of minimum lot size (11,000 square feet), the maximum lot coverage in the R-6 district is 0.25. **Revised the lot coverage on The Estates to 0.25 and this is noted on the revised concept site plan.**
4. **Planned Development District for development standards only.** If approved, the Planned Development District will set forth the development standards for the Cape Crossing subdivision and its two areas: The Estates and The Villas. Development standards include the following:

Cape Crossing Planned Development District

- a. Permitted uses: Single-family residential, clubhouse and amenity areas
- b. Total lots: 142 lots, maximum
- c. Maximum gross density: 1.85 dwelling units/acre
- d. Maximum net density: 2.85 dwelling units/acre
- e. Minimum open space ratio: 0.37

The Estates

- a. Lots: 54 lots, maximum
- b. Minimum lot size: 12,000 square feet
- c. Minimum lot width: 85 feet, measured at setback line
- d. Minimum front setback: 25 feet
- e. Minimum corner setback: 25 feet
- f. Minimum side setback: 10 feet
- g. Minimum rear setback: 25 feet
- h. Maximum lot coverage: 0.30 (City Development staff recommends 0.25)
- i. Maximum building height,
 - Principal structure: 2.5 stories / 30 feet, whichever is greater
 - Accessory structure: 1 story / 15 feet, whichever is greater

The Villas

- a. Lots: 88 lots, maximum
- b. Minimum lot size: 9,000 square feet
- c. Minimum lot width; 70 feet/ 90 feet for corner lots, measured at setback line
- d. Minimum front setback: 25 feet
- e. Minimum corner setback: 25 feet
- f. Minimum side setback: 7.5 feet
- g. Minimum rear setback: 25 feet
- h. Maximum lot coverage: 0.30
- i. Maximum building height,
 - Principal structure: 2.5 stories / 30 feet, whichever is greater
 - Accessory structure: 1 story / 15 feet, whichever is greater

The subdivision design will be subject to further review as part of the Preliminary and Final Plat

process. **Comment only, no change other than per #3 above.**

5. **Subsequent steps.** If the Planned Development District is adopted, please note the subsequent required approvals: **Comment only, no change.**
 - a. Preliminary and Final Plat with associated easements, including but not limited to: conservation easement, landscape bufferyard easement, drainage easement and utility easements.
 - b. Landscape Plan (UDO Division 15-7.0300) and Lighting Plan (UDO 15-5.0402) will be required as part of the plat submittal.
 - c. Any subdivision monument sign will require a separate application as well as review and approval by the Plan Commission.
 - d. Stormwater management, grading, utility and erosion control plans must be submitted separately to the Engineering Department (414-425-7510).
 - e. Homeowner Association Declaration shall be submitted with the Final Plat for City Attorney review.
 - f. Separate site plan for amenity areas, such as clubhouse and pool in outlot 6, as well as fire pit in outlot 8.
 - g. Other approvals required by other city departments and other agencies.
6. **Wetland setback.** Note that a conservation easement would be still required to protect the 50-foot wetland setback where this setback overlaps residential lots. For example, lots 34-36. **The conservancy easements on the property will be finalized once the construction plans are prepared. The conservation easements will be shown on the final plat and a separate easement document (using the City template) will be prepared. Please note there is anticipated grading in the wetland buffer and setback to properly drain the property and to meet storm water management requirements. The grading will be shown on the grading plans. There will not be any impervious structures within these areas.**
7. **Phasing.** Is there any phasing planned for this development? **Yes, three phases and the phases are now shown on the revised concept site plan.**
8. **West Shore pipeline.** Has the West Shore pipeline operator been contacted for comments about this development proposal? **Contact has been made with Aric Aufdermauer with West Shore Pipeline. Will require application for any crossings of pipeline and grading plans when available.**

Fire Department comments

9. Area is poorly served by existing fire station locations and staffing. Response times for Effective Response Force for fire and EMS calls-for-service, and emergency incident types will likely exceed accepted industry standards. **Comment only, no change.**
10. Further comments forthcoming upon site plan review. **Comment only, no change.**

Police Department comments

11. As previously indicated in an email from me on July 12, 2021:

“The Police Department has concerns with this development, which includes 183 lots, being served by a single road access. In the event of an emergency at or near the one entry/exit point to the development residents would have no way to access/leave their residence until the emergency could be resolved.

The Police Department would suggest the development include a second access point to West Ryan Road.”

It appears that the number of home / lots has since changed from the original plans referred to in my pervious email from 183 down to 142 home / lots, however the same concern regarding a single access point to the subdivision remains.

Any emergency or disturbance at the only entrance to the subdivision on West Ryan Rd may not only prevent residents from entering/leaving the subdivision, but more importantly prevent first responders from accessing the subdivision, in a timely manner, to provide emergency assistance needed elsewhere in the subdivision. **See response to #1 above. Design further reviewed directly with the Police Department with explanations and further detail provided. Police Department in support of design as presented per correspondence from 11/22/21.**

Engineering Department comments

12. No comments. **Comment only, no change.**

13. See attached e-mail regarding access point. **See response to #1 above.**

Inspection Services Department comments

14. Inspection Services has no comments on the proposal at this time. **Comment only, no change.**



September 30, 2021

City of Franklin
9229 W Loomis Road
Franklin, WI 53132

Dear Plan Commission,

We are excited to be submitting for consideration our request to re-zone the following property located in the City of Franklin:

- Subject property:
 - Address: 12200 W Ryan Road, Franklin, WI 53132
 - Tax Key: 890-9991-001 & 890-9991-002
 - Size: approximately 84.0074 acres
 - Current Owner: Franklin DC Land LLC
 - Current Zoning: R-3 and C-1
 - Proposed Zoning: Planned Development District (PDD)

About Neumann Developments Inc.

Neumann Developments Inc. has been creating single-family residential subdivisions in South-Eastern and South-Central Wisconsin since the year 2000 and has had the proud distinction to have their communities selected for the Metropolitan Builders Association Parade of Homes in twelve neighborhoods in the past twelve years. Since the year 2000, Neumann Developments has developed over 5000 home sites, built over 55 miles of roads, and preserved over 2700 acres of land.

Through strategic partnerships with some of the area's largest builders we are able to create high quality residential developments that bring lasting value to communities. We look forward to the opportunity to bring a great neighborhood to the City of Franklin.

Market Demand

The market statistics for new residential homes has been and remains incredibly strong. In Franklin, inventory of homes available for sale in September was a mere 1.65 months, prices were up 11.78% year over year, with 80% of homes selling in under 30 days. We take a long-range vision in land development planning and the great location, schools, businesses, and community that attract people to Franklin will continue to keep demand for new homes in the community strong. By the time this proposed development is ready to bring homes to market in late 2022 and 2023 we are confident that the demand will be there as well.



Comprehensive Master Plan

The property has been identified to include residential uses and areas of natural resource features to be preserved on the Future Land Use Map 2025.

We believe that given the site and community characteristics as well as the demand for residential homes that the highest and best use for the property is to keep a combination of various densities of residential uses from the Master Plan as well as maintaining the proposed open spaces.

A thorough Natural Resources Protection Plan was conducted, and the boundaries of natural resource areas have been mapped and are to be avoided in the proposed plan.

Development Overview

- Proposed Development
 - Total Units = 142 units
 - Proposed Gross Density = 1.85 units/acre
 - Proposed Net Density = 2.85 units/acre
 - Proposed Open Space Ratio = 0.37
 - Current Property Assessed Value = \$215,700
 - Estimated Tax Base upon completion = \$70,000,000

- The Estates - Single Family Residential
 - Total Units = 54 lots
 - Proposed Zoning = PDD
 - Min. Lot Size = 12,000 SF (Avg. 13,317 SF)
 - Min. Lot Width at building setback = 85'
 - Min. Front = 25'
 - Min Side = 10'
 - Min. Rear = 25'
 - Max Lot Coverage = 25%

- The Villas – Single Family Residential
 - Total Units = 88 lots
 - Proposed Zoning = PDD
 - Min. Lot Size = 9,000 SF (Avg. 10,305 SF)
 - Min. Lot Width at building Setback = 70'/90' Corners
 - Min. Side = 7.5'/25' Corners
 - Min. Rear = 25'
 - Max Lot Coverage = 30%

- Open Space preservation = 34.90 Acres (37%)



The proposed development will be able to offer new and current residents housing options in various sizes and price points that are hard to find in Franklin. We anticipate the Villas single family homes to vary in size and design and start in the low-\$400's. The Estates single family homes, will offer premium homesites and homes starting in the low-\$500's. The entire development will be controlled by a master HOA and architectural controls will be in place to create an aesthetically pleasing neighborhood as well as to manage common amenities and green spaces.

The proposed zoning district is consistent with the Comprehensive Master Plan and furthers the desire by the developer and the City to create housing options that will be an asset to the community for many years to come. The use of a Planned Development District on this property provides for uses compatible with planning and surrounding areas that results in the provision of a safe and efficient system for pedestrian and vehicular traffic, attractive recreation and landscaped open spaces, economic design and location of public and private utilities and community facilities; and ensures adequate standards of construction and planning. We believe this neighborhood would be a great addition to Franklin and the new residents will love the proximity to easy commuter routes, blend of urban and rural environment, ample green space, private neighborhood amenities such as a pool, playground, and firepit, access to the proposed interurban trail, and quick access to downtown areas.

If approved, we would seek to start development work in the spring of 2022. The estimated project cost would be around \$12,000,000. This project would be owned and developed by a Neumann Developments Inc. related entity. Villas lots would be sold as home and lot packages through affiliated builder Harbor Homes and Estates lots would be available through affiliated builder Tim O'Brien Homes as well as made available directly to individuals and other builders.

This petition is being made after careful consideration regarding the market supply and demand of different residential product types in the Franklin area and we feel it provides housing options that will benefit the City for many years to come.

Thank you for your consideration of this proposed project.

Sincerely,

Bryan Lindgren
Neumann Developments Inc

SECTION 15-3.0502

CALCULATION OF BASE SITE AREA

The *base site area* shall be calculated as indicated in Table 15-3.0502 for each parcel of land to be used or built upon in the City of Franklin as referenced in Section 15-3.0501 of this Ordinance.

Table 15-3.0502

**WORKSHEET FOR THE CALCULATION OF BASE SITE AREA
 FOR BOTH RESIDENTIAL AND NONRESIDENTIAL DEVELOPMENT**

STEP 1:	Indicate the total gross site area (in acres) as determined by an actual on-site boundary survey of the property.	84.01 acres
STEP 2:	Subtract (-) land which constitutes any existing dedicated public street rights-of-way, land located within the ultimate road rights-of-way of existing roads, the rights-of-way of major utilities, and any dedicated public park and/or school site area.	- 7.45 acres
STEP 3:	Subtract (-) land which, as a part of a previously approved development or land division, was reserved for open space.	- 0.00 acres
STEP 4:	In the case of " <i>Site Intensity and Capacity Calculations</i> " for a proposed residential use, subtract (-) the land proposed for nonresidential uses; <i>or</i> In the case of " <i>Site Intensity and Capacity Calculations</i> " for a proposed nonresidential use, subtract (-) the land proposed for residential uses.	- 0.00 acres
STEP 5:	Equals "Base Site Area"	= 76.56 acres

(ROW for W Ryan Road(1.29) & gas/overhead easements (6.16))

SECTION 15-3.0503

CALCULATION OF THE AREA OF NATURAL RESOURCES TO BE PROTECTED

All land area with those natural resource features as described in Division 15-4.0100 of this Ordinance and as listed in Table 15-3.0503 and lying within the *base site area* (as defined in Section 15-3.0502), shall be measured relative to each natural resource feature present. The actual land area encompassed by each type of resource is then entered into the column of Table 15-3.0503 titled "Acres of Land in Resource Feature." The acreage of each natural resource feature shall be multiplied by its respective *natural resource protection standard* (to be selected from Table 15-4.0100 of this Ordinance for applicable agricultural, residential, or nonresidential zoning district) to determine the amount of resource protection land or area required to be kept in open space in order to protect the resource or feature. The sum total of all resource protection land on the site equals the *total resource protection land*. The *total resource protection land* shall be calculated as indicated in Table 15-3.0503.

Table 15-3.0503

WORKSHEET FOR THE CALCULATION OF RESOURCE PROTECTION LAND

Natural Resource Feature	Protection Standard Based Upon Zoning District Type (circle applicable standard from Table 15-4.0100 for the type of zoning district in which the parcel is located)			Acres of Land in Resource Feature	
	Agricultural District	Residential District	Non-Residential District.		
Steep Slopes:				X _____	_____
10-19%	0.00	0.60	0.40	= _____	_____
20-30%	0.65	0.75	0.70	X _____	_____
+ 30%	0.90	0.85	0.80	= _____	_____
Woodlands & Forests:				X _____	_____
Mature	0.70	0.70	0.70	= _____	_____
Young	0.50	0.50	0.50	X _____	_____
Lakes & Ponds	1	1	1	= _____	_____
Streams	1	1	1	X _____	_____
Shore Buffer	1	1	1	= _____	_____
Floodplains	1	1	1	X 0.01 _____	0.01
Wetland Buffers	1	1	1	= 2.12 _____	2.12
Wetlands & Shoreland Wetlands	1	1	1	X 3.16 _____	3.16
TOTAL RESOURCE PROTECTION LAND (Total of Acres of Land in Resource Feature to be Protected)					5.77

Note: In conducting the calculations in Table 15-3.0503, if two or more natural resource features are present on the same area of land, only the most restrictive resource protection standard shall be used. For example, if floodplain and young woodlands occupy the same space on a parcel of land, the resource protection standard would be 1.0 which represents the higher of the two standards.

SECTION 15-3.0504

CALCULATION OF SITE INTENSITY AND CAPACITY FOR RESIDENTIAL USES

In order to determine the maximum number of dwelling units which may be permitted on a parcel of land zoned in a residential zoning district, the site intensity and capacity calculations set forth in Table 15-3.0504 shall be performed.

Table 15-3.0504

WORKSHEET FOR THE CALCULATION OF SITE INTENSITY AND CAPACITY FOR RESIDENTIAL DEVELOPMENT

<p>STEP 1:</p>	<p>CALCULATE MINIMAL REQUIRED ON-SITE OPEN SPACE</p> <p>Take <i>Base Site Area</i> (from Step 5 in Table 15-3.0502): <u>76.56</u></p> <p>Multiple by Minimum <i>Open Space Ratio (OSR)</i> (see specific residential zoning district OSR standard): X <u>0.35</u> (TABLE 15-3.0402c)</p> <p>Equals MINIMUM REQUIRED ON-SITE OPEN SPACE = <u>26.80</u> acres</p>	
<p>STEP 2:</p>	<p>CALCULATE NET BUILDABLE SITE AREA:</p> <p>Take <i>Base Site Area</i> (from Step 5 in Table 15-3.0502): <u>76.56</u></p> <p>Subtract <i>Total Resource Protection Land</i> from Table 15-3.0503) or <i>Minimum Required On-Site Open Space</i> (from Step 1 above), whichever is greater: - <u>26.80</u></p> <p>Equals NET BUILDABLE SITE AREA = <u>49.76</u> acres</p>	
<p>STEP 3:</p>	<p>CALCULATE MAXIMUM NET DENSITY YIELD OF SITE:</p> <p>Take <i>Net Buildable Site Area</i> (from Step 2 above): <u>49.76</u></p> <p>Multiple by Maximum <i>Net Density (ND)</i> (see specific residential zoning district ND standard): X <u>8.0</u> (TABLE 15-3.0402c)</p> <p>Equals MAXIMUM NET DENSITY YIELD OF SITE = <u>398</u> D.U.s</p>	
<p>STEP 4:</p>	<p>CALCULATE MAXIMUM GROSS DENSITY YIELD OF SITE:</p> <p>Take <i>Base Site Area</i> (from Step 5 of Table 15-3.0502): <u>76.56</u></p> <p>Multiple by Maximum <i>Gross Density (GD)</i> (see specific residential zoning district GD standard): X <u>6.10</u> (TABLE 15-3.0402c)</p> <p>Equals MAXIMUM GROSS DENSITY YIELD OF SITE = <u>467</u> D.U.s</p>	
<p>STEP 5:</p>	<p>DETERMINE MAXIMUM PERMITTED D.U.s OF SITE:</p> <p>Take the <i>lowest</i> of Maximum Net Density Yield of Site (from Step 3 above) or Maximum Gross Density Yield of Site (from Step 4 above):</p>	<p><u>398</u> D.U.s</p>

calculated gross density = proposed 142 lots / 76.56 ac (base site area)= 1.85
 calculated net density = proposed 142 lots / 49.76 ac (net buildable area) = 2.85
 calculated open space = 28.74 ac (open space is the sum of the 9 outlots (34.90 ac) minus the gas and overhead easement area (6.16 ac)) / 76.56 ac (base site area) = 0.37

MORE PARTICULARLY DESCRIBED AS FOLLOWS:

Being a part of the Southwest 1/4 and Northwest 1/4 of the Southwest 1/4 of Section 19, Township 5 North, Range 21 East, City of Franklin, Milwaukee County, Wisconsin, described as follows:

Beginning at the southwest corner of the Southwest 1/4 of said Section 19; thence North 01°22'14" West along the west line of said Southwest 1/4, 2658.45 feet to the northwest corner of said Southwest 1/4; thence South 89°33'48" East along the north line of said Southwest 1/4, 1413.03 feet to the east line of the west 1/2 of said Southwest 1/4 as described by the Original Section Survey; thence South 00°36'57" East along said east line, 2174.70 feet to the northwesterly line of The Milwaukee Electric Railway and Light Company (now Wisconsin Electric Power Company) as recorded in the Register of Deeds office for Milwaukee County, in Volume 1395, Page 367 and a point on a curve; thence southwesterly 599.21 feet along the arc of said curve to the right, whose radius is 7777.60 feet and whose chord bears South 36°38'24" West, 599.06 feet to the south line of said Southwest 1/4; thence North 89°31'45" West along said south line, 1015.31 feet to the Point of Beginning.

ALSO

That part of the Southwest 1/4 of the Southwest 1/4 of Section 19, Township 5 North, Range 21 East, City of Franklin, Milwaukee County, Wisconsin, described as follows:

Commencing at the southwest corner of the Southwest 1/4 of said Section 19; thence South 89°31'45" East along the south line of said Southwest 1/4, 1142.36 feet to the southeasterly line of The Milwaukee Electric Railway and Light Company (now Wisconsin Electric Power Company) as recorded in the Register of Deeds office for Milwaukee County, in Volume 1395, Page 367, a point on a curve and the Point of Beginning 2;

Thence northeasterly 387.26 feet along the arc of said curve to the left, whose radius is 7877.60 feet and whose chord bears North 36°51'54" East, 387.22 feet to the east line of the west 1/2 of said Southwest 1/4 as described by the Original Section Survey; thence South 00°36'57" East along said east line, 311.75 feet to the south line of said Southwest 1/4; thence North 89°31'45" West along said south line, 235.67 feet to the Point of Beginning 2.

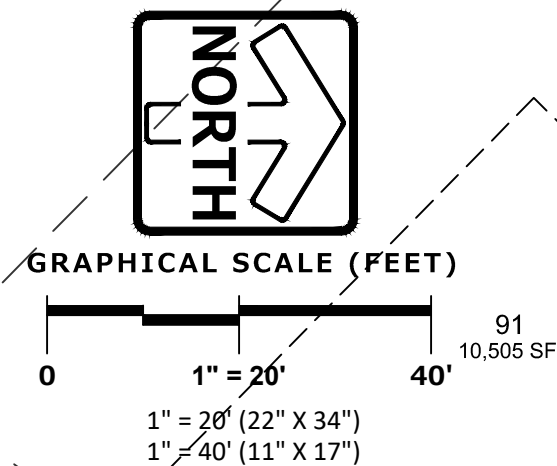
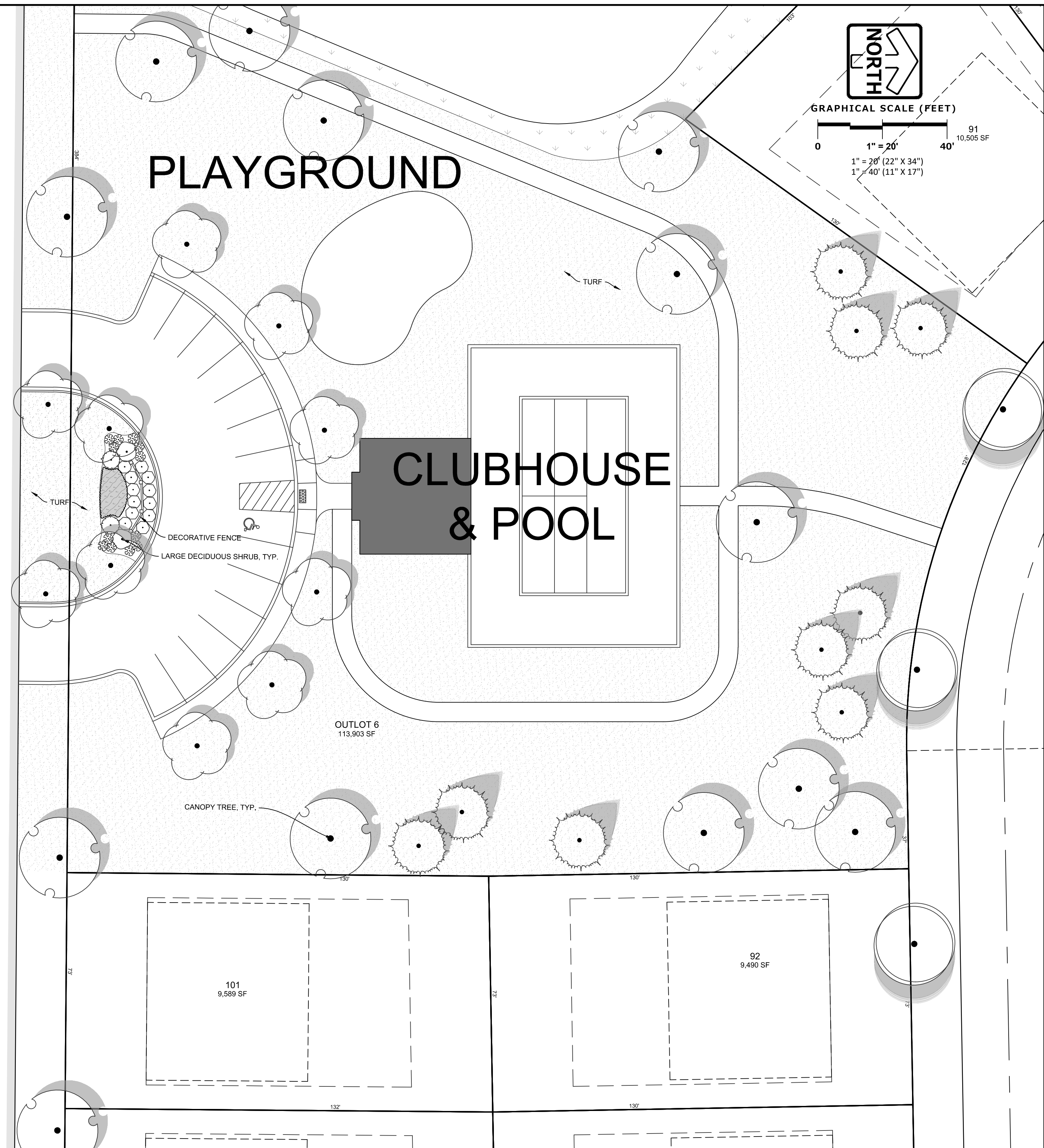
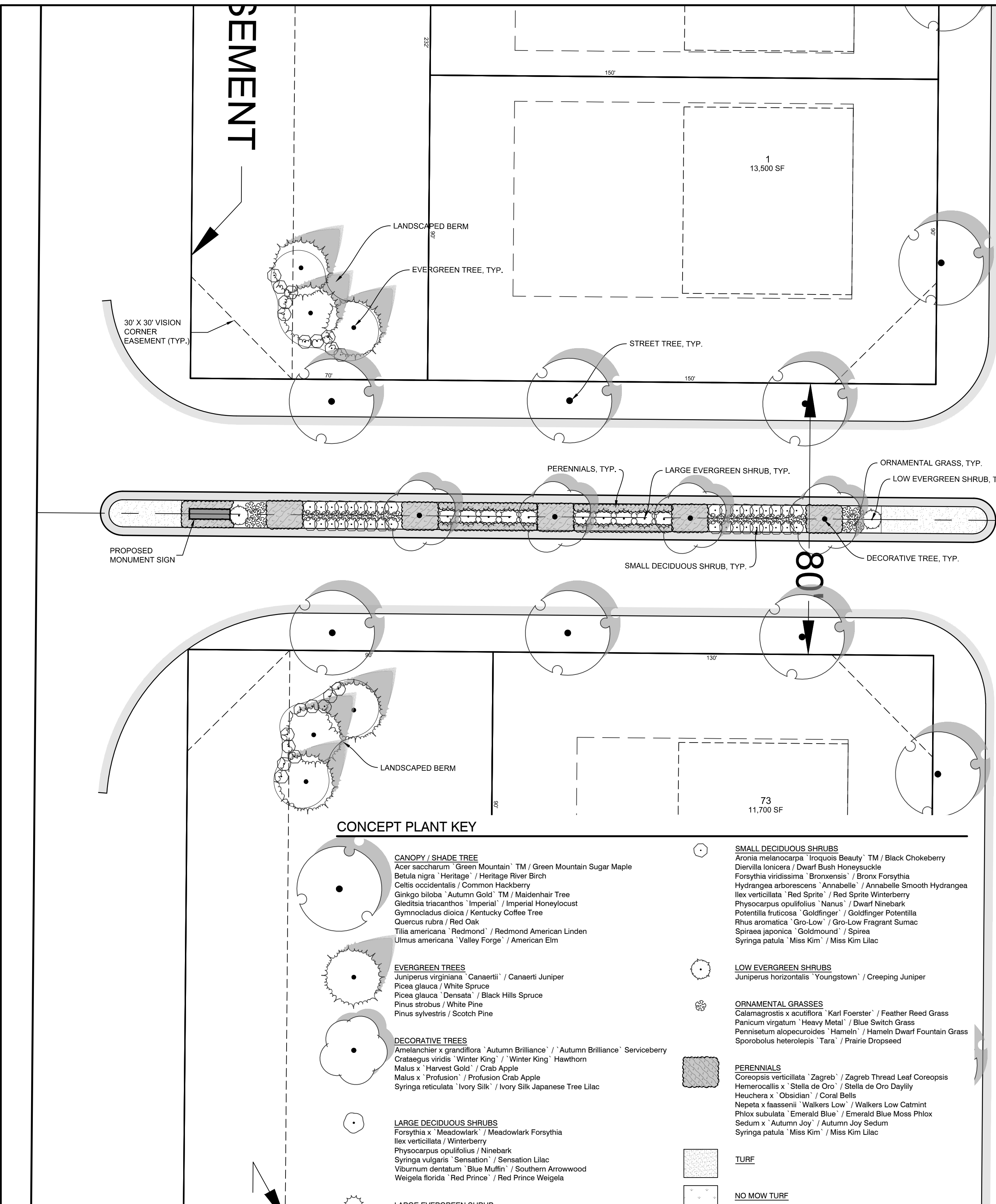
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DESIGNED: ASZ
REVIEWED: ASZ

DRAWN: BR

www.pinnacle-engr.com

CONCEPT ENTRANCE PLAN



DEVELOPER:
NEUMANN DEVELOPMENTS, INC
ATTN: BRYAN LINDGREN
N27 W24025 PAUL COURT, SUITE 100
PEWAUKEE, WI 53072
PH: 262-542-9200
EMAIL: BLINDGREN@NEUMANNCOMPANIES.COM

ENGINEER:
PINNACLE ENGINEERING GROUP
ATTN: ANTHONY ZANON
20725 WATERTOWN ROAD, SUITE 100
BROOKFIELD, WI 53186
PH: 262-754-8888
EMAIL: TONY.ZANON@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

PLAN | DESIGN | DELIVER
www.pinnacle-engr.com

CAPE CROSSING

CITY OF FRANKLIN, MILWAUKEE CO.

CONCEPT ENTRANCE LANDSCAPE PLAN

REVISIONS		SHEET
1	CITY COMMENTS 09-01-21	L-1
2	CITY COMMENTS 09-16-21	L-1

PEG JOB No. 1004.00
PEG PH. ASZ
START DATE 07-23-21
SCALE 1" = 20'

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CURVE TABLE				
CURVE NO.	LENGTH	RADIUS	CHORD BEARING	CHORD LENGTH
C1	599.21'	7777.60'	S36°38'24"W	599.06'
C2	387.26'	7877.60'	N36°51'54"E	387.22'

100' WISCONSIN ELECTRIC POWER COMPANY TREE REMOVAL EASEMENT PER DOC. 3236450

70' WISCONSIN ELECTRIC POWER COMPANY WIRE AND CROSSARM EASEMENT PER DOC. 3236450

35' WISCONSIN ELECTRIC POWER COMPANY TRANSMISSION LINE STRUCTURE EASEMENT PER DOC. 3236450

15' WEST SHORE PIPE LINE EASEMENT PER DOC. 3875551

UNPLATTED LANDS
TAX KEY #844-9999-000
OWNER: HALEY LIVING TRUST

UNPLATTED LANDS
TAX KEY #844-9998-000
OWNER: STATE OF WISCONSIN DEPARTMENT OF NATURAL RESOURCES

LOT 1 BLOCK 1
C.S.M. NO. 360
TAX KEY #MSKC2253994001
OWNER: DUMKE

FLOODPLAIN PER CITY OF FRANKLIN GIS ZONE A (UNSTUDIED) PER FIRM MAP # 55079C0139 E WITH AN EFFECTIVE DATE OF 9/26/2008.



GRAPHICAL SCALE (FEET)
0 1" = 100' 200'

Bearings referenced to the Wisconsin State Plane Coordinate System, South Zone (N.A.D. 1927). The south line of the Southwest 1/4 of Section 19, Township 5 North, Range 21 East has a bearing of S89°31'45"E.

LEGAL DESCRIPTION:

The West 1/2 of the Southwest 1/4 of Section 19, Township 5 North, Range 21 East, in the City of Franklin, County of Milwaukee, State of Wisconsin, excepting therefrom that part conveyed to The Milwaukee Electric Railway and Light Company.

LEGEND OF SYMBOLS & ABBREVIATIONS

○ SANITARY MANHOLE	△ FIBER OPTIC MARKER	— SIGN
○ STORM MANHOLE	□ FIBER OPTIC MANHOLE/Vault	— MAIL BOX
○ GLEANDIT	□ TELEPHONE PEDESTAL	— FLAG POLE
○ CATCH BASIN	□ TELEPHONE MANHOLE/Vault	— BASKETBALL HOOP
○ LATERAL	□ TELEPHONE MARKER	— CROSS CUT
○ UNKNOWN MANHOLE	□ TRANSFORMER	— FOUND 1" IRON PIPE
○ WELL	□ ELECTRIC METER/PEDESTAL	— SET 3/4" X 1/8" IRON REBAR
○ HYDRANT	□ CABLE TV MANHOLE/Vault	— MAG. NAIL
○ WATER VALVE	□ GAS VALVE	— SECTION MARKER
○ DOWN SPROUT	□ GAS METER	— BENCH MARK
○ SPRINKLER VALVE	□ GAS MARKER	— CONFER TREE
○ WATER SHUT OFF	□ AIR CONDITIONING UNIT	— DECIDUOUS TREE
○ STANDPIPE	□ VENT	— BUSH
○ WATER MANHOLE	□ DIRECTIONAL ARROW	— WETLAND SYMBOL
○ FLOOD LIGHT	□ CAMPSTER	— CL - CENTERLINE
○ LIGHT POLE	□ HANDICAP STALL	— CONC. - CONCRETE
○ TRAFFIC SIGNAL	□ SPOT ELEVATION	— EL. - ELEVATION
○ UTILITY POLE	□ SANITARY SEWER	— EXT. - EXISTING
○ GUY WIRE	□ STORM SEWER	— INV. - INVERT
— WATER MAIN	□ FIBER OPTIC LINE	— MON. - MONUMENT
— TELEPHONE LINE	— P.O.B. - POINT OF BEGINNING	— P.O.C. - POINT OF COMMENCEMENT
— ELECTRIC LINE	— R.O.W. - RIGHT OF WAY	— SEC. - SECTION
— OVERHEAD WIRES	— SQ. FT. - SQUARE FEET	— W. - WIDTH
— CATV	— (R) - RECORDED AS	— (D) - DEEDED AS
— GAS MAIN		
— WETLANDS		
— TREE LINE		
— NO ACCESS		

UNPLATTED LANDS
TAX KEY #890-9990-000
OWNER: MILWAUKEE METROPOLITAN SEWERAGE DISTRICT

GENERAL NOTES

- Field work completed on JULY 23, 2018.
- Flood Zone Classification: The property lies within Zone "X" and Zone "A" of the Flood Insurance Rate Map Community Panel No. 55079C0139E with an effective date of SEPTEMBER 26, 2008. Zone "X" areas are determined to be outside the 0.2% annual chance floodplain. Zone "A" areas do not have Base Flood Elevations determined.
- Vertical Datum: National Geodetic Vertical Datum of 1929 (NGVD29). Contours are shown at a 1' interval based on actual ground survey of the current ground terrain. Reference Benchmark: Concrete monument with brass cap at the southwest corner of the Southwest 1/4 Section 19, Town 5 North, Range 21 East, Elevation = 817.22.
- Underground utility locations shown are based on field location markings by Digger's Hotline ticket. The location and size of underground structures and utilities shown hereon have been located based on a reasonable visual observation and are shown for informational purposes only. PINNACLE ENGINEERING GROUP, LLC. does not guarantee the location of utilities shown. Contact Digger's Hotline prior to the start of any activity.

MORE PARTICULARLY DESCRIBED AS FOLLOWS:

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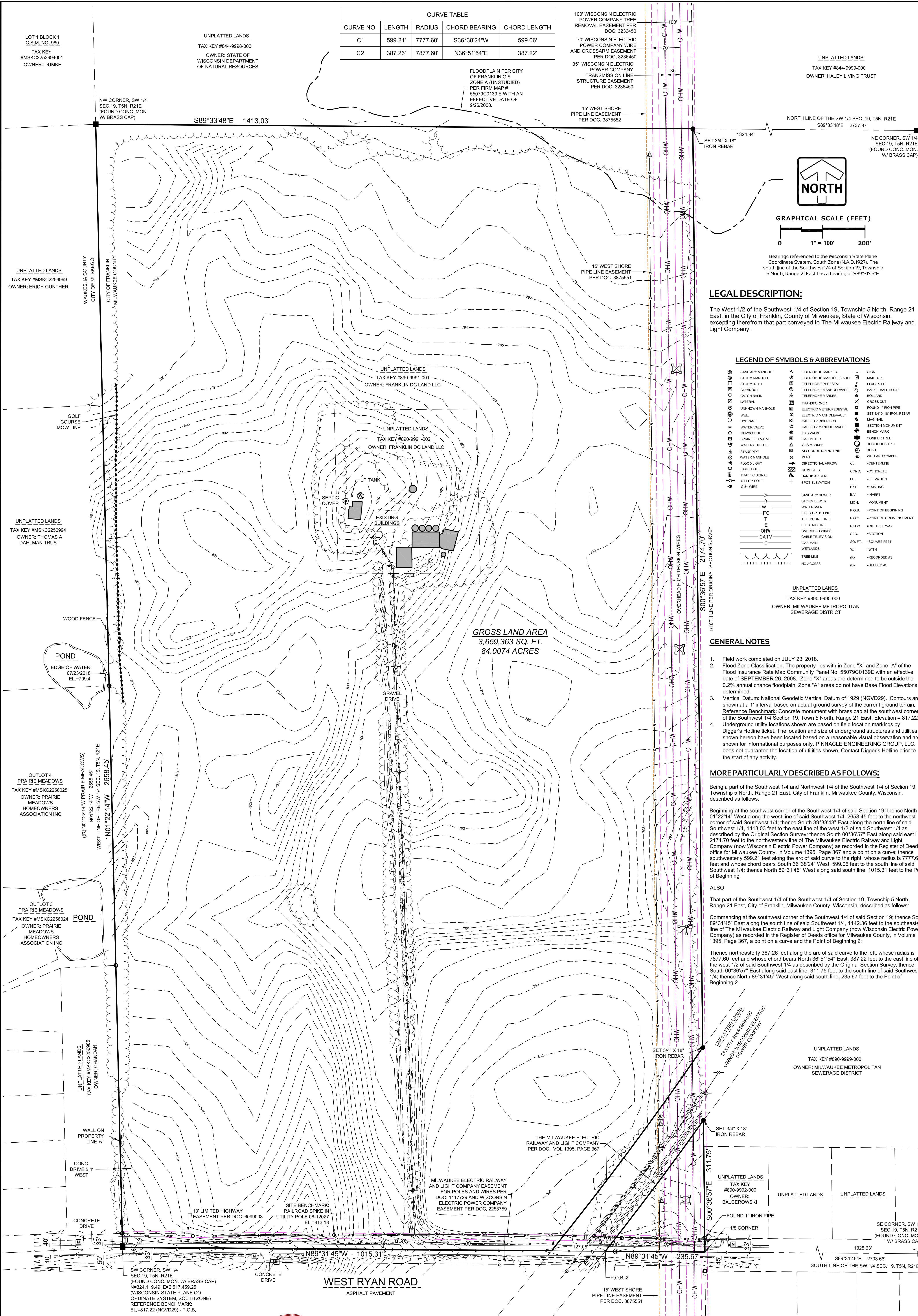
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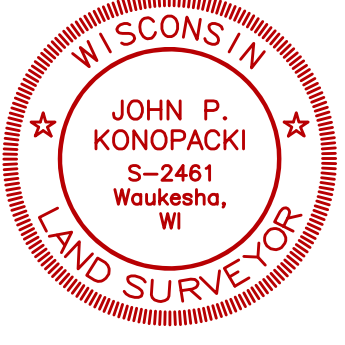
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GROSS LAND AREA
3,659,363 SQ. FT.
84.0074 ACRES



I, John P. Konopacki, Professional Land Surveyor, hereby certify that this survey map is correct to the best of my knowledge and belief with the information provided and complies with requirements of Chapter A-E 7 s.35.93 of the Wisconsin State Statutes.

SIGNED: JOHN P. KONOPACKI
PROFESSIONAL LAND SURVEYOR S-2461



12200 WEST RYAN ROAD
PART OF THE SW 1/4 AND NW 1/4 OF THE SW 1/4 OF SEC. 19, T5N, R21E, CITY OF FRANKLIN, MILWAUKEE COUNTY, WISCONSIN

<p>PINNACLE ENGINEERING GROUP ENGINEERING NATURAL RESOURCES SURVEYING</p>	<p>PLAN DESIGN DELIVER www.pinnacle-engr.com</p>	<p>WISCONSIN OFFICE: 15850 W. BLUEMOUND ROAD BROOKFIELD, WI 53005 (262) 754-8888</p>	<p>PLAT OF SURVEY</p>	<p>REVISIONS</p> <table border="1"> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> </table>										<p>REG. JOB NO. 1004.00 REG. PH. 08/17/2021 DATE 08/17/2021 SCALE 1"=100'</p>	<p>SHEET 1 of 1</p>
<p>CHICAGO MILWAUKEE NATIONWIDE</p>			<p>U.S. COPYRIGHT 2021</p>												

Cape Crossing Example Play Structure

Franklin, WI

5-12 Play Area



(800) 775-8937 Main
(608) 423-7655 Fax
260 W. Main St.
Cambridge, WI 53523
info@leerecreation.com
www.leerecreation.com

PROVIDING FUN ACROSS WISCONSIN SINCE 1995



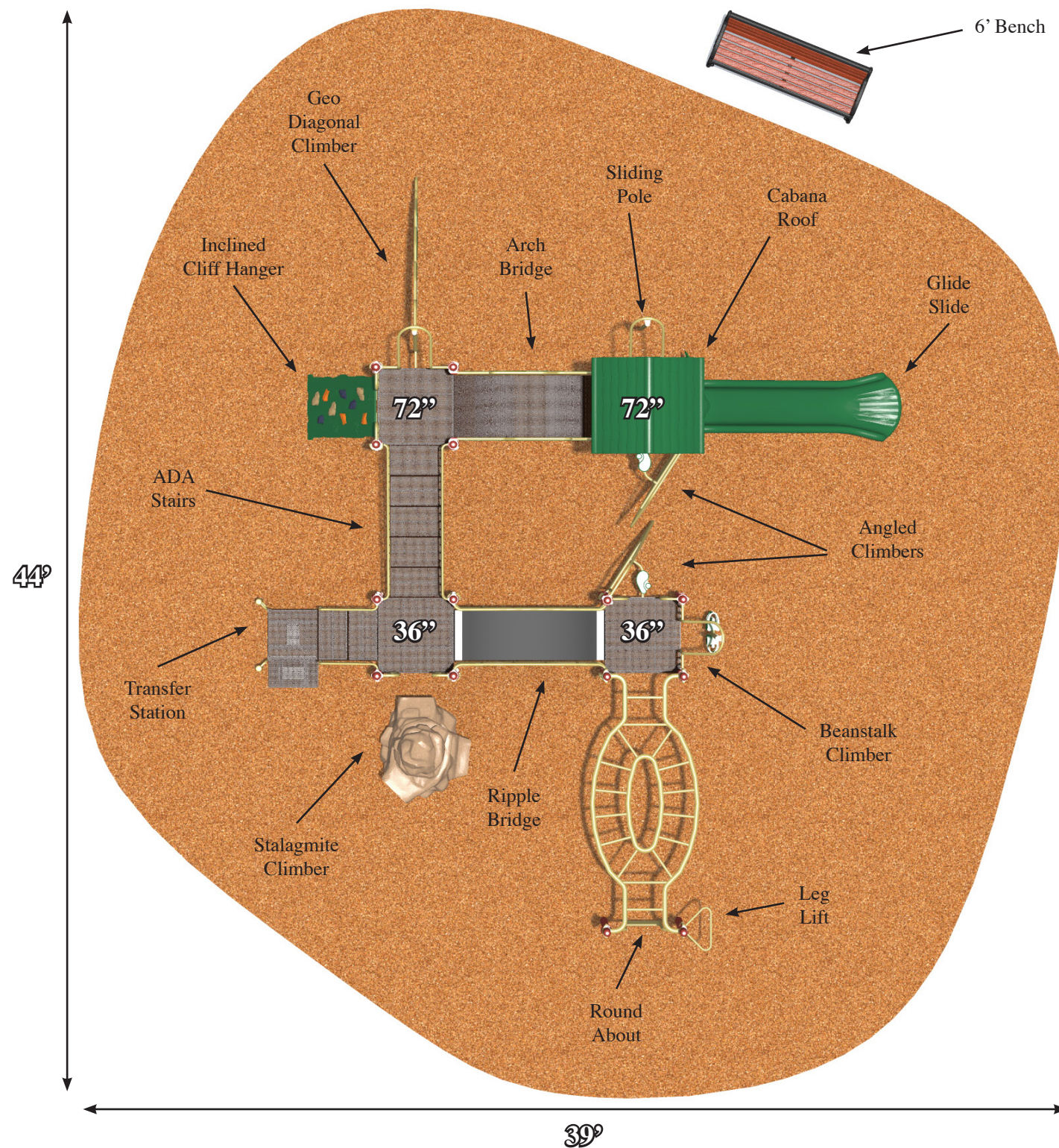
VIEW B

VIEW A

Cape Crossing Example Play Structure

Franklin, WI

5-12 Play Area



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Cambridge, WI 53523

info@leerecreation.com
www.leerecreation.com

PROVIDING FUN ACROSS WISCONSIN SINCE 1995

Complies With:

- ASTM F1487-11
- CPSC #325
- ADA-ADAAG
- IPEMA

Design Number: PW102317-2

Use Zone: 44' x 39'

of Users: 43

of Active Play Events: 13

Age: 5 to 12

Colors Shown:

- Brown
- Sand
- Forest Green



CAPE CROSSING EXAMPLE HOME ELEVATIONS

Villas



1-Story Min = 1500SF
2-Story Min = 1700SF
Home Price Estimate =
\$425K-\$500K

Estates



1-Story Min = 1800SF
2-Story Min = 2000SF
Home Price Estimate =
\$525K+

Natural Resource Protection Plan

Franklin DC Land, LLC
City of Franklin, Milwaukee
County, Wisconsin
Stantec Project #: 193705469
Lead Investigator: Eric C. Parker



Prepared for:
Mr. Patrick Dempsey
Franklin DC Land, LLC
142 East Capitol Drive, Suite 200
Hartland, WI 53029

Prepared by:
Stantec Consulting Services Inc.
12075 Corporate Parkway,
Suite 200
Mequon, Wisconsin 53092
Phone: (414) 218-4450
Fax: (262) 241-4901

August 14, 2017

Sign-off Sheet

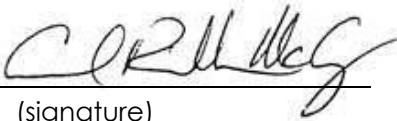
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Prepared by 
(signature)

Eric C. Parker, PWS, Senior Scientist

Reviewed by 
(signature)

Brian S. Lennie, Senior Scientist

Independent Review by 
(signature)

Carol R. McCoy, Project Manager

NATURAL RESOURCE PROTECTION PLAN

Franklin DC Land LLC
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August 14, 2017

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NATURAL RESOURCE PROTECTION PLAN

Franklin DC Land LLC
INTRODUCTION
August 14, 2017

1.0 INTRODUCTION

Stantec Consulting Services Inc. (Stantec) performed an investigation of natural resources per the City of Franklin's Unified Development Ordinance (UDO) on the Franklin DC Land, LLC property (the "Property") on behalf of Franklin DC Land, LLC. The Property is approximately 81.57 acres and is in the southwest quarter of Section 19, Township 5 North, Range 21 East, City of Franklin, Milwaukee County, Wisconsin. Specifically, the Property is located at 12200 West Ryan Road, approximately 600 feet east of County Trunk Highway (CTH) OO (North Cape Road) (Figure A).

The purpose and objective of the investigation was to: 1) determine the type, location, and extent of natural resources within the Property; and 2) for the natural resource types present, to delineate their boundaries. Field work was completed by Eric C. Parker of Stantec on June 26th and 27th, 2017. Six wetlands, including one shoreland wetland, one mature woodland, and floodplain were identified within the Property. Additionally, the approximate locations of nearby off-site wetlands and waterways (both contiguous and non-contiguous) were sketched on adjacent parcels to the Property.

The wetlands identified in this report may be subject to federal regulation under the jurisdiction of the U.S. Army Corps of Engineers (USACE), state regulation under the jurisdiction of the Wisconsin Department of Natural Resources (WDNR), and local jurisdiction under the City of Franklin. The remaining natural resources are subject to the City of Franklin's UDO. Stantec recommends Stantec's wetland delineation report (provided as a separate report) be submitted to City planning staff, the WDNR, and USACE for final jurisdictional review and concurrence.

NATURAL RESOURCE PROTECTION PLAN

Franklin DC Land LLC
METHODS
August 14, 2017

2.0 METHODS

2.1 FEATURE DETERMINATIONS

The following natural resources features were investigated for presence on the Property per Section 15-4.0102 of the UDO: Steep Slopes, Woodlands and Forests, Lakes and Ponds, Streams, Shore Buffers, Floodplain/Floodway, Wetlands and Shoreland Wetlands, Wetland Buffers, and Wetland Setbacks.

2.2 STEEP SLOPES

Steep slopes as defined in the UDO are greater than or equal to 10 percent. The protection standard varies for slopes steeper than 20 percent, and additionally for slopes steeper than 30 percent.

Contours available through the United States Digital Service / Natural Resource Conservation Service (USDS/NRCS) National Elevation Data 30 meter (NED) for Milwaukee County were obtained and slopes were identified using GIS, calculated from the NED.

2.3 WOODLANDS AND FORESTS

The UDO defines woodlands and forests as either "Mature" or "Young":

Mature: An area or stand of trees whose total combined canopy covers an area of one (1) acre or more and at least fifty (50) percent of which is composed of canopies of trees having a diameter at breast height (DBH) of at least ten (10) inches; or any grove consisting of eight (8) or more individual trees having a DBH of at least twelve (12) inches whose combined canopies cover at least fifty (50) percent of the area encompassed by the grove. However, no trees planted and grown for commercial purposes should be considered a mature woodland.

Young: An area or stand of trees whose total combined canopy covers an area of one-half (0.50) acre or more and at least fifty (50) percent of which is composed of canopies of trees having a diameter at breast height (DBH) of at least three (3) inches. However, no trees planted and grown for commercial purposes shall be considered a young woodland.

Once determined as either young or mature based on the above definitions, the edges of the woodland are defined by the vertical plane of the outer drip-line of the exterior trees.

2.4 LAKES AND PONDS

Determinations of navigability and jurisdiction of waterbodies such as lakes or ponds, was beyond the scope of the investigation. However, if observed, waterbodies and/or other connections to off-site wetland or aquatic features that may be under federal or state authority were identified.

NATURAL RESOURCE PROTECTION PLAN

Franklin DC Land LLC
METHODS
August 14, 2017

2.5 STREAMS

Determinations of navigability and jurisdiction of waterways such as rivers, streams, and ditches, was beyond the scope of the investigation. However, if observed, waterways and/or other connections to off-site wetland or aquatic features that may be under federal or state authority were identified.

2.6 SHORE BUFFERS

The UDO defines shore buffers as: All of that land area located within seventy-five (75) feet landward of the ordinary high water mark of all ponds, streams, lakes, and navigable waters (as determined by the Wisconsin Department of Natural Resources) and parallel to that ordinary high water mark, which is to remain undisturbed as a Natural Resource Feature (including undisturbed natural vegetation). Shore buffers do not include any area of land adjacent to any stream enclosed within a drainage structure, such as a pipe or culvert. The area of shore buffers (in square feet and acres) shall be measured and graphically delineated on the "Natural Resource Protection Plan." A shore buffer is also a setback.

2.7 FLOODPLAIN/FLOODWAY

Floodplain boundaries were identified and delineated based on the Federal Emergency Management Agency (FEMA) Flood Hazard Zone Mapping per the Flood Insurance Rate Map for the City of Franklin, obtained from FEMA.

2.8 WETLANDS AND SHORELAND WETLANDS

Wetland determinations and delineations on the Property were based on the methods described in Stantec's "Wetland Delineation Report" (dated August 2017). Of the six wetlands identified and delineated on the Property, only Wetlands W-2 and W-3 may be considered Shoreland Wetland because they are within 1,000 feet of the water bodies along Ryan Creek east of the Property.

The uppermost wetland boundaries were surveyed with a Global Positioning System (GPS) capable of sub-meter accuracy and mapped using Geographical Information Systems (GIS) software.

2.9 WETLAND BUFFERS

The UDO defines the buffer for wetlands and shoreland wetlands as 30 feet out from the wetland boundary.

2.10 WETLAND SETBACKS

The UDO defines the setbacks for wetlands and shoreland wetlands as 50 feet out from the wetland boundary. This is also defined as 20 feet out from the wetland buffer.

NATURAL RESOURCE PROTECTION PLAN

Franklin DC Land LLC
RESULTS
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3.0 RESULTS

3.1 SITE DESCRIPTION

The Property is a total of 81.56 acres in size and is comprised of active agricultural fields, a few grassy swales, a residential yard with patches of trees at the end of the driveway, and six wetlands. An electric transmission line easement is present along the east edge of the Property which is subjected to periodic management of woody vegetation. The Property is somewhat hilly, sloping to the northeast from topographic highs of approximately 814 feet mean sea level (msl) in the southwestern part of the site to topographic lows in wetlands in the northeast corner of the Property that are approximately 786 feet msl. Residential development bounds the Property to the northwest, portions of the west, the southwest, and the southeast; Valley Green Golf Course bounds the property on a portion of the west; and woodlands bound the property on portions of the west and east, along the north and south of Ryan Road.

3.2 STEEP SLOPES

No areas on the Property were identified through GIS as having slopes greater than 10 percent. Contours for the Property are depicted on Figure B in Appendix A.

3.3 WOODLANDS AND FORESTS

One mature woodland was identified in the northwest corner of the Property and was named WD-1 (Figure B, Appendix A). The canopy trees in this woodland were all greater than 12 inches' diameter at breast height (DBH). The portion of WD-1 that is on the Property is 0.79-acre and is dominated by bur oak (*Quercus macrocarpa*, FAC). Other woody species observed in this woodland included red oak (*Quercus rubra*, FACU), shagbark hickory (*Carya ovata*, FACU), slippery elm (*Ulmus rubra*, FAC), and common buckthorn (*Rhamnus cathartica*, FAC). The edges of WD-1 are depicted in the photographs in Appendix B.

3.4 LAKES AND PONDS

There are no lakes or ponds located on the Property. Three ponds are near the west side and off the southwest corner of the Property. These ponds are depicted on Figure B.

3.5 STREAMS

There are no streams on the Property. The nearest stream is Ryan Creek which is on the properties to the north and east and approximately depicted on Figure B.

3.6 SHORE BUFFERS

There are no shore buffers on the Property.

NATURAL RESOURCE PROTECTION PLAN

Franklin DC Land LLC
RESULTS
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3.7 FLOODPLAIN/FLOODWAY

Per the Federal Emergency Management Agency (FEMA), there are 0.69-acres of mapped floodplain in the northwest corner of the Property all within wetland W-2.

3.8 WETLANDS AND SHORELAND WETLANDS

Six wetland areas were identified and delineated within the Project Area. Details on each wetland and how they were delineated may be viewed in Stantec's wetland delineation report. However, based on the proximity of ponds within Ryan Creek on the properties to the east and north of the Property, two of these wetlands (W-2 and W-3) may be considered "shoreland wetlands". The wetlands delineated by Stantec are summarized in Table 2 below.

Table 1 Summary of Wetlands Identified within the Project Area

Wetland	Wetland Classification (WWI Type)	Adjacent Surface Waters	Acreage (in Property)
Wetland 1 (W-1)	Farmed Wetland (Point Symbol)	Potentially isolated, drain tiles to W-2	0.20 acre
Wetland 2 (W-2)	Wet Meadow/ Shallow Marsh (E2H) & Shrub Carr	Drains northeasterly to Ryan Creek	2.33 acre
Wetland 3 (W-3)	Farmed Wetland (None Depicted)	Potentially isolated, drain tiles east to Ryan Creek	0.67 acre
Wetland 4 (W-4)	Shallow Marsh / Wet Meadow (None Depicted)	None – Potentially isolated	0.04 acre
Wetland 5 (W-5)	Farmed Wetland (None Depicted)	None – Potentially isolated	0.10 acres
Wetland 6 (W-6)	Hardwood Swamp (T3K)	None – Potentially isolated	0.06 acres
		Total Acres	3.40

3.9 WETLAND BUFFERS

Wetland buffers are depicted on Figure B, which are 30 feet out from the edges of all delineated wetlands. Wetlands that are near the Property are also depicted, as well as their buffers that extend onto the Property.

3.10 WETLAND SETBACKS

Wetland setbacks are also depicted on Figure B, which are 20 feet further out from the edges of all delineated wetlands than the wetland buffers. Again, wetlands that are near the Property are depicted, as well as their setbacks that extend onto the Property.

NATURAL RESOURCE PROTECTION PLAN

Franklin DC Land LLC
CONCLUSION
August 14, 2017

4.0 CONCLUSION

Stantec identified and delineated natural resources that must be protected and mitigated per the City of Franklin's UDO on the Property on behalf of Franklin DC Land, LLC. This work was completed based on the field work completed by Eric Parker on June 26th and 27th, 2017.

The Property is comprised of active agricultural land planted to soybeans, upland grass swales, and a residential area with corresponding access drive to Ryan Road. The Property is approximately 81.56 acres and is in the southwest quarter of Section 19, Township 5 North, Range 21 East, City of Franklin, Milwaukee County, Wisconsin. Specifically, the Property is located at 12200 West Ryan Road, approximately 600 feet east of CTH OO (North Cape Road) (Figure A, Appendix A). The purpose and objective of the natural resources investigation was to identify the extent and spatial arrangement of natural resources as defined by the City of Franklin's UDO within the Property. The following natural resources were identified and delineated on the Property: two steep slopes, one mature woodland, one floodplain area, six wetland areas (two of which are considered shoreland wetlands), and their associated wetland buffers and setbacks.

Prior to beginning work on the Property or disturbing or altering identified natural resources in any way, Stantec recommends that the owner obtain the necessary permits or other agency regulatory review and concurrence regarding the proposed work to comply with applicable regulations. Stantec can assist with identification and/or assessment of additional regulated resources at your request, to the extent that the work is within our range of expertise.

NATURAL RESOURCE PROTECTION PLAN

Franklin DC Land LLC
Appendix A– Figures
August 14, 2017

5.0 REFERENCES

Federal Emergency Management Agency (FEMA). Flood Insurance Rate Mapping (FIRM) floodplain mapping. City of Franklin, Milwaukee County, WI.

USDS/NRCS – National Cartography & Geospatial Center. National Elevation Data 30 meter (NED), Milwaukee County, WI.

United States Geological Survey (USGS). *Wisconsin 7.5 Minute Series (Topographic) Maps*. 1:24,000. Reston, VA: United States Department of the Interior, USGS.

WDNR, Division of Water. (2010). [24k hydrography geospatial data layer]. Available online: ftp://dnrftp01.wi.gov/geodata/hydro_24k/.

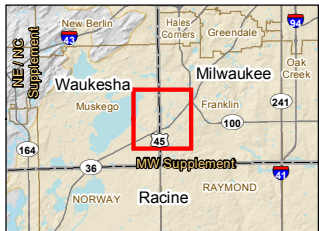
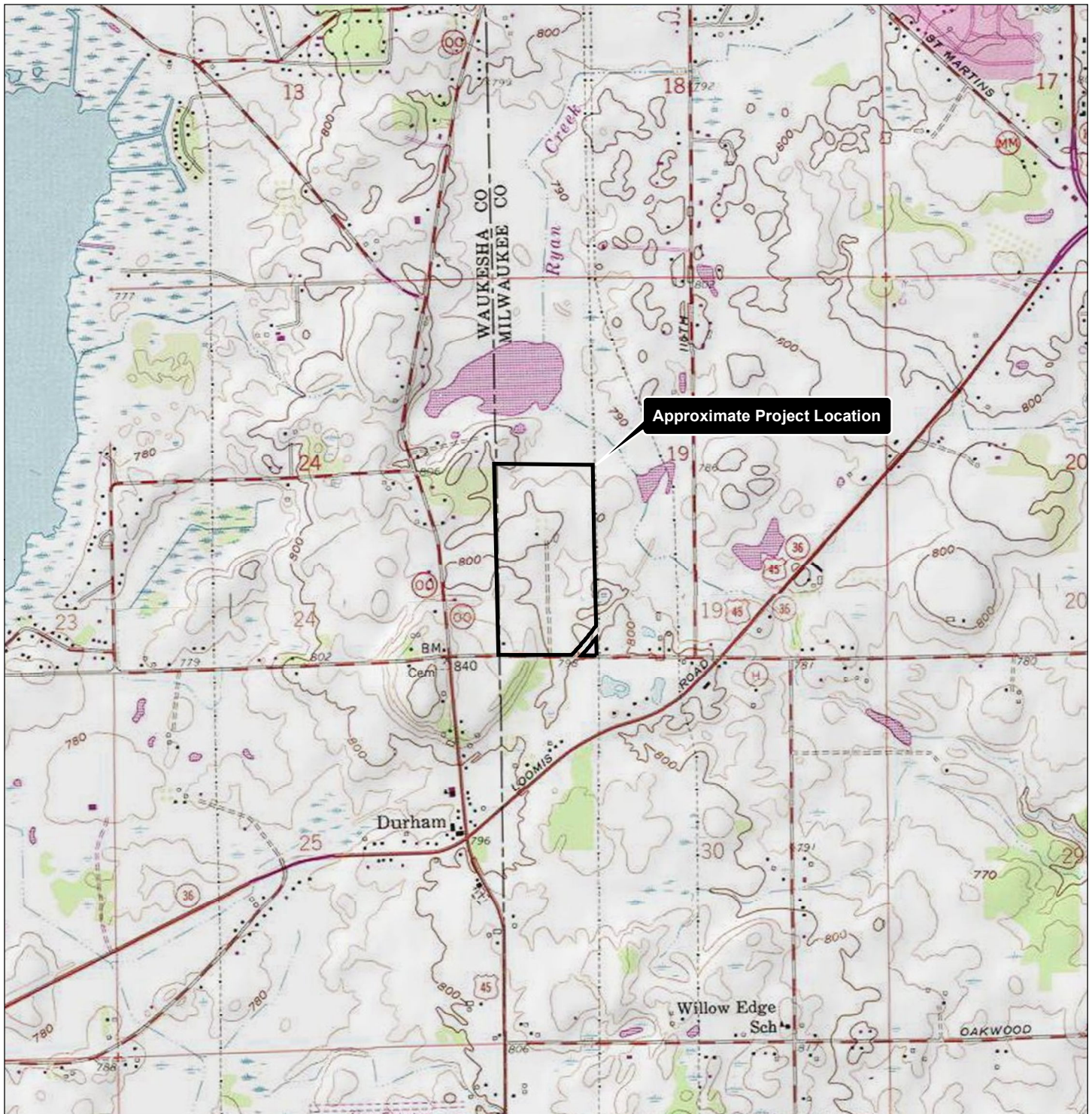
NATURAL RESOURCE PROTECTION PLAN

Franklin DC Land LLC
Appendix A- Figures
August 14, 2017

Appendix A – Figures

Figure A. Project Location and Topography

Figure B. Natural Resource Protection Plan



Legend

 Approximate Project Boundary

- Notes**
1. Coordinate System: NAD 1983 StatePlane Wisconsin South FIPS 4803 Feet
 2. Data Sources Include: Stantec, WDOT, WDNR
 3. Background: USGS 7.5' Topographic Quadrangles

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Figure No.

A

Title

Project Location and Topography

Client/Project

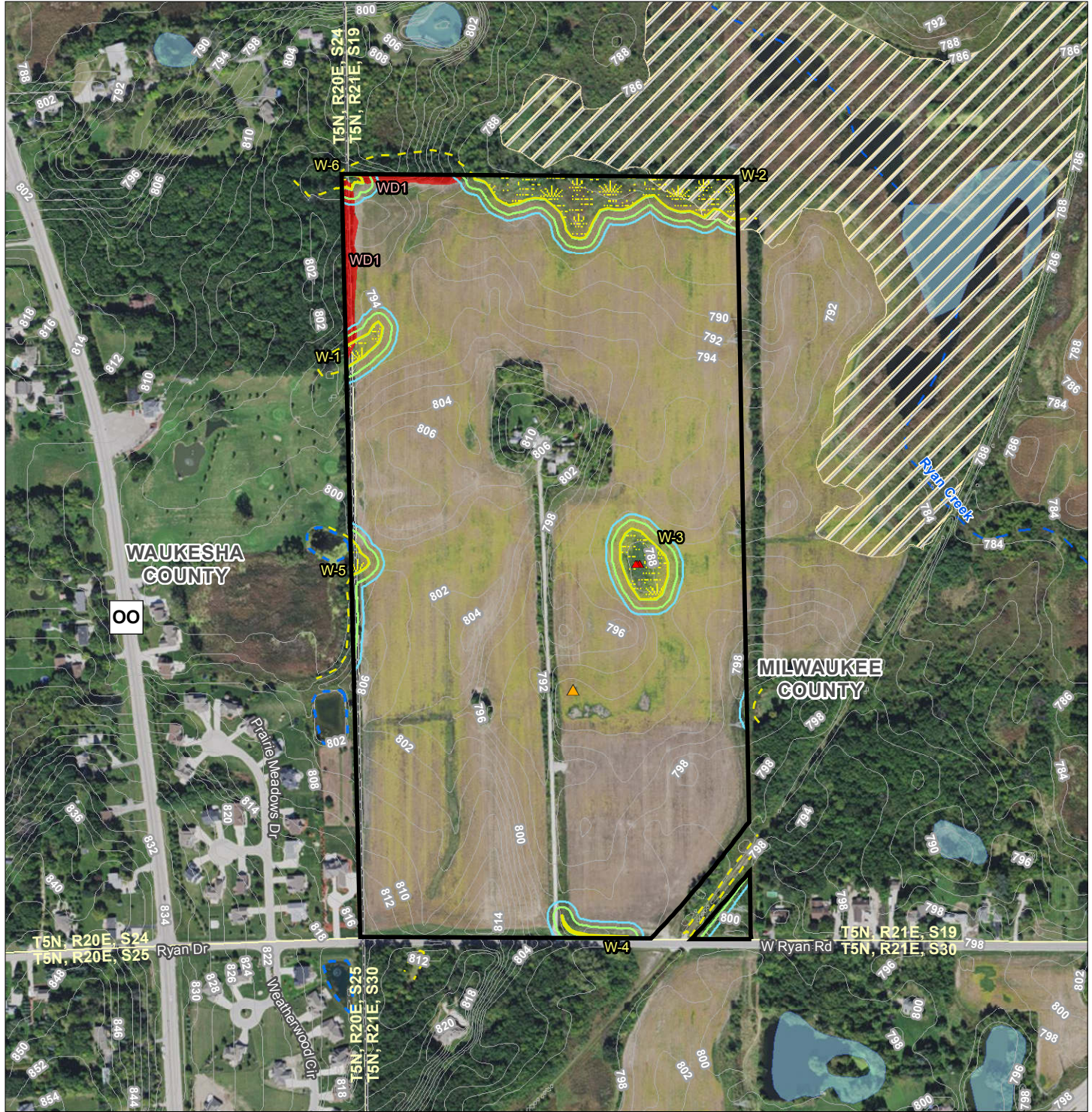
Franklin DC Land, LLC

Project Location

193705469
TSN, R21E, S19, Prepared by JM on 2017-06-12
C. of Franklin, Technical Review by SF on 2017-06-13
Milwaukee Co., WI Independent Review by EP on 2017-08-09

0 1,000 2,000 Feet
1:24,000 (at original document size of 8.5x11)





Notes
 1. Coordinate System: NAD 1983 StatePlane Wisconsin South FIPS 4803 Feet
 2. Data Sources Include: Stantec, WDOT, WDNR
 3. Orthophotography: NAIP 2015

Disclaimer: Stantec assumes no responsibility for data supplied in electronic format. The recipient accepts full responsibility for verifying the accuracy and completeness of the data. The recipient releases Stantec, its officers, employees, consultants and agents, from any and all claims arising in any way from the content or provision of the data.

Legend

- Approximate Project Boundary
- 2ft Elevation Contour
- Tile Inlet
- Tile Blowout
- Field Delineated Wetland Area *
- 30 Foot Wetland Setback
- 50 Foot Wetland Setback
- Offsite Pond
- Slopes >10%**
- FEMA Flood Hazard Area
- 100-year Floodzone
- Field Mapped Woodland
- Mature Woodland
- DNR 24k Hydrography
- Perennial Stream
- Intermittent Stream
- Waterbody

*Dashed Where Inferred Offsite
 ** Not Visible Within Dataframe

Figure No. **B**

Title
Natural Resource Protection Plan

Client/Project
 Franklin DC Land, LLC

Project Location
 15N, R21E, S19, Prepared by AJS on 2017-08-1
 C. of Franklin, Technical Review by MP on 2017-08-01
 Milwaukee Co., WI Independent Review by EP on 2017-08-09

0 250 500 Feet
 1:6,000 (at original document size of 8.5x11)

NATURAL RESOURCE PROTECTION PLAN

Franklin DC Land LLC
Appendix B– Site Photographs
August 14, 2017

Appendix B – Site Photographs



Photo #1 Sample point P1 within farmed wetland W-1, view northwest.



Photo #2 Sample point P1 within farmed wetland W-1, view northeast.



Photo #3 Upland sample point P2 adjacent to farmed wetland W-1, view northeast.



Photo #4 Upland sample point P2 adjacent to farmed wetland W-1, view southwest.



Photo #5 Upland sample point P3 north of farmed wetland W-1, view east.



Photo #6 Upland sample point P3 north of farmed wetland W-1, view southwest.



Photo #7 Upland sample point P4 in a grass waterway, view northeast.



Photo #8 Upland sample point P4 in a grass waterway, view southwest.



Photo #9 Sample point P5 within wetland W-2, view north.



Photo #10 Upland sample point P6 in agricultural field south of wetland W-2, view north.



Photo #11 Sample point P7 within wetland W-2, view north.



Photo #12 Sample point P7 within wetland W-2, view south into adjacent agricultural field.



Photo #13 Sample point P8 within farmed wetland W-3, view north.



Photo #14 Sample point P8 within farmed wetland W-3, view south.



Photo #15 Upland sample point P9 in outlet swale east of farmed wetland W-3, view east.



Photo #16 Upland sample point P9 in outlet swale east of farmed wetland W-3, view west.



Photo #17 Upland sample point P10 dominated by *Carex trichocarpa*, view west.



Photo #18 Upland sample point P10 dominated by *Carex trichocarpa*, view south.

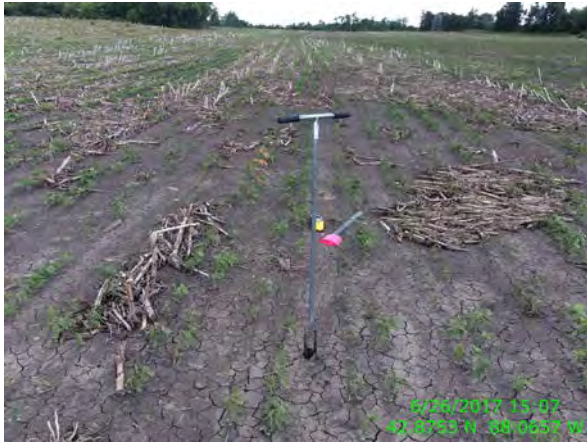


Photo #19 Sample point P11 in swale draining northerly to W-3, view north.



Photo #20 Sample point P11 in swale draining northerly to W-3, view south.



Photo #21 Sample point P12 near the toe of slope of recently filled area, view north.



Photo #22 Sample point P12 near toe of slope of recently filled area, view south.



Photo #23 Sample point P13 in east ditch of driveway, view north.



Photo #24 Sample point P13 in east ditch of driveway, view south.



Photo #25 Sample point P14 in brushy uplands outside an off-site wetland, view east.



Photo #26 Sample point P14 in brushy uplands outside an off-site wetland, view west.



Photo #27 Sample point P15 in W-4, a ditch along Ryan Road, view northwest.



Photo #28 Sample point P15 in W-4, a ditch along Ryan Road, view northeast.



Photo #29 Upland sample point P16 in the same ditch as P15, view northeast.



Photo #30 Upland sample point P16 in the same ditch as P15, view northwest.



Photo #31 Sample point P17 in the east ditch of the driveway, view north.



Photo #32 Sample point P17 in the east ditch of the driveway, view south.



Photo #33 Sample point P18 in the west ditch of the driveway, view north.



Photo #34 Sample point P18 in the west ditch of the driveway, view west.



Photo #35 Sample point P19 in the west ditch of the driveway, view north.



Photo #36 Sample point P19 in the west ditch of the driveway, view west.



Photo #37 Sample point P20 in small wooded area in agricultural field, view north.



Photo #38 Upland sample point P21 in an upland grass waterway, view north.



Photo #39 Upland sample point P21 in an upland grass waterway, view south.



Photo #40 Upland sample point P22 in an upland grass waterway, view northeast.



Photo #41 Upland sample point P22 in an upland grass waterway, view southwest.



Photo #42 Sample point P23 within farmed wetland W-5, view north.



Photo #43 Sample point P23 within farmed wetland W-5, view southwest.



Photo #44 Upland sample point P24, adjacent to W-5, view northwest.



Photo #45 Upland sample point P24, adjacent to W-5, view southwest.



Photo #46 Sample point P25 within wooded wetland W-6, view east.



Photo #47 Sample point P25 within wooded wetland W-6, view west.



Photo #48 Upland sample point P26 in an upland grass waterway, view northeast.



Photo #49 Upland sample point P26 in an upland grass waterway, view southwest.



Photo #50 Vicinity of P11/P12 after heavy rain 3-4 days prior to field work, view east.



Photo #51 Farmed wetland W-3 after heavy rain 3-4 days prior to fieldwork, view east.



Photo #52 Main east-west tile inlet, east side of property near driveway, view southeast.



Photo #53 Tile blowouts in a line along east-west main in farmed wetland W-3, view east.



Photo #54 Tile blowouts in a line along east-west main in farmed wetland W-3, view east.

NATURAL RESOURCE PROTECTION PLAN

Franklin DC Land LLC
Appendix C– Delineator Qualifications
August 14, 2017

Appendix C – Delineator Qualifications

Mr. Parker is a botanist and certified Professional Wetland Scientist, with 30 years of professional and project management experience assisting public and private clientele in Wisconsin, Illinois, Indiana, Michigan, North Dakota, Pennsylvania, Texas, Maryland, Virginia, and North Carolina. His work has supported thousands of transportation, commercial, utility, residential, industrial & institutional projects. Mr. Parker's natural resource specialties include wetland science, botany, endangered resources, restoration & mitigation, environmental regulations & permitting. Mr. Parker has a widespread understanding of the scientific, technical & regulatory aspects of natural resources projects. His interests also include floristic quality assessment (FQA) and wetness categorization of wetland plant species. In 2011 he completed a national study (all 50 states) where he interviewed regional scientists for the purpose of identifying mis-categorized plant species. This work was in response to a CFR public comment solicitation by the U.S. Army Corps of Engineers.

His experience includes the following: Botanical / Biological Surveys & Natural Resource Inventories; Rare Species Surveys, Conservation Plans & Monitoring; Habitat Restoration, Wildlife Surveys, SCAT surveys, Land Reclamation, Planning & Design; Wetland Determination, Delineation & Functional Assessment; Wetland Restoration, Mitigation, Banking & Monitoring; Environmental Assessments & Impact Statements (EA / EIS); Local / State / Federal Permit Applications & Environmental Documentation; Expert Witness Testimony; Wetland investigations and permitting; and Regulatory permit compliance.

EDUCATION

40-Hour HAZWOPER Training per 29 CFR 1920.120(e), Compliance Solutions Occupational Trainers, Inc., Madison, Wisconsin, 2014

BS, Watershed Management, Soils Minor, University of Wisconsin - Stevens Point, Stevens Point, WI, 1983

US Army Terrain Analysis Course, Distinguished Graduate, Defense Mapping School, Fort Belvoir, VA, 1984

Introductory NHI Training (T&E Species Database), Wisconsin Department of Natural Resources, Madison, WI, 2011

Wetland Delineation Regional Supplement Field Practicum, Wetland Training Institute, Portage, WI, 2011

Basic Hydric Soils Identification Continuing Education Course, UW-La Crosse, La Crosse, Wisconsin, 2011

Federal Wetland/Waters Regulatory Policy Course, Wetland Training Institute, Cottage Grove, WI, 2010

Regional Supplement Field Practicum, Wetland Training Institute, Portage, Wisconsin, 2011

Midwest Supplement Training, SEWRPC, Pewaukee, WI, 2009

Midwest Supplement Field Training, LCSMC, Lake County, IL, 2009

Sedges ID & Ecology, UWM Cedarburg Bog Field Station, Saukville, WI, 2006

Critical Methods in Wetland Delineation, Madison, WI, 2006

WDNR NHI Database Training, Wisconsin DNR, Fitchburg, WI, 2005

Advanced Wetland Delineation, UW-LaCrosse, Bayfield County, WI, 2001

Composite Family ID, UWM Cedarburg Bog Field Station, Saukville, WI, 2000

Mosses ID & Ecology, UWM Cedarburg Bog Field Station, Saukville, WI, 1998

Eric C. Parker ^{PWS}

Senior Scientist - Botanist

Grasses ID & Ecology, UWM Cedarburg Bog Field Station, Saukville, WI, 1998

Vegetation Description, UWM Cedarburg Bog Field Station, Saukville, WI, 1998

GPS/GIS End User Course, Corvallis Microtech, Milwaukee, WI, 1997

Basic Wetland Delineation Training, WI Department of Administration, Waukesha, Wisconsin, 1997

Field Oriented Wetland Delineation Course (1987 Corps Manual), Wetlands Training Institute, St. Paul, MN, 1994

Creating Wetlands for Habitat Enhancement & Mitigation, UW-Extension, Madison, WI, 1993

Understanding Wetlands and 404 Permitting, ASCE, Chicago, IL, 1992

Wetland Ecosystems (including delineation & assessment), USEPA Graduate School, Washington DC, 1988

REGISTRATIONS

Professional Wetland Scientist #838, Society of Wetland Scientists Certification Program

Certified Wetland Scientist #C-058, Lake County, Illinois, Lake County Stormwater Management Commission

Certified Wetland Scientist #W-057, Kane County, Illinois, Kane County Stormwater Management

MEMBERSHIPS

Past Science Committee Member, Invasive Plants Association of Wisconsin

Board Member, Keep Greater Milwaukee Beautiful, Inc.

Representative, Chicago Wilderness

Past Board Member, Wisconsin Wetlands Association

PROJECT EXPERIENCE

Botanical Surveys

Kalamazoo River and Talmadge Creek 2013 (Baseline) and 2014 Botanical Surveys, Calhoun and Kalamazoo Counties, Michigan

Lead botanist for comprehensive floristic sampling along 40 miles of creek and river floodplain identifying and measuring cover, height and density of herbaceous, shrub, tree and woody vines at pre-determined randomly selected points in both impact and control areas. Invasive plant species surveys were also completed by mapping their locations and determining their percent cover. Rare plant species were also identified and documented.

Tank 80 Mitigation Site Monitoring Final Year Botanical Survey, Lake County, Indiana

Lead botanist for floristic sampling along transects across the site where 50 herbaceous quadrats and a meander survey were completed as part of the final year of monitoring. Invasive plant species were also identified.

Endangered Species Act Assessments

ATC T&E Survey, Straits to Pine River, Michigan
Conducted rare plant species surveys, invasive plant species surveys, and natural resources inventories along existing transmission line rights-of-way in 2010.

ATC T&E Survey, Mukwonago to Whitewater, Waukesha/Walworth Counties, WI (Subconsultant Project Manager and Lead Scientist)

Surveyed a 22-mile corridor where transmission lines were being upgraded for state and federally-listed special concern, threatened and endangered plant species. Provided completed rare plant reporting forms, photographs and site sketches for the report.

* denotes projects completed with other firms

Eric C. Parker ^{PWS}

Senior Scientist - Botanist

Endangered Species/Species at Risk Assessments

Prairie White-Fringed Orchid Surveys, Illinois and Wisconsin

Conducted surveys for this federally listed plant species along transmission line rights-of-way and proposed gas / oil pipe routes for various clients in 2013.

Botanical Survey, Greene County, Pennsylvania

*Mr. Parker served as lead scientist in a botanical survey for a proposed natural gas gathering pipeline in Greene County, PA. In order to evaluate potential impacts on two state-listed rare plant species, the team conducted a late season survey for passionflower (*Passiflora lutea*, PA Endangered) and leaf-cup (*Smilax wedalius*, Proposed PA Rare). In addition to habitat mapping we mapped community types and compiled representative lists of plant species within the project corridor. The team provided the location of one large population of leaf-cup. The resulting reporting and coordination with the Pennsylvania Department of Conservation and Natural Resources (PADCNR) recommended avoidance strategies. This facilitated the client's ability to proceed with the project while providing additional documentation of rare plant populations to PADCNR.*

Various Vegetation Inventories, Indiana, Michigan, Illinois, Ohio, Pennsylvania, Texas, Wisconsin

Mr. Parker was responsible for several vegetation inventories in 2011, 2012, 2013, and 2014, projects included: West Central Gas Lateral Vegetation Surveys, Eau Claire, Clark, Jackson & Monroe Counties, WI; Griffith Terminal Mitigation Site Plant Inventory, City of Griffith, Lake County, IN; Confidential Client Plant Survey, Town of Bear Bluff, Jackson County, WI; McMahon Woods and Fen Vegetation Survey, Cook County, IL; Deer Grove East Plant Inventory, Cook County, IL; Barrington Hills Transmission Line Survey, Illinois; Southern Access Vegetation Inventory and Monitoring, Sawyer and Washburn Counties, WI; Emerald Park Avian Survey, Waukesha County, WI; Eagle-Ford Shale T&E Species and Plant Surveys, LaSalle and McMullen Counties, TX; 6B Pipeline Rare & Invasive Plant Species Surveys, Kalamazoo and Calhoun Counties, MI (Lead Botanist) and, Porter County, IN; Busse Woods Plant Inventory, Cook County, IL (Lead Scientist); Greene Gathering Rare Plant Survey and DCNR Wild Plant Management Permit Application, Greene County, PA; Marcellus Pipeline Rare & Invasive Plant Species Survey, Clinton, Centre & Mifflin Counties, PA; Gogebic Taconite Mine Site, Ashland and Iron Counties, WI, Rover Pipeline Wetland and Rare Species Surveys, Washtenaw, Livingston, Shiawassee and Genesee Counties, MI.

Environmental Assessments

Various Pipeline Environmental Screening, Wisconsin

Mr. Parker conducted pre-construction wetland, rare species, and waterway mapping and permitting in support for electric distribution and gas pipeline upgrade projects for We Energies. Coordinated with customer service technicians, electrical engineers, erosion control specialists and other environmental staff. Projects included: Lincoln-Arthur Gas Main Replacement; Adams 475 HP Gas Phase 1, Waushara County; Adams 475 Phase 2, Waushara-Adams Counties; Wolf Paving Gas Extension, Waukesha County; Hi Crush Pipeline, Tomah, WI

Southern Access Pipeline (crude oil) Project Stage 1 (321 miles), Douglas to Rock County, Wisconsin

Conducted post-construction erosion control, wetland, rare species and waterway monitoring during the multi-year post-construction monitoring period. Coordinated with other team members on the organization, maintenance, and summaries of data.

Electric Distribution Environmental Screening

Conducted pre-construction wetland, rare species and waterway mapping and permitting in support for electric distribution and gas pipeline upgrade projects for We Energies. Coordinated with customer service technicians, electrical engineers, erosion control specialists and other environmental staff. Projects included STH 26, Jefferson/Rock Counties, WI (2011-2012); Brookfield Square X12863, Brookfield, WI (Jan 2012); Moorland Emerald Drive, Brookfield, WI (Jan 2012); Saylesville X20961 Retire, Dodge County, WI (2011); Saylesville X20962, Dodge County, WI (2011); US Biogas, Sheboygan County, WI (Dec 2011); Saylesville Electric Distribution, Hartford, WI (Mar 2011); Barton Electric Distribution, West Bend, WI (Mar 2011); Sullivan SS Electric Distribution, Waubeka, WI (Jan 2011); Waubeka Electric Distribution, Waubeka, WI (Jan 2011)

* denotes projects completed with other firms

Eric C. Parker ^{PWS}

Senior Scientist - Botanist

Guardian II Laterals - Fox Valley, Hartford and West Band*, Outagamie, Calumet, Brown, Washington, and Dodge Counties, WI (Project Manager and Lead Scientist.)

Budgeted, scheduled, coordinated, and participated in numerous activities and scopes of work for the planning and permitting (WI Ch. 30, Section 404/401 and WI NR 103) phases of three gas laterals in 2003, 2006 and 2007; Coordinated with landowners; Determined, delineated, and mapped with a GPS, wetlands, woodlands and waterways; Collected required data and documented all types of natural resources through photography and data forms; Searched for rare species; Assisted in the preparation of data tables summarizing and quantifying impacts to wetlands, woodlands, waterways and agricultural lands; Coordinated with client of minor modifications to the pipeline routes to better protect various natural resources; Assisted client in regulatory agency coordination; Assisted with, prepared, and reviewed all reports.

Ixonia and Port Washington Gas Laterals*, Jefferson, Waukesha, Ozaukee and Washington Counties, WI (Third Party Wetland Monitor (Inspector)/Project Manager and Lead Scientist)

Reported directly to WDNR for permit compliance (Ixonia Lateral) during the construction of approximately 50 miles of natural gas pipelines. Determined, delineated, assessed function, reviewed and staked wetland and waterway wetland boundaries including the use of a GPS; Participated in meetings with client and regulatory agency staff to determine both general and site specific plan modifications to minimize environmental impacts; Installed signage identifying wetland boundaries and worked with the client and regulatory agency staff in determining work space limits to balance project needs with protecting natural systems; Reviewed and approved vegetation clearing limits and equipment access locations based on wetland and other plant community quality and function; Provided specific recommendations to comply with permit conditions regarding horizontal directional drilling and temporary and permanent erosion control issues proximate to wetlands and waterways; Reviewed proposed work space areas for potential damage to high quality natural areas such as relic prairie or woodland, or extant populations of uncommon or listed rare plant species; Responded to urgent construction issues such as a clean-up for a frac-out during an HDD operation; Reviewed proposed methods and locations for agricultural best management practices such as full topsoil removal and triple lift soil segregation; Inspected erosion control facilities for compliance with WDNR's technical standards; Reviewed invasive species control plans; Consulted on the most feasible and efficient BMP for erosion control.

ATC Paris to St. Martins (KK3025) 138KV Line Rebuild*, Kenosha, Racine and Milwaukee Counties, WI (Project Manager and Lead Scientist)

Budgeted, scheduled, coordinated and participated in numerous project scope activities for an 18-mile corridor such as wetland delineation, waterway identification and data collection, rare species surveys, equipment access road location identification and invasive species populations identification. During the investigation, a total of 59 wetland areas, 10 ditches, 6 ponds, and 3 streams were located within the corridor route. Used GPS equipment for mapping natural resources. Coordinated with landowners. Assisted in the preparation, and reviewed the report that documented the work during the year prior to the 2005 construction.

* denotes projects completed with other firms

Eric C. Parker ^{PWS}

Senior Scientist - Botanist

Expert Witness (factual and/or expert for depositions and/or court)

Expert Testimony

WE Energies Elm Road Generating Station, Oak Creek, WI
Laho Property, Kenosha County, WI
Cecchini Property, Racine County, WI
US Department of Justice, A&A Farms, Dane County, WI
James Cape & Sons Sand & Gravel Pit, Washington County, WI

Soil Quality Assessment

Schneider Cheese Factory Soils Investigation, Waldo, WI (Project Scientist)

Evaluated soils on land adjacent to the cheese factory.
Sampled soil from nine test pits for sieve and hydrometer analysis for the identification of the most feasible location for a proposed ridge and furrow waste water treatment system.
Confirmed location of adjacent wetlands to avoid impacts.
Coordinated with the WDNR and wrote the technical memorandum associated with the laboratory analyses of the soils.

Wetlands

Various Wetland Delineations 2014, Various Locations, Wisconsin, Illinois, and Michigan

Performed various wetland delineations across Wisconsin in 2014 including the following projects: Emerald Park Western Expansion Wetland Delineation, City of Muskego, Waukesha County, WI (Oct.); Arcadia Mining Site-Trempealeau County, WI (April); ATC STEM Site, Muskego, WI (October); Avon-Garage Road Mining Site-Black River Falls, WI (August); Basting Site -Town of Lisbon, WI (Oct.); Capital City Bike Path, Dane County, WI (Oct.); Barland Site, City of Cudahy, WI (Sept.); River Glen Site -Town of Lisbon, WI (May, 2014); DeBack Parcel -Muskego, WI (Oct.); Deer Creek Run-Town of Sun Prairie, WI (Oct.); Windsor Crossing -Town of Windsor, Dane County, WI (Sept.); Pleasant View Site -Town of Middleton, Dane County, WI (April); Starfire Site -Franklin, WI (April); G2 Mitigation Site -Town of Omro, Winnebago County, WI (May); Geneva National Site, Walworth County, WI (Nov.); Goerke's Corners Self Storage Site-Town of Brookfield, Waukesha County, WI (April); Handel Site -Town of Holman, LaCrosse County, WI (April); KOA Site -DeForest, WI (Oct.); Kohler Ridge Site -New Berlin, WI (Oct.); Camp 8 Site -Village of Lannon, Waukesha County, WI (Sept.); Mallard Creek Subdivision-Oak Creek, WI (May); Muskego Corporate Park Site -Muskego, WI (Sept.); Nortrax Site -Merrill, WI (Oct.); Pewaukee Corporate Park-City of Pewaukee (Oct.); Gregar Parcel-City of Pewaukee, (Oct.); Toberman Parcel-Town of Prairie du Chien, Crawford County, WI (Oct.); UPS CACH Staging Expansion-Town of La Grange, Cook County, IL; West Prairie Village-Town of Sun Prairie, Dane County, WI; Wheeler Road-City of Madison,

* denotes projects completed with other firms

Various Wetland Delineations 2013, Various Locations, Wisconsin, Illinois, Ohio, and Michigan

Performed various wetland delineations across Wisconsin in 2013 including the following projects: West Central Lateral - Eau Claire, Clark, Jackson & Monroe Counties, WI (April-May 2013); Murphy Farm Wetland & Primary Environmental Corridor, Pewaukee, WI (October 2013); Walker Cranberry 80-acre Parcel - Cranmoor, WI (Sept - Oct 2013); Citizens Bank Property - Oconomowoc, WI (May 2013); Broken Hill Subdivision, Pewaukee, WI (May, 2013); Agri-Partners Coop Rail siding track, Calumet County, WI (June 2013); Basse Farm Wetland Delineation, City of Muskego, WI (June 2013); Fritz Parcel Wetland Delineation - New Berlin, WI (June 2013); Saltzman Parcel Wetland Investigation - New Berlin, WI (May 2013); Waukesha Gun Club Wetland Delineation - City of Pewaukee, WI (July 2013); Bark Lake Wetland Delineation - Town of Richfield, WI (Aug 2013); Fox River Christian Church Wetland Delineation - Town of Waukesha, WI (Aug 2013); Cedar Grove Warehouse Wetland Delineation - Oostburg, WI (Aug 2013); Waunakee Wetland Delineation - Dane County, WI (Sept 2013); Town of Fulton Wetland Delineation - Rock County, WI (Sept 2013); Berne to Natrium Pipeline, Monroe County, OH (Oct 2013); CNX Noble Pipeline - Noble County, OH (Oct 2013); 4950 Voges Rd Wetland Delineation - Madison, WI (Sept 2013); Pleasant View Subdivision Wetland Delineation - Middleton, WI (Oct 2013); Cherokee Country Club Wetland Delineation - Madison, WI (Oct 2013); Deer Grove Forest Preserve, (November 2013)

Various Wetland Delineations in 2010, Wisconsin

Performed various wetland delineations across Wisconsin in 2010 including the following projects: Substation Site, Cambridge, WI (November 2010); Lake Edge Rd Parcel, McFarland, WI (November 2010); DeBack Parcel, Muskego, WI (October 2010); I-94 at Fox River, Waukesha, WI (October 2010); USH 45, Racine County, WI (October, 2010); ECB Site I, Franklin, WI (October 2010); STH 11 Improvements, Burlington, WI (October, 2010); Glacier Hills Wind Farm, Friesland, WI (Sept-Oct 2010); ISB Site, New Berlin, WI (September 2010); Gilmore Parcel, New Berlin, WI (September 2010); Palmyra SW Park Site, Palmyra, WI (August 2010); Gateway Substation, Beloit, WI (August 2010); Casey Gas Main, Friesland, WI (August 2010); Oakhill Rd Electric Distribution, Deltona, WI (August 2010); Jefferson School District, Jefferson, WI (July 2010); Bothe Property Site, Kenosha, WI (July 2010); WDOT High Speed Rail, Dane, Jefferson and Waukesha Counties, WI (June-September 2010); USH 151 Sun Prairie, (June 2010); Lacy Road Interchange, Fitchburg, WI (May 2010); Sivyer Rd Parcel, St. Francis, WI (April 2010); Seljan Industries, Lake Mills, WI (April 2010); Retail Site, Whitewater, WI (April 2010); Summit Horse Farm Site, Summit, WI (March 2010); STH 11 Site, Walworth County, WI (March 2010); Scot Industries, East Troy, WI (March 2010)

Various Wetland Delineations 2011, Various Locations, Wisconsin, Illinois, Indiana, and Pennsylvania

Performed various wetland delineation projects throughout Wisconsin in 2011 including the following projects: Plum Creek Site Soil & Water Table Investigation, Oneida County, WI (Dec 2011); 6B Pipeline Porter County, IN (Nov 2011); STH 67 Sharon, Walworth County, WI (Nov 2011); STH 67 Geneva, Walworth County, WI (Nov 2011); STH 175 Germantown/Richfield, WI (Nov 2011); USH 12 Interchanges, Walworth County, WI (Oct 2011); I-43 Interchanges, Ozaukee County, WI (Oct 2011); STH 145 Germantown, WI (Oct 2011); STH 164 Town of Vernon, WI (Oct 2011); STH 20 Village of Waterford, WI (Oct 2011); Serosun Farms Verification, Kane County, IL (Oct 2011); Marcellus-Dominion Pipeline Clinton, Centre and Mifflin Counties, PA (Sept 2011); Big Eau Pleine Site, Marathon County, WI (Aug 2011)

Eric C. Parker PWS

Senior Scientist - Botanist

Atlas Resins Site, Taylor, WI (Aug 2011); Reynolds Avenue Site, Westport, WI (Aug 2011); Westbridge Site, Waunakee, WI (Aug 2011); ECB Site II, City of Franklin, WI (Aug 2011); Springdale Rd Parcel, New Berlin, WI (Aug 2011); Belleville Industrial Park, Dane County, WI (Aug 2011); Didion Ethanol Plant, Cambria, WI (July 2011); Towns Property, Mukwonago, WI (July 2011); Bagstad Property, Marquette County, WI (June 2011); Life Church Site, Germantown, WI (June 2011); Sauk Prairie Memorial Hospital, Prairie du Sac, WI (June 2011)

Various Wetland Delineations 2012, Various Locations, Wisconsin, Illinois, Indiana, and Texas

Performed various wetland delineations across Wisconsin in 2012 including the following projects: West Central Lateral (190 miles), Eau Claire, Clark, Jackson & Monroe Counties, WI (Sept-Nov 2012); Schwaab Property Wetland & Primary Environmental Corridor, Nashotah, WI (Nov 2012); Trans-Load Rail Loop, Arcadia, WI (Oct 2012); Fiberdome Property Lake Mills, WI (Sept 2012); Morrison Cr Cranberry, Town of Knapp, WI (Aug 2012); London Mitigation Site, Jefferson County, WI (July 2012); Lathers Property Wetland & Primary Environmental Corridor, Waukesha County, WI (June 2012); Southern Access Pipeline, Sawyer and Washburn Counties, WI (June 2012); Reddick Station, Livingston County, IL (May 2012); Confidential Client Site, Jackson County, WI (April 2012); MATC West Parcel, Madison, WI (April 2012); Alpine Business Park, Oregon, WI (April 2012); I-80 Interchange, LaPorte County, IN (March 2012); Eagle-Ford Shale Wetland & Waterway Investigations, LaSalle and McMullen Counties, TX (Jan-Feb 2012)

Various Preliminary Wetland Identifications 2010-2012, Wisconsin

Performed various preliminary wetland identifications and delineations throughout Wisconsin which included these projects: I-43 Glendale to Grafton (34 miles) - Milwaukee and Ozaukee Counties, WI (May-Aug 2012); STH 60 Jackson to Grafton (9 miles) - Washington and Ozaukee Counties, WI (June-Nov 2012); UW All-Season Softball Site, Madison, WI (Dec 2011); Fiber-Optic Route (40 miles), Wausau, WI (Apr 2011); 27th Street Ponds, Franklin-Oak Creek, WI (July 2010); Burlington Bypass (15 miles), Burlington, WI (Aug 2010); STH 167, Germantown-Mequon, WI (Jul-Aug 2010); USH 45 (10 miles), Bristol, WI (November 2010) STH 20 Roundabout, Dover, WI (November 2010).

USH 41 Wetlands Investigation*, Township of Eldorado, WI (Project Manager and Lead Scientist)

Conducted an investigation to identify all wetlands and determine their boundaries along a 4.5-mile segment of highway. Located a rare tree species and delineated the location of the population. Prepared a report for use in a Section 404 Permit application and the environment document.

STH 175 Wetlands Investigation*, Theresa, WI (Project Manager and Lead Scientist)

Conducted wetland delineation and assessment services for a 1.5-mile segment of rural highway where vertical and horizontal re-alignments were proposed. Prepared a report which was used to document wetland impacts in a Section 404 Permit application with the U.S. Army Corps of Engineers and Wisconsin Department of Natural Resources.

STH 67 Wetland Investigation*, Fond du Lac County, WI (Project Manager and Lead Scientist)

Conducted wetland delineation and assessment for WDOT Southeast Region associated with a 4.2-mile segment of highway proposed to be reconstructed. Coordinated the survey of the wetland boundary flags and prepared the report.

STH 23 Wetlands Investigation*, Fond du Lac County, WI (Project Manager and Lead Scientist)

Conducted wetland delineation and assessment for WDOT Southeast Region. Identified, delineated, and assessed all wetlands within two highway corridors totaling 7.1 miles in length. Coordinated the survey of the wetland boundary flags and prepared the report.

STH 149 Wetlands Investigation*, Fond du Lac County, WI (Project Manager and Lead Scientist)

Provided initial consultation to the client and recommended a scope of services. Conducted the field work for the wetland delineation and assessment, wildlife habitat analysis, stream navigability check, and environmental assessment of open land. Coordinated all graphic preparation and drafted the report.

* denotes projects completed with other firms

Eric C. Parker PWS

Senior Scientist - Botanist

Rawson Avenue Wetlands Investigation*, Franklin, WI (Project Professional and Lead Scientist)

Delineated and assessed four wetland plant communities in a 3.4-mile segment of a road which was proposed to be expanded from two to four lanes. Prepared a report. Conducted a study to identify the most feasible location for a compensatory wetland mitigation site for impacts proposed to wetlands and satisfy the requirements of a Section 404 Permit from the U.S. Army Corps of Engineers and project concurrence from the Wisconsin Department of Natural Resources.

West Puerner Street Wetland Investigation*, Jefferson, WI (Project Professional and Lead Scientist)

Conducted wetlands services on a 25-acre corridor crossing the Rock River on the north side of the City of Jefferson. One wetland contiguous with the Rock River was delineated. A report was prepared and the wetland's values were assessed to determine impacts of a proposed bridge, approaches, and roadway. Coordinated with U.S. Army Corps of Engineers and the Wisconsin Department of Natural Resources to obtain their concurrence on the preferred alternative and all necessary permits. Studied the feasibility to conduct compensatory wetland mitigation, both on-site and near-site.

Lake Forest Health and Fitness Institute Wetlands Study*, Lake Forest, IL (Project Professional and Lead Scientist)

Identified and delineated all wetlands on 60 acres of property on and adjacent to a proposed development site. Wrote the initial investigation report and advised the client on wetlands regulations. Assessed the wetlands' functions and values. Prepared the preliminary and final mitigation plans, as well as the Mitigation Implementation Plan. Prepared the joint federal and state permit application. Coordinated with agency personnel, engineers, and the client in a successful effort to obtain a U.S. Army Corps of Engineers permit (with state certification).

Wetland Investigation*, Oak Creek, WI (Project Manager and Lead Scientist)

Conducted wetland delineation services on a 22-acre site proposed for development as a residential property. Identified one 2.5-acre wetland on the site. Prepared the report.

Wetland Enhancement Pond*, Burlington, WI (Project Professional and Lead Scientist)

Flagged wetland boundaries within the potential storm water management area and assessed the functional values of the wetland using the WDNR's Rapid Assessment Methodology for Evaluating Wetland Functional Values (RAM). The RAM was the basis for the final recommendations to create a 4-foot-deep two-stage pond with gradual side slopes that both enhances wildlife habitat and the quality of water entering the Fox River.

29-Acre Retail Building Site Wetlands Investigation*, Franklin, WI (Project Manager and Lead Scientist)

Conducted wetland delineation for a commercial development. Coordinated with agencies to review the validity of previously identified wetlands that have become uplands. Obtained concurrence on delineated wetland boundaries from the regulatory agencies. Prepared a report documenting the investigation that included a review of regulatory constraints.

55-Acre Retail Building Site Wetlands Investigation*, Menomonee Falls, WI (Project Manager and Lead Scientist)

Conducted wetland delineation on a site proposed to be used for a commercial development. Prepared a report documenting the investigation that included a review of regulatory constraints. Coordinated with jurisdictional agency personnel and obtained their concurrence on wetland boundary locations.

Cedar Lake Road Utility Extensions Wetland Investigation*, Roud Lake, IL (Project Professional and Lead Scientist)

Identified and delineated three jurisdictional wetland areas in the vicinity of proposed sewer and water utility extensions. Provided agency coordination for approvals of the project adjacent to an "Advance Identification" (ADID) wetland associated with Squaw Creek, and receipt of a nationwide permit No. 12 for proposed work in an isolated wetland adjacent to Nippersink and Cedar Lake Roads.

* denotes projects completed with other firms

Eric C. Parker PWS

Senior Scientist - Botanist

West Puetz Road Wetlands Investigation*, Franklin, WI (Project Professional and Lead Scientist)

*Assessed the functional values of five wetland plant communities and prepared a report for use in obtaining agency concurrence and permits. Conducted a feasibility study to determine the best location for compensatory mitigation for wetland impacts in the project area. Prepared a plan to complete a wetland creation/restoration project on-site and assisted in agency coordination to obtain a FONSI for a Type II environmental document and obtain a Section 404 Permit. Discovered the state champion black cherry (*Prunus serotina*) tree in the project corridor and documented with WDNR.*

Proposed Quarry Stream and Wetland Hydrology Study*, Saukville, WI (Project Manager and Lead Wetland Scientist)

Conducted a two year study to collect baseline data from a navigable stream and adjacent wetlands on a 185-acre site. Data included measurements of stream discharges and shallow ground water levels in the wetlands, and a fisheries habitat analysis. The purpose of the study was to identify potential impacts of the proposed quarry on wetland functions and values with an emphasis in fisheries habitat enhancements.

Proposed Quarry Wetland Hydrology Study*, Lannon, WI (Project Professional and Lead Wetland Scientist)

Conducted two investigations of wetlands adjacent to the Fox River to determine water table depths, ground water flow directions, and sediment conductivity adjacent to proposed quarry locations. The projects involved monitoring well location, installation, monitoring, and agency/landowner coordination. The studies involved hydrogeologic modeling and wetland assessment to determine effects of an adjacent quarry on wetland hydrology.

Oconomowoc Bypass Wetland Mitigation Design*, Jefferson County, WI (Lead Scientist)

Prepared concepts, preliminary and final plans & specifications for the restoration and enhancement of forested wetlands and wetland buffer on a 117-Acre site located partly in the floodplain of the Rock River; Determined, delineated and assessed wetlands on the existing site and prepared a report; Coordinated with a contractor to cut and herbicide invasive species such as reed canary grass and common buckthorn prior to site construction.

Glacier Ridge Wetland Mitigation Bank Design*, Dodge County, WI (Project Manager and Lead Scientist)

Budgeted, scheduled, coordinated and participated in numerous tasks to design the first private wetland mitigation bank in Wisconsin under NR 350; Prepared concepts, preliminary plans and final plans and specifications for the restoration and enhancement of wetland and upland prairie/woodland buffer plant communities on four sites totaling 245 acres; Reviewed the delineation of all existing wetlands; Coordinated and met with the Mitigation Bank Review Team (MBRT) comprised of staff from the Wisconsin Department of Natural Resources, the US Fish & Wildlife Service, the US Army Corps of Engineers, the US Environmental Protection Agency, and the US Dept of Agriculture Natural Resource Conservation Service; Assisted in the preparation of a compensation site plan including a management and monitoring plan for 10 years post construction.

North End Quarry Environmental Investigation*, Lisbon, WI (Project Professional and Wetland Scientist)

Provided initial consultation to the client and recommended a scope of services. Conducted the field work for the wetland delineation and assessment, wildlife habitat analysis, stream navigability check, and environmental assessment of open land. Coordinated all graphic preparation and drafted the report.

Franklin Quarry Wetland Investigation*, Franklin, WI (Project Manager and Wetland Scientist)

Conducted wetland delineation, assessment, and mitigation services on a 40-acre quarry expansion site. Developed a site history to document land uses and assisted in the preparation of the report to be included in the Section 404 permit application with the U.S. Army Corps of Engineers. Provided jurisdictional agency coordination.

Bartelt Parcel Wetlands Investigation*, Lisbon, WI (Project Manager and Wetland Scientist)

Conducted wetlands delineation and assessment services on an 80-acre site proposed for sand and gravel extraction. Prepared a Chapter 30/NR 340 permit application for future quarrying adjacent to a pond and wetland and a Section 404 permit for an acceleration lane adjacent to wetlands. Coordinated with jurisdictional agencies.

* denotes projects completed with other firms

Eric C. Parker PWS

Senior Scientist - Botanist

Bristol Interceptor Environmental Assessment*, Bristol, WI (Project Professional and Wetland Scientist)

Performed a flora and fauna study of a utility corridor 75 to 100 feet wide and two miles long. Identified, delineated and assessed 5 wetlands that coincided with the corridor. Wrote the environmental assessment and wetland investigation reports. Prepared permit application and coordinated with the jurisdictional agencies.

Village of Jackson Utility Extensions, Wetland Investigation*, Jackson, WI (Project Manager and Lead Scientist)

Identified, delineated, and classified wetland areas along 5.5 miles of proposed sewer and water utility extensions. Provided an endangered, threatened, and special concern species survey along the proposed corridor. Coordinated with agencies for wetland boundary concurrence. Providing Chapter 30 and Section 404 permitting assistance.

Town of Mt. Pleasant, Pike River Improvements*, Racine County, WI (Project Manager and Lead Wetland Scientist)

Identified, delineated, and assessed 37 wetlands in a 920-acre study area to identify potential wetland impacts from a stream channel improvement and realignment project. Presented and assisted at facilitated meetings with agencies, engineers, and the client. Prepare conceptual wetland restoration plans.

Big Rib River Crossing at CTH O Wetlands Investigation*, Marathon, WI (Project Manager and Lead Wetland Scientist)

Identified, delineated, and assessed wetlands and other valuable habitats within a 70-acre study area. The results of the study may be used to evaluate environmental impacts of a highway project. Recommended a corridor for a new bridge and approaches and potential mitigation sites. Coordinated with jurisdictional agencies. Prepared all documentation and drafted the report.

STH 31 Reconstruction Wetland Investigation*, Caledonia and Mount Pleasant, WI (Project Professional and Lead Scientist)

A wetland investigation was conducted to identify the location and extent of jurisdictional wetlands within a 110-acre study area. Ten wetland plant communities were identified, flagged in the field, and surveyed. A total of 0.956 acres of wetlands were determined to be within the fill limits of the proposed highway reconstruction. Wetland functional values were assessed for the wetlands that were to be incorporated, and a mitigation siting study was conducted. The results of the investigations were presented in reports to WDOT Southeast Region as a component of the project's environmental documentation. Prepared the Section 404 permit application and coordinated with jurisdictional agency personnel.

STH 33 Reconstruction Wetland Investigation*, West Bend, WI (Project Professional and Lead Scientist)

A wetland investigation was conducted to identify the location and extent of jurisdictional wetland within an 8.5-acre study area, assess functional values, and describe effects of a highway reconstruction project on wetlands. Two wetland plant communities were identified, flagged in the field, surveyed, and described. It was determined that a 0.84-acre of wetland would be impacted by the reconstruction. Jurisdictional agencies were contacted and a scope of work to identify a potential mitigation site was generated. The work was documented in a report and submitted to WDOT Southeast Region. Completed a wetland mitigation site search and recommended a site for selection and prepared a plan for wetlands restoration.

USH 151 Reconstruction and Bypass Wetlands Investigation*, Fond du Lac County, WI (Project Professional and Lead Scientist)

Conducted wetland delineation and assessment services for Wisconsin Department of Transportation Southeast Region associated with a highway reconstruction project. Identified, delineated, and assessed 103 wetlands within selected highway corridors totaling approximately 33 miles in length. Information from the investigations were used by the client to determine impacts to wetlands and to secure permits and approvals from jurisdictional agencies.

* denotes projects completed with other firms

Eric C. Parker PWS

Senior Scientist - Botanist

Mukwonago Bypass Wetlands Assessment*, Waukesha County, WI (Project Manager and Lead Scientist)

Conducted an assessment of wetland functional values for three wetlands in a 400-acre study area traversed by the Mukwonago River. The wetland assessment was used to evaluate impacts of a proposed bypass for STH 83 around the east side of Mukwonago. Fourteen endangered, threatened, or special concern plant and animal species were known from the Mukwonago River corridor, and were considered in the assessments where high to exceptional significance ratings prevailed.

CTH Q Wetlands Investigation*, Shawano County, WI (Project Professional and Lead Scientist)

Delineated and assessed eleven wetlands along a 3.5-mile segment of rural highway and a 0.7-mile realignment corridor. Prepared a report and coordinated with agency personnel. Prepared and submitted a Section 404 Permit application and secured all necessary wetlands related permits and approvals from regulatory agencies. Prepared the compensatory wetland mitigation plan.

USH 10 Wetland and Waterway Mapping (I-39 to Marshfield)*, Portage and Wood Counties, WI (Project Manager, Principal-in-Charge, Lead Scientist)

Budgeted, scheduled, coordinated and participated in numerous tasks to map wetlands and waterways along two contiguous freeway corridor segments totaling approximately 35 miles in length during the growing seasons of 2005 and 2007; Supervised and participated in the final determination, delineation, classification and GPS survey of 174 wetlands; Reviewed and helped write the report.

Deer Grove Forest Preserve Wetland Delineation and Restoration*, Cook County, IL (Project Manager and Lead Scientist)

Budgeted, scheduled, coordinated and participated in numerous tasks to map and classify wetlands and waterways on a 628-acre site located on lands owned by the Forest Preserve District of Cook County. Supervised and participated in final wetland determinations and delineations of 40 wetlands comprising 188 acres; Used GPS to locate wetland boundaries and coordinated with the client, forest preserve district staff and US Army Corps of Engineers regulatory staff in the concurrence of the wetland delineation work; Assisted in the preparation and reviewed the report; Assisted in the preparation of a wetland and upland prairie/woodland restoration concept for the purpose of helping to meet the mitigation requirements of the O'Hare International Airport expansion.

Germantown Sand & Gravel Pit Wetland Restoration*, Washington County, WI (Project Manager and Lead Scientist)

Budgeted, scheduled, coordinated and participated in numerous tasks for analyzing alternatives to discharging water from a non-metallic mining operation, and analyzing the effects of ceasing water discharges through an existing waterway into downstream wetlands on an adjacent property; Completed wetland functional assessment and water budget analysis to determine the effects of the discharge on the sustainability and quality of the wetlands; Prepared applications and plans to obtain Wisconsin Pollution Discharge Elimination System (WPDES) and Chapter 30 permits to discharge into a state navigable waterway; Provided expert testimony for same; Assisted in the design of a sedimentation pond to remove 80% of the suspended solids at a discharge flow of over 1,000,000 gallons per day from the 130-Acre sand & gravel pit; Coordinated with the adjacent landowner, client, agency staff to prepare and implement a plant to remove sediment deposited on an adjacent property.

* denotes projects completed with other firms

Eric C. Parker PWS

Senior Scientist - Botanist

I-94 Corridor Wetland and Primary Environmental Corridor Mapping and Endangered Species Study*, Milwaukee, Racine, and Kenosha Counties, WI (Project Manager and Lead Scientist)

*Budgeted, scheduled, coordinated and participated in numerous tasks to map wetlands, primary environmental corridor and waterways, and search for rare species in a freeway corridor approximately 34 miles long. Supervised and participated in the preliminary determination, delineation, GPS mapping, and classification of 171 wetlands and 19 separate plant communities within primary environmental corridor; Supervised and participated in the final determination, delineation, classification and surveying of 85 wetlands within seven interchange areas that were designated for significant improvements; Reviewed and helped write the report; Supervised and conducted a rare species survey during the 2006 growing season to search for plant species that were listed as special concern, threatened or endangered by the State of Wisconsin; Prepared the report; Mapped locations of rare species using a GPS, and coordinated with the client and regulatory agency staff; Prepared a plan to mitigate roadway improvement impacts to seaside crowfoot (*Ranunculus cymbalaria*) through transplantation to an on-site location and obtained concurrence from the WDNR.*

Elm Road Generating Station*, Oak Creek & Caledonia, WI (Project Manager & Lead Scientist)

Budgeted, scheduled, coordinated and participated in numerous environmental projects involving the planning and construction of a power plant. Beginning in 2002 determined, delineated and classified over 70 different wetlands on properties totaling approximately 1,000 acres including over three miles of railroad. Located wetland boundaries, sample points and other natural features through the use of GPS equipment with real-time one-meter accuracy; Assessed the functions of 127 wetlands for Chapter 30, Section 404/401 and NR 103 permitting purposes; Searched for suitable sites (both on-site and near-site) for compensatory wetland mitigation to off-set over 20 acres of wetland impacts; Studied potential sites for feasibility of wetland restoration, enhancement and creation; Prepared conceptual and final compensation site plans and designed four selected sites that included restoration and/or enhancements to wet meadow, shallow marsh, hardwood swamp, mesic woodland, savanna, tallgrass prairie and streams; Submitted the mitigation plans to the client and agencies and obtained all necessary permits and approvals; Prepared bid documents and specifications for the construction of the mitigation sites; Provided direct consultation with the site contractor during construction of the mitigation sites which concluded in 2007.

McMahon Woods and Fen Plant Community Mapping*, Cook County, IL (Principal-in-Charge and Lead Scientist)

Budgeted, scheduled, coordinated and participated in numerous tasks to map and classify plant communities on a 470-acre site where rare habitat for a federally-listed Hines emerald dragonfly and uncommon flora exist. Supervised and participated in the identification of 75 plant communities in accordance with the Chicago Wilderness Terrestrial Community Classification System outlined in their Biodiversity Recovery Plan; Used GPS to locate plant community boundaries and coordinated with the client, forest preserve district staff and US Army Corps of Engineers regulatory staff; Assisted in the preparation and reviewed the report; Assisted in the preparation of a wetland restoration concept for the purpose of helping to meet the mitigation requirements of the O'Hare International Airport expansion.

* denotes projects completed with other firms

Eric C. Parker PWS

Senior Scientist - Botanist

Tri-State Tollway, Deerfield Plaza Wetland and Endangered Species Investigation*, Lake and Cook Counties, IL (Lead Scientist)

Conducted wetland delineation and assessment services for segments of the Tollway, totaling 5 miles. Wetland impacts were determined for reconstruction of the toll plaza and widening of the highway facilities adjacent to the plaza. Conducted an investigation to determine the extent of occurrence of Seaside Crowfoot, an endangered plant species in Illinois. Prepared plans to mitigate impacts of the highway and toll plaza reconstruction on both wetlands and the endangered species. Coordinated with agency personnel, prepared construction documents and specifications and wrote reports. Prepared Section 404 permit applications and obtained the permits with 401 Certification from the Illinois Department of Natural Resources. Conducted an investigation of trees and shrubs that would be impacted by the expansion of the toll plaza.

Guardian II Laterals*, Fox Valley, Hartford and West Bend, WI

Project Manager and Lead Scientist. Budgeted, scheduled, coordinated and participated in numerous activities and scopes of work for the planning and permitting (Chapter 30, Section 404/401 and NR 103) phases of three gas laterals in 2003, 2006 and 2007; Coordinated with landowners; Determined, delineated and mapped with a GPS, wetlands, woodlands and waterways; Collected required data and documented all types of natural resources through photography and data forms; Searched for rare species; Assisted in the preparation of data tables summarizing and quantifying impacts to wetlands, woodlands, waterways and agricultural lands; Coordinated with client on minor modifications to the pipeline routes to better protect various natural resources; Assisted client in regulatory agency coordination; Assisted prepare, and reviewed all reports.

Wildlife Surveys and Studies

Confidential Client, Williston, North Dakota

Conducted Shoreline Contamination Assessment Technique (SCAT) surveys and assessed wildlife presence along a creek corridor in Williams County, ND. Assessed habitat and assisted in the selection of wildlife trap locations. Recorded and reported on all wildlife sightings on a daily basis for a total of 31 days in two rotations. Served as the lead wildlife biologist while deploying amphibian and turtle traps to monitor populations during the initial early spring monitoring event; supervised chorus surveys. (February, March, and April, 2015).

* denotes projects completed with other firms

Eric C. Parker PWS

Senior Scientist - Botanist

PUBLICATIONS

Potentially Mis-Categorized Wetland Plant Species
NC-NE & Midwest Land Resource Regions of the
U.S.. *Wisconsin Wetlands Association Annual
Conference*, 2012.

Presentation: Importance of Strategic Planning for
Long Range Success in Natural Area Restoration
and Management (Parker, Parish, Feggstad,
Sellar, Wilhelm). *LTA Midwest Land Conservation
Conference*, 2009.

Saving the Hines Emerald Dragonfly (Parker, Parish).
LTA Midwest Land Conservation Conference, 2009.

Presentation: Arriving at a Workable Definition of
Coastal Wetlands (Parker, Parish, Schumacher).
WWA, 2006.

Presentation: General Wetland Functions.
American Public Works Association, 2000.

Presentation. Wetland Permitting Primer. *WDNR
Permitting Workshop*, 1996.

TIA TECHNICAL MEMORANDUM

Date: November 16, 2021

Prepared for: Neumann Development, Inc.
Bryan Lindgren

Prepared by: Tammi Czewski, P.E., PTOE
Traffic Analysis & Design, Inc.

Subject: **Cape Crossing Residential Development – Ryan Road, Franklin, Wisconsin
Traffic Impact Analysis**

INTRODUCTION

A 142-unit single-family residential development is proposed on about 80 acres north of Ryan Road between North Cape Road and 116th Street at 12200 W. Ryan Road, Franklin, Wisconsin. Access to the development is proposed at one location to Ryan Road, just west of the existing driveway for the site address. A map showing the development site and proposed access locations is on [Exhibit 1](#). The proposed development site plan is shown on [Exhibit 2](#).

This traffic impact analysis (TIA) technical memorandum was prepared to document the peak hour traffic impacts expected along Ryan Road with buildout of the Cape Crossing residential development.

STUDY AREA

Study Intersections

The study intersections are also identified on [Exhibit 1](#) and include the following:

- Ryan Road & North Cape Road (CTH OO)
- Ryan Road & proposed Cape Crossing development driveway
- Ryan Road & 116th Street
- Ryan Road (CTH H to the east) & Loomis Road (USH 45/STH 36)

The Ryan Road intersection with Loomis Road operates with traffic signal control. All other study intersections operate with stop sign control. The existing geometrics, traffic control, posted speed limits, and distances between study intersections are shown on [Exhibit 3](#).

Study Area Roadways

Ryan Road is classified as a Collector roadway between North Cape Road and Loomis Road. East of Loomis Road, Ryan Road is classified as a Minor Arterial and is designated as CTH H. In the study area (between North Cape Road and Loomis Road), Ryan Road has a two-lane undivided cross-section, narrow paved shoulders, and a 35-mph posted speed limit. Development of this section of Ryan Road is primarily residential. There are no sidewalks or trails along the study section of Ryan Road. The Wisconsin Department of Transportation (WisDOT) 2011 Annual Average Daily Traffic (AADT) on Ryan Road, east of North Cape Road, was 990 vehicles per day (vpd).

North Cape Road (CTH 00) is classified as a Principal Arterial and runs north/south through the study area with a two-lane undivided roadway with a 40-mph speed limit. A multi-use trail runs along the west side of North Cape Road from Durham Drive (about one mile north of Ryan Road) to Loomis Road. The WisDOT 2015 AADT on North Cape Road near Durham Drive was 8,900 vpd.

Loomis Road (USH 45/STH 36) is classified as a Principal Arterial and runs southwest to northeast through the study area with a four-lane divided cross-section and a 55-mph posted speed limit. There are no sidewalks or trails along Loomis Road in the vicinity of Ryan Road. The WisDOT 2017 AADT on Loomis Road between North Cape Road and Ryan Road was 15,100 vpd.

116th Street is classified as a Collector roadway and runs north/south north of Ryan Road with a two-lane undivided cross-section and a 35-mph posted speed limit. There are no sidewalks or multi-use trails along 116th Street. The WisDOT 2011 AADT on 116th Street was 510 vpd.

EXISTING & FUTURE TRAFFIC VOLUMES

Existing Traffic Volumes

TADI collected weekday turning movement counts at the study intersections on October 21, 22, and 25, 2021. The turning movement traffic counts are in [Appendix A](#). The overall peak traffic hours during these counts occurred from 7:00-8:00 a.m. (AM peak hour) and from 4:30-5:30 p.m. (PM peak hour). The existing turning movement volumes were compiled for the peak hours and shown on [Exhibit 4](#).

During the traffic counts, North Cape Road was closed to through traffic on the north side of Ryan Road, resulting in much lower than normal through volumes on northbound and southbound North Cape Road. Traffic technicians reported that the closure may have affected traffic patterns at this and other intersections as drivers who were unaware of the closure U-turned or altered their routes to find a new way to travel to/from the north on North Cape Road.

The existing peak hour traffic volumes at the study intersections were reviewed to identify traffic patterns that may have been affected by the road closure on North Cape Road. From the data, eastbound right-turn and northbound left-turn traffic at the Ryan Road/North Cape Road intersection could be higher than normal due to traffic using Ryan Road and Boxhorn Drive (west of North Cape Road) to route around the North Cape Road closure. Eastbound left-turn, westbound right-turn, and southbound left-turn traffic at the Ryan Road/116th Street intersection could also be higher than normal due to traffic using 116th Street to route around the North Cape

Road closure. For this study, 50% of these turning volumes were reallocated to turn to/from the north on North Cape Road.

Based on the WisDOT 2015 hourly AADT data on North Cape Road ([Appendix A](#)), the two-way traffic volumes on North Cape Road should be about 680 vehicles in the AM peak hour and 790 vehicles in the PM peak hour. Existing two-way traffic volumes counted during construction, however, were only 35 vehicles in the AM peak hour and 95 vehicles in the PM peak hour. The northbound and southbound through traffic at the Ryan Road/North Cape Road intersection was increased and balanced to match the two-way WisDOT hourly AADT on North Cape Road. The adjusted and balanced peak hour turning movement counts at the study intersections are shown on [Exhibit 5](#).

Cape Crossing Development Traffic

The trip generation for the proposed Cape Crossing residential development was based on fitted curve equations (FCE) from the Institute of Transportation Engineer’s (ITE) *Trip Generation Manual, 10th Edition*. The 142 single-family units generate 1,440 trips during a typical weekday, with 105 new trips (25 in/80 out) during the weekday AM peak hour and 140 new trips (90 in/50 out) during the weekday PM peak hour ([Table 1](#)).

Table 1. Cape Crossing Trip Generation

Land Use	ITE Code	Proposed Size	Weekday Daily	AM Peak			PM Peak		
				In	Out	Total	In	Out	Total
Single-Family Detached Housing	210	142 Units	1,440 FCE	25 (25%)	80 (75%)	105 FCE	90 (63%)	50 (37%)	140 FCE
Total New Trips			1,440	25	80	105	90	50	140

The new trips were distributed to the study intersections based on existing traffic patterns on each roadway, as well as based on the population centers and major freeways surrounding the site (Muskego to the north, Franklin and Milwaukee to the northeast, I-41/94 and Oak Creek to the east, Waterford and Burlington to the southwest). The trip distribution percentages are shown below and with the Cape Crossing new trips traffic assignment on [Exhibit 6](#).

- 10% to/from the east on Ryan Road
- 20% to/from the north on North Cape Road
- 30% to/from the south on North Cape Road/Loomis Road
- 40% to/from the north on Loomis Road

Build Traffic Volumes

The Cape Crossing new trips were added to the adjusted Existing traffic volumes to generate the Build traffic volumes shown on [Exhibit 7](#).

PEAK HOUR TRAFFIC OPERATIONS & QUEUES

The study intersections were analyzed using the Synchro 11 traffic analysis model (outputs based on the *Highway Capacity Manual, 6th Edition*) and the peak hour turning movement volumes estimated for each intersection.

LOS Definition/Description

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 purposes of this study, LOS D or better was used to define acceptable peak hour operating conditions. The LOS descriptions for signalized and unsignalized intersections are in [Table 2](#).

Table 2. LOS Descriptions

LOS	Signalized Intersections Control Delay/Vehicle (sec/veh)	Unsignalized Intersections Avg. Control Delay (sec/veh)	Relative Delay
A	≤10	≤10	Short Delays
	Free-flow traffic operations at average travel speeds. Vehicles completely unimpeded in ability to maneuver. Minimal delay at		
B	> 10 - 20	> 10 - 15	
	Reasonably unimpeded traffic operations at average travel speeds. Vehicle maneuverability slightly restricted. Low traffic delays.		
C	> 20 - 35	> 15 - 25	
	Stable traffic operations. Lane changes becoming more restricted. Travel speeds reduced to half of average free flow travel speeds. Longer		
D	> 35 - 55	> 25 - 35	Moderate Delays
	Small increases in traffic flow can cause increased delays. Delays likely attributable to increased traffic, reduced signal progression, and adverse		
E	> 55 - 80	> 35 - 50	
	Significant delays. Travel speeds reduced to one-third of average free flow travel speed.		
F	> 80	> 50	Long Delays
	Extremely low speeds. Intersection congestion. Long delays. Extensive traffic queues at intersections.		

Source: Highway Capacity Manual, Transportation Research Board, Washington, D.C., 2010

Peak Hour Traffic Operations

The Existing and Build traffic volumes were evaluated with existing geometrics and traffic control at each study intersection. The Cape Crossing driveway to Ryan Road was evaluated with single shared turn lanes at each approach and stop sign control on the Cape Crossing driveway. Traffic volumes to and from the Cape Crossing residential development are not high enough to warrant separate left or right-turn lanes on Ryan Road.

The Existing peak hour traffic operations (LOS, delays, and queues) by movement are in [Table 3](#), and the corresponding Synchro analysis output sheets are in [Appendix B](#). The Build peak hour traffic operations are in [Table 4](#) and the corresponding Synchro analysis output sheets are in [Appendix C](#). As shown, all turning movements at the study intersections operate acceptably at LOS D or better during the peak hours with both the Existing traffic volumes and the additional traffic from the proposed Cape Crossing development.

Table 3. Existing Traffic Peak Hour Operations

Intersection	Peak Hour	Metric	Level of Service (LOS) per Movement by Approach										I/S LOS & Delay		
			Eastbound			Westbound			Northbound			Southbound			
			↗	→	↘	↙	←	↖	↖	↑	↗	↘		↓	↙
Node 100: Ryan Road & North Cape Road <i>Stop Sign Control (EB/WB)</i>	<i>Lanes-></i>														
	1	LOS	C			B			A			*			A
		Delay	16			14			8			*			2.0
		Queue	10'			10'			0'			*			
	2	LOS	C			C			A			*			A
		Delay	19			23			8			*			3.5
Queue		15'			40'			0'			*				
Node 200: Ryan Road & 116th Street <i>Stop Sign Control (SB)</i>	<i>Lanes-></i>														
	1	LOS	A	-	-	*	-	-	-	-	-	-	A	A	
		Delay	7	-	-	*	-	-	-	-	-	-	9	1.5	
		Queue	0'	-	-	*	-	-	-	-	-	-	0'		
	2	LOS	A	-	-	*	-	-	-	-	-	-	A	A	
		Delay	7	-	-	*	-	-	-	-	-	-	9	2.1	
Queue		0'	-	-	*	-	-	-	-	-	-	5'			
Node 300: Ryan Road & Loomis Road <i>Traffic Signal Control</i>	<i>Lanes-></i>														
	1	LOS	B	B	B	B	A	A	A	A	A	A	A	A	
		Delay	12	12	13	12	7	7	5	9	6	5	5	7.6	
		Queue	35'	10'	45'	10'	15'	110'	25'	5'	45'	5'			
	2	LOS	B	B	B	B	B	A	A	A	A	A	A	A	
		Delay	11	11	13	11	10	7	6	8	8	6	8.4		
Queue		30'	15'	85'	5'	10'	75'	20'	10'	120'	15'				

(-) 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 4. Build Traffic Peak Hour Operations

Intersection	Peak Hour	Metric	Level of Service (LOS) per Movement by Approach										I/S LOS & Delay		
			Eastbound			Westbound			Northbound			Southbound			
			↗	→	↘	↙	←	↖	↖	↑	↗	↘		↓	↙
Node 100: Ryan Road & North Cape Road <i>Stop Sign Control (EB/WB)</i>	<i>Lanes-></i>														
	1	LOS	C			C			A			*			A
		Delay	16			17			8			*			3.0
		Queue	10'			20'			0'			*			
	2	LOS	C			D			A			*			A
		Delay	21			29			8			*			4.8
Queue		15'			60'			0'			*				
Node 200: Ryan Road & 116th Street <i>Stop Sign Control (SB)</i>	<i>Lanes-></i>														
	1	LOS	A	-	-	*	-	-	-	-	-	-	B	A	
		Delay	7	-	-	*	-	-	-	-	-	-	10	1.1	
		Queue	0'	-	-	*	-	-	-	-	-	-	5'		
	2	LOS	A	-	-	*	-	-	-	-	-	-	A	A	
		Delay	7	-	-	*	-	-	-	-	-	-	9	1.6	
Queue		0'	-	-	*	-	-	-	-	-	-	5'			
Node 300: Ryan Road & Loomis Road <i>Traffic Signal Control</i>	<i>Lanes-></i>														
	1	LOS	B	B	B	B	A	A	A	B	A	A	A	A	
		Delay	13	12	13	12	7	8	6	10	6	5	8.1		
		Queue	55'	10'	45'	10'	15'	125'	25'	5'	50'	10'			
	2	LOS	B	B	B	B	B	A	A	A	A	A	A	A	
		Delay	12	11	13	11	10	7	6	8	8	6	8.6		
Queue		40'	15'	90'	5'	10'	75'	20'	15'	125'	25'				
Node 400: Ryan Road & Cape Crossing Driveway <i>Stop Sign Control (SB)</i>	<i>Lanes-></i>														
	1	LOS	A	-	-	*	-	-	-	-	-	-	A	A	
		Delay	7	-	-	*	-	-	-	-	-	-	9	4.1	
		Queue	0'	-	-	*	-	-	-	-	-	-	10'		
	2	LOS	A	-	-	*	-	-	-	-	-	-	B	A	
		Delay	7	-	-	*	-	-	-	-	-	-	10	3.0	
Queue		5'	-	-	*	-	-	-	-	-	-	5'			

(-) 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.

RYAN ROAD SPEED STUDY

Speed data was collected on Ryan Road near the location of the proposed Cape Crossing driveway to determine how fast drivers are traveling on Ryan Road. Speed data was collected for a 24-hour period from about 8:00 a.m. on October 19, 2021 to 8:00 a.m. on October 20, 2021 (speed study data is in [Appendix D](#)). The speed data was aggregated in 5-mph speed bins (as collected) and 1-mph speed limits (using statistical estimations) as shown on Exhibit 8. From the 1-mph estimated speed bin data, the 50th percentile speed on Ryan Road was calculated to be 39.6 mph. The 85th percentile speed was calculated to be 45.5 mph. The posted speed limit on Ryan Road is 35 mph.

The 85th percentile speed defines the speed that 85% of drivers will drive at or below under free-flowing conditions, and speed limits are typically set at the 85th percentile speed of the roadway. If increasing the speed limit is not desirable, then increasing speed awareness and enforcement of are recommended to encourage compliance with the posted speed limit. These measures could include increased police patrols/ticketing or installing dynamic speed feedback signs on Ryan Road. Dynamic speed feedback signs ([Figure 1](#)) are a proven treatment for reducing 85th percentile speeds as they slow drivers down by making them aware when they are driving at speeds above the posted limits.

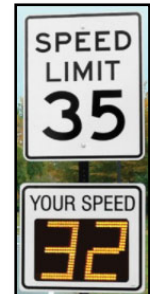


Figure 1

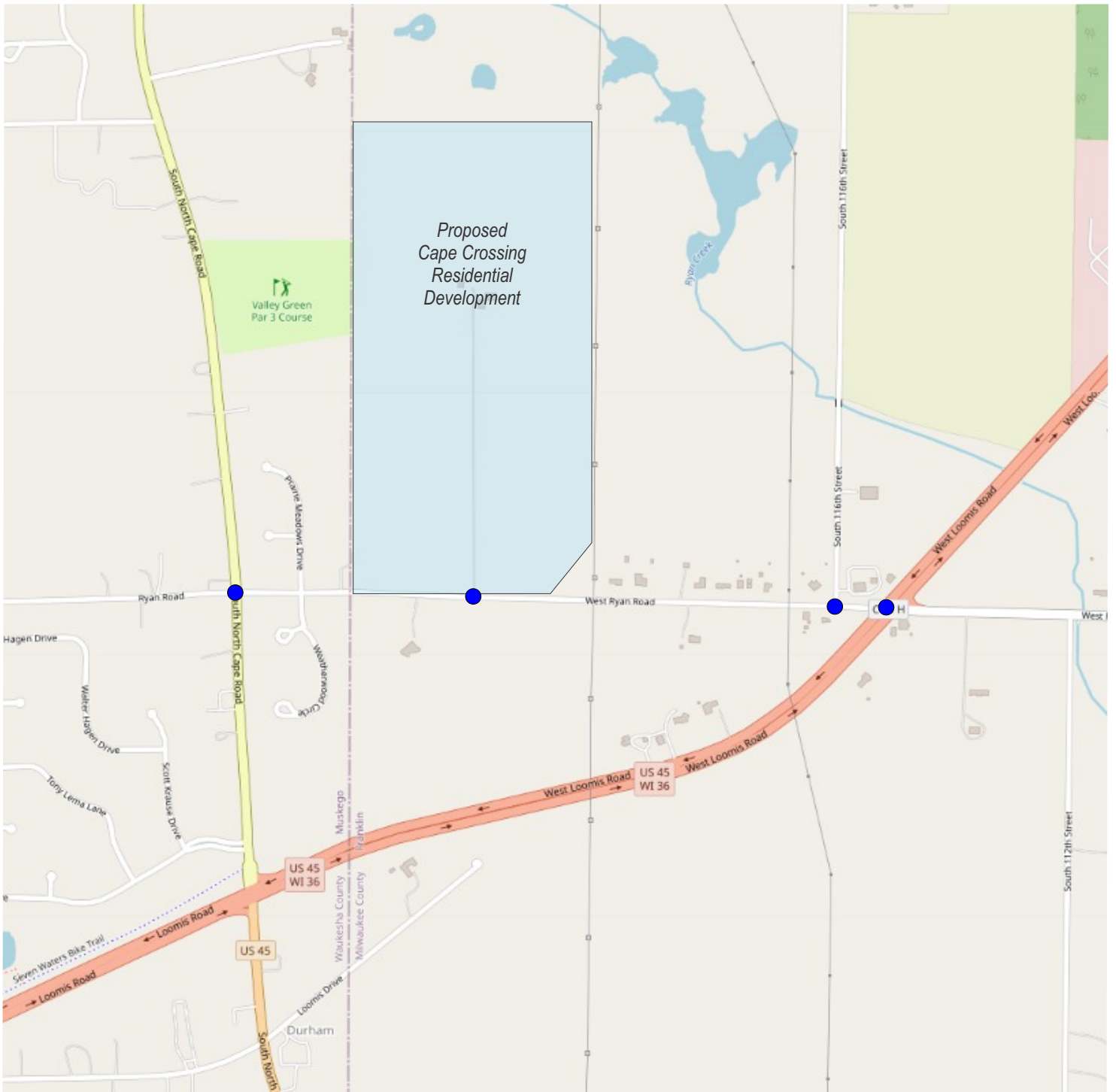
SUMMARY & RECOMMENDATIONS

The additional traffic from the proposed Cape Crossing development is not expected to significantly impact peak hour delays or queues at the study intersections. Traffic volumes to and from the Cape Crossing development are not high enough to warrant separate left or right turns at the site driveway to Ryan Road, however, the City of Franklin will require acceleration and deceleration lanes to be provided at the driveway. No other modifications to the study intersections are recommended with buildout of this development.

Based on spot speed data collected on Ryan Road, the 85th percentile speeds on Ryan Road are about 45 mph and the posted speed limit is 35 mph. Recommendations for decreasing speeds on Ryan Road include increasing police patrols/ticketing, and installing dynamic speed feedback signs.

Appendices

- A – Traffic Counts, PHF-HV Table, Saturation Flow Rate Calculation
- B – Existing Analysis Synchro Analysis Output
- C – Build Analysis Synchro Analysis Output
- D – Speed Study Data



Source: Open Street Map

LEGEND

- Study Area Intersection
- Proposed Development Area









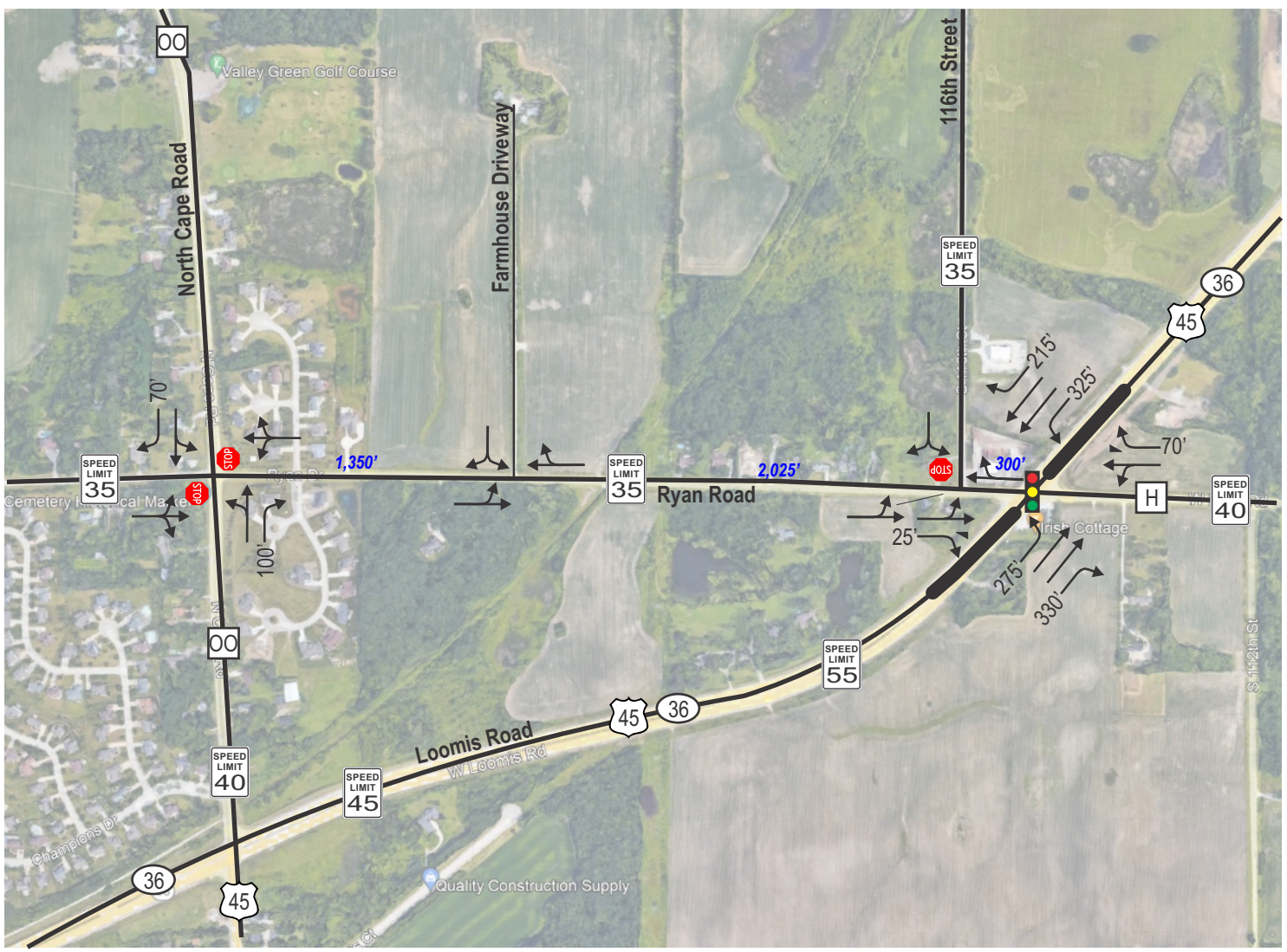
**EXHIBIT 1
PROJECT LOCATION MAP**

FRANKLIN, WISCONSIN

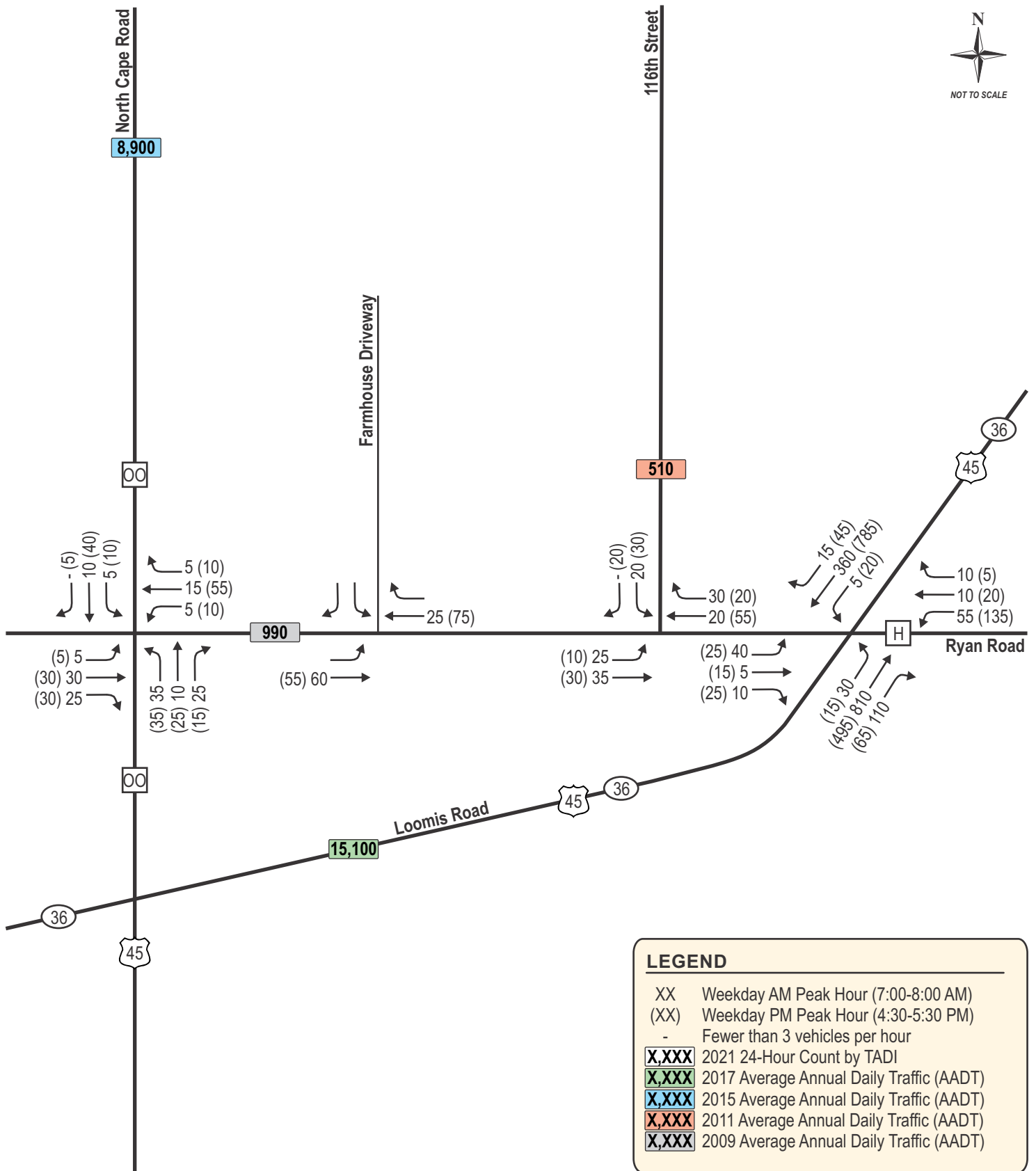


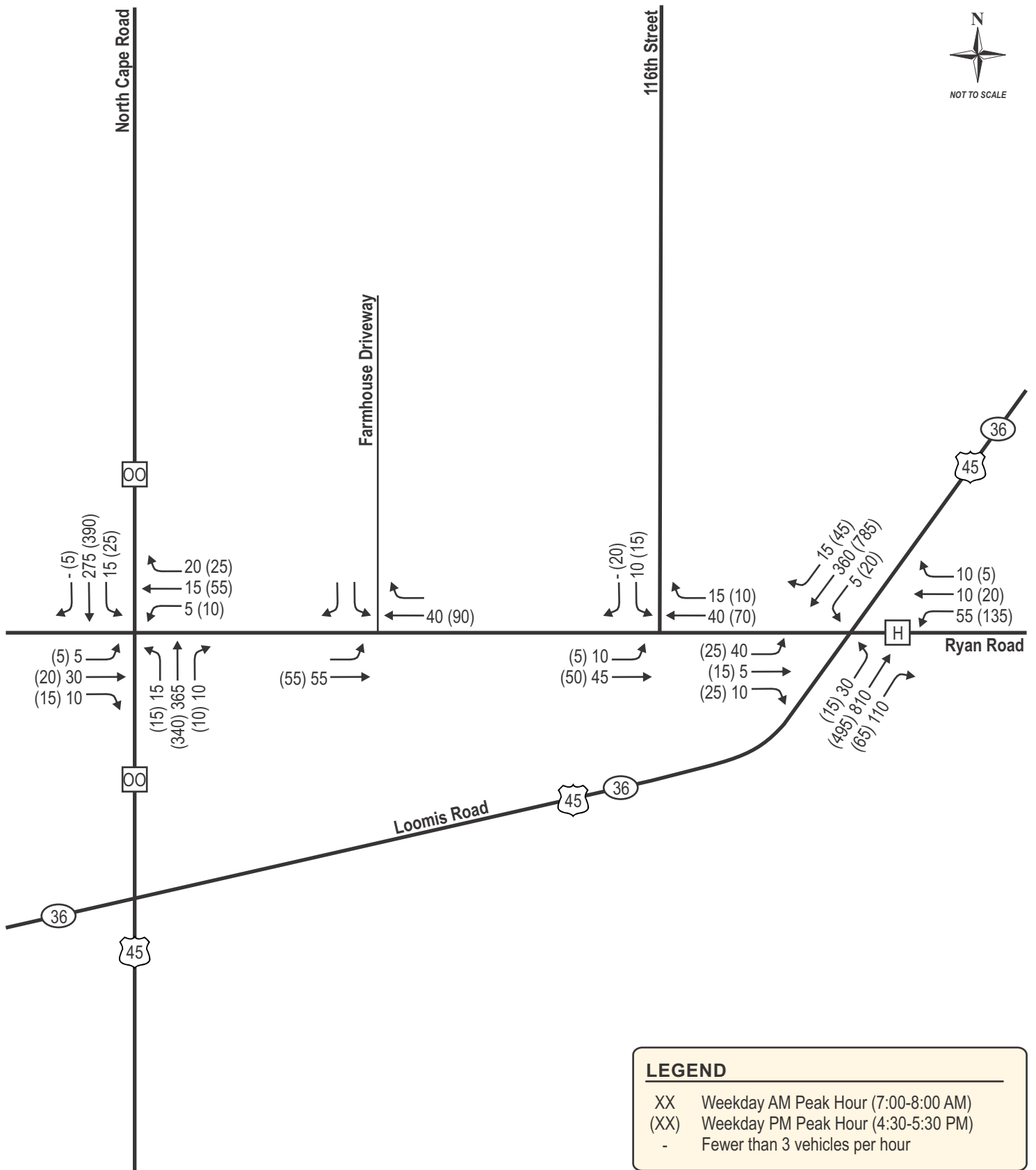
LEGEND

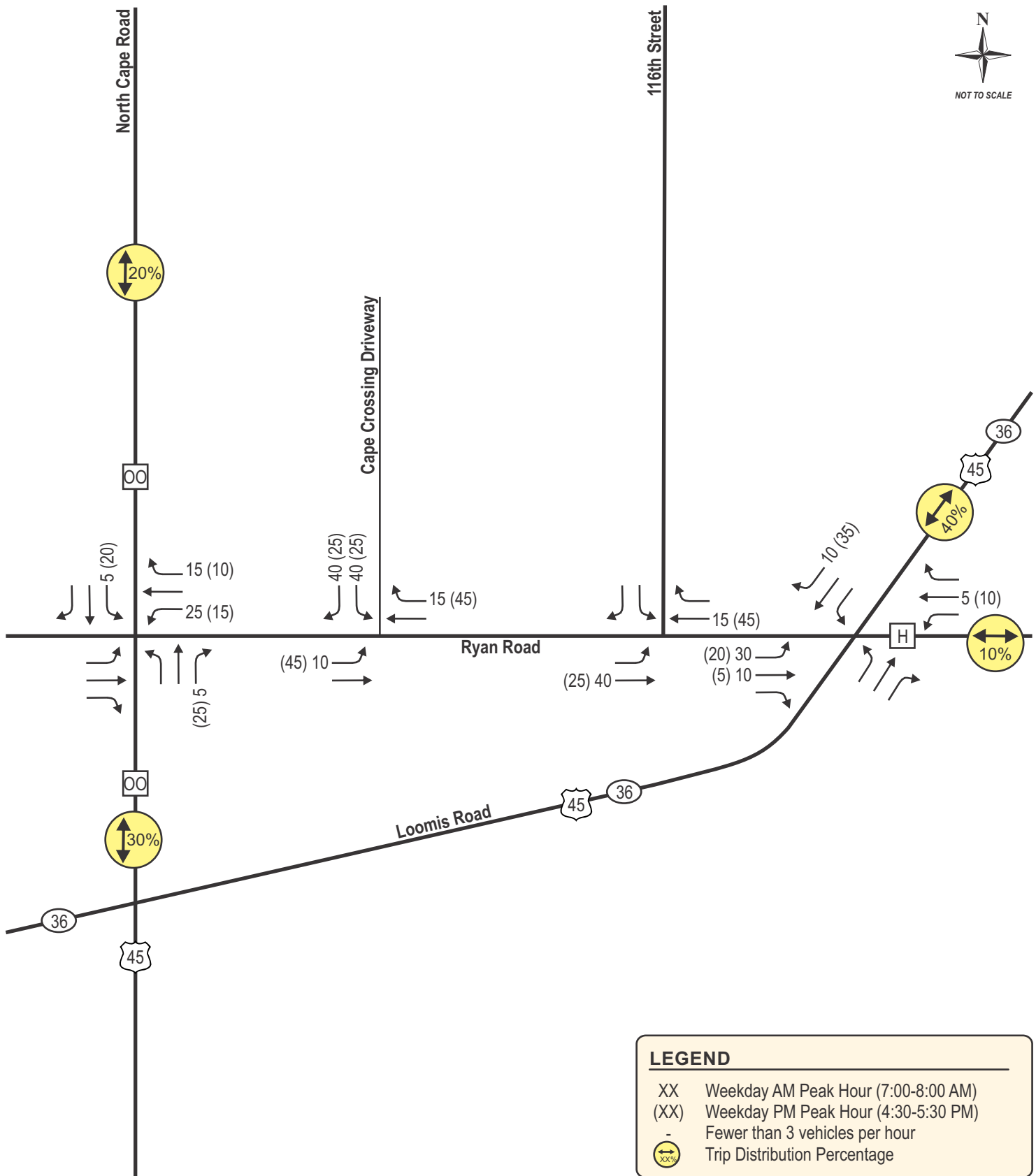
-  Traffic Signal Control
-  Stop Control
-  Existing Lane Configuration
-  Existing Storage Length (in Feet)
-  Distance Between Roadways (in Feet)
-  Divided Roadway Median

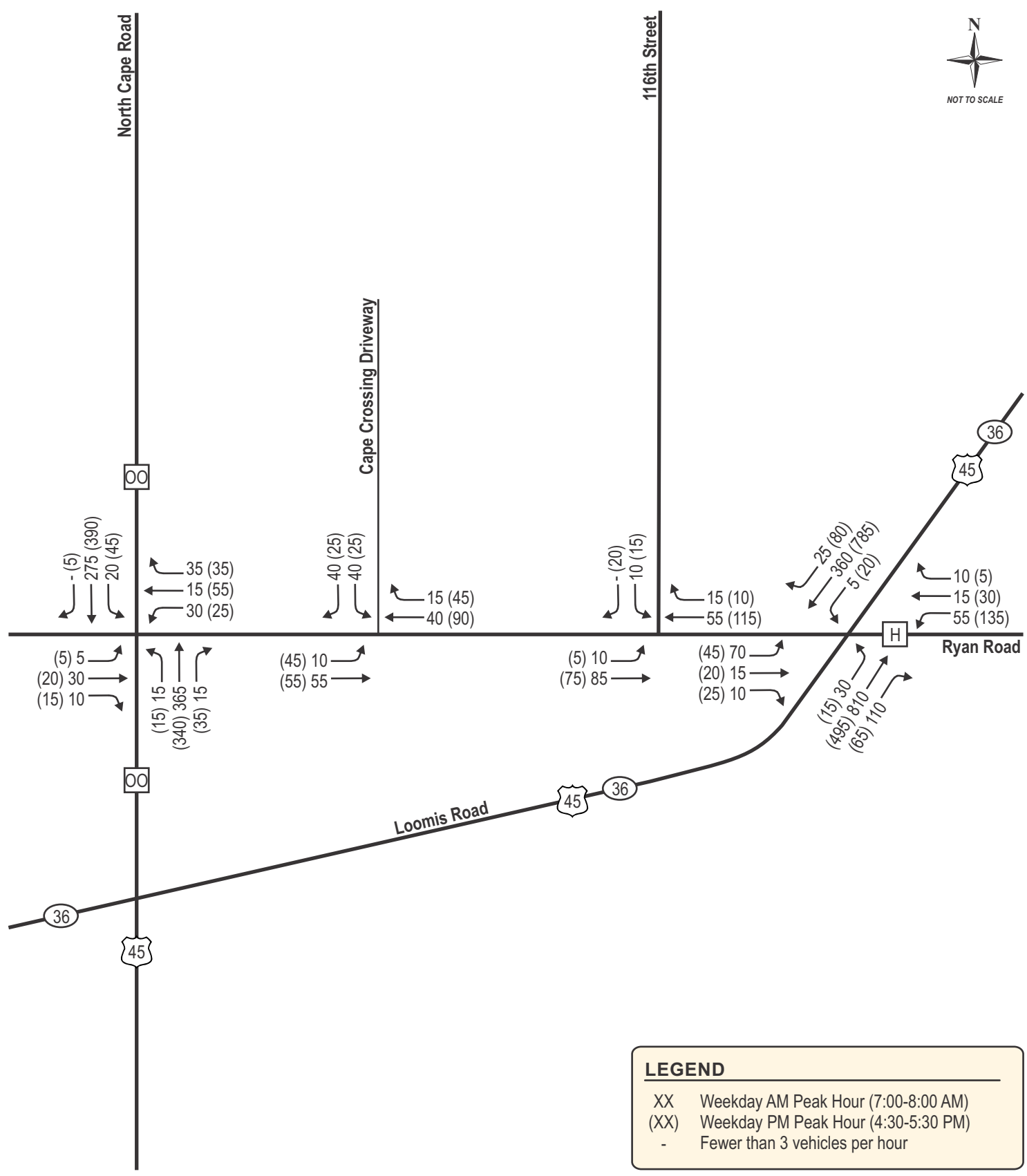


Source: Google Earth



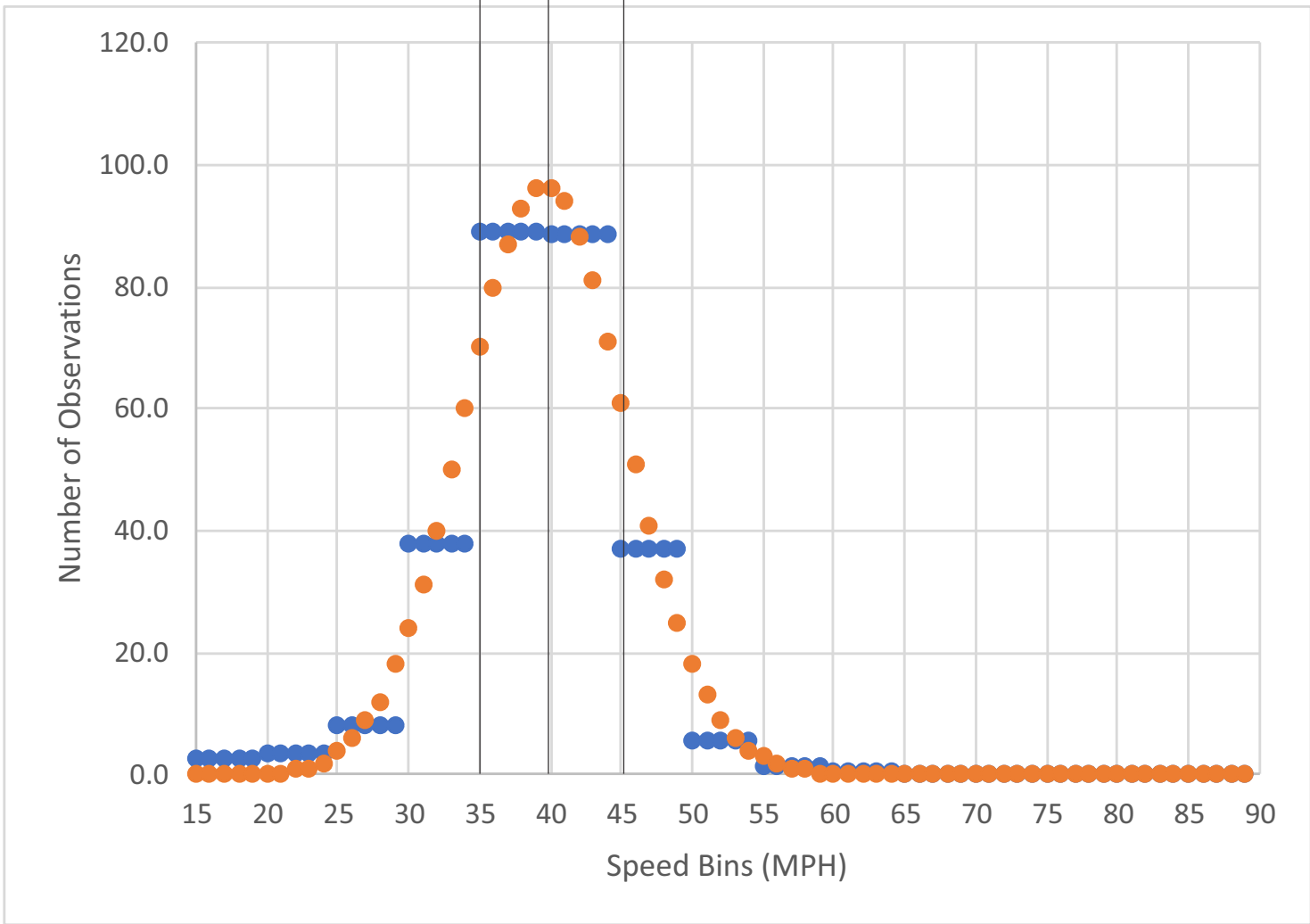






LEGEND

- XX Weekday AM Peak Hour (7:00-8:00 AM)
- (XX) Weekday PM Peak Hour (4:30-5:30 PM)
- Fewer than 3 vehicles per hour



LEGEND

- Actual Data (5-mph Speed Bins)
- Estimated Data (1-mph Speed Bins)

APPENDIX A

Traffic Counts

PHF-HV Table

Saturation Flow Rate Calculations



Intersection Traffic Volume Report

Count Basics		Version 2013.J4.1		Page 1 of 13	
Start Date:	Thursday, October 21, 2021	Weekday	Schools in Session		
Total Number of Hours Counted:	7	Non-Holiday	No Special Events		

Base Information, Observed (7) Hour and Estimated (24) Hour Volume Summaries

Intersection of: **North Cape Road and CTH H - Ryan Road**

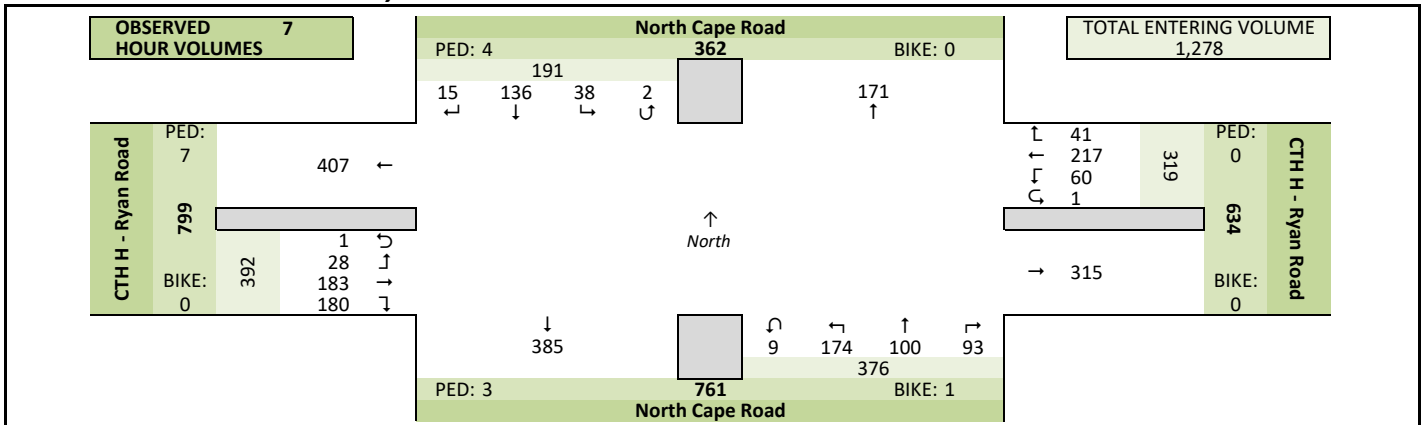
Site Information

Municipality	City of Franklin		
County	Milwaukee	WisDOT Region	SE
Traffic Control	Partial Stop Control		
Roadway Names	North Direction ↑		
North Leg	North Cape Road		
East Leg	CTH H - Ryan Road		
South Leg	North Cape Road		
West Leg	CTH H - Ryan Road		
Special Considerations			
Schools	In Session		
Holidays	None		
Special Events	None		
Special Pedestrians Observed			
	Pre-school children	None	
	Elementary school age children	None	
	Visually impaired (white cane/helper dog)	None	
	Elderly/disabled (except wheelchairs)	None	
	Wheelchairs/electric scooters	None	
Other (describe)		None	None

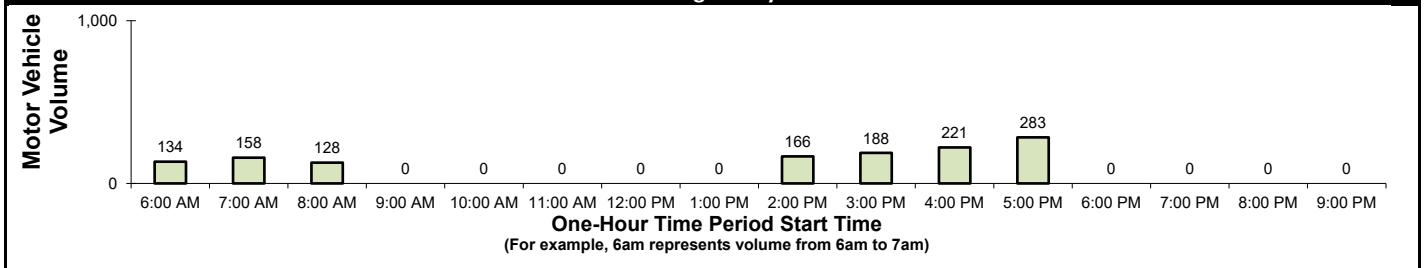
Count Information

Hrs Counted:	6:00 AM-9:00 AM and 2:00 PM-6:00 PM		
1st Day of Count	Thursday, October 21, 2021		Weather
AM Peak Period	Thursday, October 21, 2021		Clear & Dry
Midday Peak Period	Thursday, October 21, 2021		Clear & Dry
PM Peak Period	Thursday, October 21, 2021		Clear & Dry
Calculated Peak Hours			
	AM	6:45-7:45am	MD
			PM
			5:00-6:00pm
Peak Hours Selected for Analysis			
	AM	7:00-8:00am	MD
			PM
			4:30-5:30pm
Daily/Seasonal Adjustment Group	(2) Urban Arterials & Collectors		
Count Expansion Group	(2) Urban Arterials & Collectors		
Daily/Seasonal Adjustment Factor	0.890	Count Expansion Factor	2.090
Company Name	TADI, Inc.		Manual Adj.
			1.000
Observers	AM Peak Period	Wendy Picard	
	Midday Peak Period	None	
	PM Peak Period	Larry Numerich	
Comments	2019 DOT Seasonal Factors		

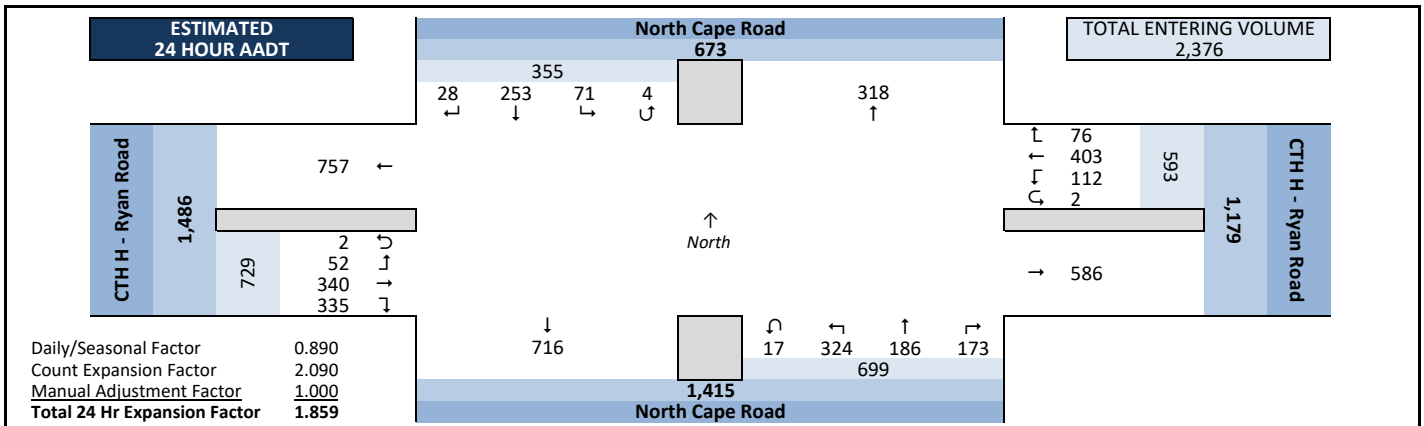
Observed 7 Hour Volume Summary



Total Entering Hourly Volume



Estimated 24 Hour AADT

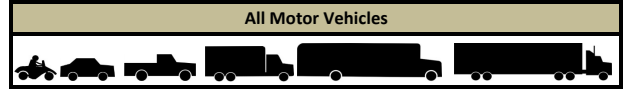


Intersection Traffic Volume Report

Count Basics		Page 3 of 13	
Start Date:	Thursday, October 21, 2021	Weekday	Schools in Session
Total Number of Hours Counted:	7	Non-Holiday	No Special Events

Peak Hour Volume Summary

North Cape Road and CTH H - Ryan Road



Peak Hour Volumes, Truck Percentages, and PHFs

Thursday, October 21, 2021		From North					From East					From South					From West					Totals					
		North Cape Road					CTH H - Ryan Road					North Cape Road					CTH H - Ryan Road										
AM Peak Hour		Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total						
Start Time																											
7:00 AM		0	6	0	0	6	3	1	2	0	6	3	3	10	0	16	7	6	0	0	13	4	1	0	0	5	41
7:15 AM		0	1	3	0	4	0	3	2	0	5	5	1	9	1	16	6	9	0	0	15	0	0	0	0	0	40
7:30 AM		0	0	0	0	0	0	6	3	0	9	7	1	6	1	15	9	5	1	0	15	0	0	0	0	0	39
7:45 AM		0	3	0	0	3	0	3	0	0	3	8	1	8	0	17	3	10	2	0	15	0	0	0	0	0	38
Peak Hour Volume		0	10	3	0	13	3	13	7	0	23	23	6	33	2	64	25	30	3	0	58	0	0	0	0	0	158
Rounded Hourly Volume		0	10	5	0	15	5	15	5	0	25	25	5	35	0	65	25	30	5	0	60	0	0	0	0	0	165
% Single Unit Trucks		0.0	20.0	33.3	0.0	23.1	66.7	7.7	14.3	0.0	17.4	13.0	16.7	15.2	0.0	14.1	4.0	6.7	0.0	0.0	5.2	0.0	0.0	0.0	0.0	0.0	12.0
% 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	0.0	0.0	0.0	0.0	0.0
% Trucks (Total)		0.0	20.0	33.3	0.0	23.1	66.7	7.7	14.3	0.0	17.4	13.0	16.7	15.2	0.0	14.1	4.0	6.7	0.0	0.0	5.2	0.0	0.0	0.0	0.0	0.0	12.0
Peak Hour Factor (PHF)		0.00	0.42	0.25	0.00	0.54	0.25	0.54	0.58	0.00	0.64	0.72	0.50	0.82	0.50	0.94	0.69	0.75	0.37	0.00	0.97	0.00	0.00	0.00	0.00	0.00	0.96

N/A		From North					From East					From South					From West					Totals					
		North Cape Road					CTH H - Ryan Road					North Cape Road					CTH H - Ryan Road										
Midday (MD) Peak Hour		Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total						
Start Time																											
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
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
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
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
Peak Hour Volume		0	0	0	0	0	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	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	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	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	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	0.00	0.00	0.00	0.00	0.00

Thursday, October 21, 2021		From North					From East					From South					From West					Totals					
		North Cape Road					CTH H - Ryan Road					North Cape Road					CTH H - Ryan Road										
PM Peak Hour		Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total						
Start Time																											
4:30 PM		0	12	0	0	12	2	10	4	0	16	1	4	9	1	15	7	10	3	0	20	0	0	0	0	0	63
4:45 PM		0	3	3	0	6	1	13	2	1	17	7	3	6	0	16	9	8	2	1	20	0	0	0	0	0	59
5:00 PM		1	14	2	0	17	4	16	1	0	21	3	12	11	0	26	5	5	0	0	10	0	0	0	0	0	74
5:15 PM		3	10	3	0	16	1	14	3	0	18	5	6	7	0	18	7	5	1	0	13	0	0	0	0	0	65
Peak Hour Volume		4	39	8	0	51	8	53	10	1	72	16	25	33	1	75	28	28	6	1	63	0	0	0	0	0	261
Rounded Hourly Volume		5	40	10	0	55	10	55	10	0	75	15	25	35	0	75	30	30	5	0	65	0	0	0	0	0	270
% Single Unit Trucks		0.0	5.1	0.0	0.0	3.9	12.5	0.0	0.0	0.0	1.4	0.0	8.0	6.1	0.0	5.3	3.6	7.1	0.0	0.0	4.8	0.0	0.0	0.0	0.0	0.0	3.8
% 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	0.0	0.0	0.0	0.0	0.0
% Trucks (Total)		0.0	5.1	0.0	0.0	3.9	12.5	0.0	0.0	0.0	1.4	0.0	8.0	6.1	0.0	5.3	3.6	7.1	0.0	0.0	4.8	0.0	0.0	0.0	0.0	0.0	3.8
Peak Hour Factor (PHF)		0.33	0.70	0.67	0.00	0.75	0.50	0.83	0.62	0.25	0.86	0.57	0.52	0.75	0.25	0.72	0.78	0.70	0.50	0.25	0.79	0.00	0.00	0.00	0.00	0.00	0.88

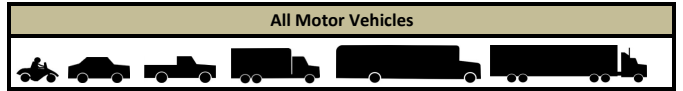
Peak Hour Pedestrian and Bicyclist Volumes

Pedestrians and Bicyclists		Crossing North Approach			Crossing East Approach			Crossing South Approach			Crossing West Approach			Total Ped & Bike Volume
		North Cape Road			CTH H - Ryan Road			North Cape Road			CTH H - Ryan Road			
15-Minute Start Time		Pedestrian	Bicyclist	Total	Pedestrian	Bicyclist	Total	Pedestrian	Bicyclist	Total	Pedestrian	Bicyclist	Total	
AM	7:00 AM	2	0	2	0	0	0	0	0	0	0	0	0	2
	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	1	1	0	0	0	1
	Total	2	0	2	0	0	0	0	1	1	0	0	0	3
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	4:30 PM	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
	5:00 PM	0	0	0	0	0	0	2	0	2	1	0	1	3
	5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	Total	0	0	0	0	0	0	2	0	2	1	0	1	3

Intersection Traffic Volume Report

15-Minute Motor Vehicle Data

North Cape Road and CTH H - Ryan Road



15-Minute Motor Vehicle Data

15-Minute Time Period	From North					From East					From South					From West					15-Min Totals	Hourly Sum	PHF
	North Cape Road					CTH H - Ryan Road					North Cape Road					CTH H - Ryan Road							
	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total			
6:00 AM	0	3	0	0	3	2	7	0	0	9	1	2	2	0	5	5	0	4	0	4	21	134	0.76
6:15 AM	1	4	5	0	10	2	9	1	0	12	1	3	1	0	5	4	2	2	0	8	35	154	0.88
6:30 AM	0	3	2	0	5	0	6	1	0	7	1	4	3	0	8	5	7	2	0	14	34	159	0.90
6:45 AM	0	8	1	0	9	1	5	5	0	11	2	2	5	0	9	6	9	0	0	15	44	164	0.93
7:00 AM	0	6	0	0	6	3	1	2	0	6	3	3	10	0	16	7	6	0	0	13	41	158	0.96
7:15 AM	0	1	3	0	4	0	3	2	0	5	5	1	9	1	16	6	9	0	0	15	40	150	0.94
7:30 AM	0	0	0	0	0	0	6	3	0	9	7	1	6	1	15	9	5	1	0	15	39	137	0.88
7:45 AM	0	3	0	0	3	0	3	0	0	3	8	1	8	0	17	3	10	2	0	15	38	138	0.86
8:00 AM	1	2	1	0	4	0	3	1	0	4	2	0	5	0	7	7	11	0	0	18	33	128	0.80
8:15 AM	0	3	0	1	4	0	5	2	0	7	2	1	5	0	8	4	4	0	0	8	27		
8:30 AM	0	1	1	0	2	0	6	1	0	7	6	2	6	0	14	8	8	1	0	17	40		
8:45 AM	0	0	0	0	0	0	3	1	0	4	5	0	5	0	10	8	5	1	0	14	28		
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		
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		
2:00 PM	1	6	1	0	8	0	9	4	0	13	2	0	2	0	4	8	3	0	0	11	36	166	0.74
2:15 PM	1	3	2	0	6	0	4	3	0	7	5	5	4	2	16	3	6	2	0	11	40	174	0.78
2:30 PM	0	3	3	0	6	0	7	2	0	9	0	5	6	0	11	2	6	0	0	8	34	174	0.78
2:45 PM	0	7	1	0	8	2	8	2	0	12	3	2	9	1	15	12	9	0	0	21	56	192	0.86
3:00 PM	0	4	0	0	4	3	10	4	0	17	4	2	5	0	11	8	3	1	0	12	44	188	0.90
3:15 PM	0	2	1	0	3	0	8	4	0	12	1	0	2	1	4	7	14	0	0	21	40	201	0.88
3:30 PM	1	1	1	0	3	1	11	3	0	15	2	4	11	0	17	13	2	2	0	17	52	203	0.89
3:45 PM	0	3	1	1	5	1	12	0	0	13	6	6	6	0	18	7	8	1	0	16	52	214	0.85
4:00 PM	1	5	1	0	7	4	11	0	0	15	2	7	10	0	19	7	8	1	0	16	57	221	0.88
4:15 PM	2	4	2	0	8	1	6	2	0	9	2	2	4	1	9	10	4	2	0	16	42	238	0.80
4:30 PM	0	12	0	0	12	2	10	4	0	16	1	4	9	1	15	7	10	3	0	20	63	261	0.88
4:45 PM	0	3	3	0	6	1	13	2	1	17	7	3	6	0	16	9	8	2	1	20	59	268	0.91
5:00 PM	1	14	2	0	17	4	16	1	0	21	3	12	11	0	26	5	5	0	0	10	74	283	0.96
5:15 PM	3	10	3	0	16	1	14	3	0	18	5	6	7	0	18	7	5	1	0	13	65		
5:30 PM	1	12	2	0	15	7	15	3	0	25	3	10	8	0	21	4	4	1	0	9	70		
5:45 PM	2	13	2	0	17	6	6	4	0	16	4	12	9	1	26	4	8	3	0	15	74		
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	15	136	38	2	191	41	217	60	1	319	93	100	174	9	376	180	183	28	1	392	1278		

Peak Hour All Vehicle Volume Summary

Hourly Time Period	From North					From East					From South					From West					Total Hourly Volume	PHF
	North Cape Road					CTH H - Ryan Road					North Cape Road					CTH H - Ryan Road						
	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	10	3	0	13	3	13	7	0	23	23	6	33	2	64	25	30	3	0	58	158	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	0.88
PM 4:30 PM	4	39	8	0	51	8	53	10	1	72	16	25	33	1	75							

Intersection Traffic Volume Report

Count Basics			Page 9 of 13
Start Date:	Thursday, October 21, 2021	Weekday	Schools in Session
Total Number of Hours Counted:	7	Non-Holiday	No Special Events

15-Minute Heavy Vehicle Data

North Cape Road and CTH H - Ryan Road



15-Minute Heavy Vehicle Data

15-Minute Time Period	From North					From East					From South					From West					15-Min Totals	Hourly Sum	
	North Cape Road					CTH H - Ryan Road					North Cape Road					CTH H - Ryan Road							
	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total			
6:00 AM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	1	0	0	0	0	0	0	2	13
6:15 AM	1	1	0	0	2	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	22
6:30 AM	0	1	0	0	1	0	1	0	0	1	0	1	0	0	1	1	0	1	0	0	2	21	
6:45 AM	0	2	1	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	19	
7:00 AM	0	2	0	0	2	2	0	0	0	2	2	0	3	0	5	1	1	0	0	2	11	19	
7:15 AM	0	0	1	0	1	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	8	
7:30 AM	0	0	0	0	0	0	0	1	0	1	0	1	0	0	1	0	1	0	0	1	3	9	
7:45 AM	0	0	0	0	0	0	1	0	0	1	0	0	2	0	2	0	0	0	0	0	0	12	
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	13	
8:15 AM	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	3	
8:30 AM	0	0	0	0	0	0	1	0	0	1	0	2	1	0	3	1	1	0	0	2	6		
8:45 AM	0	0	0	0	0	0	0	0	0	0	2	0	0	0	2	1	1	0	0	2	4		
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	
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	
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	
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	
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	
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	
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	
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	
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	
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	
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	
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	
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	
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	
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	
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	
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	
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	
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	
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	
2:00 PM	0	2	1	0	3	0	0	1	0	1	0	0	1	0	1	1	0	0	0	1	6	25	
2:15 PM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	1	20	
2:30 PM	0	1	1	0	2	0	0	1	0	1	0	3	1	0	4	0	0	0	0	0	7	25	
2:45 PM	0	2	0	0	2	0	1	0	0	1	0	1	3	0	4	3	1	0	0	4	11	26	
3:00 PM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1	17	
3:15 PM	0	1	1	0	2	0	1	2	0	3	0	0	0	0	0	0	1	0	0	1	6	23	
3:30 PM	1	1	1	0	3	0	0	0	0	0	1	4	0	0	5	0	0	0	0	0	8	20	
3:45 PM	0	0	0	0	0	0	1	0	0	1	1	0	0	0	1	0	0	0	0	0	2	18	
4:00 PM	0	0	0	0	0	0	1	0	0	1	1	1	1	0	3	1	1	1	0	3	7	16	
4:15 PM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	2	0	0	0	2	3	12	
4:30 PM	0	1	0	0	1	1	0	0	0	1	0	1	0	0	1	1	2	0	0	3	6	10	
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	
5:00 PM	0	1	0	0	1	0	0	0	0	0	0	1	1	0	2	0	0	0	0	0	3	11	
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1	0	
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1	0	0	0	1	2	0	
5:45 PM	0	1	1	0	2	0	0	0	0	0	0	1	1	0	2	0	0	1	0	1	5	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	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	
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	
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	
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	
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	
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	
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	
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	
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	
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	
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	
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	
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	
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	
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	
Totals	2	18	7	0	27	4	9	5	0	18	9	15	19	0	43	14	9	3	0	26	114		

Peak Hour Heavy Vehicle Volume Summary

Hourly Time Period	From North					From East					From South					From West					Total Hourly Volume	
	North Cape Road					CTH H - Ryan Road					North Cape Road					CTH H - Ryan Road						
	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	2	1	0	3	2	1	1	0	4	3	1	5	0	9	1	2	0	0	3	19	
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
PM 4:30 PM	0	2	0	0	2	1	0	0	0	1	0	2	2	0	4	1	2	0	0	3	10	

Intersection Traffic Volume Report

Count Basics		Version 2013.J4.1		Page 1 of 13	
Start Date:	Friday, October 22, 2021	Weekday	Schools in Session		
Total Number of Hours Counted:	7	Non-Holiday	No Special Events		

Base Information, Observed (7) Hour and Estimated (24) Hour Volume Summaries

Intersection of: **116th Street and CTH H - Ryan Road**

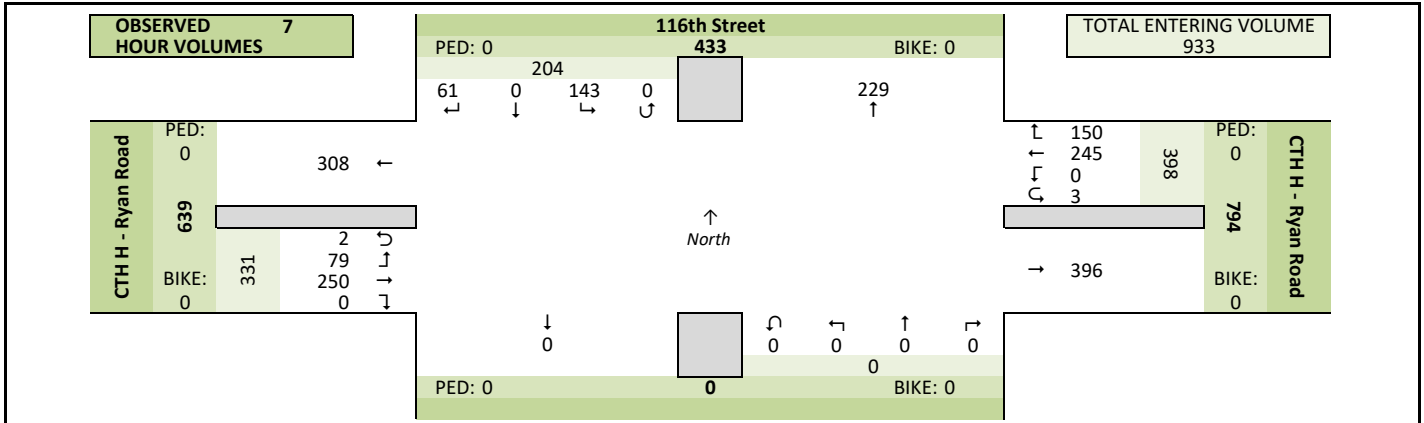
Site Information

Municipality	City of Franklin		
County	Milwaukee	WisDOT Region	SE
Traffic Control	Partial Stop Control		
Roadway Names	North Direction ↑		
North Leg	116th Street		
East Leg	CTH H - Ryan Road		
South Leg			
West Leg	CTH H - Ryan Road		
Special Considerations			
Schools	In Session		
Holidays	None		
Special Events	None		
Special Pedestrians Observed			
	Pre-school children	None	
	Elementary school age children	None	
	Visually impaired (white cane/helper dog)	None	
	Elderly/disabled (except wheelchairs)	None	
	Wheelchairs/electric scooters	None	
Other (describe)		None	None

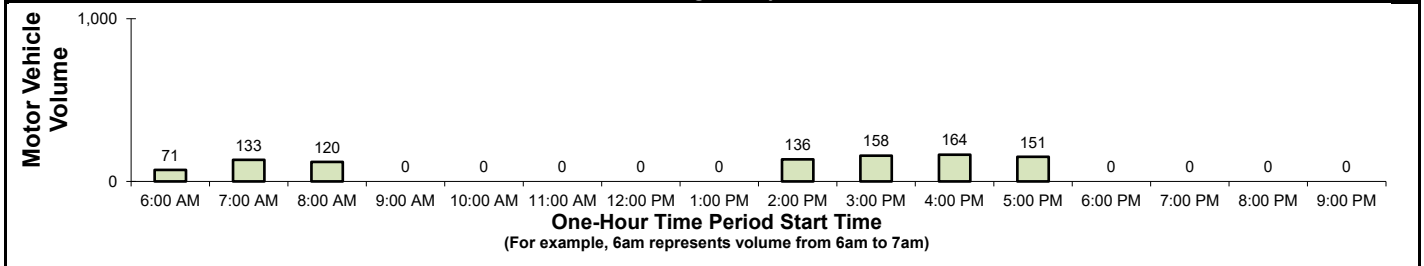
Count Information

Hrs Counted:	6:00 AM-9:00 AM and 2:00 PM-6:00 PM		
1st Day of Count	Friday, October 22, 2021		Weather
AM Peak Period	Friday, October 22, 2021		Clear & Dry
Midday Peak Period	Friday, October 22, 2021		Clear & Dry
PM Peak Period	Monday, October 25, 2021		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
			4:30-5:30pm
Daily/Seasonal Adjustment Group	(2) Urban Arterials & Collectors		
Count Expansion Group	(2) Urban Arterials & Collectors		
Daily/Seasonal Adjustment Factor	0.870	Count Expansion Factor	2.090
Company Name	TADI, Inc.		Manual Adj.
			1.000
Observers	AM Peak Period	Jeff Schleif	
	Midday Peak Period	None	
	PM Peak Period	Larry Numerich	
Comments	2019 DOT Seasonal Factors		

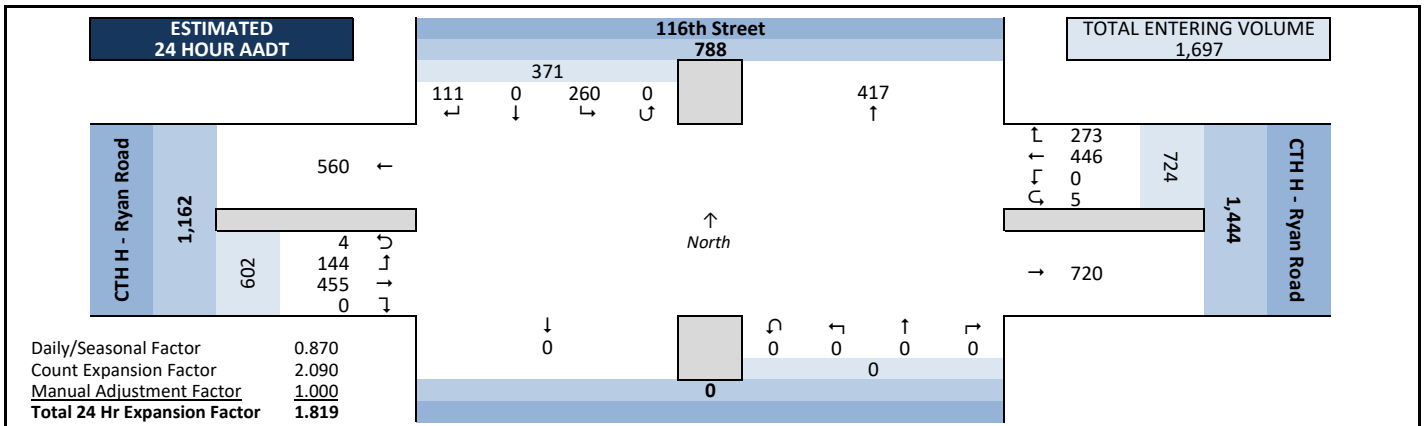
Observed 7 Hour Volume Summary



Total Entering Hourly Volume



Estimated 24 Hour AADT

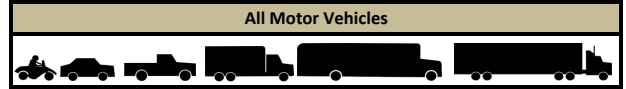


Intersection Traffic Volume Report

Count Basics		Page 3 of 13	
Start Date:	Friday, October 22, 2021	Weekday	Schools in Session
Total Number of Hours Counted:	7	Non-Holiday	No Special Events

Peak Hour Volume Summary

116th Street and CTH H - Ryan Road



Peak Hour Volumes, Truck Percentages, and PHFs

Friday, October 22, 2021		From North					From East					From South					From West					Totals	
AM Peak Hour	Start Time	116th Street					CTH H - Ryan Road					CTH H - Ryan Road											
		Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total		
7:00 AM		0	0	6	0	6	9	2	0	0	11	0	0	0	0	0	0	0	13	2	0	15	32
7:15 AM		1	0	12	0	13	7	5	0	1	13	0	0	0	0	0	0	0	5	7	0	12	38
7:30 AM		0	0	2	0	2	7	6	0	1	14	0	0	0	0	0	0	0	11	7	0	18	34
7:45 AM		0	0	0	0	0	9	5	0	0	14	0	0	0	0	0	0	0	7	8	0	15	29
Peak Hour Volume		1	0	20	0	21	32	18	0	2	52	0	0	0	0	0	0	0	36	24	0	60	133
Rounded Hourly Volume		0	0	20	0	20	30	20	0	0	50	0	0	0	0	0	0	0	35	25	0	60	130
% Single Unit Trucks		0.0	0.0	40.0	0.0	38.1	6.2	5.6	0.0	0.0	5.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.8	4.2	0.0	3.3	9.8
% 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	0.0
% Trucks (Total)		0.0	0.0	40.0	0.0	38.1	6.2	5.6	0.0	0.0	5.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.8	4.2	0.0	3.3	9.8
Peak Hour Factor (PHF)		0.25	0.00	0.42	0.00	0.40	0.89	0.75	0.00	0.50	0.93	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.69	0.75	0.00	0.83	0.87

N/A		From North					From East					From South					From West					Totals	
Midday (MD) Peak Hour	Start Time	116th Street					CTH H - Ryan Road					CTH H - Ryan Road											
		Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total		
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
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
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
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
Peak Hour Volume		0	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	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	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	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	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	0.00

Monday, October 25, 2021		From North					From East					From South					From West					Totals	
PM Peak Hour	Start Time	116th Street					CTH H - Ryan Road					CTH H - Ryan Road											
		Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total		
4:30 PM		4	0	5	0	9	5	10	0	0	15	0	0	0	0	0	0	0	12	1	0	13	37
4:45 PM		1	0	10	0	11	9	18	0	0	27	0	0	0	0	0	0	0	5	2	0	7	45
5:00 PM		7	0	5	0	12	1	14	0	0	15	0	0	0	0	0	0	0	6	3	0	9	36
5:15 PM		6	0	9	0	15	7	14	0	0	21	0	0	0	0	0	0	0	8	3	0	11	47
Peak Hour Volume		18	0	29	0	47	22	56	0	0	78	0	0	0	0	0	0	0	31	9	0	40	165
Rounded Hourly Volume		20	0	30	0	50	20	55	0	0	75	0	0	0	0	0	0	0	30	10	0	40	165
% Single Unit Trucks		0.0	0.0	10.3	0.0	6.4	4.5	3.6	0.0	0.0	3.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	6.5	0.0	0.0	5.0	4.8
% Heavy Trucks		0.0	0.0	0.0	0.0	0.0	0.0	1.8	0.0	0.0	1.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.2	0.0	0.0	2.5	1.2
% Trucks (Total)		0.0	0.0	10.3	0.0	6.4	4.5	5.4	0.0	0.0	5.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	9.7	0.0	0.0	7.5	6.1
Peak Hour Factor (PHF)		0.64	0.00	0.72	0.00	0.78	0.61	0.78	0.00	0.00	0.72	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.65	0.75	0.00	0.77	0.88

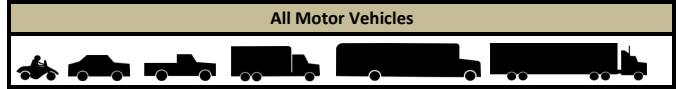
Peak Hour Pedestrian and Bicyclist Volumes

Pedestrians and Bicyclists		Crossing North Approach			Crossing East Approach			Crossing South Approach			Crossing West Approach			Total Ped & Bike Volume
15-Minute Start Time		116th Street			CTH H - Ryan Road			CTH H - Ryan Road						
		Pedestrian	Bicyclist	Total	Pedestrian	Bicyclist	Total	Pedestrian	Bicyclist	Total	Pedestrian	Bicyclist	Total	
7:00 AM	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
12:00 PM	MD	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
4:30 PM	PM	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
5:00 PM		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
Total		0	0	0	0	0	0	0	0	0	0	0	0	0

Intersection Traffic Volume Report

15-Minute Motor Vehicle Data

116th Street and CTH H - Ryan Road



15-Minute Motor Vehicle Data

15-Minute Time Period	From North					From East					From South					From West					15-Min Totals	Hourly Sum	PHF
	116th Street					CTH H - Ryan Road					CTH H - Ryan Road					CTH H - Ryan Road							
	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total			
6:00 AM	1	0	2	0	3	3	11	0	0	14	0	0	0	0	0	0	3	0	0	3	20	71	0.89
6:15 AM	0	0	2	0	2	1	2	0	0	3	0	0	0	0	0	0	11	0	0	11	16	83	0.65
6:30 AM	0	0	2	0	2	7	4	0	0	11	0	0	0	0	0	0	4	1	0	5	18	105	0.69
6:45 AM	1	0	1	0	2	3	2	0	0	5	0	0	0	0	0	0	7	3	0	10	17	121	0.80
7:00 AM	0	0	6	0	6	9	2	0	0	11	0	0	0	0	0	0	13	2	0	15	32	133	0.88
7:15 AM	1	0	12	0	13	7	5	0	1	13	0	0	0	0	0	0	5	7	0	12	38	129	0.85
7:30 AM	0	0	2	0	2	7	6	0	1	14	0	0	0	0	0	0	11	7	0	18	34	121	0.89
7:45 AM	0	0	0	0	0	9	5	0	0	14	0	0	0	0	0	0	7	8	0	15	29	115	0.96
8:00 AM	1	0	9	0	10	2	3	0	0	5	0	0	0	0	0	0	9	4	0	13	28	120	0.88
8:15 AM	0	0	6	0	6	6	6	0	0	12	0	0	0	0	0	0	7	4	1	12	30		
8:30 AM	1	0	1	0	2	4	3	0	0	7	0	0	0	0	0	0	13	6	0	19	28		
8:45 AM	5	0	6	0	11	7	2	0	0	9	0	0	0	0	0	0	12	2	0	14	34		
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		
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		
2:00 PM	3	0	4	0	7	5	6	0	0	11	0	0	0	0	0	0	11	3	0	14	32	136	0.77
2:15 PM	2	0	7	0	9	6	5	0	0	11	0	0	0	0	0	0	4	0	0	4	24	142	0.81
2:30 PM	3	0	1	0	4	10	14	0	0	24	0	0	0	0	0	0	13	3	0	16	44	151	0.86
2:45 PM	2	0	4	0	6	6	10	0	0	16	0	0	0	0	0	0	12	2	0	14	36	154	0.82
3:00 PM	2	0	8	0	10	4	12	0	1	17	0	0	0	0	0	0	7	4	0	11	38	158	0.84
3:15 PM	3	0	5	0	8	2	11	0	0	13	0	0	0	0	0	0	11	1	0	12	33	160	0.85
3:30 PM	2	0	5	0	7	5	22	0	0	27	0	0	0	0	0	0	12	1	0	13	47	169	0.90
3:45 PM	2	0	5	0	7	9	10	0	0	19	0	0	0	0	0	0	12	2	0	14	40	159	0.95
4:00 PM	2	0	8	0	10	4	13	0	0	17	0	0	0	0	0	0	10	2	1	13	40	164	0.91
4:15 PM	2	0	10	0	12	6	16	0	0	22	0	0	0	0	0	0	6	2	0	8	42	160	0.89
4:30 PM	4	0	5	0	9	5	10	0	0	15	0	0	0	0	0	0	12	1	0	13	37	165	0.88
4:45 PM	1	0	10	0	11	9	18	0	0	27	0	0	0	0	0	0	5	2	0	7	45	166	0.88
5:00 PM	7	0	5	0	12	1	14	0	0	15	0	0	0	0	0	0	6	3	0	9	36	151	0.80
5:15 PM	6	0	9	0	15	7	14	0	0	21	0	0	0	0	0	0	8	3	0	11	47		
5:30 PM	3	0	5	0	8	4	12	0	0	16	0	0	0	0	0	0	11	3	0	14	38		
5:45 PM	7	0	3	0	10	2	7	0	0	9	0	0	0	0	0	0	8	3	0	11	30		
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	61	0	143	0	204	150	245	0	3	398	0	0	0	0	0	0	250	79	2	331	933		

Peak Hour All Vehicle Volume Summary

Hourly Time Period	From North					From East					From South					From West					Total Hourly Volume	PHF	
	116th Street					CTH H - Ryan Road					CTH H - Ryan Road					CTH H - Ryan Road							
	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	0	20	0	21	32	18	0	2	52	0	0	0	0	0	0	36	24	0	60	133	0.88	
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 4:30 PM	18	0	29	0	47	22	56	0	0	78	0	0	0	0	0	0	31	9	0	40	165	0.88	

Intersection Traffic Volume Report

Count Basics		Version 2013.J4.1		Page 1 of 13	
Start Date:	Friday, October 22, 2021	Weekday	Schools in Session		
Total Number of Hours Counted:	7	Non-Holiday	No Special Events		

Base Information, Observed (7) Hour and Estimated (24) Hour Volume Summaries

Intersection of: **USH 45-STH 36 -Loomis Road and CTH H - Ryan Road**

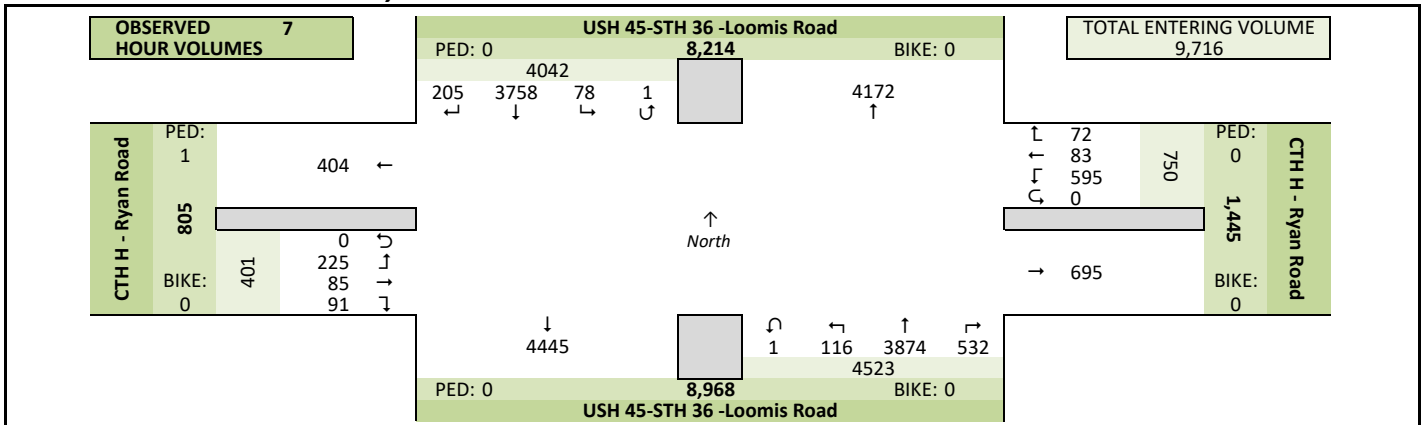
Site Information

Municipality	City of Franklin		
County	Milwaukee	WisDOT Region	SE
Traffic Control	Traffic Signal		
Roadway Names	North Direction ↑		
North Leg	USH 45-STH 36 -Loomis Road		
East Leg	CTH H - Ryan Road		
South Leg	USH 45-STH 36 -Loomis Road		
West Leg	CTH H - Ryan Road		
Special Considerations			
Schools	In Session		
Holidays	None		
Special Events	None		
Special Pedestrians Observed			
Pre-school children	None		
Elementary school age children	None		
Visually impaired (white cane/helper dog)	None		
Elderly/disabled (except wheelchairs)	None		
Wheelchairs/electric scooters	None		
Other (describe)	None		

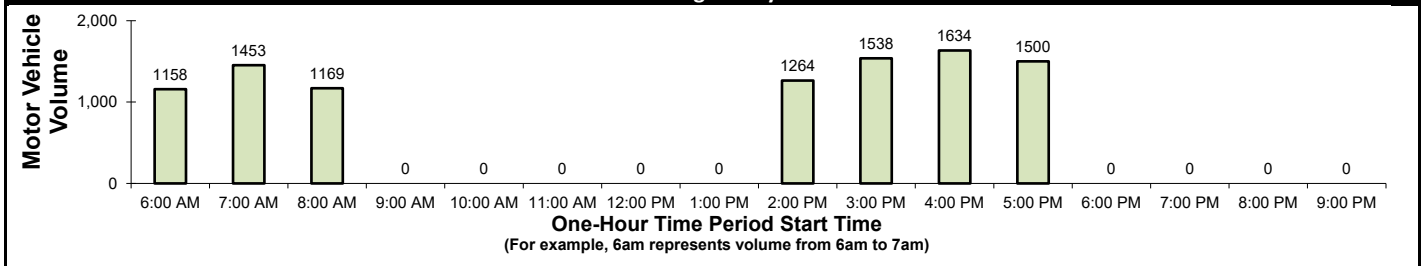
Count Information

Hrs Counted:	6:00 AM-9:00 AM and 2:00 PM-6:00 PM		
1st Day of Count	Friday, October 22, 2021	Weather	
AM Peak Period	Friday, October 22, 2021	Clear & Dry	
Midday Peak Period	Friday, October 22, 2021	Clear & Dry	
PM Peak Period	Monday, October 25, 2021	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 4:30-5:30pm
Daily/Seasonal Adjustment Group	(2) Urban Arterials & Collectors		
Count Expansion Group	(2) Urban Arterials & Collectors		
Daily/Seasonal Adjustment Factor	0.870	Count Expansion Factor	2.090
Company Name	TADI, Inc.	Manual Adj.	1.000
Observers	AM Peak Period	Amy Scheuerlein	
	Midday Peak Period	None	
	PM Peak Period	Amy Scheuerlein	
Comments	2019 DOT Seasonal Factors		

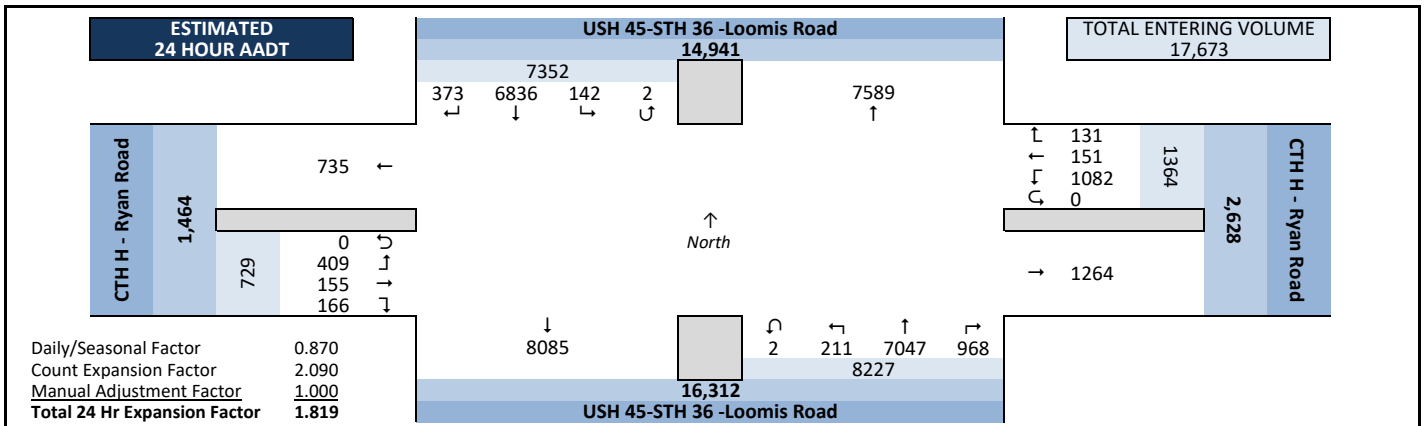
Observed 7 Hour Volume Summary



Total Entering Hourly Volume



Estimated 24 Hour AADT

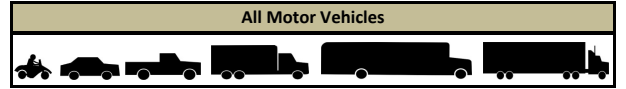


Intersection Traffic Volume Report

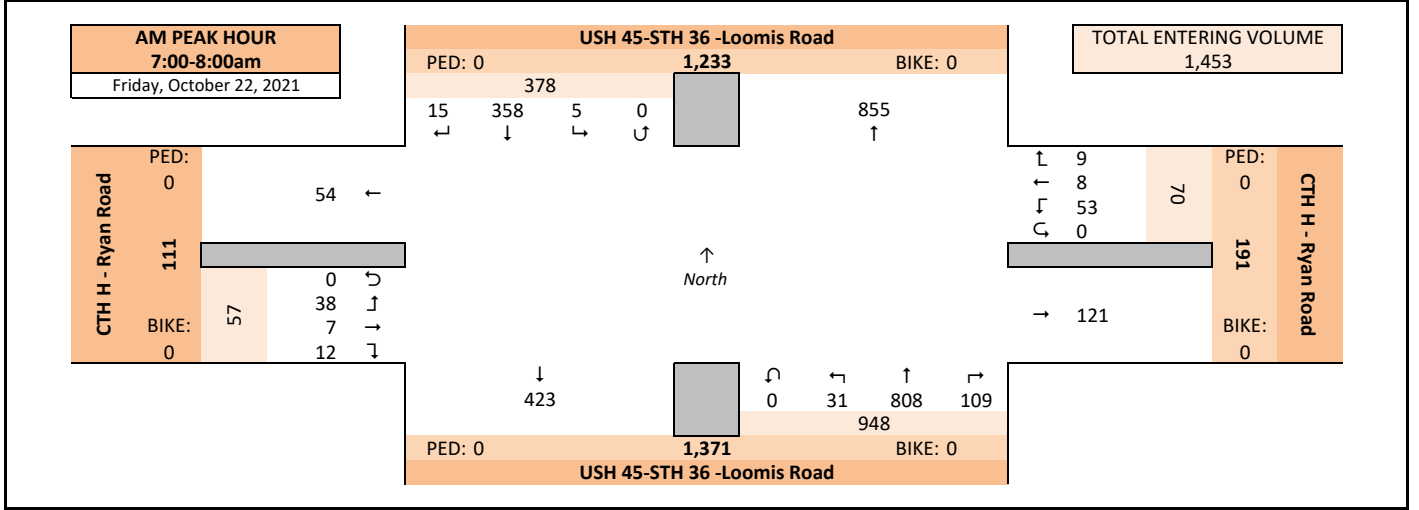
Count Basics		Page 2 of 13	
Start Date:	Friday, October 22, 2021	Weekday	Schools in Session
Total Number of Hours Counted:	7	Non-Holiday	No Special Events

Peak Hour Volume Graphical Summary

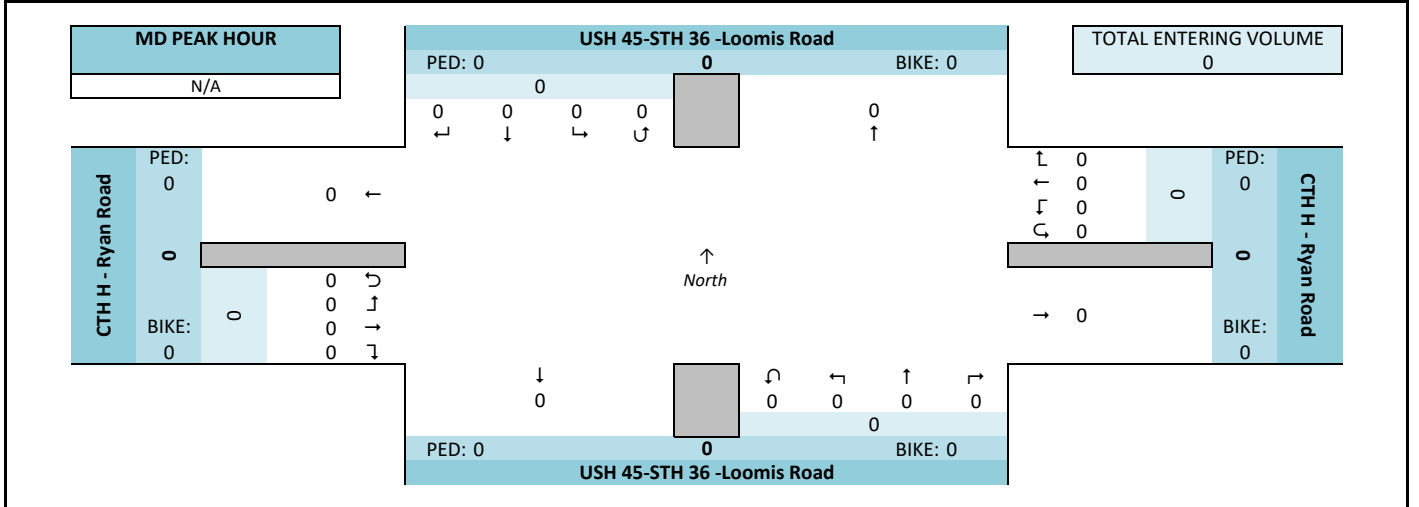
USH 45-STH 36 -Loomis Road and CTH H - Ryan Road



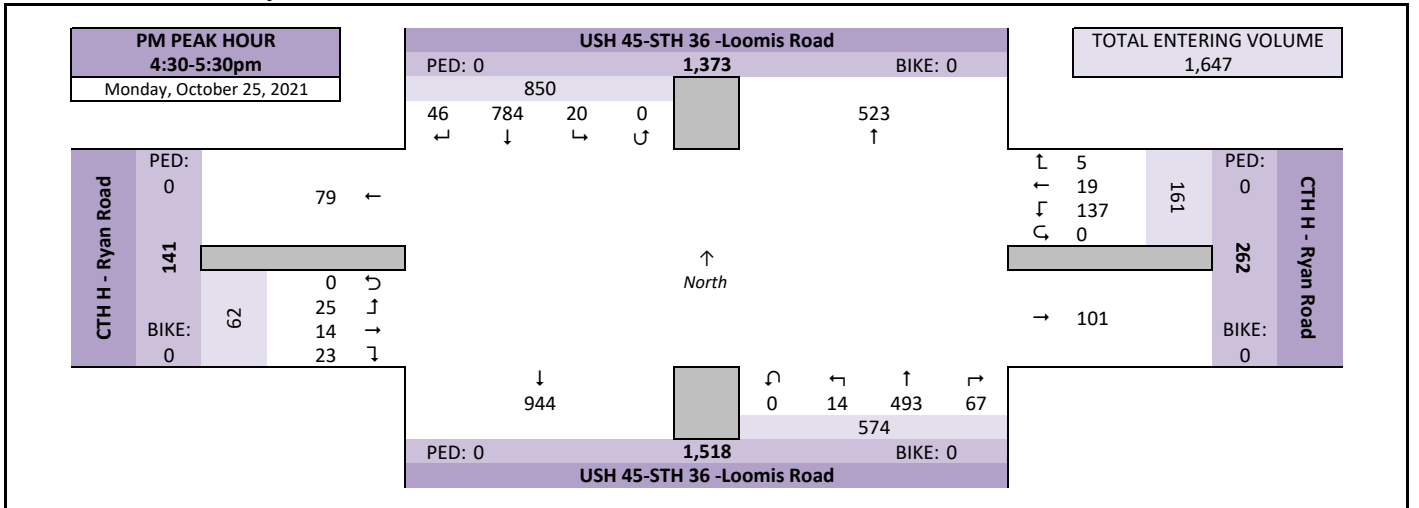
AM Peak Hour Summary



Midday (MD) Peak Hour Summary



PM Peak Hour Summary

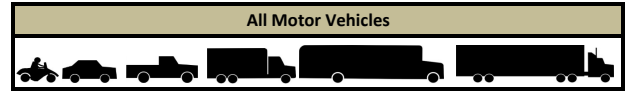


Intersection Traffic Volume Report

Count Basics		Page 3 of 13	
Start Date:	Friday, October 22, 2021	Weekday	Schools in Session
Total Number of Hours Counted:	7	Non-Holiday	No Special Events

Peak Hour Volume Summary

USH 45-STH 36 -Loomis Road and CTH H - Ryan Road



Peak Hour Volumes, Truck Percentages, and PHFs

Friday, October 22, 2021		From North					From East					From South					From West					
		USH 45-STH 36 -Loomis Road					CTH H - Ryan Road					USH 45-STH 36 -Loomis Road					CTH H - Ryan Road					
AM Peak Hour		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	Start Time																					
	7:00 AM	5	86	0	0	91	0	1	15	0	16	18	201	5	0	224	6	3	10	0	19	350
	7:15 AM	3	87	1	0	91	2	4	10	0	16	31	204	6	0	241	5	1	10	0	16	364
	7:30 AM	2	88	2	0	92	4	1	17	0	22	30	216	13	0	259	1	2	12	0	15	388
	7:45 AM	5	97	2	0	104	3	2	11	0	16	30	187	7	0	224	0	1	6	0	7	351
	Peak Hour Volume	15	358	5	0	378	9	8	53	0	70	109	808	31	0	948	12	7	38	0	57	1453
	Rounded Hourly Volume	15	360	5	0	380	10	10	55	0	75	110	810	30	0	950	10	5	40	0	55	1460
	% Single Unit Trucks	0.0	18.4	0.0	0.0	17.5	11.1	0.0	1.9	0.0	2.9	6.4	12.5	6.5	0.0	11.6	8.3	14.3	21.1	0.0	17.5	12.9
	% Heavy Trucks	0.0	3.9	0.0	0.0	3.7	0.0	0.0	0.0	0.0	0.0	0.0	2.7	0.0	0.0	2.3	0.0	0.0	0.0	0.0	0.0	2.5
	% Trucks (Total)	0.0	22.3	0.0	0.0	21.2	11.1	0.0	1.9	0.0	2.9	6.4	15.2	6.5	0.0	13.9	8.3	14.3	21.1	0.0	17.5	15.4
Peak Hour Factor (PHF)	0.75	0.92	0.62	0.00	0.91	0.56	0.50	0.78	0.00	0.80	0.88	0.94	0.60	0.00	0.92	0.50	0.58	0.79	0.00	0.75	0.94	

N/A		From North					From East					From South					From West					
		USH 45-STH 36 -Loomis Road					CTH H - Ryan Road					USH 45-STH 36 -Loomis Road					CTH H - Ryan Road					
Midday (MD) Peak Hour		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	Start Time																					
	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	

Monday, October 25, 2021		From North					From East					From South					From West					
		USH 45-STH 36 -Loomis Road					CTH H - Ryan Road					USH 45-STH 36 -Loomis Road					CTH H - Ryan Road					
PM Peak Hour		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	Start Time																					
	4:30 PM	8	202	2	0	212	2	6	39	0	47	13	128	5	0	146	4	5	8	0	17	422
	4:45 PM	15	178	6	0	199	1	3	28	0	32	22	135	7	0	164	8	2	4	0	14	409
	5:00 PM	14	206	6	0	226	1	2	32	0	35	15	128	1	0	144	4	4	2	0	10	415
	5:15 PM	9	198	6	0	213	1	8	38	0	47	17	102	1	0	120	7	3	11	0	21	401
	Peak Hour Volume	46	784	20	0	850	5	19	137	0	161	67	493	14	0	574	23	14	25	0	62	1647
	Rounded Hourly Volume	45	785	20	0	850	5	20	135	0	160	65	495	15	0	575	25	15	25	0	65	1650
	% Single Unit Trucks	4.3	3.8	10.0	0.0	4.0	0.0	10.5	0.7	0.0	1.9	1.5	8.1	0.0	0.0	7.1	13.0	14.3	4.0	0.0	9.7	5.1
	% Heavy Trucks	0.0	0.6	0.0	0.0	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.6	0.0	0.0	0.5	0.0	7.1	0.0	0.0	1.6	0.5
	% Trucks (Total)	4.3	4.5	10.0	0.0	4.6	0.0	10.5	0.7	0.0	1.9	1.5	8.7	0.0	0.0	7.7	13.0	21.4	4.0	0.0	11.3	5.6
Peak Hour Factor (PHF)	0.77	0.95	0.83	0.00	0.94	0.62	0.59	0.88	0.00	0.86	0.76	0.91	0.50	0.00	0.87	0.72	0.70	0.57	0.00	0.74	0.98	

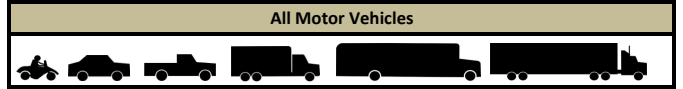
Peak Hour Pedestrian and Bicyclist Volumes

Pedestrians and Bicyclists		Crossing North Approach			Crossing East Approach			Crossing South Approach			Crossing West Approach			Total Ped & Bike
		USH 45-STH 36 -Loomis Road			CTH H - Ryan Road			USH 45-STH 36 -Loomis Road			CTH H - Ryan Road			
15-Minute Start Time		Pedestrian	Bicyclist	Total	Pedestrian	Bicyclist	Total	Pedestrian	Bicyclist	Total	Pedestrian	Bicyclist	Total	Volume
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	4:30 PM	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
	5:00 PM	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
	Total	0	0	0	0	0	0	0	0	0	0	0	0	0

Intersection Traffic Volume Report

15-Minute Motor Vehicle Data

USH 45-STH 36 -Loomis Road and CTH H - Ryan Road



15-Minute Motor Vehicle Data

15-Minute Time Period	From North					From East					From South					From West					15-Min Totals	Hourly Sum	PHF
	USH 45-STH 36 -Loomis Road					CTH H - Ryan Road					USH 45-STH 36 -Loomis Road					CTH H - Ryan Road							
	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total			
6:00 AM	9	57	1	0	67	0	2	5	0	7	20	134	3	0	157	0	2	3	0	5	236	1158	0.89
6:15 AM	1	66	4	0	71	5	1	4	0	10	31	163	1	0	195	1	1	11	0	13	289	1272	0.91
6:30 AM	4	72	2	0	78	1	1	18	0	20	28	168	6	0	202	1	0	6	0	7	307	1347	0.93
6:45 AM	2	88	0	0	90	2	0	14	0	16	38	170	3	1	212	0	4	4	0	8	326	1428	0.92
7:00 AM	5	86	0	0	91	0	1	15	0	16	18	201	5	0	224	6	3	10	0	19	350	1453	0.94
7:15 AM	3	87	1	0	91	2	4	10	0	16	31	204	6	0	241	5	1	10	0	16	364	1382	0.89
7:30 AM	2	88	2	0	92	4	1	17	0	22	30	216	13	0	259	1	2	12	0	15	388	1301	0.84
7:45 AM	5	97	2	0	104	3	2	11	0	16	30	187	7	0	224	0	1	6	0	7	351	1219	0.87
8:00 AM	4	79	0	0	83	4	1	7	0	12	22	145	0	0	167	7	0	10	0	17	279	1169	0.96
8:15 AM	5	73	5	0	83	5	5	9	0	19	20	145	4	0	169	2	4	6	0	12	283		
8:30 AM	4	87	0	0	91	3	1	7	0	11	18	168	4	0	190	0	4	10	0	14	306		
8:45 AM	1	90	2	0	93	6	4	11	0	21	18	147	4	0	169	0	4	14	0	18	301		
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		
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		
2:00 PM	5	125	0	0	130	3	3	19	0	25	10	113	4	0	127	4	2	12	0	18	300	1264	0.92
2:15 PM	6	147	6	0	159	0	2	18	0	20	13	110	3	0	126	5	2	4	0	11	316	1301	0.95
2:30 PM	10	147	5	0	162	3	7	22	0	32	11	120	6	0	137	2	1	8	0	11	342	1335	0.95
2:45 PM	6	145	2	0	153	3	4	23	0	30	12	90	5	0	107	2	5	9	0	16	306	1425	0.82
3:00 PM	10	156	0	0	166	4	5	27	0	36	13	102	4	0	119	6	3	7	0	16	337	1538	0.89
3:15 PM	8	162	8	0	178	2	3	31	0	36	16	101	2	0	119	4	5	8	0	17	350	1639	0.94
3:30 PM	18	195	4	0	217	1	6	31	0	38	16	142	1	0	159	2	7	9	0	18	432	1654	0.94
3:45 PM	9	201	1	0	211	6	2	50	0	58	11	113	7	0	131	4	7	8	0	19	419	1644	0.94
4:00 PM	13	213	3	0	229	2	2	36	0	40	17	133	3	0	153	5	2	9	0	16	438	1634	0.93
4:15 PM	10	181	2	0	193	2	5	30	0	37	12	100	5	0	117	6	4	8	0	18	365	1611	0.95
4:30 PM	8	202	2	0	212	2	6	39	0	47	13	128	5	0	146	4	5	8	0	17	422	1647	0.98
4:45 PM	15	178	6	0	199	1	3	28	0	32	22	135	7	0	164	8	2	4	0	14	409	1596	0.96
5:00 PM	14	206	6	0	226	1	2	32	0	35	15	128	1	0	144	4	4	2	0	10	415	1500	0.90
5:15 PM	9	198	6	0	213	1	8	38	0	47	17	102	1	0	120	7	3	11	0	21	401		
5:30 PM	11	173	5	1	190	5	2	21	0	28	16	119	4	0	139	2	3	9	0	14	371		
5:45 PM	8	159	3	0	170	1	0	22	0	23	14	90	2	0	106	3	4	7	0	14	313		
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	205	3758	78	1	4042	72	83	595	0	750	532	3874	116	1	4523	91	85	225	0	401	9716		

Peak Hour All Vehicle Volume Summary

Hourly Time Period	From North					From East					From South					From West					Total Hourly Volume	PHF
	USH 45-STH 36 -Loomis Road					CTH H - Ryan Road					USH 45-STH 36 -Loomis Road					CTH H - Ryan Road						
	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	15	358	5	0	378	9	8	53	0	70	109	808	31	0	948	12	7	38	0	57	1453	0.94
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 4:30 PM	46	784	20	0	850	5	19	137	0	161	67	493	14	0	574	23	14	25	0	62	1647	0.98

Intersection Traffic Volume Report

Count Basics			Page 9 of 13
Start Date:	Friday, October 22, 2021	Weekday	Schools in Session
Total Number of Hours Counted:	7	Non-Holiday	No Special Events

15-Minute Heavy Vehicle Data

USH 45-STH 36 -Loomis Road and CTH H - Ryan Road



15-Minute Heavy Vehicle Data

15-Minute Time Period	From North					From East					From South					From West					15-Min Totals	Hourly Sum
	USH 45-STH 36 -Loomis Road					CTH H - Ryan Road					USH 45-STH 36 -Loomis Road					CTH H - Ryan Road						
	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total		
6:00 AM	0	8	0	0	9	0	0	0	0	0	0	16	0	0	16	0	0	0	0	0	25	132
6:15 AM	0	4	1	0	5	2	1	0	0	3	1	19	0	0	20	0	0	0	0	0	28	157
6:30 AM	2	13	0	0	15	0	0	0	0	0	3	23	0	0	26	0	0	1	0	1	42	194
6:45 AM	0	12	0	0	12	2	0	1	0	3	0	21	1	0	22	0	0	0	0	0	37	211
7:00 AM	0	18	0	0	18	0	0	0	0	0	1	29	1	0	31	0	0	1	0	1	50	224
7:15 AM	0	23	0	0	23	0	0	0	0	0	0	34	0	0	34	1	1	6	0	8	65	219
7:30 AM	0	19	0	0	19	0	0	0	0	0	4	35	0	0	39	0	0	1	0	1	59	206
7:45 AM	0	20	0	0	20	1	0	1	0	2	2	25	1	0	28	0	0	0	0	0	50	209
8:00 AM	0	24	0	0	24	1	0	1	0	2	2	16	0	0	18	0	0	1	0	1	45	222
8:15 AM	1	16	2	0	19	1	0	2	0	3	0	30	0	0	30	0	0	0	0	0	52	
8:30 AM	1	31	0	0	32	0	0	0	0	0	1	26	1	0	28	0	1	1	0	2	62	
8:45 AM	0	26	0	0	26	2	2	2	0	6	0	29	0	0	29	0	0	2	0	2	63	
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	
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	
2:00 PM	0	24	0	0	24	1	0	0	0	1	0	16	0	0	16	0	0	1	0	1	42	154
2:15 PM	1	16	0	0	17	0	0	1	0	1	0	20	0	0	20	0	0	0	0	0	38	142
2:30 PM	0	21	1	0	22	0	0	1	0	1	2	18	0	0	20	0	0	0	0	0	43	137
2:45 PM	1	16	0	0	17	0	0	0	0	0	1	13	0	0	14	0	0	0	0	0	31	126
3:00 PM	0	12	0	0	12	1	0	1	0	2	0	14	1	0	15	0	1	0	0	1	30	129
3:15 PM	0	22	0	0	22	0	1	1	0	2	1	8	0	0	9	0	0	0	0	0	33	139
3:30 PM	0	16	0	0	16	0	0	0	0	0	0	14	0	0	14	0	0	2	0	2	32	130
3:45 PM	0	18	0	0	18	0	0	1	0	1	0	12	3	0	15	0	0	0	0	0	34	125
4:00 PM	0	19	1	0	20	0	0	0	0	0	1	18	0	0	19	0	0	1	0	1	40	120
4:15 PM	0	13	0	0	13	0	0	0	0	0	0	11	0	0	11	0	0	0	0	0	24	102
4:30 PM	1	12	1	0	14	0	0	1	0	1	1	10	0	0	11	0	1	0	0	1	27	93
4:45 PM	1	8	0	0	9	0	1	0	0	1	0	16	0	0	16	3	0	0	0	3	29	74
5:00 PM	0	7	0	0	7	0	1	0	0	1	0	12	0	0	12	0	2	0	0	2	22	59
5:15 PM	0	8	1	0	9	0	0	0	0	0	0	5	0	0	5	0	0	1	0	1	15	
5:30 PM	0	5	0	0	5	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	8	
5:45 PM	0	7	0	0	7	0	0	0	0	0	2	5	0	0	7	0	0	0	0	0	14	
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	9	438	7	0	454	11	6	13	0	30	22	498	8	0	528	4	6	18	0	28	1040	

Peak Hour Heavy Vehicle Volume Summary

Hourly Time Period	From North					From East					From South					From West					Total Hourly Volume
	USH 45-STH 36 -Loomis Road					CTH H - Ryan Road					USH 45-STH 36 -Loomis Road					CTH H - Ryan Road					
	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	80	0	0	80	1	0	1	0	2	7	123	2	0	132	1	1	8	0	10	224
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 4:30 PM	2	35	2	0	39	0	2	1	0	3	1	43	0	0	44	3	3	1	0	7	93

**2765 Franklin - Ryan Road Cape Crossing TIA
Peak Hour Calculations**

Weekday AM Peak Hour

Time	Ryan Road North Cape Rd.	Ryan Road 116th Street	Ryan Road Loomis Road	Sums
06:00_AM	21	20	236	
06:15_AM	35	16	289	
06:30_AM	34	18	307	
06:45_AM	44	17	326	1363
07:00_AM	41	32	350	1509
07:15_AM	40	38	364	1611
07:30_AM	39	34	388	1713
07:45_AM	38	29	351	1744
08:00_AM	33	28	279	1661
08:15_AM	27	30	283	1559
08:30_AM	40	28	306	1472
08:45_AM	28	34	301	1417

Recommended AM Peak Hour

7:00-8:00 a.m.

Weekday PM Peak Hour

Time	Ryan Road North Cape Rd.	Ryan Road 116th Street	Ryan Road Loomis Road	Sums
03:00_PM	44	38	337	
03:15_PM	40	33	350	
03:30_PM	52	47	432	
03:45_PM	52	40	419	1884
04:00_PM	57	40	438	2000
04:15_PM	42	42	365	2026
04:30_PM	63	37	422	2017
04:45_PM	59	45	409	2019
05:00_PM	74	36	415	2009
05:15_PM	65	47	401	2073
05:30_PM	70	38	371	2030
05:45_PM	74	30	313	1934

Recommended PM Peak Hour

4:30-5:30 p.m.

Wisconsin Department of Transportation

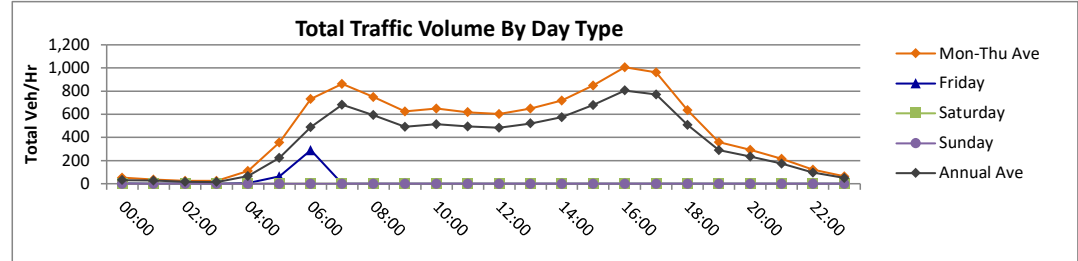
Hourly Traffic Volume Report

2015-Jun-22 to 2015-Jun-26

Coverage Count

91 Hour Count - Averages and Graphs Do Not Include All Days

Location	CTH OO CAPE RD BTWN DURHAM & BOX HORN MUSKEGO	Segment ID	
Site #	671351	Seasonal Factor Group	2
Region	SE	Daily Factor Group	2
County	WAUKESHA	Axle Factor Group	5
Funct. Class	U Principal Arterial - Other	Growth Factor Group	



Hour	Sun		Mon 2015-06-22		Tues 2015-06-23		Wed 2015-06-24		Thur 2015-06-25		Fri 2015-06-26		Sat	
	Undivided Hwy	Total	Undivided Hwy	Total	Undivided Hwy	Total	Undivided Hwy	Total	Undivided Hwy	Total	Undivided Hwy	Total	Undivided Hwy	Total
00:00-00:59	-	-	-	-	28	28	42	42	88	88	4	4	-	-
01:00-01:59	-	-	-	-	34	34	34	34	42	42	-	-	-	-
02:00-02:59	-	-	-	-	24	24	26	26	28	28	2	2	-	-
03:00-03:59	-	-	-	-	24	24	34	34	20	20	1	1	-	-
04:00-04:59	-	-	-	-	110	110	108	108	112	112	6	6	-	-
05:00-05:59	-	-	-	-	368	368	365	365	341	341	63	63	-	-
06:00-06:59	-	-	-	-	714	714	762	762	724	724	291	291	-	-
07:00-07:59	-	-	-	-	868	868	854	854	864	864	-	-	-	-
08:00-08:59	-	-	-	-	694	694	796	796	761	761	-	-	-	-
09:00-09:59	-	-	-	-	596	596	641	641	634	634	-	-	-	-
10:00-10:59	-	-	-	-	574	574	694	694	682	682	-	-	-	-
11:00-11:59	-	-	480	480	630	630	738	738	624	624	-	-	-	-
12:00-12:59	-	-	502	502	656	656	726	726	528	528	-	-	-	-
13:00-13:59	-	-	556	556	634	634	779	779	634	634	-	-	-	-
14:00-14:59	-	-	592	592	714	714	878	878	687	687	-	-	-	-
15:00-15:59	-	-	664	664	895	895	992	992	848	848	-	-	-	-
16:00-16:59	-	-	881	881	1,044	1,044	1,095	1,095	1,006	1,006	-	-	-	-
17:00-17:59	-	-	840	840	988	988	1,074	1,074	950	950	-	-	-	-
18:00-18:59	-	-	509	509	738	738	724	724	574	574	-	-	-	-
19:00-19:59	-	-	364	364	480	480	464	464	130	130	-	-	-	-
20:00-20:59	-	-	287	287	428	428	387	387	70	70	-	-	-	-
21:00-21:59	-	-	266	266	290	290	286	286	24	24	-	-	-	-
22:00-22:59	-	-	115	115	175	175	184	184	10	10	-	-	-	-
23:00-23:59	-	-	56	56	93	93	100	100	4	4	-	-	-	-
Daily Total	-	-	-	-	11,799	11,799	12,783	12,783	10,385	10,385	-	-	-	-

Hour	Mon-Thurs Average		Mon-Fri Average		7 Day Average		Estimated Annual Ave		
	Undivided Hwy	Total	Undivided Hwy	Total	Undivided Hwy	Total	Undivided Hwy	Total	
00:00-00:59	-	53	41	41	-	-	-	32	32
01:00-01:59	-	37	-	-	-	-	-	29	29
02:00-02:59	-	26	20	20	-	-	-	16	16
03:00-03:59	-	26	20	20	-	-	-	16	16
04:00-04:59	-	110	84	84	-	-	-	66	66
05:00-05:59	-	358	284	284	-	-	-	224	224
06:00-06:59	-	733	623	623	-	-	-	489	489
07:00-07:59	-	862	-	-	-	-	-	682	682
08:00-08:59	-	750	-	-	-	-	-	593	593
09:00-09:59	-	624	-	-	-	-	-	493	493
10:00-10:59	-	650	-	-	-	-	-	514	514
11:00-11:59	-	618	-	-	-	-	-	494	494
12:00-12:59	-	603	-	-	-	-	-	483	483
13:00-13:59	-	651	-	-	-	-	-	521	521
14:00-14:59	-	718	-	-	-	-	-	575	575
15:00-15:59	-	850	-	-	-	-	-	680	680
16:00-16:59	-	1,007	-	-	-	-	-	807	807
17:00-17:59	-	963	-	-	-	-	-	772	772
18:00-18:59	-	636	-	-	-	-	-	510	510
19:00-19:59	-	360	-	-	-	-	-	289	289
20:00-20:59	-	293	-	-	-	-	-	236	236
21:00-21:59	-	217	-	-	-	-	-	175	175
22:00-22:59	-	121	-	-	-	-	-	97	97
23:00-23:59	-	63	-	-	-	-	-	51	51
Daily Total	-	11,327	11,327	-	-	-	-	8,842	8,842

AM Peak	-	-	-	-	868	868	854	854	864	864	-	-	-	-	-	-
Hour	-	-	-	-	07:00	07:00	07:00	07:00	07:00	07:00	-	-	-	-	-	-
MD Peak	-	-	-	-	714	714	878	878	687	687	-	-	-	-	-	-
Hour	-	-	-	-	14:00	14:00	14:00	14:00	14:00	14:00	-	-	-	-	-	-
PM Peak	-	-	-	881	881	1,044	1,044	1,095	1,095	1,006	1,006	-	-	-	-	-
Hour	-	-	-	16:00	16:00	16:00	16:00	16:00	16:00	16:00	-	-	-	-	-	-
Daily Peak	-	-	-	-	1,044	1,044	1,095	1,095	1,006	1,006	-	-	-	-	-	-
Hour	-	-	-	-	16:00	16:00	16:00	16:00	16:00	16:00	-	-	-	-	-	-
% of Total	-	-	-	-	8.8%	8.8%	8.6%	8.6%	9.7%	9.7%	-	-	-	-	-	-
Daily Ave	-	-	-	-	492	492	533	533	433	433	-	-	-	-	-	-

AM Peak	-	862	862	-	-	-	-	-	-	-	-	-	682	682
Hour	-	07:00	07:00	-	-	-	-	-	-	-	-	-	07:00	07:00
MD Peak	-	718	718	-	-	-	-	-	-	-	-	-	575	575
Hour	-	14:00	14:00	-	-	-	-	-	-	-	-	-	14:00	14:00
PM Peak	-	1,007	1,007	-	-	-	-	-	-	-	-	-	807	807
Hour	-	16:00	16:00	-	-	-	-	-	-	-	-	-	16:00	16:00
Daily Peak	-	1,007	1,007	-	-	-	-	-	-	-	-	-	807	807
Hour	-	16:00	16:00	-	-	-	-	-	-	-	-	-	16:00	16:00
% of Total	-	8.9%	8.9%	-	-	-	-	-	-	-	-	-	9.1%	9.1%
Daily Ave	-	472	472	-	-	-	-	-	-	-	-	-	368	368

Seasonal Fctr			0.933	0.933	0.933	0.933	0.933	0.933	0.933	0.933	0.933	0.933		
Daily Fctr			0.988	0.988	0.941	0.941	0.930	0.930	0.923	0.923	0.875	0.875		
Axle Factor			0.455	0.455	0.455	0.455	0.455	0.455	0.455	0.455	0.455	0.455		
Pulse Fctr			2.000	2.000	2.000	2.000	2.000	2.000	2.000	2.000	2.000	2.000		
Overall Fctr	0.000	0.000	0.839	0.839	0.799	0.799	0.790	0.790	0.784	0.784	0.743	0.743	0.000	0.000

Heavy Vehicle Percentages, Peak Hour Factors

Intersection	Traffic Control	Peak Hour	Heavy Vehicle Percentage				PHF
			EB	WB	NB	SB	
#100 Ryan Road & North Cape Road	Stop Sign	AM	5%	17%	14%	23%	0.96
		PM	5%	1%	5%	4%	0.88
#200 Ryan Road & 116th Street	Stop Sign	AM	3%	6%		38%	0.87
		PM	8%	5%		6%	0.88
#300 Ryan Road & Loomis Road	Traffic Signal	AM	18%	3%	14%	21%	0.94
		PM	11%	2%	8%	5%	0.98
#400 Ryan Road & Cape Crossing Driveway	Stop Sign	AM	3%	6%		2%	0.87
		PM	8%	5%		2%	0.88

1% HV Coded in Synchro for all HV% calculated to be 0%
2% HV Coded in Synchro for all future intersection approaches.
#400 PHF & HV factors based on those calculated for #200.

Saturation Flow Rate Calculations for Traffic Signalized Intersections (TEOpS 16-15-5.2.2)

Project: 2765 Franklin Ryan Road Cape Crossing TIA
 Scenario:
 User: TADI - TSC
 Date: 11/8/2021
 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
Ryan Road & Loomis Road	EB	2	35	Y	N	1900	1900	1900	1900	1900	1900
	WB	2	40	Y	N	1900	1900	1900	1900	1900	1900
	NB	4	55	N	N	1900	2062	1900	1900	2055	1900
	SB	4	55	N	N	1900	2062	1900	1900	2055	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:

APPENDIX B

Existing Traffic Synchro Analysis Output

Lanes, Volumes, Timings
 100: North Cape Road & Ryan Road

Existing Traffic
 AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	5	30	10	5	15	20	15	365	10	15	275	1
Future Volume (vph)	5	30	10	5	15	20	15	365	10	15	275	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	0		0	0		100	0		70
Storage Lanes	0		0	0		0	0		1	0		1
Taper Length (ft)	100			100			100			100		
Link Speed (mph)		35			35			40			40	
Link Distance (ft)		817			1345			901			681	
Travel Time (s)		15.9			26.2			15.4			11.6	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
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%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	5%	5%	5%	17%	17%	17%	14%	14%	14%	23%	23%	23%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	46	0	0	42	0	0	396	10	0	302	1
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Free			Free	
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											

Intersection												
Int Delay, s/veh	2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕	↕		↕	↕
Traffic Vol, veh/h	5	30	10	5	15	20	15	365	10	15	275	1
Future Vol, veh/h	5	30	10	5	15	20	15	365	10	15	275	1
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	100	-	-	70
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	96	96	96	96	96	96	96	96	96	96	96	96
Heavy Vehicles, %	5	5	5	17	17	17	14	14	14	23	23	23
Mvmt Flow	5	31	10	5	16	21	16	380	10	16	286	1

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	754	740	286	751	731	380	287	0	0	390	0	0
Stage 1	318	318	-	412	412	-	-	-	-	-	-	-
Stage 2	436	422	-	339	319	-	-	-	-	-	-	-
Critical Hdwy	7.15	6.55	6.25	7.27	6.67	6.37	4.24	-	-	4.33	-	-
Critical Hdwy Stg 1	6.15	5.55	-	6.27	5.67	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.15	5.55	-	6.27	5.67	-	-	-	-	-	-	-
Follow-up Hdwy	3.545	4.045	3.345	3.653	4.153	3.453	2.326	-	-	2.407	-	-
Pot Cap-1 Maneuver	322	341	746	309	331	635	1209	-	-	1063	-	-
Stage 1	687	648	-	588	569	-	-	-	-	-	-	-
Stage 2	593	583	-	645	627	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	292	329	746	275	319	635	1209	-	-	1063	-	-
Mov Cap-2 Maneuver	292	329	-	275	319	-	-	-	-	-	-	-
Stage 1	675	636	-	578	559	-	-	-	-	-	-	-
Stage 2	548	573	-	594	616	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	16.1		14.7		0.3		0.4	
HCM LOS	C		B					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1209	-	-	370	414	1063	-	-
HCM Lane V/C Ratio	0.013	-	-	0.127	0.101	0.015	-	-
HCM Control Delay (s)	8	0	-	16.1	14.7	8.4	0	-
HCM Lane LOS	A	A	-	C	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.4	0.3	0	-	-

Lanes, Volumes, Timings
200: Ryan Road & 116th Street

Existing Traffic
AM Peak Hour



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	10	45	40	15	10	1
Future Volume (vph)	10	45	40	15	10	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)		0%	0%		0%	
Storage Length (ft)	0			0	0	0
Storage Lanes	0			0	1	0
Taper Length (ft)	100				100	
Link Speed (mph)		35	35		35	
Link Distance (ft)		2011	291		880	
Travel Time (s)		39.2	5.7		17.1	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	3%	3%	6%	6%	38%	38%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)		0%	0%		0%	
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	63	63	0	12	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		0	0		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						
Int Delay, s/veh	1.5					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↕		↕	
Traffic Vol, veh/h	10	45	40	15	10	1
Future Vol, veh/h	10	45	40	15	10	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	87	87	87	87	87	87
Heavy Vehicles, %	3	3	6	6	38	38
Mvmt Flow	11	52	46	17	11	1























Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	63	0	-	0	129
Stage 1	-	-	-	-	55
Stage 2	-	-	-	-	74
Critical Hdwy	4.13	-	-	-	6.78
Critical Hdwy Stg 1	-	-	-	-	5.78
Critical Hdwy Stg 2	-	-	-	-	5.78
Follow-up Hdwy	2.227	-	-	-	3.842
Pot Cap-1 Maneuver	1533	-	-	-	787
Stage 1	-	-	-	-	883
Stage 2	-	-	-	-	865
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	1533	-	-	-	781
Mov Cap-2 Maneuver	-	-	-	-	781
Stage 1	-	-	-	-	877
Stage 2	-	-	-	-	865

Approach	EB	WB	SB
HCM Control Delay, s	1.3	0	9.6
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1533	-	-	-	792
HCM Lane V/C Ratio	0.007	-	-	-	0.016
HCM Control Delay (s)	7.4	0	-	-	9.6
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0

Lanes, Volumes, Timings
300: Loomis Road & Ryan Road

Existing Traffic
AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	40	5	10	55	10	10	30	810	110	5	360	15
Future Volume (vph)	40	5	10	55	10	10	30	810	110	5	360	15
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	2062	1900	1900	2062	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		25	0		70	275		330	325		215
Storage Lanes	0		1	0		1	1		1	1		1
Taper Length (ft)	100			100			100			100		
Right Turn on Red			No			No			No			No
Link Speed (mph)		35			40			55			55	
Link Distance (ft)		291			1274			747			838	
Travel Time (s)		5.7			21.7			9.3			10.4	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Growth Factor	100%	100%	62%	100%	100%	62%	100%	100%	62%	100%	100%	62%
Heavy Vehicles (%)	18%	18%	18%	3%	3%	3%	14%	14%	14%	21%	21%	21%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	48	7	0	70	7	32	862	73	5	383	10
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			23			23	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.90	1.00	1.00	0.90	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Perm	NA	Perm	Perm	NA	Perm
Protected Phases		4			8			6			2	
Permitted Phases	4		4	8		8	6		6	2		2
Detector Phase	4	4	4	8	8	8	6	6	6	2	2	2
Switch Phase												
Minimum Initial (s)	8.0	8.0	8.0	8.0	8.0	8.0	15.0	15.0	15.0	15.0	15.0	15.0
Minimum Split (s)	37.0	37.0	37.0	37.0	37.0	37.0	51.8	51.8	51.8	51.8	51.8	51.8
Total Split (s)	37.0	37.0	37.0	37.0	37.0	37.0	51.8	51.8	51.8	51.8	51.8	51.8
Total Split (%)	41.7%	41.7%	41.7%	41.7%	41.7%	41.7%	58.3%	58.3%	58.3%	58.3%	58.3%	58.3%
Maximum Green (s)	30.0	30.0	30.0	30.0	30.0	30.0	45.0	45.0	45.0	45.0	45.0	45.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	5.0	5.0	5.0	5.0	5.0	5.0
All-Red Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	1.8	1.8	1.8	1.8	1.8	1.8
Lost Time Adjust (s)		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)		7.0	7.0		7.0	7.0	6.8	6.8	6.8	6.8	6.8	6.8
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	1.5	1.5	1.5	1.5	1.5	1.5	3.3	3.3	3.3	3.3	3.3	3.3
Minimum Gap (s)	1.5	1.5	1.5	1.5	1.5	1.5	3.3	3.3	3.3	3.3	3.3	3.3

Lanes, Volumes, Timings
300: Loomis Road & Ryan Road

Existing Traffic
AM Peak Hour

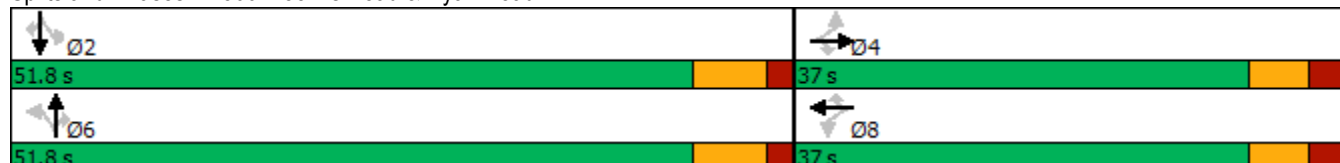


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Time Before Reduce (s)	30.0	30.0	30.0	30.0	30.0	30.0	45.0	45.0	45.0	45.0	45.0	45.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	None	None	None	None	Min	Min	Min	Min	Min	Min
Walk Time (s)												
Flash Dont Walk (s)												
Pedestrian Calls (#/hr)												
v/c Ratio		0.18	0.02		0.24	0.02	0.05	0.37	0.08	0.01	0.17	0.01
Control Delay		16.7	14.9		17.1	14.9	6.3	6.4	6.0	6.0	5.5	5.9
Queue Delay		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay		16.7	14.9		17.1	14.9	6.3	6.4	6.0	6.0	5.5	5.9
Queue Length 50th (ft)		9	1		13	1	4	66	8	1	25	1
Queue Length 95th (ft)		33	9		44	9	14	109	24	4	46	6
Internal Link Dist (ft)		211			1194			667			758	
Turn Bay Length (ft)			25			70	275		330	325		215
Base Capacity (vph)		957	1030		1066	1180	865	3398	1401	511	3201	1320
Starvation Cap Reductn		0	0		0	0	0	0	0	0	0	0
Spillback Cap Reductn		0	0		0	0	0	0	0	0	0	0
Storage Cap Reductn		0	0		0	0	0	0	0	0	0	0
Reduced v/c Ratio		0.05	0.01		0.07	0.01	0.04	0.25	0.05	0.01	0.12	0.01

Intersection Summary























Area Type: Other
 Cycle Length: 88.8
 Actuated Cycle Length: 40.2
 Natural Cycle: 90
 Control Type: Actuated-Uncoordinated
 Description: EB Approach: No opposing RT influence (sweeping channelized WB RT)

Splits and Phases: 300: Loomis Road & Ryan Road





















HCM 6th Signalized Intersection Summary
300: Loomis Road & Ryan Road

Existing Traffic
AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	40	5	10	55	10	10	30	810	110	5	360	15
Future Volume (veh/h)	40	5	10	55	10	10	30	810	110	5	360	15
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
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	1633	1633	1633	1856	1856	1856	1693	1837	1693	1589	1724	1589
Adj Flow Rate, veh/h	43	5	7	59	11	7	32	862	73	5	383	10
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	18	18	18	3	3	3	14	14	14	21	21	21
Cap, veh/h	383	33	227	355	51	258	538	1560	641	338	1464	602
Arrive On Green	0.16	0.16	0.16	0.16	0.16	0.16	0.45	0.45	0.45	0.45	0.45	0.45
Sat Flow, veh/h	1164	201	1384	1026	310	1572	897	3490	1434	509	3276	1346
Grp Volume(v), veh/h	48	0	7	70	0	7	32	862	73	5	383	10
Grp Sat Flow(s),veh/h/ln	1365	0	1384	1335	0	1572	897	1745	1434	509	1638	1346
Q Serve(g_s), s	0.0	0.0	0.2	1.1	0.0	0.1	0.8	6.4	1.1	0.3	2.6	0.1
Cycle Q Clear(g_c), s	0.9	0.0	0.2	2.0	0.0	0.1	3.4	6.4	1.1	6.7	2.6	0.1
Prop In Lane	0.90		1.00	0.84		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	416	0	227	406	0	258	538	1560	641	338	1464	602
V/C Ratio(X)	0.12	0.00	0.03	0.17	0.00	0.03	0.06	0.55	0.11	0.01	0.26	0.02
Avail Cap(c_a), veh/h	1274	0	1170	1393	0	1330	1275	4426	1819	756	4155	1708
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	0.00	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	12.8	0.0	12.5	13.3	0.0	12.5	7.2	7.2	5.7	9.7	6.1	5.5
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.1	0.0	0.0	0.1	0.3	0.1	0.0	0.1	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	0.5	0.0	0.1	0.7	0.0	0.1	0.1	1.6	0.2	0.0	0.6	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	12.8	0.0	12.5	13.4	0.0	12.5	7.3	7.6	5.8	9.7	6.2	5.5
LnGrp LOS	B	A	B	B	A	B	A	A	A	A	A	A
Approach Vol, veh/h		55			77			967			398	
Approach Delay, s/veh		12.8			13.3			7.4			6.3	
Approach LOS		B			B			A			A	
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		22.7		12.8		22.7		12.8				
Change Period (Y+Rc), s		* 6.8		7.0		* 6.8		7.0				
Max Green Setting (Gmax), s		* 45		30.0		* 45		30.0				
Max Q Clear Time (g_c+I1), s		8.7		2.9		8.4		4.0				
Green Ext Time (p_c), s		2.7		0.1		7.4		0.1				
Intersection Summary												
HCM 6th Ctrl Delay				7.6								
HCM 6th LOS				A								
Notes												
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.												

Lanes, Volumes, Timings
100: North Cape Road & Ryan Road

Existing Traffic
PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	5	20	15	10	55	25	15	340	10	25	390	5
Future Volume (vph)	5	20	15	10	55	25	15	340	10	25	390	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	0		0	0		100	0		70
Storage Lanes	0		0	0		0	0		1	0		1
Taper Length (ft)	100			100			100			100		
Link Speed (mph)		35			35			40			40	
Link Distance (ft)		817			1345			901			681	
Travel Time (s)		15.9			26.2			15.4			11.6	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	5%	5%	5%	1%	1%	1%	5%	5%	5%	4%	4%	4%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	46	0	0	102	0	0	403	11	0	471	6
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Free			Free	
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											

HCM 6th TWSC
100: North Cape Road & Ryan Road

Existing Traffic
PM Peak Hour

Intersection												
Int Delay, s/veh	3.5											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕	↕		↕	↕
Traffic Vol, veh/h	5	20	15	10	55	25	15	340	10	25	390	5
Future Vol, veh/h	5	20	15	10	55	25	15	340	10	25	390	5
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	100	-	-	70
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	88	88	88	88	88	88	88	88	88	88	88	88
Heavy Vehicles, %	5	5	5	1	1	1	5	5	5	4	4	4
Mvmt Flow	6	23	17	11	63	28	17	386	11	28	443	6

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	970	930	443	942	925	386	449	0	0	397	0	0
Stage 1	499	499	-	420	420	-	-	-	-	-	-	-
Stage 2	471	431	-	522	505	-	-	-	-	-	-	-
Critical Hdwy	7.15	6.55	6.25	7.11	6.51	6.21	4.15	-	-	4.14	-	-
Critical Hdwy Stg 1	6.15	5.55	-	6.11	5.51	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.15	5.55	-	6.11	5.51	-	-	-	-	-	-	-
Follow-up Hdwy	3.545	4.045	3.345	3.509	4.009	3.309	2.245	-	-	2.236	-	-
Pot Cap-1 Maneuver	230	264	608	244	270	664	1096	-	-	1151	-	-
Stage 1	548	539	-	613	591	-	-	-	-	-	-	-
Stage 2	568	578	-	540	542	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	172	251	608	212	256	664	1096	-	-	1151	-	-
Mov Cap-2 Maneuver	172	251	-	212	256	-	-	-	-	-	-	-
Stage 1	537	522	-	601	579	-	-	-	-	-	-	-
Stage 2	475	566	-	486	525	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB			
HCM Control Delay, s	19.1		23.1		0.3		0.5			
HCM LOS	C		C							

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1096	-	-	300	300	1151	-	-
HCM Lane V/C Ratio	0.016	-	-	0.152	0.341	0.025	-	-
HCM Control Delay (s)	8.3	0	-	19.1	23.1	8.2	0	-
HCM Lane LOS	A	A	-	C	C	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.5	1.5	0.1	-	-

Lanes, Volumes, Timings
200: Ryan Road & 116th Street

Existing Traffic
PM Peak Hour



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	5	50	70	10	15	20
Future Volume (vph)	5	50	70	10	15	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)		0%	0%		0%	
Storage Length (ft)	0			0	0	0
Storage Lanes	0			0	1	0
Taper Length (ft)	100				100	
Link Speed (mph)		35	35		35	
Link Distance (ft)		2011	291		880	
Travel Time (s)		39.2	5.7		17.1	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	8%	8%	5%	5%	6%	6%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)		0%	0%		0%	
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	63	91	0	40	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		0	0		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						
Int Delay, s/veh	2.1					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↕		↕	
Traffic Vol, veh/h	5	50	70	10	15	20
Future Vol, veh/h	5	50	70	10	15	20
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	88	88	88	88	88	88
Heavy Vehicles, %	8	8	5	5	6	6
Mvmt Flow	6	57	80	11	17	23























Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	91	0	-	0	155 86
Stage 1	-	-	-	-	86 -
Stage 2	-	-	-	-	69 -
Critical Hdwy	4.18	-	-	-	6.46 6.26
Critical Hdwy Stg 1	-	-	-	-	5.46 -
Critical Hdwy Stg 2	-	-	-	-	5.46 -
Follow-up Hdwy	2.272	-	-	-	3.554 3.354
Pot Cap-1 Maneuver	1467	-	-	-	827 962
Stage 1	-	-	-	-	927 -
Stage 2	-	-	-	-	944 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	1467	-	-	-	824 962
Mov Cap-2 Maneuver	-	-	-	-	824 -
Stage 1	-	-	-	-	923 -
Stage 2	-	-	-	-	944 -

Approach	EB	WB	SB
HCM Control Delay, s	0.7	0	9.2
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1467	-	-	-	898
HCM Lane V/C Ratio	0.004	-	-	-	0.044
HCM Control Delay (s)	7.5	0	-	-	9.2
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0.1

Lanes, Volumes, Timings
300: Loomis Road & Ryan Road

Existing Traffic
PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	25	15	25	135	20	5	15	495	65	20	785	45
Future Volume (vph)	25	15	25	135	20	5	15	495	65	20	785	45
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	2062	1900	1900	2062	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		25	0		70	275		330	325		215
Storage Lanes	0		1	0		1	1		1	1		1
Taper Length (ft)	100			100			100			100		
Right Turn on Red			No			No			No		No	
Link Speed (mph)		35			40			55			55	
Link Distance (ft)		291			1274			747			838	
Travel Time (s)		5.7			21.7			9.3			10.4	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Growth Factor	100%	100%	62%	100%	100%	62%	100%	100%	62%	100%	100%	62%
Heavy Vehicles (%)	11%	11%	11%	2%	2%	2%	8%	8%	8%	5%	5%	5%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	41	16	0	158	3	15	505	41	20	801	28
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			23			23	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.90	1.00	1.00	0.90	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Perm	NA	Perm	Perm	NA	Perm
Protected Phases		4			8			6			2	
Permitted Phases	4		4	8		8	6		6	2		2
Detector Phase	4	4	4	8	8	8	6	6	6	2	2	2
Switch Phase												
Minimum Initial (s)	8.0	8.0	8.0	8.0	8.0	8.0	15.0	15.0	15.0	15.0	15.0	15.0
Minimum Split (s)	15.0	15.0	15.0	15.0	15.0	15.0	21.8	21.8	21.8	21.8	21.8	21.8
Total Split (s)	37.0	37.0	37.0	37.0	37.0	37.0	56.8	56.8	56.8	56.8	56.8	56.8
Total Split (%)	39.4%	39.4%	39.4%	39.4%	39.4%	39.4%	60.6%	60.6%	60.6%	60.6%	60.6%	60.6%
Maximum Green (s)	30.0	30.0	30.0	30.0	30.0	30.0	50.0	50.0	50.0	50.0	50.0	50.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	5.0	5.0	5.0	5.0	5.0	5.0
All-Red Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	1.8	1.8	1.8	1.8	1.8	1.8
Lost Time Adjust (s)		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)		7.0	7.0		7.0	7.0	6.8	6.8	6.8	6.8	6.8	6.8
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	1.5	1.5	1.5	1.5	1.5	1.5	3.3	3.3	3.3	3.3	3.3	3.3
Minimum Gap (s)	1.5	1.5	1.5	1.5	1.5	1.5	3.3	3.3	3.3	3.3	3.3	3.3

Lanes, Volumes, Timings
300: Loomis Road & Ryan Road

Existing Traffic
PM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Time Before Reduce (s)	30.0	30.0	30.0	30.0	30.0	30.0	45.0	45.0	45.0	45.0	45.0	45.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	None	None	None	None	Min	Min	Min	Min	Min	Min
Walk Time (s)												
Flash Dont Walk (s)												
Pedestrian Calls (#/hr)												
v/c Ratio		0.15	0.05		0.52	0.01	0.05	0.30	0.06	0.05	0.47	0.04
Control Delay		14.7	13.4		21.2	13.0	8.3	8.6	7.8	8.0	9.8	7.7
Queue Delay		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay		14.7	13.4		21.2	13.0	8.3	8.6	7.8	8.0	9.8	7.7
Queue Length 50th (ft)		7	3		29	1	2	35	5	2	62	3
Queue Length 95th (ft)		28	15		83	5	10	74	19	12	121	15
Internal Link Dist (ft)		211			1194			667			758	
Turn Bay Length (ft)			25			70	275		330	325		215
Base Capacity (vph)		846	1004		931	1093	592	3581	1476	832	3683	1518
Starvation Cap Reductn		0	0		0	0	0	0	0	0	0	0
Spillback Cap Reductn		0	0		0	0	0	0	0	0	0	0
Storage Cap Reductn		0	0		0	0	0	0	0	0	0	0
Reduced v/c Ratio		0.05	0.02		0.17	0.00	0.03	0.14	0.03	0.02	0.22	0.02

Intersection Summary

Area Type: Other

Cycle Length: 93.8

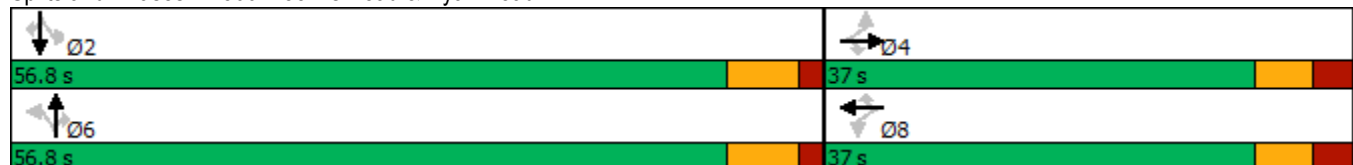
Actuated Cycle Length: 44.3

Natural Cycle: 40

Control Type: Actuated-Uncoordinated























Description: EB Approach: No opposing RT influence (sweeping channelized WB RT)

Splits and Phases: 300: Loomis Road & Ryan Road



HCM 6th Signalized Intersection Summary
 300: Loomis Road & Ryan Road

Existing Traffic
 PM Peak Hour



















												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	25	15	25	135	20	5	15	495	65	20	785	45
Future Volume (veh/h)	25	15	25	135	20	5	15	495	65	20	785	45
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
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	1737	1737	1737	1870	1870	1870	1781	1933	1781	1826	1982	1826
Adj Flow Rate, veh/h	26	15	16	138	20	3	15	505	41	20	801	28
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	11	11	11	2	2	2	8	8	8	5	5	5
Cap, veh/h	327	148	291	410	47	313	365	1535	631	474	1574	647
Arrive On Green	0.20	0.20	0.20	0.20	0.20	0.20	0.42	0.42	0.42	0.42	0.42	0.42
Sat Flow, veh/h	826	751	1472	1123	239	1585	630	3673	1510	840	3765	1547
Grp Volume(v), veh/h	41	0	16	158	0	3	15	505	41	20	801	28
Grp Sat Flow(s),veh/h/ln	1578	0	1472	1362	0	1585	630	1837	1510	840	1883	1547
Q Serve(g_s), s	0.0	0.0	0.3	3.2	0.0	0.1	0.6	3.3	0.6	0.6	5.6	0.4
Cycle Q Clear(g_c), s	0.7	0.0	0.3	3.9	0.0	0.1	6.3	3.3	0.6	3.9	5.6	0.4
Prop In Lane	0.63		1.00	0.87		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	476	0	291	457	0	313	365	1535	631	474	1574	647
V/C Ratio(X)	0.09	0.00	0.06	0.35	0.00	0.01	0.04	0.33	0.06	0.04	0.51	0.04
Avail Cap(c_a), veh/h	1386	0	1230	1367	0	1325	979	5118	2103	1293	5245	2156
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	0.00	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	11.8	0.0	11.7	13.2	0.0	11.6	10.0	7.0	6.2	8.4	7.7	6.2
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.2	0.0	0.0	0.1	0.1	0.0	0.0	0.3	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	0.4	0.0	0.1	1.6	0.0	0.0	0.1	1.0	0.2	0.1	1.8	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	11.9	0.0	11.7	13.4	0.0	11.6	10.1	7.2	6.3	8.4	8.0	6.2
LnGrp LOS	B	A	B	B	A	B	B	A	A	A	A	A
Approach Vol, veh/h		57			161			561			849	
Approach Delay, s/veh		11.8			13.4			7.2			8.0	
Approach LOS		B			B			A			A	
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		21.8		14.1		21.8		14.1				
Change Period (Y+Rc), s		* 6.8		7.0		* 6.8		7.0				
Max Green Setting (Gmax), s		* 50		30.0		* 50		30.0				
Max Q Clear Time (g_c+I1), s		7.6		2.7		8.3		5.9				
Green Ext Time (p_c), s		6.5		0.1		3.9		0.4				
Intersection Summary												
HCM 6th Ctrl Delay			8.4									
HCM 6th LOS			A									
Notes												
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.												

APPENDIX C

Build Traffic Synchro Analysis Output

Lanes, Volumes, Timings
100: North Cape Road & Ryan Road

Build Traffic
AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	5	30	10	25	15	35	15	365	15	20	275	1
Future Volume (vph)	5	30	10	25	15	35	15	365	15	20	275	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	0		0	0		100	0		70
Storage Lanes	0		0	0		0	0		1	0		1
Taper Length (ft)	100			100			100			100		
Link Speed (mph)		35			35			40			40	
Link Distance (ft)		817			1345			901			681	
Travel Time (s)		15.9			26.2			15.4			11.6	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
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%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	5%	5%	5%	17%	17%	17%	14%	14%	14%	23%	23%	23%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	46	0	0	78	0	0	396	16	0	307	1
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Free			Free	
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											

Intersection												
Int Delay, s/veh	2.8											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕	↕		↕	↕
Traffic Vol, veh/h	5	30	10	25	15	35	15	365	15	20	275	1
Future Vol, veh/h	5	30	10	25	15	35	15	365	15	20	275	1
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	100	-	-	70
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	96	96	96	96	96	96	96	96	96	96	96	96
Heavy Vehicles, %	5	5	5	17	17	17	14	14	14	23	23	23
Mvmt Flow	5	31	10	26	16	36	16	380	16	21	286	1

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	774	756	286	761	741	380	287	0	0	396	0	0
Stage 1	328	328	-	412	412	-	-	-	-	-	-	-
Stage 2	446	428	-	349	329	-	-	-	-	-	-	-
Critical Hdwy	7.15	6.55	6.25	7.27	6.67	6.37	4.24	-	-	4.33	-	-
Critical Hdwy Stg 1	6.15	5.55	-	6.27	5.67	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.15	5.55	-	6.27	5.67	-	-	-	-	-	-	-
Follow-up Hdwy	3.545	4.045	3.345	3.653	4.153	3.453	2.326	-	-	2.407	-	-
Pot Cap-1 Maneuver	312	334	746	304	327	635	1209	-	-	1057	-	-
Stage 1	679	642	-	588	569	-	-	-	-	-	-	-
Stage 2	586	580	-	637	620	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	274	320	746	269	314	635	1209	-	-	1057	-	-
Mov Cap-2 Maneuver	274	320	-	269	314	-	-	-	-	-	-	-
Stage 1	667	627	-	578	559	-	-	-	-	-	-	-
Stage 2	528	570	-	582	605	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	16.5	16.8	0.3	0.6
HCM LOS	C	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1209	-	-	359	383	1057	-	-
HCM Lane V/C Ratio	0.013	-	-	0.131	0.204	0.02	-	-
HCM Control Delay (s)	8	0	-	16.5	16.8	8.5	0	-
HCM Lane LOS	A	A	-	C	C	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.4	0.8	0.1	-	-

Lanes, Volumes, Timings
200: Ryan Road & 116th Street

Build Traffic
AM Peak Hour



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	10	85	50	15	10	1
Future Volume (vph)	10	85	50	15	10	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)		0%	0%		0%	
Storage Length (ft)	0			0	0	0
Storage Lanes	0			0	1	0
Taper Length (ft)	100				100	
Link Speed (mph)		35	35		35	
Link Distance (ft)		2011	291		880	
Travel Time (s)		39.2	5.7		17.1	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	3%	3%	6%	6%	38%	38%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)		0%	0%		0%	
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	109	74	0	12	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		0	0		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						
Int Delay, s/veh	1.1					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↕		↕	
Traffic Vol, veh/h	10	85	50	15	10	1
Future Vol, veh/h	10	85	50	15	10	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	87	87	87	87	87	87
Heavy Vehicles, %	3	3	6	6	38	38
Mvmt Flow	11	98	57	17	11	1























Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	74	0	-	0	186 66
Stage 1	-	-	-	-	66 -
Stage 2	-	-	-	-	120 -
Critical Hdwy	4.13	-	-	-	6.78 6.58
Critical Hdwy Stg 1	-	-	-	-	5.78 -
Critical Hdwy Stg 2	-	-	-	-	5.78 -
Follow-up Hdwy	2.227	-	-	-	3.842 3.642
Pot Cap-1 Maneuver	1519	-	-	-	728 906
Stage 1	-	-	-	-	873 -
Stage 2	-	-	-	-	823 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	1519	-	-	-	722 906
Mov Cap-2 Maneuver	-	-	-	-	722 -
Stage 1	-	-	-	-	866 -
Stage 2	-	-	-	-	823 -

Approach	EB	WB	SB
HCM Control Delay, s	0.8	0	10
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1519	-	-	-	736
HCM Lane V/C Ratio	0.008	-	-	-	0.017
HCM Control Delay (s)	7.4	0	-	-	10
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.1

Lanes, Volumes, Timings
300: Loomis Road & Ryan Road

Build Traffic
AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	70	15	10	55	10	10	30	810	110	5	360	25
Future Volume (vph)	70	15	10	55	10	10	30	810	110	5	360	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	2062	1900	1900	2062	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		25	0		70	275		330	325		215
Storage Lanes	0		1	0		1	1		1	1		1
Taper Length (ft)	100			100			100			100		
Right Turn on Red			No			No			No			No
Link Speed (mph)		35			40			55			55	
Link Distance (ft)		291			1274			747			838	
Travel Time (s)		5.7			21.7			9.3			10.4	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Growth Factor	100%	100%	62%	100%	100%	62%	100%	100%	62%	100%	100%	62%
Heavy Vehicles (%)	18%	18%	18%	3%	3%	3%	14%	14%	14%	21%	21%	21%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	90	7	0	70	7	32	862	73	5	383	16
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			23			23	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.90	1.00	1.00	0.90	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Perm	NA	Perm	Perm	NA	Perm
Protected Phases		4			8			6			2	
Permitted Phases	4		4	8		8	6		6	2		2
Detector Phase	4	4	4	8	8	8	6	6	6	2	2	2
Switch Phase												
Minimum Initial (s)	8.0	8.0	8.0	8.0	8.0	8.0	15.0	15.0	15.0	15.0	15.0	15.0
Minimum Split (s)	37.0	37.0	37.0	37.0	37.0	37.0	51.8	51.8	51.8	51.8	51.8	51.8
Total Split (s)	37.0	37.0	37.0	37.0	37.0	37.0	51.8	51.8	51.8	51.8	51.8	51.8
Total Split (%)	41.7%	41.7%	41.7%	41.7%	41.7%	41.7%	58.3%	58.3%	58.3%	58.3%	58.3%	58.3%
Maximum Green (s)	30.0	30.0	30.0	30.0	30.0	30.0	45.0	45.0	45.0	45.0	45.0	45.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	5.0	5.0	5.0	5.0	5.0	5.0
All-Red Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	1.8	1.8	1.8	1.8	1.8	1.8
Lost Time Adjust (s)		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)		7.0	7.0		7.0	7.0	6.8	6.8	6.8	6.8	6.8	6.8
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	1.5	1.5	1.5	1.5	1.5	1.5	3.3	3.3	3.3	3.3	3.3	3.3
Minimum Gap (s)	1.5	1.5	1.5	1.5	1.5	1.5	3.3	3.3	3.3	3.3	3.3	3.3

Lanes, Volumes, Timings
300: Loomis Road & Ryan Road

Build Traffic
AM Peak Hour

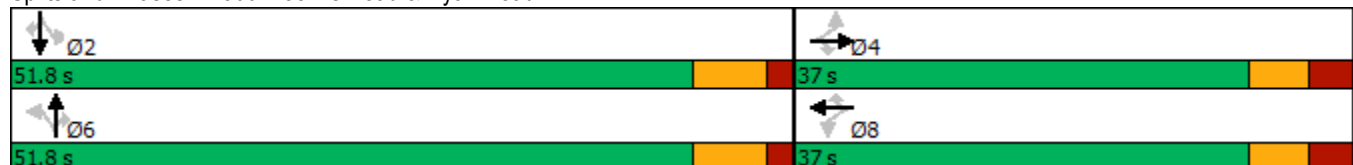


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Time Before Reduce (s)	30.0	30.0	30.0	30.0	30.0	30.0	45.0	45.0	45.0	45.0	45.0	45.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	None	None	None	None	Min	Min	Min	Min	Min	Min
Walk Time (s)												
Flash Dont Walk (s)												
Pedestrian Calls (#/hr)												
v/c Ratio		0.34	0.02		0.24	0.02	0.05	0.37	0.08	0.01	0.17	0.02
Control Delay		19.1	14.9		16.9	14.7	6.8	6.8	6.5	6.6	5.9	6.5
Queue Delay		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay		19.1	14.9		16.9	14.7	6.8	6.8	6.5	6.6	5.9	6.5
Queue Length 50th (ft)		17	1		13	1	4	66	8	1	25	2
Queue Length 95th (ft)		56	10		45	9	15	124	27	5	52	9
Internal Link Dist (ft)		211			1194			667			758	
Turn Bay Length (ft)			25			70	275		330	325		215
Base Capacity (vph)		889	1056		1009	1209	851	3343	1378	503	3150	1299
Starvation Cap Reductn		0	0		0	0	0	0	0	0	0	0
Spillback Cap Reductn		0	0		0	0	0	0	0	0	0	0
Storage Cap Reductn		0	0		0	0	0	0	0	0	0	0
Reduced v/c Ratio		0.10	0.01		0.07	0.01	0.04	0.26	0.05	0.01	0.12	0.01

Intersection Summary























Area Type: Other
 Cycle Length: 88.8
 Actuated Cycle Length: 40.2
 Natural Cycle: 90
 Control Type: Actuated-Uncoordinated
 Description: EB Approach: No opposing RT influence (sweeping channelized WB RT)

Splits and Phases: 300: Loomis Road & Ryan Road



HCM 6th Signalized Intersection Summary
 300: Loomis Road & Ryan Road

Build Traffic
 AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	70	15	10	55	10	10	30	810	110	5	360	25
Future Volume (veh/h)	70	15	10	55	10	10	30	810	110	5	360	25
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
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	1633	1633	1633	1856	1856	1856	1693	1837	1693	1589	1724	1589
Adj Flow Rate, veh/h	74	16	7	59	11	7	32	862	73	5	383	16
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	18	18	18	3	3	3	14	14	14	21	21	21
Cap, veh/h	374	61	251	341	49	285	524	1539	633	328	1445	594
Arrive On Green	0.18	0.18	0.18	0.18	0.18	0.18	0.44	0.44	0.44	0.44	0.44	0.44
Sat Flow, veh/h	1074	338	1384	881	268	1572	892	3490	1434	509	3276	1346
Grp Volume(v), veh/h	90	0	7	70	0	7	32	862	73	5	383	16
Grp Sat Flow(s),veh/h/ln	1413	0	1384	1150	0	1572	892	1745	1434	509	1638	1346
Q Serve(g_s), s	0.0	0.0	0.2	1.1	0.0	0.1	0.9	6.7	1.1	0.3	2.7	0.2
Cycle Q Clear(g_c), s	1.8	0.0	0.2	2.9	0.0	0.1	3.6	6.7	1.1	7.0	2.7	0.2
Prop In Lane	0.82		1.00	0.84		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	436	0	251	390	0	285	524	1539	633	328	1445	594
V/C Ratio(X)	0.21	0.00	0.03	0.18	0.00	0.02	0.06	0.56	0.12	0.02	0.27	0.03
Avail Cap(c_a), veh/h	1256	0	1136	1308	0	1291	1229	4296	1766	730	4033	1658
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	0.00	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	0.0	12.3	13.7	0.0	12.3	7.6	7.6	6.0	10.2	6.5	5.8
Incr Delay (d2), s/veh	0.1	0.0	0.0	0.1	0.0	0.0	0.1	0.4	0.1	0.0	0.1	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	0.9	0.0	0.1	0.7	0.0	0.1	0.2	1.9	0.3	0.0	0.7	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	13.1	0.0	12.3	13.7	0.0	12.3	7.6	7.9	6.1	10.2	6.6	5.8
LnGrp LOS	B	A	B	B	A	B	A	A	A	B	A	A
Approach Vol, veh/h		97			77			967			404	
Approach Delay, s/veh		13.0			13.6			7.8			6.6	
Approach LOS		B			B			A			A	
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		22.9		13.6		22.9		13.6				
Change Period (Y+Rc), s		* 6.8		7.0		* 6.8		7.0				
Max Green Setting (Gmax), s		* 45		30.0		* 45		30.0				
Max Q Clear Time (g_c+I1), s		9.0		3.8		8.7		4.9				
Green Ext Time (p_c), s		2.7		0.2		7.4		0.1				

Intersection Summary

HCM 6th Ctrl Delay	8.1
HCM 6th LOS	A

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Lanes, Volumes, Timings
400: Ryan Road & Cape Crossing Driveway

Build Traffic
AM Peak Hour



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	10	55	40	10	40	35
Future Volume (vph)	10	55	40	10	40	35
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)		0%	0%		0%	
Storage Length (ft)	0			0	0	0
Storage Lanes	0			0	1	0
Taper Length (ft)	100				100	
Link Speed (mph)		35	35		30	
Link Distance (ft)		1345	2011		854	
Travel Time (s)		26.2	39.2		19.4	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	3%	3%	6%	6%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)		0%	0%		0%	
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	74	57	0	86	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		0	0		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						
Int Delay, s/veh	4					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↕		↕	
Traffic Vol, veh/h	10	55	40	10	40	35
Future Vol, veh/h	10	55	40	10	40	35
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	87	87	87	87	87	87
Heavy Vehicles, %	3	3	6	6	2	2
Mvmt Flow	11	63	46	11	46	40



















Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	57	0	-	0	137 52
Stage 1	-	-	-	-	52 -
Stage 2	-	-	-	-	85 -
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	1541	-	-	-	856 1016
Stage 1	-	-	-	-	970 -
Stage 2	-	-	-	-	938 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	1541	-	-	-	850 1016
Mov Cap-2 Maneuver	-	-	-	-	850 -
Stage 1	-	-	-	-	963 -
Stage 2	-	-	-	-	938 -

Approach	EB	WB	SB
HCM Control Delay, s	1.1	0	9.3
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1541	-	-	-	920
HCM Lane V/C Ratio	0.007	-	-	-	0.094
HCM Control Delay (s)	7.4	0	-	-	9.3
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0.3

Lanes, Volumes, Timings
100: North Cape Road & Ryan Road

Build Traffic
PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	5	20	15	20	55	35	15	340	35	40	390	5
Future Volume (vph)	5	20	15	20	55	35	15	340	35	40	390	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	0		0	0		100	0		70
Storage Lanes	0		0	0		0	0		1	0		1
Taper Length (ft)	100			100			100			100		
Link Speed (mph)		35			35			40			40	
Link Distance (ft)		817			1345			901			681	
Travel Time (s)		15.9			26.2			15.4			11.6	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	5%	5%	5%	1%	1%	1%	5%	5%	5%	4%	4%	4%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	46	0	0	126	0	0	403	40	0	488	6
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Free			Free	
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											

Intersection												
Int Delay, s/veh	4.4											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕	↕		↕	↕
Traffic Vol, veh/h	5	20	15	20	55	35	15	340	35	40	390	5
Future Vol, veh/h	5	20	15	20	55	35	15	340	35	40	390	5
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	100	-	-	70
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	88	88	88	88	88	88	88	88	88	88	88	88
Heavy Vehicles, %	5	5	5	1	1	1	5	5	5	4	4	4
Mvmt Flow	6	23	17	23	63	40	17	386	40	45	443	6

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	1025	993	443	976	959	386	449	0	0	426	0	0
Stage 1	533	533	-	420	420	-	-	-	-	-	-	-
Stage 2	492	460	-	556	539	-	-	-	-	-	-	-
Critical Hdwy	7.15	6.55	6.25	7.11	6.51	6.21	4.15	-	-	4.14	-	-
Critical Hdwy Stg 1	6.15	5.55	-	6.11	5.51	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.15	5.55	-	6.11	5.51	-	-	-	-	-	-	-
Follow-up Hdwy	3.545	4.045	3.345	3.509	4.009	3.309	2.245	-	-	2.236	-	-
Pot Cap-1 Maneuver	211	243	608	231	258	664	1096	-	-	1123	-	-
Stage 1	525	520	-	613	591	-	-	-	-	-	-	-
Stage 2	553	561	-	517	523	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	150	226	608	196	239	664	1096	-	-	1123	-	-
Mov Cap-2 Maneuver	150	226	-	196	239	-	-	-	-	-	-	-
Stage 1	515	492	-	601	579	-	-	-	-	-	-	-
Stage 2	454	550	-	454	495	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	20.8		27		0.3		0.8	
HCM LOS	C		D					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1096	-	-	273	286	1123	-	-
HCM Lane V/C Ratio	0.016	-	-	0.167	0.437	0.04	-	-
HCM Control Delay (s)	8.3	0	-	20.8	27	8.3	0	-
HCM Lane LOS	A	A	-	C	D	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.6	2.1	0.1	-	-

Lanes, Volumes, Timings
200: Ryan Road & 116th Street

Build Traffic
PM Peak Hour



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	5	70	110	10	15	20
Future Volume (vph)	5	70	110	10	15	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)		0%	0%		0%	
Storage Length (ft)	0			0	0	0
Storage Lanes	0			0	1	0
Taper Length (ft)	100				100	
Link Speed (mph)		35	35		35	
Link Distance (ft)		2011	291		880	
Travel Time (s)		39.2	5.7		17.1	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	8%	8%	5%	5%	6%	6%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)		0%	0%		0%	
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	86	136	0	40	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		0	0		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						
Int Delay, s/veh	1.6					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↕		↕	
Traffic Vol, veh/h	5	70	110	10	15	20
Future Vol, veh/h	5	70	110	10	15	20
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	88	88	88	88	88	88
Heavy Vehicles, %	8	8	5	5	6	6
Mvmt Flow	6	80	125	11	17	23























Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	136	0	-	0	223
Stage 1	-	-	-	-	131
Stage 2	-	-	-	-	92
Critical Hdwy	4.18	-	-	-	6.46
Critical Hdwy Stg 1	-	-	-	-	5.46
Critical Hdwy Stg 2	-	-	-	-	5.46
Follow-up Hdwy	2.272	-	-	-	3.554
Pot Cap-1 Maneuver	1412	-	-	-	756
Stage 1	-	-	-	-	885
Stage 2	-	-	-	-	922
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	1412	-	-	-	753
Mov Cap-2 Maneuver	-	-	-	-	753
Stage 1	-	-	-	-	881
Stage 2	-	-	-	-	922

Approach	EB	WB	SB
HCM Control Delay, s	0.5	0	9.5
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1412	-	-	-	834
HCM Lane V/C Ratio	0.004	-	-	-	0.048
HCM Control Delay (s)	7.6	0	-	-	9.5
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0.1

Lanes, Volumes, Timings
300: Loomis Road & Ryan Road

Build Traffic
PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	40	20	25	135	30	5	15	495	65	20	785	75
Future Volume (vph)	40	20	25	135	30	5	15	495	65	20	785	75
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	2062	1900	1900	2062	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		25	0		70	275		330	325		215
Storage Lanes	0		1	0		1	1		1	1		1
Taper Length (ft)	100			100			100			100		
Right Turn on Red			No			No			No		No	
Link Speed (mph)		35			40			55			55	
Link Distance (ft)		291			1274			747			838	
Travel Time (s)		5.7			21.7			9.3			10.4	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Growth Factor	100%	100%	62%	100%	100%	62%	100%	100%	62%	100%	100%	62%
Heavy Vehicles (%)	11%	11%	11%	2%	2%	2%	8%	8%	8%	5%	5%	5%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	61	16	0	169	3	15	505	41	20	801	47
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			23			23	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.90	1.00	1.00	0.90	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Perm	NA	Perm	Perm	NA	Perm
Protected Phases		4			8			6			2	
Permitted Phases	4		4	8		8	6		6	2		2
Detector Phase	4	4	4	8	8	8	6	6	6	2	2	2
Switch Phase												
Minimum Initial (s)	8.0	8.0	8.0	8.0	8.0	8.0	15.0	15.0	15.0	15.0	15.0	15.0
Minimum Split (s)	15.0	15.0	15.0	15.0	15.0	15.0	21.8	21.8	21.8	21.8	21.8	21.8
Total Split (s)	37.0	37.0	37.0	37.0	37.0	37.0	56.8	56.8	56.8	56.8	56.8	56.8
Total Split (%)	39.4%	39.4%	39.4%	39.4%	39.4%	39.4%	60.6%	60.6%	60.6%	60.6%	60.6%	60.6%
Maximum Green (s)	30.0	30.0	30.0	30.0	30.0	30.0	50.0	50.0	50.0	50.0	50.0	50.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	5.0	5.0	5.0	5.0	5.0	5.0
All-Red Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	1.8	1.8	1.8	1.8	1.8	1.8
Lost Time Adjust (s)		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)		7.0	7.0		7.0	7.0	6.8	6.8	6.8	6.8	6.8	6.8
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	1.5	1.5	1.5	1.5	1.5	1.5	3.3	3.3	3.3	3.3	3.3	3.3
Minimum Gap (s)	1.5	1.5	1.5	1.5	1.5	1.5	3.3	3.3	3.3	3.3	3.3	3.3

Lanes, Volumes, Timings
300: Loomis Road & Ryan Road

Build Traffic
PM Peak Hour

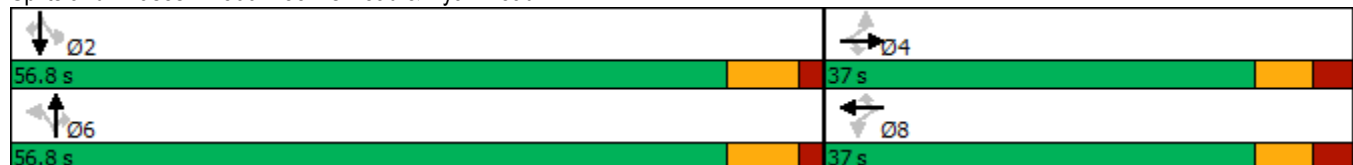


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Time Before Reduce (s)	30.0	30.0	30.0	30.0	30.0	30.0	45.0	45.0	45.0	45.0	45.0	45.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	None	None	None	None	Min	Min	Min	Min	Min	Min
Walk Time (s)												
Flash Dont Walk (s)												
Pedestrian Calls (#/hr)												
v/c Ratio		0.22	0.05		0.54	0.01	0.06	0.31	0.06	0.05	0.47	0.07
Control Delay		15.6	13.4		21.8	13.0	8.5	8.7	8.0	8.2	10.0	8.0
Queue Delay		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay		15.6	13.4		21.8	13.0	8.5	8.7	8.0	8.2	10.0	8.0
Queue Length 50th (ft)		11	3		32	1	2	36	5	2	63	6
Queue Length 95th (ft)		38	14		89	5	11	76	20	13	124	22
Internal Link Dist (ft)		211			1194			667			758	
Turn Bay Length (ft)			25			70	275		330	325		215
Base Capacity (vph)		819	997		925	1085	588	3582	1476	832	3684	1518
Starvation Cap Reductn		0	0		0	0	0	0	0	0	0	0
Spillback Cap Reductn		0	0		0	0	0	0	0	0	0	0
Storage Cap Reductn		0	0		0	0	0	0	0	0	0	0
Reduced v/c Ratio		0.07	0.02		0.18	0.00	0.03	0.14	0.03	0.02	0.22	0.03

Intersection Summary























Area Type: Other
 Cycle Length: 93.8
 Actuated Cycle Length: 44.6
 Natural Cycle: 40
 Control Type: Actuated-Uncoordinated
 Description: EB Approach: No opposing RT influence (sweeping channelized WB RT)

Splits and Phases: 300: Loomis Road & Ryan Road



HCM 6th Signalized Intersection Summary
300: Loomis Road & Ryan Road

Build Traffic
PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	40	20	25	135	30	5	15	495	65	20	785	75
Future Volume (veh/h)	40	20	25	135	30	5	15	495	65	20	785	75
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
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	1737	1737	1737	1870	1870	1870	1781	1933	1781	1826	1982	1826
Adj Flow Rate, veh/h	41	20	16	138	31	3	15	505	41	20	801	47
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	11	11	11	2	2	2	8	8	8	5	5	5
Cap, veh/h	351	136	299	386	67	322	358	1524	627	470	1563	642
Arrive On Green	0.20	0.20	0.20	0.20	0.20	0.20	0.42	0.42	0.42	0.42	0.42	0.42
Sat Flow, veh/h	907	669	1472	1009	331	1585	619	3673	1510	840	3765	1547
Grp Volume(v), veh/h	61	0	16	169	0	3	15	505	41	20	801	47
Grp Sat Flow(s),veh/h/ln	1576	0	1472	1340	0	1585	619	1837	1510	840	1883	1547
Q Serve(g_s), s	0.0	0.0	0.3	3.4	0.0	0.1	0.7	3.4	0.6	0.6	5.7	0.7
Cycle Q Clear(g_c), s	1.1	0.0	0.3	4.4	0.0	0.1	6.4	3.4	0.6	4.0	5.7	0.7
Prop In Lane	0.67		1.00	0.82		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	487	0	299	453	0	322	358	1524	627	470	1563	642
V/C Ratio(X)	0.13	0.00	0.05	0.37	0.00	0.01	0.04	0.33	0.07	0.04	0.51	0.07
Avail Cap(c_a), veh/h	1365	0	1222	1358	0	1316	958	5082	2088	1283	5208	2141
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	0.00	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	11.9	0.0	11.6	13.4	0.0	11.5	10.2	7.2	6.4	8.5	7.9	6.4
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.2	0.0	0.0	0.1	0.1	0.0	0.0	0.3	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	0.6	0.0	0.1	1.7	0.0	0.0	0.1	1.0	0.2	0.1	1.8	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	11.9	0.0	11.6	13.6	0.0	11.5	10.3	7.3	6.4	8.6	8.1	6.4
LnGrp LOS	B	A	B	B	A	B	B	A	A	A	A	A
Approach Vol, veh/h		77			172			561			868	
Approach Delay, s/veh		11.9			13.6			7.3			8.1	
Approach LOS		B			B			A			A	
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		21.8		14.3		21.8		14.3				
Change Period (Y+Rc), s		* 6.8		7.0		* 6.8		7.0				
Max Green Setting (Gmax), s		* 50		30.0		* 50		30.0				
Max Q Clear Time (g_c+I1), s		7.7		3.1		8.4		6.4				
Green Ext Time (p_c), s		6.6		0.1		3.9		0.4				
Intersection Summary												
HCM 6th Ctrl Delay			8.6									
HCM 6th LOS			A									
Notes												
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.												

Lanes, Volumes, Timings
400: Ryan Road & Cape Crossing Driveway

Build Traffic
PM Peak Hour



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	40	55	90	40	20	20
Future Volume (vph)	40	55	90	40	20	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)		0%	0%		0%	
Storage Length (ft)	0			0	0	0
Storage Lanes	0			0	1	0
Taper Length (ft)	100				100	
Link Speed (mph)		35	35		30	
Link Distance (ft)		1345	2011		854	
Travel Time (s)		26.2	39.2		19.4	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	8%	8%	5%	5%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)		0%	0%		0%	
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	108	147	0	46	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		0	0		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						
Int Delay, s/veh	2.6					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↕		↕	
Traffic Vol, veh/h	40	55	90	40	20	20
Future Vol, veh/h	40	55	90	40	20	20
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	88	88	88	88	88	88
Heavy Vehicles, %	8	8	5	5	2	2
Mvmt Flow	45	63	102	45	23	23

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	147	0	-	0	278
Stage 1	-	-	-	-	125
Stage 2	-	-	-	-	153
Critical Hdwy	4.18	-	-	-	6.42
Critical Hdwy Stg 1	-	-	-	-	5.42
Critical Hdwy Stg 2	-	-	-	-	5.42
Follow-up Hdwy	2.272	-	-	-	3.518
Pot Cap-1 Maneuver	1399	-	-	-	712
Stage 1	-	-	-	-	901
Stage 2	-	-	-	-	875
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	1399	-	-	-	689
Mov Cap-2 Maneuver	-	-	-	-	689
Stage 1	-	-	-	-	871
Stage 2	-	-	-	-	875

Approach	EB	WB	SB
HCM Control Delay, s	3.2	0	9.8
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1399	-	-	-	790
HCM Lane V/C Ratio	0.032	-	-	-	0.058
HCM Control Delay (s)	7.7	0	-	-	9.8
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0.1	-	-	-	0.2

APPENDIX D

Speed Study Data



Total Volume (Hourly)

Location Description: 20-01
 Started: 10/19/2021 08:00
 Ended: 10/20/2021 07:59

Hour	---			---			Tue 10/19/21			Wed 10/20/21			---			---			---		
	---	---	---	---	---	---	EB	WB	Total	EB	WB	Total	---	---	---	---	---	---	---	---	
00:00	-	-	-	-	-	-	-	-	-	2	4	6	-	-	-	-	-	-	-	-	-
01:00	-	-	-	-	-	-	-	-	-	0	0	0	-	-	-	-	-	-	-	-	-
02:00	-	-	-	-	-	-	-	-	-	1	2	3	-	-	-	-	-	-	-	-	-
03:00	-	-	-	-	-	-	-	-	-	0	1	1	-	-	-	-	-	-	-	-	-
04:00	-	-	-	-	-	-	-	-	-	11	3	14	-	-	-	-	-	-	-	-	-
05:00	-	-	-	-	-	-	-	-	-	24	5	29	-	-	-	-	-	-	-	-	-
06:00	-	-	-	-	-	-	-	-	-	31	27	58	-	-	-	-	-	-	-	-	-
07:00	-	-	-	-	-	-	-	-	-	75	24	99	-	-	-	-	-	-	-	-	-
08:00	-	-	-	-	-	-	58	29	87	-	-	-	-	-	-	-	-	-	-	-	-
09:00	-	-	-	-	-	-	37	23	60	-	-	-	-	-	-	-	-	-	-	-	-
10:00	-	-	-	-	-	-	36	26	62	-	-	-	-	-	-	-	-	-	-	-	-
11:00	-	-	-	-	-	-	36	30	66	-	-	-	-	-	-	-	-	-	-	-	-
12:00	-	-	-	-	-	-	39	37	76	-	-	-	-	-	-	-	-	-	-	-	-
13:00	-	-	-	-	-	-	38	38	76	-	-	-	-	-	-	-	-	-	-	-	-
14:00	-	-	-	-	-	-	41	43	84	-	-	-	-	-	-	-	-	-	-	-	-
15:00	-	-	-	-	-	-	56	66	122	-	-	-	-	-	-	-	-	-	-	-	-
16:00	-	-	-	-	-	-	57	68	125	-	-	-	-	-	-	-	-	-	-	-	-
17:00	-	-	-	-	-	-	79	78	157	-	-	-	-	-	-	-	-	-	-	-	-
18:00	-	-	-	-	-	-	39	59	98	-	-	-	-	-	-	-	-	-	-	-	-
19:00	-	-	-	-	-	-	18	29	47	-	-	-	-	-	-	-	-	-	-	-	-
20:00	-	-	-	-	-	-	16	25	41	-	-	-	-	-	-	-	-	-	-	-	-
21:00	-	-	-	-	-	-	4	18	22	-	-	-	-	-	-	-	-	-	-	-	-
22:00	-	-	-	-	-	-	3	7	10	-	-	-	-	-	-	-	-	-	-	-	-
23:00	-	-	-	-	-	-	1	4	5	-	-	-	-	-	-	-	-	-	-	-	-
Daily Total	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
AM Peak	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HV%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Hour	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MD Peak	-	-	-	-	-	-	46	37	83	-	-	-	-	-	-	-	-	-	-	-	-
HV%	-	-	-	-	-	-	8%	4%	4%	-	-	-	-	-	-	-	-	-	-	-	-
Hour	-	-	-	-	-	-	11:45	11:45	11:45	-	-	-	-	-	-	-	-	-	-	-	-
PM Peak	-	-	-	-	-	-	83	79	162	-	-	-	-	-	-	-	-	-	-	-	-
HV%	-	-	-	-	-	-	4%	3%	3%	-	-	-	-	-	-	-	-	-	-	-	-
Hour	-	-	-	-	-	-	16:45	16:45	16:45	-	-	-	-	-	-	-	-	-	-	-	-

Hour	Mon-Thurs Average		
	EB	WB	Total
00:00-00:59	2	4	6
01:00-01:59	0	0	0
02:00-02:59	1	2	3
03:00-03:59	0	1	1
04:00-04:59	11	3	14
05:00-05:59	24	5	29
06:00-06:59	31	27	58
07:00-07:59	72	22	94
08:00-08:59	58	29	87
09:00-09:59	37	23	60
10:00-10:59	36	26	62
11:00-11:59	36	30	66
12:00-12:59	39	37	76
13:00-13:59	38	38	76
14:00-14:59	41	43	84
15:00-15:59	56	66	122
16:00-16:59	57	68	125
17:00-17:59	79	78	157
18:00-18:59	39	59	98
19:00-19:59	18	29	47
20:00-20:59	16	25	41
21:00-21:59	4	18	22
22:00-22:59	3	7	10
23:00-23:59	1	4	5
Daily Total	699	644	1,343
AM Peak	72	22	94
HV%	11%	3%	3%
Hour	07:00	07:00	07:00
MD Peak	46	37	83
HV%	8%	4%	4%
Hour	11:45	11:45	11:45
PM Peak	83	79	162
HV%	4%	3%	3%
Hour	16:45	16:45	16:45

50th Percentile Speed (Hourly)

Location Description: 20-01
 Started: 10/19/2021 08:00
 Ended: 10/20/2021 07:59

Hour	---			---			Tue 10/19/21			Wed 10/20/21			---			---			---		
	---	---	---	---	---	---	EB	WB	Total	EB	WB	Total	---	---	---	---	---	---	---	---	
00:00			-			-			-	37.8	40.0	39.3			-			-			-
01:00			-			-			-			-			-			-			-
02:00			-			-			-	31.3	36.6	34.8			-			-			-
03:00			-			-			-		36.6	36.6			-			-			-
04:00			-			-			-	43.5	36.3	41.9			-			-			-
05:00			-			-			-	39.7	40.5	39.9			-			-			-
06:00			-			-			-	40.3	39.4	39.9			-			-			-
07:00			-			-	40.2	43.2	40.6	39.2	38.7	39.1			-			-			-
08:00			-			-	40.2	36.4	38.9			-			-			-			-
09:00			-			-	40.5	37.7	39.4			-			-			-			-
10:00			-			-	40.1	38.5	39.4			-			-			-			-
11:00			-			-	41.2	37.6	39.5			-			-			-			-
12:00			-			-	40.8	38.5	39.7			-			-			-			-
13:00			-			-	41.0	40.0	40.5			-			-			-			-
14:00			-			-	39.8	39.6	39.7			-			-			-			-
15:00			-			-	39.8	40.1	40.0			-			-			-			-
16:00			-			-	39.1	38.5	38.8			-			-			-			-
17:00			-			-	41.0	39.4	40.2			-			-			-			-
18:00			-			-	39.4	38.7	39.0			-			-			-			-
19:00			-			-	36.6	37.6	37.2			-			-			-			-
20:00			-			-	38.7	39.1	38.9			-			-			-			-
21:00			-			-	41.7	39.4	39.8			-			-			-			-
22:00			-			-	43.2	37.9	39.5			-			-			-			-
23:00			-			-	36.9	38.0	37.7			-			-			-			-

Hour	Mon-Thurs Average		
	EB	WB	Total
00:00-00:59	37.8	40.0	39.3
01:00-01:59			-
02:00-02:59	31.3	36.6	34.8
03:00-03:59		36.6	36.6
04:00-04:59	43.5	36.3	41.9
05:00-05:59	39.7	40.5	39.9
06:00-06:59	40.3	39.4	39.9
07:00-07:59	39.7	40.9	39.8
08:00-08:59	40.2	36.4	38.9
09:00-09:59	40.5	37.7	39.4
10:00-10:59	40.1	38.5	39.4
11:00-11:59	41.2	37.6	39.5
12:00-12:59	40.8	38.5	39.7
13:00-13:59	41.0	40.0	40.5
14:00-14:59	39.8	39.6	39.7
15:00-15:59	39.8	40.1	40.0
16:00-16:59	39.1	38.5	38.8
17:00-17:59	41.0	39.4	40.2
18:00-18:59	39.4	38.7	39.0
19:00-19:59	36.6	37.6	37.2
20:00-20:59	38.7	39.1	38.9
21:00-21:59	41.7	39.4	39.8
22:00-22:59	43.2	37.9	39.5
23:00-23:59	36.9	38.0	37.7

85th Percentile Speed (Hourly)

Location Description: 20-01
 Started: 10/19/2021 08:00
 Ended: 10/20/2021 07:59

Hour	---			---			Tue 10/19/21			Wed 10/20/21			---			---			---		
	---	---	---	---	---	---	EB	WB	Total	EB	WB	Total	---	---	---	---	---	---	---	---	
00:00			-			-			-	38.0	43.0	41.3			-			-			-
01:00			-			-			-			-			-			-			-
02:00			-			-			-	32.0	39.0	36.7			-			-			-
03:00			-			-			-		39.0	39.0			-			-			-
04:00			-			-			-	45.3	38.7	43.9			-			-			-
05:00			-			-			-	45.4	43.4	45.1			-			-			-
06:00			-			-			-	45.6	44.0	44.8			-			-			-
07:00			-			-	46.5	47.0	46.6	44.0	42.0	43.6			-			-			-
08:00			-			-	46.7	40.1	44.5			-			-			-			-
09:00			-			-	46.2	43.0	45.0			-			-			-			-
10:00			-			-	47.0	42.2	45.0			-			-			-			-
11:00			-			-	45.8	42.9	44.5			-			-			-			-
12:00			-			-	45.6	42.6	44.1			-			-			-			-
13:00			-			-	45.4	45.6	45.5			-			-			-			-
14:00			-			-	45.6	44.9	45.2			-			-			-			-
15:00			-			-	45.8	46.6	46.2			-			-			-			-
16:00			-			-	45.3	44.1	44.7			-			-			-			-
17:00			-			-	44.8	43.7	44.3			-			-			-			-
18:00			-			-	44.3	42.6	43.3			-			-			-			-
19:00			-			-	39.6	41.6	40.8			-			-			-			-
20:00			-			-	46.5	42.7	44.2			-			-			-			-
21:00			-			-	45.8	42.3	43.0			-			-			-			-
22:00			-			-	47.7	39.1	41.7			-			-			-			-
23:00			-			-	37.0	40.3	39.6			-			-			-			-

Hour	Mon-Thurs Average		
	EB	WB	Total
00:00-00:59	38.0	43.0	41.3
01:00-01:59			-
02:00-02:59	32.0	39.0	36.7
03:00-03:59		39.0	39.0
04:00-04:59	45.3	38.7	43.9
05:00-05:59	45.4	43.4	45.1
06:00-06:59	45.6	44.0	44.8
07:00-07:59	45.3	44.5	45.1
08:00-08:59	46.7	40.1	44.5
09:00-09:59	46.2	43.0	45.0
10:00-10:59	47.0	42.2	45.0
11:00-11:59	45.8	42.9	44.5
12:00-12:59	45.6	42.6	44.1
13:00-13:59	45.4	45.6	45.5
14:00-14:59	45.6	44.9	45.2
15:00-15:59	45.8	46.6	46.2
16:00-16:59	45.3	44.1	44.7
17:00-17:59	44.8	43.7	44.3
18:00-18:59	44.3	42.6	43.3
19:00-19:59	39.6	41.6	40.8
20:00-20:59	46.5	42.7	44.2
21:00-21:59	45.8	42.3	43.0
22:00-22:59	47.7	39.1	41.7
23:00-23:59	37.0	40.3	39.6



CITY OF FRANKLIN
REPORT TO THE PLAN COMMISSION

Item C.2.

Meeting of December 9, 2021

Unified Development Ordinance Text Amendment

RECOMMENDATION: City Development Staff recommends approval of this Unified Development Ordinance Text Amendment of Table 15-3.0603 to include certain Special Trade Contractor uses as permitted uses in the in the B-2 General Business District, B-5 Highway Business District and M-1 Limited Industrial District, excluding outdoor storage.

Project Name: Change Special Trade Contractors to permitted use in the B-2, B-5 and M-1 zoning districts
Project Address: City-wide
Applicant: City Development staff
Applicant Action Requested: Recommendation of approval for the proposed Unified Development Ordinance Text Amendment

Introduction and Background:

Before you is an amendment to the Unified Development Ordinance (UDO) Table 15-3.0603 "Permitted and Special Uses in the Nonresidential Zoning Districts" to change certain Special Trade Contractor uses from "Special" to "Permitted" in the B-2 General Business District, B-5 Highway Business District and M-1 Limited Industrial District. The specific Standard Industrial Classification (SIC) titles subject of this amendment are listed below:

- 1711 - Plumbing, heating and air-conditioning.
1721 - Painting and paper hanging.
1731 - Electrical work.
1741 - Masonry and other stonework.
1742 - Plastering, drywall, acoustical and insulation.
1743 - Terrazzo, tile, marble, mosaic work.
1751 - Carpentry work.
1752 - Floor laying and floor work, not elsewhere classified.
1761 - Roofing, siding, and sheet metal work.

The intent of this amendment is to allow for the office, retail and indoor storage components associated with special trade contractors in these zoning districts without the requirement of a special use permit. This amendment excludes outdoor storage, the special use permit requirement would remain for special trade contractors with outdoor storage.

Please note, the proposed text amendment, if adopted, would apply to all properties in the City of Franklin zoned B-2 General Business District, B-5 Highway Business District and M-1 Limited Industrial District, see attached map of affected areas in the City of Franklin.

On March 19, 2019, the Common Council adopted Ordinance No. 2019-2361 to amend UDO Table 15-3.060 and allow SIC Title Nos. 1742 "Plastering, Drywall, Acoustical, and insulation

work”, 1743 “Terrazzo, tile, marble and mosaic work” and 5145 “Confectionary” as permitted uses in the M-1 Limited Industrial District. If the proposed amendment is adopted, plastering, drywall, acoustical and insulation contractors, as well as terrazzo, tile, marble and mosaic contractors would be also permitted in the B-2 General Business District and B-5 Highway Business District.

Project Description and Analysis:

The zoning districts subject of this amendment are the B-2 General Business District, B-5 Highway Business District and M-1 Limited Industrial District. The intent of these districts as described in the UDO is as follows:

- B-2 General Business District, “provide for the orderly and attractive development and grouping, in appropriate and convenient locations, of small-lot business activities of a general nature”.
- B-5 Highway Business District, “accommodate automobile-oriented sales and service establishments”.
- M-1 Limited Industrial District, “provide for manufacturing, industrial, warehousing, and uses of a limited nature and size in locations where the relative proximity to other uses requires more restrictive regulation”.

These zoning districts may be adjacent to residential zoning districts; therefore, City Development staff recommends approval of this amendment as long as the requirement for a special permit remain for any outdoor storage associated with special trade contractor uses. Additionally, most of these contractor uses perform their work on the job site rather than in the business location.

It is worth noting that landscape bufferyards are required by the UDO to ameliorate nuisances between residential districts and business or manufacturing districts. Landscape bufferyards act as visual barriers and mitigate noise and light trespass.

Table 15-3.0603 of the Unified Development Ordinance (UDO) sets forth those uses which are permitted and special uses in all nonresidential zoning districts in the City of Franklin. Use designations are based on the Standard Industrial Classification Manual (1987, or latest edition) published by the Executive Office of the President, Office of Management and Budget.

The Special Trade Contractor uses subject of this amendment are part of Division C: Construction and Major Group 17: Construction Special Trade Contractors. Note that this Major Group encompasses other uses that are not included in this amendment:

- 1771 – Concrete work.
- 1781 – Water well drilling.
- 1791 – Structural steel erection.
- 1793 – Glass and glazing work.
- 1794 – Excavation work.
- 1795 – Wrecking and demolition work.
- 1796 – Installing or erection of building equipment, not elsewhere classified.
- 1799 – Special trade contractors, not elsewhere classified.

The SIC codes listed above are currently allowed as special uses in the M-1, Limited Industrial District, and not permitted in any of the business districts (B). Due to the proximity of many of the current M-1 districts to residential properties throughout the City, keeping these uses as a “Special Use” review process, allows such requests to be brought forward to the City for individual review. Such items such as size of operation, hours of operations, amount of storage permitted on-site, and other items which may affect the general health, safety and welfare may better be upheld. Therefore, these special trade contractor uses are not included in the proposed amendment.

City Department Comments:

- **Police Department.** The PD has no comment regarding this request.

Staff Recommendation:

City Development Staff recommends approval of this Unified Development Ordinance Text Amendment of Table 15-3.0603 to allow for Standard Industrial Classification Title Nos. 1711, 1721, 1731, 1741, 1742, 1743, 1751, 1752 and 1761 as permitted uses in the B-2 General Business District, B-5 Highway Business District and M-1 Limited Industrial District, not including outdoor storage.

Special trade contractor uses with outdoor storage would require a Special Use permit in the B-2, B-5 and M-1 zoning districts.

Appendices:

1. Locator map titled “Zoning Districts B-2, B-5 and M-1”.
2. Unified Development Ordinance Table 15-30603 with proposed amendments.
3. Common Council minutes of the March 19, 2019, meeting (page 3).

ORDINANCE NO. 2021-____

AN ORDINANCE TO AMEND THE UNIFIED DEVELOPMENT ORDINANCE TEXT AT TABLE 15-3.0603 STANDARD INDUSTRIAL CLASSIFICATION TITLE NOS. 1711 “PLUMBING, HEATING AND AIR-CONDITIONING” 1721 “PAINTING AND PAPER HANGING” 1731 “ELECTRICAL WORK” 1741 “MASONRY, STONE SETTING, AND OTHER STONE WORK” 1742 “PLASTERING, DRYWALL, ACOUSTICAL, AND INSULATION WORK” 1743 “TERRAZZO, TILE, MARBLE, AND MOSAIC WORK” 1751 “CARPENTRY WORK” 1752 “FLOOR LAYING AND OTHER FLOOR WORK, NOT ELSEWHERE CLASSIFIED” AND 1761 “ROOFING, SIDING, AND SHEET METAL WORK” TO CHANGE SUCH USES FROM A SPECIAL USE TO A PERMITTED USE IN THE B-2 GENERAL BUSINESS DISTRICT, B-5 HIGHWAY BUSINESS DISTRICT AND M-1 LIMITED INDUSTRIAL DISTRICT
(CITY OF FRANKLIN, APPLICANT)

WHEREAS, Table 15-3.0603 of the Unified Development Ordinance sets forth the permitted and special uses in the nonresidential zoning districts; and

WHEREAS, the City of Franklin having applied for a text amendment to Table 15-3.0603 to change certain special trade contractor uses for the following Standard Industrial Classification (SIC) Code Nos. from special to permitted uses (excluding special trade contractors with outdoor storage) in the B-2 General Business District, B-5 Highway Business District and M-1 Limited Industrial District: 1711 Plumbing, Heating and Air-Conditioning; 1721 Painting and Paper Hanging; 1731 Electrical Work; 1741 Masonry, Stone Setting, and Other Stone Work; 1742 Plastering, Drywall, Acoustical, and Insulation Work; 1743 Terrazzo, Tile, Marble, and Mosaic Work; 1751 Carpentry Work; 1752 Floor Laying and Other Floor Work, Not Elsewhere Classified and 1761 Roofing, Siding, and Sheet Metal Work; and

WHEREAS, the Plan Commission having reviewed the proposed amendment to change certain special trade contractor uses for the following Standard Industrial Classification (SIC) Code Nos. from special to permitted uses (excluding special trade contractors with outdoor storage) in the B-2 General Business District, B-5 Highway Business District and M-1 Limited Industrial District: 1711 Plumbing, Heating and Air-Conditioning; 1721 Painting and Paper Hanging; 1731 Electrical Work; 1741 Masonry, Stone Setting, and Other Stone Work; 1742 Plastering, Drywall, Acoustical, and Insulation Work; 1743 Terrazzo, Tile, Marble, and Mosaic Work; 1751 Carpentry Work; 1752 Floor Laying and Other Floor Work, Not Elsewhere Classified and 1761 Roofing, Siding, and Sheet Metal Work, and having held a public hearing on the proposal on the 9th day of December, 2021 and thereafter having recommended approval of such amendment; and

WHEREAS, the Common Council having accepted the recommendation of the Plan

Commission and having determined that the proposed amendment is consistent with the 2025 Comprehensive Master Plan of the City of Franklin, Wisconsin and will serve to further orderly growth and development and promote the health, safety and welfare of the Community.

NOW, THEREFORE, the Mayor and Common Council of the City of Franklin, Wisconsin, do ordain as follows:

SECTION 1: Table 15-3.0603 of the Unified Development Ordinance of the Municipal Code of the City of Franklin, Wisconsin, only as it pertains to: Standard Industrial Classification Title No. 1711 “Plumbing, Heating and Air-Conditioning”, is hereby amended as follows: delete “S” (Special Use) and insert “P” (Permitted Use) in the B-2, B-5 and M-1 columns; Standard Industrial Classification Title No. 1721 “Painting and Paper Hanging”, is hereby amended as follows: delete “S” (Special Use) and insert “P” (Permitted Use) in the B-2, B-5 and M-1 columns; Standard Industrial Classification Title No. 1731 “Electrical Work”, is hereby amended as follows: delete “S” (Special Use) and insert “P” (Permitted Use) in the B-2, B-5 and M-1 columns; Standard Industrial Classification Title No. 1741 “Masonry, Stone Setting, and Other Stone Work”, is hereby amended as follows: delete “S” (Special Use) and insert “P” (Permitted Use) in the B-2, B-5 and M-1 columns; Standard Industrial Classification Title No. 1742 “Plastering, Drywall, Acoustical, and Insulation Work”, is hereby amended as follows: delete “S” (Special Use) and insert “P” (Permitted Use) in the B-2, B-5 and M-1 columns; Standard Industrial Classification Title No. 1743 “Terrazzo, Tile, Marble, and Mosaic Work”, is hereby amended as follows: delete “S” (Special Use) and insert “P” (Permitted Use) in the B-2, B-5 and M-1 columns; Standard Industrial Classification Title No. 1751 “Carpentry Work”, is hereby amended as follows: delete “S” (Special Use) and insert “P” (Permitted Use) in the B-2, B-5 and M-1 columns; Standard Industrial Classification Title No. 1752 “Floor Laying and Other Floor Work, Not Elsewhere Classified”, is hereby amended as follows: delete “S” (Special Use) and insert “P” (Permitted Use) in the B-2, B-5 and M-1 columns and Standard Industrial Classification Title No. 1761 “Roofing, Siding, and Sheet Metal Work”, is hereby amended as follows: delete “S” (Special Use) and insert “P” (Permitted Use) in the B-2, B-5 and M-1 columns.

SECTION 2: Table 15-3.0603 of the Unified Development Ordinance of the Municipal Code of the City of Franklin, Wisconsin, only as it pertains

to: Standard Industrial Classification Major Group No. 17 “Special Trade Contractors”, is hereby amended to include the following footnote: “Special trade contractor uses with outdoor storage require a Special Use permit in the B-2, B-5 and M-1 zoning districts”.

SECTION 3: The terms and provisions of this ordinance are severable. Should any term or provision of this ordinance be found to be invalid by a court of competent jurisdiction, the remaining terms and provisions shall remain in full force and effect.

SECTION 4: All ordinances and parts of ordinances in contravention to this ordinance are hereby repealed.

SECTION 5: This ordinance shall take effect and be in force from and after its passage and publication.

Introduced at a regular meeting of the Common Council of the City of Franklin this _____ day of _____, 2021, by Alderman _____.

Passed and adopted at a regular meeting of the Common Council of the City of Franklin this _____ day of _____, 2021.

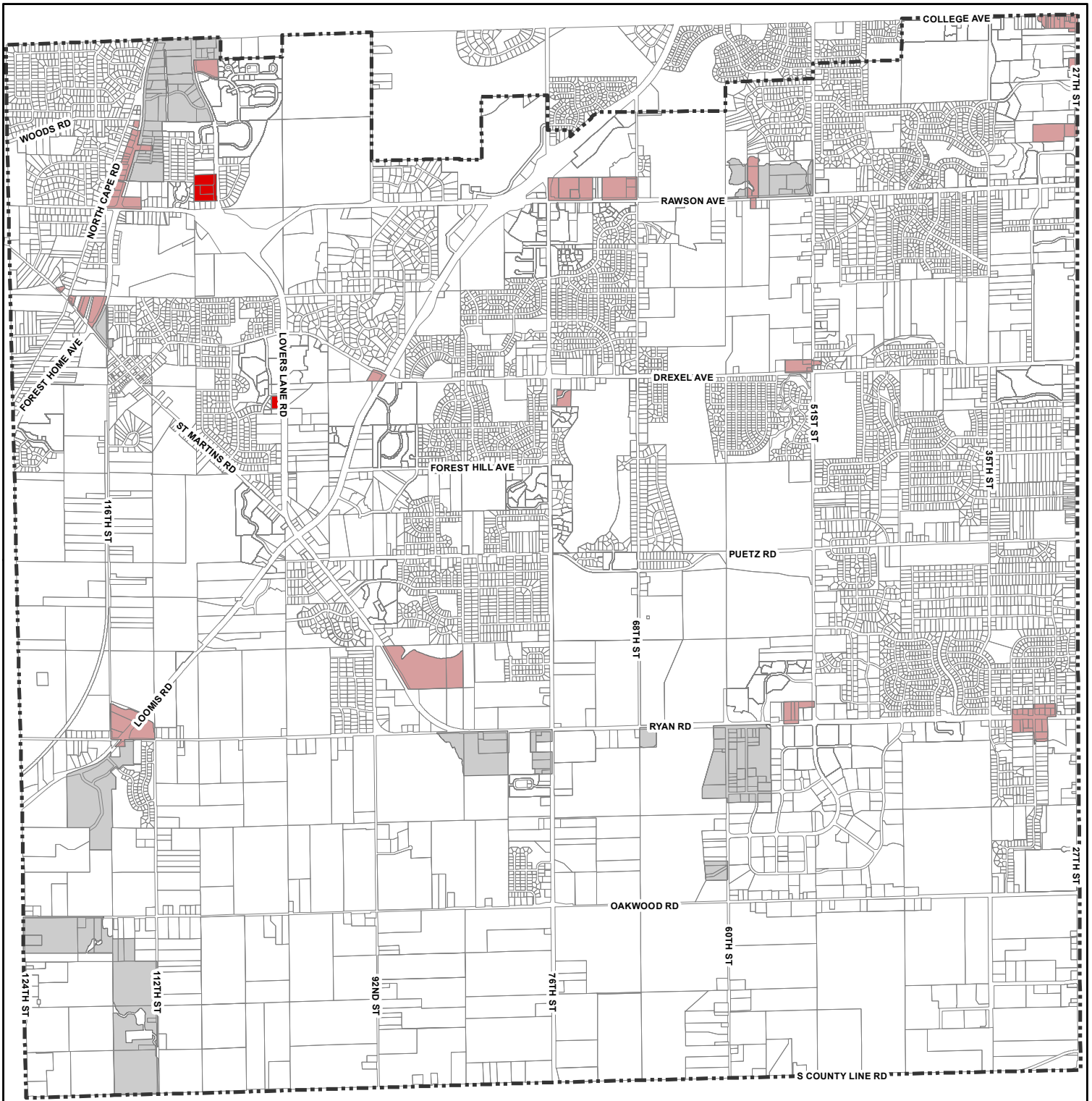
APPROVED:

Stephen R. Olson, Mayor

ATTEST:

Sandra L. Wesolowski, City Clerk

AYES _____ NOES _____ ABSENT _____



City of Franklin
 Department of City Development
 9229 W. Loomis Rd.
 Franklin, WI 53132

October, 2021

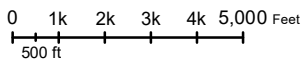
Legend

Zoning Districts

- B-2 General Business District
- B-5 Highway Business District
- M-1 Limited Industrial District

- City Boundary
- Property lines

1:50,000



ZONING DISTRICTS B-2, B-5 and M-1

Table 15-3.0603 - Permitted and Special Uses in the Nonresidential Zoning Districts

[Last amended 5-5-2020 by Ord. No. 2020-2431]

Division C: Construction / Major Group 17 Construction Special Trade Contractors

Proposed amendments in red

SIC																					
NO	STANDARD INDUSTRIAL CLASSIFICATION TITLE	B-1	B-2	B-3	B-4	B-5	B-6	B-7	CC	VB	I-1	P-1	M-1	M-2	BP	OL-1	OL-2	A-1	A-2	M-3	L-1
17	SPECIAL TRADE CONTRACTORS *																				
171	Plumbing, Heating, Air-Conditioning		S P			S P							S P				S				S
1711	Plumbing, heating, air-conditioning		S P		S	S P							P				S				S
172	Painting and Paper Hanging		S P			S P							S P				S				S
1721	Painting and paper hanging		S P			S P							P				S				S
173	Electrical Work		S P			S P							S P				S				S
1731	Electrical work		S P			S P							P				S				S
174	Masonry, Stonework, and Plastering		S P			S P							S P				S				S
1741	Masonry and other stonework		S P			S P							S P				S				S
1742	Plastering, drywall, acoustical, and insulation work		S P			S P							P				S				S
1743	Terrazzo, tile, marble, mosaic work		S P			S P							P				S				S
175	Carpentry and Floor Work		S P			S P							S P				S				S
1751	Carpentry work		S P			S P							P				S				S
1752	Floor laying and floor work, not elsewhere classified		S P		S	S P							P				S				S
176	Roofing, Siding, and Sheet Metal Work		S P			S P							S P				S				S
1761	Roofing, siding, and sheet metal work (with outdoor storage)		S			S							S				S				S
1761	Roofing, siding, and sheet metal work (without outdoor storage)		P			P							P								
177	Concrete Work												S								S
1771	Concrete work												S								S
178	Water Well Drilling												S								S
1781	Water well drilling												S								S
179	Miscellaneous Special Trade Contractors												S								S
1791	Structural steel erection												S								S
1793	Glass and glazing work												S								S
1794	Excavation work												S								S
1795	Wrecking and demolition work												S								S
1796	Installing building equipment, not elsewhere classified												S								S
1799	Special trade contractors, not elsewhere classified												S								S

(*) Special trade contractor uses with outdoor storage require a Special Use permit in the B-2, B-5 and M-1 zoning districts.

OF CITY DEVELOPMENT AND ENGINEERING DEPARTMENT STAFF TO REVIEW FOR APPROVAL ALL FORTHCOMING ADDENDUMS TO THE PLAT IN THE WIS. STAT §703.26 EXPANDING CONDOMINIUMS AREAS, AND TO RENAME THE DEVELOPMENT THE GLEN AT PARK CIRCLE CONDOMINIUMS. Seconded by Alderman Taylor. All voted Aye; motion carried.

ORD. 2019-2361
 AMEND UDO
 INDUSTRIAL
 CLASSIFICATION
 TITLES

G.7. Alderman Dandrea moved to adopt Ordinance No. 2019-2361, AN ORDINANCE TO AMEND UNIFIED DEVELOPMENT ORDINANCE TEXT AT TABLE 15-3.0603 AS PRESENTED IN THE PLAN COMMISSION PACKET DATED FEBRUARY 11, 2019, SUBJECT TO STANDARD INDUSTRIAL CLASSIFICATION TITLE NOS. 1742 "PLASTERING, DRYWALL, ACOUSTICAL, AND INSULATION WORK", 1743 "TERRAZZO, TILE, MARBLE, AND MOSAIC WORK" AND 5145 "CONFECTIONARY" BE ALLOWED AS A PERMITTED USE IN THE M-1 LIMITED INDUSTRIAL DISTRICT TABLE 15-3.060. Seconded by Alderman Taylor. On roll call, Alderman Dandrea, Alderman Mayer, Alderman Taylor, Alderman Barber, and Alderman Nelson voted Aye; Alderwoman Wilhelm voted No. Motion carried.

ORD. 2019-2362
 RECLASSIFY
 CONTINGENCY
 APPROPRIATIONS FOR
 A K9 PURCHASE

G.9. Alderwoman Wilhelm moved to adopt Ordinance No. 2019-2362, AMENDING ORDINANCE 2018-2345, AN ORDINANCE ADOPTING THE 2019 ANNUAL BUDGETS FOR THE GENERAL FUND AND DONATIONS FUNDS FOR THE CITY OF FRANKLIN, TO RECLASSIFY CONTINGENCY APPROPRIATIONS AND ESTABLISH APPROPRIATIONS FOR A K9 PURCHASE. Seconded by Alderman Taylor. All voted Aye; motion carried.

ORD. 2019-2363
 AMEND BUDGET FOR
 ODOR MANAGEMENT
 IN THE RYAN CREEK
 INTERCEPTOR SEWER

G.10. Alderman Taylor moved to adopt Ordinance No. 2019-2363, AMENDING ORDINANCE 2018-2345, AN ORDINANCE ADOPTING THE 2019 ANNUAL BUDGETS FOR THE SANITARY SEWER FUND FOR THE CITY OF FRANKLIN FOR FISCAL YEAR 2019 TO ESTABLISH AN APPROPRIATION FOR ODOR MANAGEMENT IN THE RYAN CREEK INTERCEPTOR SEWER. Seconded by Alderman Mayer. On roll call, all voted Aye. Motion carried.

RES. 2019-7475
 AGREEMENT WITH
 MMSD FOR RYAN
 CREEK INTERCEPTOR
 ODOR CONTROL

G.11. Alderman Taylor moved to adopt Resolution No. 2019-7475, A RESOLUTION TO ENTER INTO AN INTERGOVERNMENTAL COOPERATION AGREEMENT WITH MILWAUKEE METROPOLITAN SEWERAGE DISTRICT FOR RYAN CREEK INTERCEPTOR ODOR CONTROL IMPROVEMENTS subject to



REPORT TO THE PLAN COMMISSION

Meeting of December 9, 2021

Comprehensive Master Plan Amendment and Rezoning

RECOMMENDATION: City Development Staff recommends denial of the Comprehensive Master Plan Amendment and Rezoning applications submitted by Bear Development, LLC.

Table with 2 columns: Field Name and Value. Fields include Project Name, Applicant, Agent, Project Address/Tax Key, Property Owner, Current Zoning, Proposed Zoning, 2025 Comprehensive Plan, Proposed amendment, Action Requested, and Staff.

Introduction

The applicant submitted Comprehensive Master Plan Amendment and Rezoning applications to allow for a future single-family residential subdivision with 45 lots on a 35-acre site.

Prior Actions

The Common Council heard a Concept Review for this development proposal on August 17, 2021. A public hearing was held before the Plan Commission on October 7, 2021, and continued to the next meeting on October 21, 2021, which reviewed a larger residential development project of 115 single family lots on 92 acres, followed by a reduced version of that application for a 35-acre site. The Plan Commission recommendation deadlocked 3-3 for approval. Due to the nature of State Statutes, the Common Council was unable to take a vote following the public hearing for the Comprehensive Master Plan Amendment, and therefore was also unable to vote on the Rezoning application. The applicant withdrew that application just prior to the Common Council meeting of November 4, 2021, although the public hearing on the Comprehensive Master Plan Amendment did take place.

Comprehensive Master Plan Amendment

The current application site consists of 1 property (TKN 892-9999-002) which is designated as Recreational with inclusions along stream channels for Areas of Natural Resource Features. Given the proposed residential subdivision is not consistent with the Recreational designation of the City of Franklin 2025 Comprehensive Master Plan, the applicant is proposing to change the future land use designation from Recreational and Areas of Natural Resource Features to Residential. It is noted that other adopted planning policies, such as the Comprehensive Outdoor Recreation Plan 2025 (CORP) and the Post-Sanitary Sewer Scenario Map for the southwest portion of the city, also identify this area as recreational, specifically as a “Planned Regional Park”.

Rezoning

The subject property is zoned A-2 Prime Agricultural District with two stream corridors zoned C-1 Conservancy District, which is an obsolete zoning district because the current Unified Development Ordinance require protection of natural resources through conservation easements. The applicant is proposing to rezone the entire site to R-5 Suburban Single-Family Residential.

Project Description/Analysis

The applicant is seeking the rezoning and Comprehensive Master Plan amendment to allow for a 35-acre single-family residential subdivision with 45 lots designed to the development standards of the R-5 Suburban Single-Family Residence District, specifically a gross density of 1.25 dwelling units per acre and average lot size of approximately 22,512 square feet. According to the project narrative submitted for the Concept Review, the estimated site improvement cost is 10 million dollars with a total project value of \$51.75 million dollars or \$562,500 per acre. The overall project cost will be reduced with the smaller project but the average value should be consistent.

Current zoning

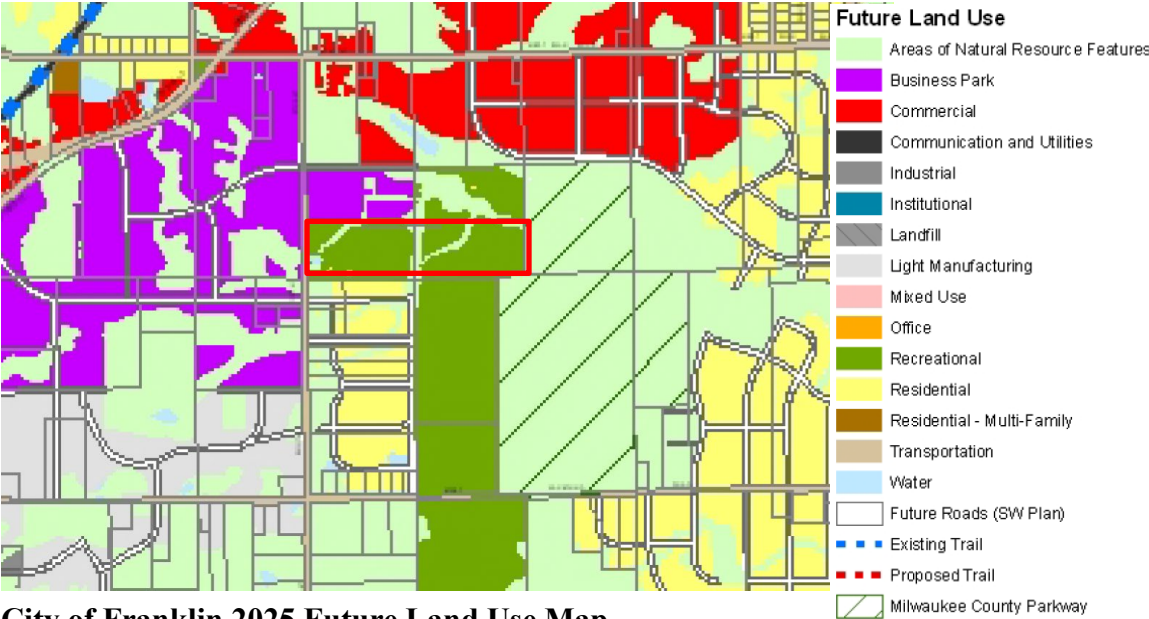
Approximately 94% (32 acres) of the site is currently zoned A-2 Prime Agricultural District. According to the Unified Development Ordinance Section 15-3.0315, the district’s intent is to “prevent the premature conversion of agricultural land to scattered Urban and Suburban uses such as residential, commercial and industrial uses”. It is noted that the A-2 district is limited to “prime agricultural lands”, therefore, this development proposal is contrary to the intent of this zoning district.

Consistency with adopted planning policies

As part of the Concept Review, City Development staff informed the applicant that residential development at this location is not “consistent with” any of the adopted city plans, specifically the City of Franklin 2025 Comprehensive Master Plan, the Post Sanitary Sewer Scenario for the Southwest and the Comprehensive Outdoor Recreation Plan 2025 as noted below:

- a. **Not consistent with the city’s Comprehensive Plan.** The same area that it is currently zoned A-2 as noted above, it is designated as Recreational in the future land use map of the City of

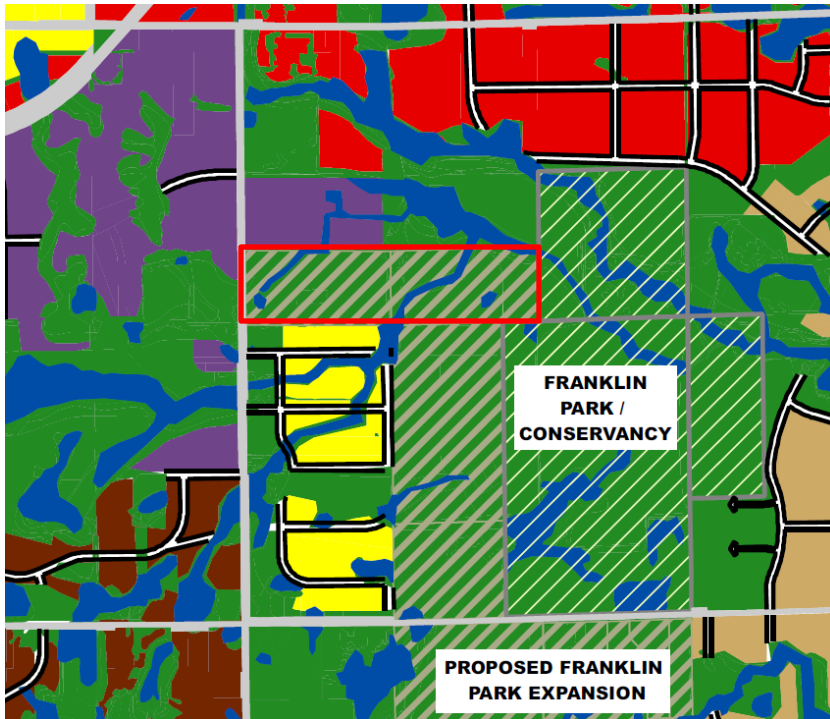
Franklin 2025 Comprehensive Master Plan. Therefore, this proposal is not consistent with the comprehensive plan. A city zoning ordinance is required to be consistent with the local comprehensive plan per Wisconsin Statutes §66.1001(3), “consistent with” means “furthers or does not contradict the objectives, goals, and policies contained in the comprehensive plan”.



City of Franklin 2025 Future Land Use Map

- b. **Not consistent with the southwest subarea plan.** According the Post-Sanitary Sewer Scenario Map for the southwest portion of the city, the area that is designated as Recreational in the comprehensive plan is identified as “Proposed Franklin Park Expansion”. This designation as park expansion area is related to the fact that this site is immediately adjacent to the Franklin Savanna Natural Area owned by Milwaukee County and labeled as “Franklin Park/Conservancy”.





Post-Sanitary Sewer Scenario Map (2009)

c. **Not consistent with the Comprehensive Outdoor Recreation Plan 2025 (CORP).** Following the comprehensive plan and the southwest subarea plan, the “Existing and Planned Public Outdoor Recreation Sites” map of

the CORP identifies this area as “Planned Regional Park” PR1. According to the CORP (Chapter 7, page 27), the recommended useable area for the “Southwest Park” should at least 40 acres. The concept plan does not include any park dedications area, therefore, it not consistent with the Comprehensive Outdoor Recreation Plan 2025.

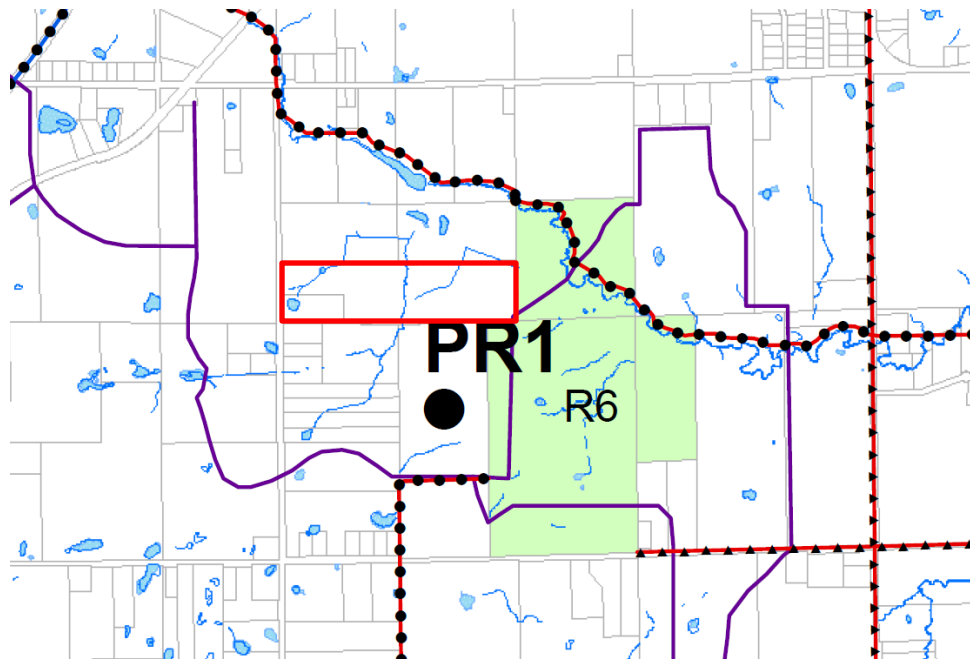
Even though the subdivision design is not being reviewed at this time, it is worth noting that the Unified Development Ordinance (UDO) Section 15-5.0110 “Parks, playgrounds and other recreational and municipal facilities” requires that designated park areas shall be made part of the subdivision plat by either dedication of land, reservation or payment of development fee.

Proposed Public Park Sites

- ◆ Planned Community Park
- Planned Mini Park
- ▲ Planned Neighborhood Park
- Planned Regional Park
- ◆ Planned Special Park

- PC1 = Community Rec. Center Bldg. Park
- PM1 - PM5 = Mini Parks
- PN1 = Forest Hills Neighborhood Park
- PN2 = Hillcrest Neighborhood Park
- PN3 = Woodview Neighborhood Park
- PR1 = Southwest Park
- PS1 = Mahr Woods Special Park
- PS2 = Metro Conservancy Park

- Service Area Radii of Planned Facilities



Existing and Planned Public Outdoor Recreation Sites map

Natural resources

As previously discussed in the Concept Review staff report, the proposed road

layout would be crossing two wetlands, separate Natural Resource Special Exceptions would be required to allow for such wetland impacts in addition to state and federal wetland permits. It is worth noting that one of these wetland crossings would also impact environmental linkages identified in the Comprehensive Master Plan (Map 3.1). This linkage crossing is approximately located between lots 11 and 12. According to the Comprehensive Master Plan, wildlife crossings and culverts that allow for the passage of wildlife is recommended for roads that divide linkage areas.

The subject property was created by Certified Survey Map (CSM) No. 8293 which states that “The natural resource features identified on lot 2 are not based on field surveys in the event of further land division or development of lot 2 with any such natural resource feature, a complete natural resource protection plan with field survey is required”. The natural resources identified in the CSM include proposed wetland linkages per the Comprehensive Master Plan, woodlands per 2008 aerial photography and probable greenway connection per SEWRPC mapping (Southeast Wisconsin Regional Planning Commission).



City of Franklin Comprehensive Master Plan, Map 3.1 Linkages

Additional information

Fiscal Impact. Staff noted previously that single-family subdivision developments do not create tax revenues sufficient to cover the operational and maintenance costs associated with the public infrastructure developed or provided for support. In short, this development will cost more to the City over the long-term than it will generate in revenue.

Ryan Creek trail. It is worth noting that the city is evaluating a trail connection to the S. 116th Street trail as part of the Ryan Creek trail. The exact location has not been determined yet but this would be reviewed at the time of an eventual subdivision plat if the rezoning and comprehensive plan amendment are approved.

Milwaukee County Parks easement request. Bear Development applied for a “Milwaukee County Parks’ Land Utilization” to request consideration of a new sanitary sewer easement on County parkland known as the Franklin Savanna. Per input received from Milwaukee County Parks, “The proposal from Bear Development did not advance after being reviewed through the Land Utilization process. This decision was largely based on the high potential for environmental and hydrologic impacts caused from construction, as well as the need for routine maintenance access within a County natural area. Additionally, there appear to be several alternative routes within close proximity to the future development”, e-mail attached to the meeting packet.

City Departments comments

Comprehensive Master Plan amendment

- **Inspection Services Department.** Inspection Services has no comments on the proposal at this time.
- **Police Department.** The PD has no comment regarding this request.

Rezoning

- **Fire Department.** No comments at this time.
- **Police Department.** The PD has no comment regarding this request.

Staff Recommendation:

City Development staff recommends denial of the proposed Comprehensive Master Plan Amendment and Rezoning requested by the Bear Development, LLC. However, should the Plan Commission wish to recommend approval, draft ordinances in support of such approval are hereby attached to this report.

STATE OF WISCONSIN

CITY OF FRANKLIN

MILWAUKEE COUNTY

[Draft 11-22-21]

ORDINANCE NO. 2021-____

AN ORDINANCE TO AMEND THE UNIFIED DEVELOPMENT
ORDINANCE (ZONING MAP) TO REZONE A CERTAIN PARCEL OF LAND
BEARING TAX KEY NUMBER 892-9999-002 FROM A-2 PRIME AGRICULTURAL
DISTRICT AND C-1 CONSERVANCY DISTRICT TO R-5 SUBURBAN SINGLE-
FAMILY RESIDENCE DISTRICT (GENERALLY LOCATED ON THE EAST SIDE OF
SOUTH 112TH STREET, EAST OF THE RYAN MEADOWS SUBDIVISION AND
WEST OF THE FRANKLIN SAVANNA NATURAL AREA)
(APPROXIMATELY 35 ACRES)
(STEPHEN R. MILLS, PRESIDENT OF BEAR DEVELOPMENT, LLC, APPLICANT)

WHEREAS, Stephen R. Mills, President of Bear Development, LLC having petitioned for the rezoning of approximately 35 acres of land, from A-2 Prime Agricultural District and C-1 Conservancy District to R-5 Suburban Single-Family Residence District, such land generally located on the east side of South 112th Street, east of the Ryan Meadows subdivision and west of the Franklin Savanna Natural Area; and

WHEREAS, a public hearing was held before the City of Franklin Plan Commission on the 9th day of December, 2021, upon the aforesaid petition and the Plan Commission thereafter having determined that the proposed rezoning would promote the health, safety and welfare of the City and having recommended approval thereof to the Common Council; and

WHEREAS, the Common Council having considered the petition and having concurred with the recommendation of the Plan Commission and having determined that the proposed rezoning is consistent with the 2025 Comprehensive Master Plan of the City of Franklin, Wisconsin and would promote the health, safety and welfare of the Community.

NOW, THEREFORE, the Mayor and Common Council of the City of Franklin, Wisconsin, do ordain as follows:

SECTION 1: §15-3.0102 (Zoning Map) of the Unified Development Ordinance of the City of Franklin, Wisconsin, is hereby amended to provide that the zoning district designation for land generally located on the east side of South 112th Street, east of the Ryan Meadows subdivision and west of the Franklin Savanna Natural Area, described below, be changed from A-2 Prime Agricultural District and C-1 Conservancy District to R-5 Suburban Single-Family Residence District:

Lot 2 of Certified Survey Map No. 8293. Being the South 1/2 of the Southwest 1/4 of the Northwest 1/4 of Section 29 and the South 1/2 of the Southeast 1/4 of the Northeast 1/4 of Section 30, Town 5 North, Range 21 East in the City of Franklin, Milwaukee County, Wisconsin. Tax Key Number 892-9999-002.

SECTION 2: The terms and provisions of this ordinance are severable. Should any term or provision of this ordinance be found to be invalid by a court of competent jurisdiction, the remaining terms and provisions shall remain in full force and effect.

SECTION 3: All ordinances and parts of ordinances in contravention to this ordinance are hereby repealed.

SECTION 4: This ordinance shall take effect and be in force from and after its passage and publication.

Introduced at a regular meeting of the Common Council of the City of Franklin this _____ day of _____, 2021, by Alderman _____.

Passed and adopted at a regular meeting of the Common Council of the City of Franklin this _____ day of _____, 2021.

APPROVED:

Stephen R. Olson, Mayor

ATTEST:

Sandra L. Wesolowski, City Clerk

AYES _____ NOES _____ ABSENT _____

STATE OF WISCONSIN

CITY OF FRANKLIN

MILWAUKEE COUNTY

[Draft 11-22-21]

ORDINANCE NO. 2021-_____

AN ORDINANCE TO AMEND THE CITY OF FRANKLIN 2025
COMPREHENSIVE MASTER PLAN TO CHANGE THE CITY OF FRANKLIN
2025 FUTURE LAND USE MAP FOR PROPERTY BEARING TAX KEY NUMBER 892-
9999-002, GENERALLY LOCATED ON THE EAST SIDE OF SOUTH 112TH STREET,
EAST OF THE RYAN MEADOWS SUBDIVISION AND WEST OF THE FRANKLIN
SAVANNA NATURAL AREA FROM RECREATIONAL USE AND AREAS OF
NATURAL RESOURCE FEATURES USE TO RESIDENTIAL USE
(TOTALING APPROXIMATELY 35 ACRES)
(STEPHEN R. MILLS, PRESIDENT OF BEAR DEVELOPMENT, LLC
(IGNASIAK INVESTMENT CO., LLC, PROPERTY OWNER)

WHEREAS, pursuant to Wis. Stat. §§ 62.23(2) and (3) and 66.1001(4), the City of Franklin 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, Stephen R. Mills, President of Bear Development, LLC has applied for an amendment to the Comprehensive Master Plan to change the City of Franklin 2025 Future Land Use Map designation for the property bearing Tax Key Number 892-9999-002, generally located on the east side of South 112th Street, east of the Ryan Meadows subdivision and west of the Franklin Savanna Natural Area, from Recreational Use and Areas of Natural Resource Features Use to Residential Use; and

WHEREAS, the Plan Commission of the City of Franklin by a majority vote of the entire Commission on December 9, 2021, recorded in its official minutes, has adopted a resolution recommending to the Common Council the adoption of the Ordinance to Amend the City of Franklin 2025 Comprehensive Master Plan to change the City of Franklin 2025 Future Land Use Map for three properties generally located on the east side of South 112th Street, east of the Ryan Meadows subdivision and west of the Franklin Savanna Natural Area, from Recreational Use and Areas of Natural Resource Features Use to Residential Use; and

WHEREAS, the City of Franklin 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 January 4, 2022; and

NOW, THEREFORE, the Mayor and Common Council of the City of Franklin, Wisconsin, do ordain as follows:

SECTION 1: The City of Franklin 2025 Comprehensive Master Plan is hereby

amended to change the City of Franklin 2025 Future Land Use Map designation for the property bearing Tax Key Number 892-9999-002, generally located on the east side of South 112th Street, east of the Ryan Meadows subdivision and west of the Franklin Savanna Natural Area, from Recreational Use and Areas of Natural Resource Features Use to Residential Use. Such property is more particularly described within Resolution No. 2021 ____ of even-date herewith.

SECTION 2: The terms and provisions of this ordinance are severable. Should any term or provision of this ordinance be found to be invalid by a court of competent jurisdiction, the remaining terms and provisions shall remain in full force and effect.

SECTION 3: All ordinances and parts of ordinances in contravention to this ordinance are hereby repealed.

SECTION 4: This ordinance shall take effect and be in force from and after its passage and publication.

Introduced at a regular meeting of the Common Council of the City of Franklin this _____ day of _____, 2021, by Alderman _____.

Passed and adopted by a majority vote of the members-elect of the Common Council at a regular meeting of the Common Council of the City of Franklin this _____ day of _____, 2021.

APPROVED:

Stephen R. Olson, Mayor

ATTEST:

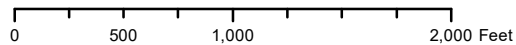
Sandra L. Wesolowski, City Clerk

AYES _____ NOES _____ ABSENT _____

0 S. 112th Street
TKN: 892 9999 002

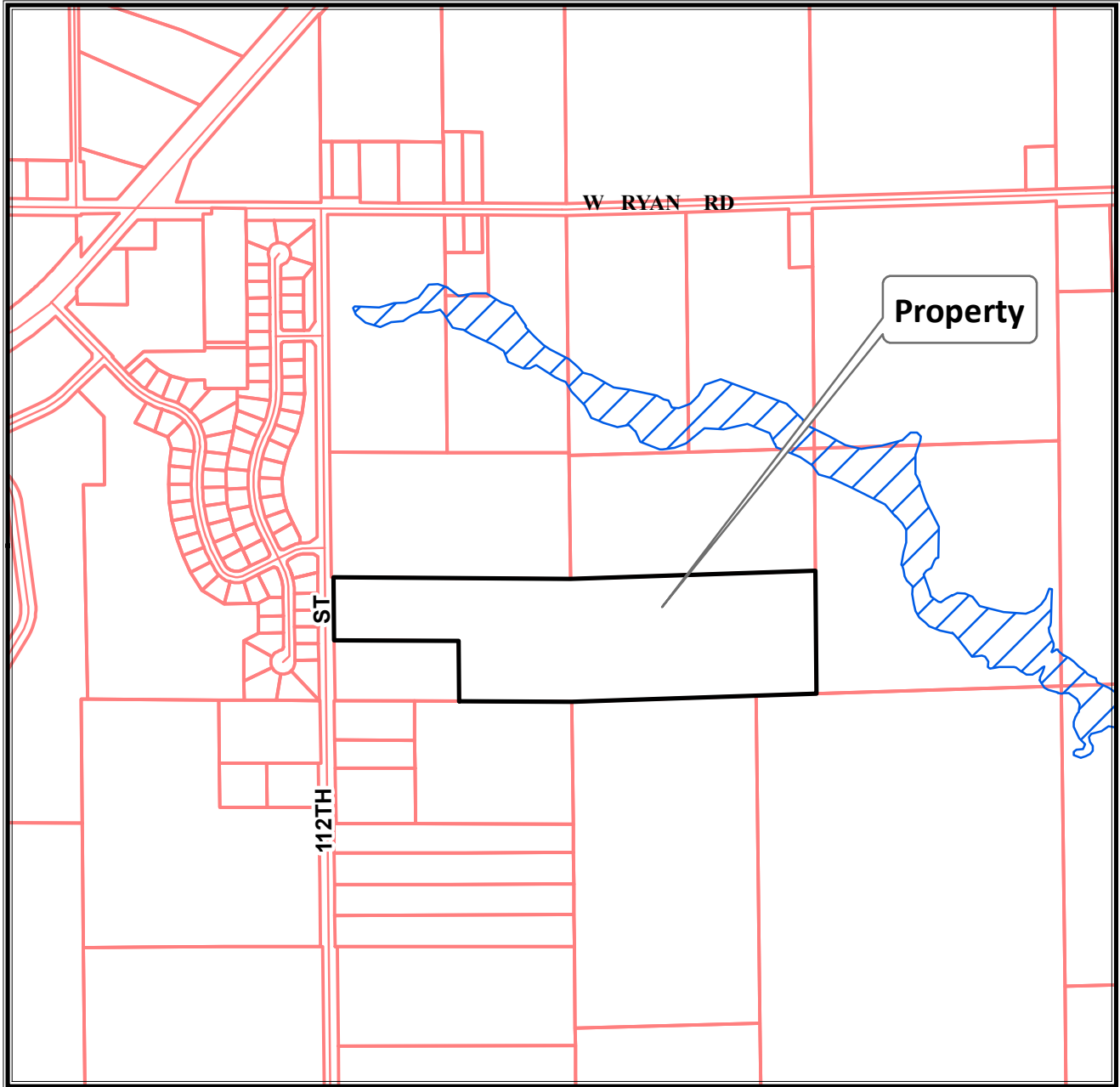


Planning Department
(414) 425-4024

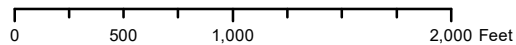


This map shows the approximate relative location of property boundaries but was not prepared by a professional land surveyor. This map is provided for informational purposes only and may not be sufficient or appropriate for legal, engineering, or surveying purposes.

0 S. 112th Street
TKN: 892 9999 002



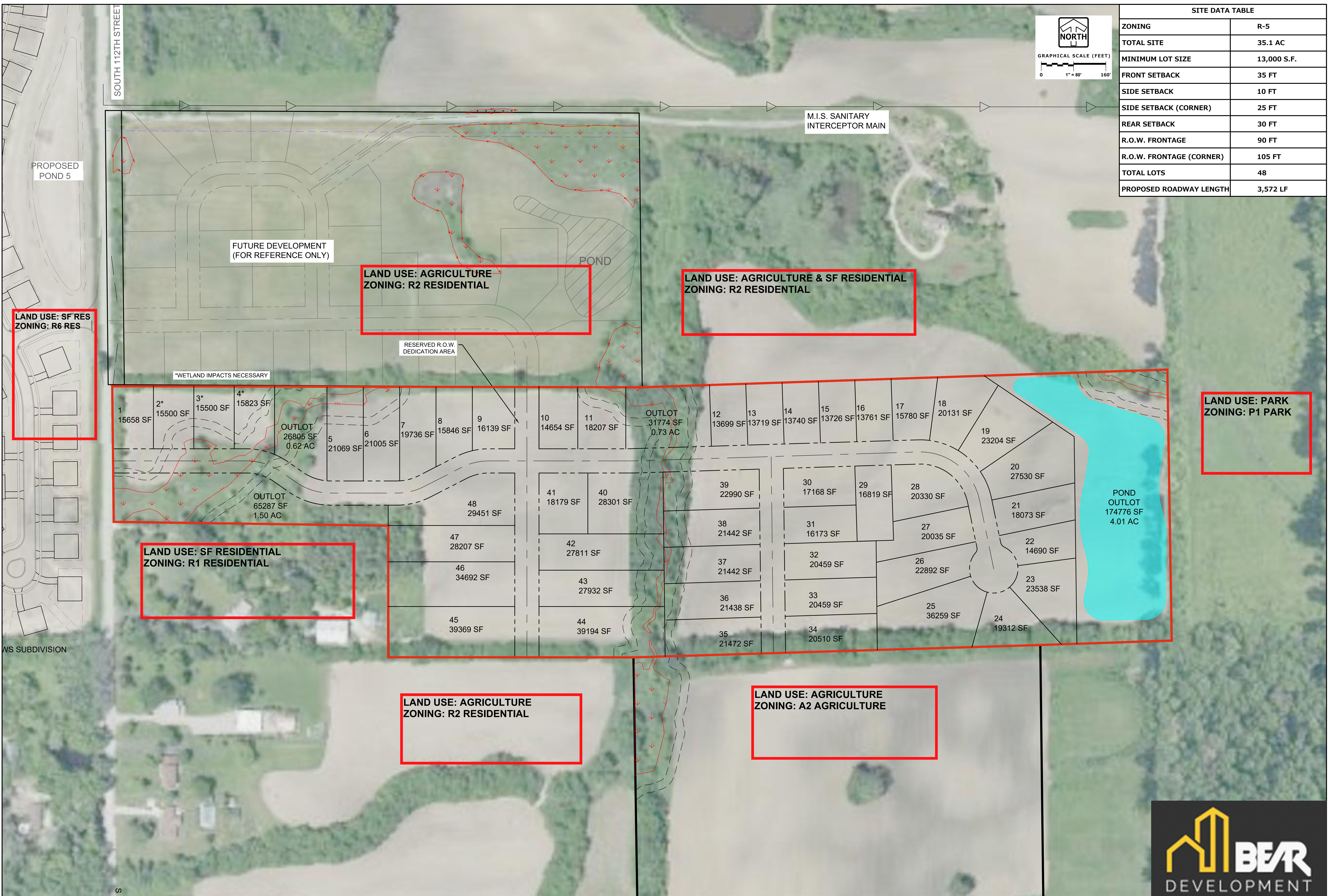
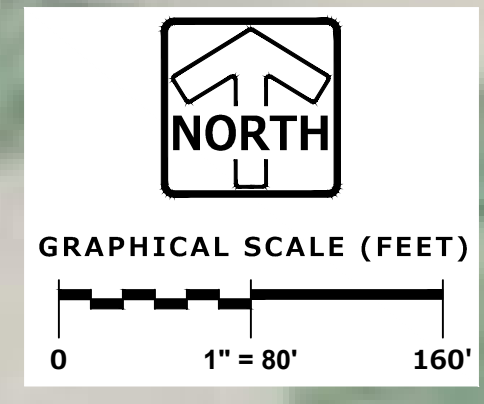
Planning Department
(414) 425-4024



This map shows the approximate relative location of property boundaries but was not prepared by a professional land surveyor. This map is provided for informational purposes only and may not be sufficient or appropriate for legal, engineering, or surveying purposes.



SITE DATA TABLE	
ZONING	R-5
TOTAL SITE	35.1 AC
MINIMUM LOT SIZE	13,000 S.F.
FRONT SETBACK	35 FT
SIDE SETBACK	10 FT
SIDE SETBACK (CORNER)	25 FT
REAR SETBACK	30 FT
R.O.W. FRONTAGE	90 FT
R.O.W. FRONTAGE (CORNER)	105 FT
TOTAL LOTS	48
PROPOSED ROADWAY LENGTH	3,572 LF



FRANKLIN EXPANSION LANDS - CONCEPT SITE PLAN (OPTION F)

Z:\PROJECTS\2016\809-80-WI\CAD\EXHIBITS\809-80-WI CONCEPT SITE PLAN- OPTION F.DWG 11/17/2021 9:43 AM

Planning Department
 9229 West Loomis Road
 Franklin, Wisconsin 53132
generalplanning@franklinwi.gov
 (414) 425-4024
franklinwi.gov



APPLICATION DATE: _____
 STAMP DATE: _____ city use only

COMMON COUNCIL REVIEW APPLICATION

PROJECT INFORMATION [print legibly]

APPLICANT [FULL LEGAL NAMES]		APPLICANT IS REPRESENTED BY [CONTACT PERSON]	
NAME: S.R Mills		NAME: Daniel Szczap	
COMPANY: Bear Development, LLC		COMPANY: Bear Development, LLC	
MAILING ADDRESS: 4011 80th Street		MAILING ADDRESS: 4011 80th Street	
CITY/STATE: Kenosha, WI	ZIP: 53142	CITY/STATE: Kenosha, WI	ZIP: 53142
PHONE: (262) 949-3788		PHONE: (262) 949-3788	
EMAIL ADDRESS: dan@beardevelopment.com		EMAIL ADDRESS: dan@beardevelopment.com	

PROJECT PROPERTY INFORMATION

PROPERTY ADDRESS: Vacant 112th Street	TAX KEY NUMBER: 892-9999-002
PROPERTY OWNER: Please see attached	PHONE:
MAILING ADDRESS:	EMAIL ADDRESS:
CITY/STATE:	DATE OF COMPLETION: office use only

APPLICATION TYPE

Please check the application type that you are applying for

- Concept Review
 Comprehensive Master Plan Amendment
 Planned Development District
 Rezoning
 Special Use / Special Use Amendment
 Unified Development Ordinance Text Amendment

Most requests require Plan Commission review and Common Council approval.
 Applicant is responsible for providing Plan Commission resubmittal materials up to 12 copies pending staff request and comments.

SIGNATURES

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 Franklin 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).

- I, the applicant, certify that I have read the following page detailing the requirements for plan commission and common council approval and submittals and understand that incomplete applications and submittals cannot be reviewed.

PROPERTY OWNER SIGNATURE:	APPLICANT SIGNATURE:
NAME & TITLE:	NAME & TITLE: SR Mills, President
DATE:	DATE: 11/15/21
PROPERTY OWNER SIGNATURE:	APPLICANT REPRESENTATIVE SIGNATURE:
NAME & TITLE:	NAME & TITLE: Project Manager
DATE:	DATE: 11/15/21

CITY OF FRANKLIN APPLICATION CHECKLIST

If you have questions about the application materials please contact the planning department.

CONCEPT REVIEW APPLICATION MATERIALS

- This application form accurately completed with signatures or authorization letters (see reverse side for more details).
- \$250 Application fee payable to the City of Franklin.
- Three (3) complete collated sets of application materials to include ...
 - Three (3) project narratives.
 - Three (3) copies of the Preliminary Site/Development Plan of the subject property(ies) and immediate surroundings on 8 1/2" X 11" or 11" X 17" paper (i.e., a scaled map identifying the subject property and immediate environs, including existing and proposed parcels, existing and proposed structures, existing and proposed land uses, existing and proposed zoning, existing and proposed infrastructure and utilities[approximate locations only], and existing and proposed site conditions/site constraints [i.e. approximate locations of public road access, rights-of-way, natural resources/green space and drainage issues/concerns, etc.]
 - Three (3) colored copies of building elevations on 11" X 17" paper if applicable.
- Email or flash drive with all plans / submittal materials.

COMPREHENSIVE MASTER PLAN AMENDMENT APPLICATION MATERIALS

- This application form accurately completed with signatures or authorization letters (see reverse side for more details).
- \$125 Application fee payable to the City of Franklin.
- Word Document legal description of the subject property.
- Three (3) complete collated sets of application materials to include ...
 - Three (3) project narratives.
 - Three (3) folded copies of a Site Development Plan / Map, drawn to reasonable scale, at least 11" X 17" paper or as determined by the City Planner or City Engineer, identifying the subject property and immediate environs, including parcels, structures, land use, zoning, streets and utilities, and natural resource features, as applicable.
- Email or flash drive with all plans / submittal materials.
- Additional information as may be required.
 - Requires a Class I Public Hearing Notice at least 30 days before the Common Council Meeting

PLANNED DEVELOPMENT DISTRICT (PDD)

- This application form accurately completed with signatures or authorization letters (see reverse side for more details).
- Application fee payable to the City of Franklin... [select one of the following]
 - \$6,000: New PDD
 - \$3,500: PDD Major Amendment
 - \$500: PDD Minor Amendment
- Word Document legal description of the subject property.
- Three (3) complete collated sets of application materials to include ...
 - Three (3) project narratives.
 - Three (3) folded full size, of the Site Plan Package, drawn to scale copies, on 24" x 36" paper, including Building Elevations, Landscape Plan, Outdoor Lighting Plan, Natural Resource Protection Plan, Natural Resource Protection Report, etc. (See Sections 15-7.0101, 15-7.0301, and 15-5.0402 of the UDO for information that must be denoted or included with each respective plan.)
- One (1) colored copy of the building elevations on 11" X 17" paper, if applicable.
- One (1) copy of the Site Intensity and Capacity Calculations, if applicable (see division 15-3.0500 of the UDO)
- Email or flash drive with all plans / submittal materials.
 - PDD and Major PDD Amendment requests require Plan Commission review, a public hearing, and Common Council approval.
 - Minor PDD Amendment requests require Plan Commission review and Common Council approval.

REZONING

- This application form accurately completed with signatures or authorization letters (see reverse side for more details).
- Application fee payable to the City of Franklin... [select one of the following]
 - \$1,250
 - \$350: one parcel residential.
- Word Document legal description of the subject property.
- Three (3) complete collated sets of application materials to include ...
 - Three (3) project narratives.
 - Three (3) folded copies of a Plot Plan or Site Plan, drawn to reasonable scale, at least 11" X 17" paper or as determined by the City Planner or City Engineer, and fully dimensioned showing the area proposed to be rezoned, its location, its dimensions, the location and classification of adjacent zoning districts, and the location and existing use of all properties within 200 feet of the area proposed to be rezoned.
- Email or flash drive with all plans / submittal materials.
- Additional information as may be required.
 - Additional notice to and approval required for amendments or rezoning in the FW, FC, FFO, and SW Districts
 - Requires a Class II Public Hearing notice at Plan Commission.

SPECIAL USE / SPECIAL USE AMENDMENT APPLICATION MATERIALS

- This application form accurately completed with signatures or authorization letters (see reverse side for more details).
- Application fee payable to the City of Franklin... [select one of the following]
 - \$1,500: New Special Use > 4000 square feet.
 - \$1,000: Special Use Amendment.
 - \$750: New Special Use < 4000 square feet.
- Word Document legal description of the subject property.
- Word Document legal description of the subject property.
- One copy of a response to the General Standards, Special Standards, and Considerations found in Section 15-3.0701(A), (B), and (C) of the UDO available at www.franklinwi.gov.
- Three (3) complete collated sets of application materials to include ...
 - Three (3) project narratives.
 - Three (3) folded copies of the Site Plan package, drawn to scale at least 24" X 36", The submittal should include only those plans/items as set forth in Section 15-7.0101, 15-7.0301 and 15-5.0402 of the UDO that are impacted by the development. (e.g., Site Plan, Building Elevations, Landscape Plan, Outdoor Lighting Plan, Natural Resource Protection Plan, Natural Resource Protection Report, etc.
- One (1) colored copy of the building elevations on 11" X 17" paper, if applicable.
- Email or flash drive with all plans / submittal materials.
- Additional information as may be required.
 - Special Use/Special Use Amendment requests require Plan Commission review, a Public Hearing and Common Council approval.

UNIFIED DEVELOPMENT ORDINANCE (UDO) TEXT AMENDMENT APPLICATION MATERIALS

- This application form accurately completed with signatures or authorization letters (see reverse side for more details).
- \$200 Application fee payable to the City of Franklin.
- Three (3) project narratives, including description of the proposed text amendment.
 - Requires a Class II Public Hearing notice at Plan Commission.
 - The City's Unified Development Ordinance (UDO) is available at www.franklinwi.gov.



August 18, 2021

Ignasiak Investment Company, LLC
Attn: Mike Ignasiak, Sr.
3132 Ravine Way
Green Bay, WI 54301

Re: Letter of Consent – Zoning and Comprehensive Plan Amendment for Bear Development

This letter certifies that Ignasiak Investment Company, LLC , Owner of Parcel Number 892-9999-002 and ~~937-9999-004~~, consent to have Bear Development submit applications for Comprehensive Plan Amendment (Recreational and Areas of Natural Resource Features to Residential) and Rezoning (A-2 Agriculture to R-5 Suburban Single Family).

Dated: 8/18, 2021

Owner:
Ignasiak Investment Company, LLC

By: M. Ignasiak Sr.
(Authorized Signatory)



November 12, 2021

Mr. Regulo Martinez Montilva
City of Franklin
9229 W. Loomis Road
Franklin, WI 53132

Re: Franklin Expansion Lands- Comprehensive Plan Amendment

Dear Mr. Martinez-Montilva:

Please accept this letter and the enclosed submittal materials as formal application for an amendment to the City of Franklin Comprehensive Plan. Bear Development LLC is contract purchaser of the subject property, acting on behalf, and with authorization, of the owner of record, Ignasiak Investment Company, LLC.

Project Summary

Bear Development, LLC is the contract purchaser of approximately 34.59 acres of land in the City of Franklin. The land is located on the east side of 112th Street and lies south of Ryan Road. The property is directly east of the Ryan Meadows Subdivision.

On August 17, 2021, Bear Development presented a Concept Plan for the subject property before the Common Council. The Concept Plan received generally positive comments as to the proposed use as a single-family neighborhood. As such, the applicant is seeking an amendment to the City Comprehensive Plan to achieve consistency.

Current Plan Designation- Ignasiak Investment Company, LLC

The subject property (approximately 34.54 acres) is located on the east side of 112th Street adjacent to Milwaukee County Park land known as the Franklin Savanna. The City Comprehensive Plan designates this property as Recreational.

Proposed Comprehensive -Ignasiak Investment Company, LLC

Bear Development and Ignasiak Investment Company, LLC respectfully request a Comprehensive Plan Amendment for the subject property to be changed from the designation "Recreation" to the "Residential" designation. While it is designated as Recreational, we understand there are no plans for either Milwaukee County or the City of Franklin to purchase the property and develop it as a public park. The property has been offered for sale for the past two (2) years.

A legal description and graphic exhibit are enclosed for your reference and review.

We feel the Conceptual Plan presented to the Common Council on August 17, 2021 offers a realistic future land use pattern when considering the current development/growth trends in the area and the public utilities that have been extended nearby. We submit that holding the subject property in a designation of Recreation precludes future development opportunities that can increase tax base on properties that are viable for development on public sewer and water.

Should you have any questions regarding this request, please do not hesitate to contact me. I can be reached at (262) 842-0556 or by email, dan@beardevelopment.com

Thank you for your time and consideration.

Respectfully,

Daniel Szczap
Bear Development, LLC

Legal Description

Lot 2 of Certified Survey Map #8293, Being the South $\frac{1}{2}$ of the Southwest $\frac{1}{4}$ of the Northwest $\frac{1}{4}$ of Section 29 and the South $\frac{1}{2}$ of the Southwest $\frac{1}{4}$ of the Northeast $\frac{1}{4}$ of Section 30, Town 5 North, Range 21 East in the City of Franklin, Milwaukee County, Wisconsin.

Planning Department
 9229 West Loomis Road
 Franklin, Wisconsin 53132
generalplanning@franklinwi.gov
 (414) 425-4024
franklinwi.gov



APPLICATION DATE: _____

STAMP DATE: _____ city use only

COMMON COUNCIL REVIEW APPLICATION

PROJECT INFORMATION [print legibly]

APPLICANT [FULL LEGAL NAMES]	APPLICANT IS REPRESENTED BY [CONTACT PERSON]
NAME: S.R. Mills	NAME: Daniel Szczap
COMPANY: Bear Development, LLC	COMPANY: Bear Development, LLC
MAILING ADDRESS: 4011 80th Street	MAILING ADDRESS: 4011 80th Stree
CITY/STATE: Kenosha, WI ZIP: 53142	CITY/STATE: Kenosha, WI ZIP: 53142
PHONE: (262) 949-3788	PHONE: (262) 949-3788
EMAIL ADDRESS: dan@beardevelopment.com	EMAIL ADDRESS: dan@beardevelopment.com

PROJECT PROPERTY INFORMATION

PROPERTY ADDRESS: Vacant 112th Stree	TAX KEY NUMBER: 892-9999-002
PROPERTY OWNER: Please see attached	PHONE:
MAILING ADDRESS:	EMAIL ADDRESS:
CITY/STATE: ZIP:	DATE OF COMPLETION: office use only

APPLICATION TYPE

Please check the application type that you are applying for

- Concept Review
 Comprehensive Master Plan Amendment
 Planned Development District
 Rezoning
 Special Use / Special Use Amendment
 Unified Development Ordinance Text Amendment

Most requests require Plan Commission review and Common Council approval.
 Applicant is responsible for providing Plan Commission resubmittal materials up to 12 copies pending staff request and comments.

SIGNATURES

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 Franklin 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).

- I, the applicant, certify that I have read the following page detailing the requirements for plan commission and common council approval and submittals and understand that incomplete applications and submittals cannot be reviewed.

PROPERTY OWNER SIGNATURE:	APPLICANT SIGNATURE:
NAME & TITLE: DATE:	NAME & TITLE: SR Mills President DATE: 11/15/21
PROPERTY OWNER SIGNATURE:	APPLICANT REPRESENTATIVE SIGNATURE:
NAME & TITLE: DATE:	NAME & TITLE: Project Manager DATE: 11/15/21

CITY OF FRANKLIN APPLICATION CHECKLIST

If you have questions about the application materials please contact the planning department.

CONCEPT REVIEW APPLICATION MATERIALS

- This application form accurately completed with signatures or authorization letters (see reverse side for more details).
- \$250 Application fee payable to the City of Franklin.
- Three (3) complete collated sets of application materials to include ...
 - Three (3) project narratives.
 - Three (3) copies of the Preliminary Site/Development Plan of the subject property(ies) and immediate surroundings on 8 1/2" X 11" or 11" X 17" paper (i.e., a scaled map identifying the subject property and immediate environs, including existing and proposed parcels, existing and proposed structures, existing and proposed land uses, existing and proposed zoning, existing and proposed infrastructure and utilities [approximate locations only], and existing and proposed site conditions/site constraints [i.e. approximate locations of public road access, rights-of-way, natural resources/green space and drainage issues/concerns, etc.])
 - Three (3) colored copies of building elevations on 11" X 17" paper if applicable.
- Email or flash drive with all plans / submittal materials.

COMPREHENSIVE MASTER PLAN AMENDMENT APPLICATION MATERIALS

- This application form accurately completed with signatures or authorization letters (see reverse side for more details).
- \$125 Application fee payable to the City of Franklin.
- Word Document legal description of the subject property.
- Three (3) complete collated sets of application materials to include ...
 - Three (3) project narratives.
 - Three (3) folded copies of a Site Development Plan / Map, drawn to reasonable scale, at least 11" X 17" paper or as determined by the City Planner or City Engineer, identifying the subject property and immediate environs, including parcels, structures, land use, zoning, streets and utilities, and natural resource features, as applicable.
- Email or flash drive with all plans / submittal materials.
- Additional information as may be required.
 - Requires a Class I Public Hearing Notice at least 30 days before the Common Council Meeting

PLANNED DEVELOPMENT DISTRICT (PDD)

- This application form accurately completed with signatures or authorization letters (see reverse side for more details).
- Application fee payable to the City of Franklin... [select one of the following]
 - \$6,000: New PDD
 - \$3,500: PDD Major Amendment
 - \$500: PDD Minor Amendment
- Word Document legal description of the subject property.
- Three (3) complete collated sets of application materials to include ...
 - Three (3) project narratives.
 - Three (3) folded full size, of the Site Plan Package, drawn to scale copies, on 24" x 36" paper, including Building Elevations, Landscape Plan, Outdoor Lighting Plan, Natural Resource Protection Plan, Natural Resource Protection Report, etc. (See Sections 15-7.0101, 15-7.0301, and 15-5.0402 of the UDO for information that must be denoted or included with each respective plan.)
- One (1) colored copy of the building elevations on 11" X 17" paper, if applicable.
- One (1) copy of the Site Intensity and Capacity Calculations, if applicable (see division 15-3.0500 of the UDO)
- Email or flash drive with all plans / submittal materials.
 - PDD and Major PDD Amendment requests require Plan Commission review, a public hearing, and Common Council approval.
 - Minor PDD Amendment requests require Plan Commission review and Common Council approval.

REZONING

- This application form accurately completed with signatures or authorization letters (see reverse side for more details).
- Application fee payable to the City of Franklin... [select one of the following]
 - \$1,250
 - \$350: one parcel residential.
- Word Document legal description of the subject property.
- Three (3) complete collated sets of application materials to include ...
 - Three (3) project narratives.
 - Three (3) folded copies of a Plot Plan or Site Plan, drawn to reasonable scale, at least 11" X 17" paper or as determined by the City Planner or City Engineer, and fully dimensioned showing the area proposed to be rezoned, its location, its dimensions, the location and classification of adjacent zoning districts, and the location and existing use of all properties within 200 feet of the area proposed to be rezoned.
- Email or flash drive with all plans / submittal materials.
- Additional information as may be required.
 - Additional notice to and approval required for amendments or rezoning in the FW, FC, FFO, and SW Districts
 - Requires a Class II Public Hearing notice at Plan Commission.

SPECIAL USE / SPECIAL USE AMENDMENT APPLICATION MATERIALS

- This application form accurately completed with signatures or authorization letters (see reverse side for more details).
- Application fee payable to the City of Franklin... [select one of the following]
 - \$1,500: New Special Use > 4000 square feet.
 - \$1,000: Special Use Amendment.
 - \$750: New Special Use < 4000 square feet.
- Word Document legal description of the subject property.
- Word Document legal description of the subject property.
- One copy of a response to the General Standards, Special Standards, and Considerations found in Section 15-3.0701(A), (B), and (C) of the UDO available at www.franklinwi.gov.
- Three (3) complete collated sets of application materials to include ...
 - Three (3) project narratives.
 - Three (3) folded copies of the Site Plan package, drawn to scale at least 24" X 36", *The submittal should include only those plans/items as set forth in Section 15-7.0101, 15-7.0301 and 15-5.0402 of the UDO that are impacted by the development. (e.g., Site Plan, Building Elevations, Landscape Plan, Outdoor Lighting Plan, Natural Resource Protection Plan, Natural Resource Protection Report, etc.*
- One (1) colored copy of the building elevations on 11" X 17" paper, if applicable.
- Email or flash drive with all plans / submittal materials.
- Additional information as may be required.
 - Special Use/Special Use Amendment requests require Plan Commission review, a Public Hearing and Common Council approval.

UNIFIED DEVELOPMENT ORDINANCE (UDO) TEXT AMENDMENT APPLICATION MATERIALS

- This application form accurately completed with signatures or authorization letters (see reverse side for more details).
- \$200 Application fee payable to the City of Franklin.
- Three (3) project narratives, *including description of the proposed text amendment.*
 - Requires a Class II Public Hearing notice at Plan Commission.
 - The City's Unified Development Ordinance (UDO) is available at www.franklinwi.gov.



August 18, 2021

Ignasiak Investment Company, LLC
Attn: Mike Ignasiak, Sr.
3132 Ravine Way
Green Bay, WI 54301

Re: Letter of Consent – Zoning and Comprehensive Plan Amendment for Bear Development

This letter certifies that Ignasiak Investment Company, LLC , Owner of Parcel Number 892-9999-002 and ~~937-9999-004~~, consent to have Bear Development submit applications for Comprehensive Plan Amendment (Recreational and Areas of Natural Resource Features to Residential) and Rezoning (A-2 Agriculture to R-5 Suburban Single Family).

Dated: 8/18, 2021

Owner:
Ignasiak Investment Company, LLC

By: M. Ignasiak Sr.
(Authorized Signatory)



November 12, 2021

Mr. Regulo Martinez Montilva
City of Franklin
9229 W. Loomis Road
Franklin, WI 53132

Re: Rezoning – Franklin Expansion Lands

Dear Mr. Martinez Montilva:

Bear Development is pleased to submit this letter and the enclosed submittal materials as formal application for rezoning. Bear Development is acting with authorization of the owner of record, Ignasiak Investment Company.

Project Summary

Bear Development, LLC is the contract purchaser of approximately 34.59 acres of land in the City of Franklin. The land is located on the east side of 112th Street and south of Ryan Road. Bear Development is respectfully a zoning amendment for the entire property to facilitate a single-family neighborhood. A Conceptual Plan was presented to the Franklin Common Council on August 17, 2021. Common Council comments were perceived as positive with no major objections raised.

Current Use

The subject property (approximately 34.59 acres) is actively farmed for row crops. There are scattered wetlands on the property and established tree lines which separate agricultural fields

Current Zoning- Ignasiak Investment Company, LLC

The subject property is currently zoned A-2 Agriculture with two (2) small areas of C1 Conservancy zoning which follow assumed waterways.

Adjacent Zoning

North: R-2 Residential
South: R-1 and R-2 Residential
East: P1 Parks (Franklin Savanna)
West: R-6, R-1 and R-2 Residential

Adjacent Land Use

North: Agriculture

South: Agriculture

East: Public Lands

West: Residential and Agriculture

Proposed Zoning

Bear Development, LLC is respectfully requesting zoning reclassification of the subject property to the R-5 Suburban Single Family Residence District.

Proposed Land Use

Bear Development is proposing a single-family neighborhood for the subject property. The Conceptual Plan was presented to the Common Council on August 17,2021. Generally, the feedback from Council was positive and there were no major objections to the proposed plan.

Bear Development, LLC has retained the services of Pinnacle Engineering Group to develop the Conceptual Site Plan, which is enclosed for your review and reference and is considered a working document. Upon favorable hearing, we will advance the Concept Plan into full engineering design.

We feel the Site Plan offers a realistic land use pattern for this area of Franklin considering the recent development trends and the extension of public sewer and water to this area. The Concept Plan and subsequent land divisions will create a land use pattern that is consistent and compatible with the properties in the general area.

Should you have any questions regarding this request, please do not hesitate to contact me. I can be reached at (262) 842-0556 or by email, dan@beardevelopment.com

Thank you for your time and consideration.

Sincerely,

Daniel Szczap
Bear Development, LLC

Legal Description

Lot 2 of Certified Survey Map #8293, Being the South $\frac{1}{2}$ of the Southwest $\frac{1}{4}$ of the Northwest $\frac{1}{4}$ of Section 29 and the South $\frac{1}{2}$ of the Southwest $\frac{1}{4}$ of the Northeast $\frac{1}{4}$ of Section 30, Town 5 North, Range 21 East in the City of Franklin, Milwaukee County, Wisconsin.

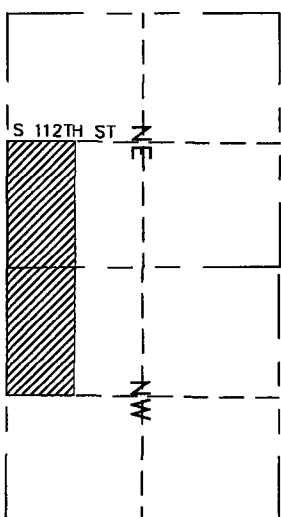
CERTIFIED SURVEY MAP NO. 8293

BEING THE SOUTH 1/2 OF THE SOUTHWEST 1/4 OF THE NORTHWEST 1/4 OF SECTION 29 AND THE SOUTH 1/2 OF THE SOUTHEAST 1/4 OF THE NORTHEAST 1/4 OF SECTION 30, TOWN 5 NORTH, RANGE 21 EAST IN THE CITY OF FRANKLIN, MILWAUKEE COUNTY, WISCONSIN.

THE NATURAL RESOURCE FEATURES IDENTIFIED ON LOT 2 ARE NOT BASED ON FIELD SURVEYS IN THE EVENT OF FURTHER LAND DIVISION OR DEVELOPMENT OF LOT 2 WITH ANY SUCH NATURAL RESOURCE FEATURE, A COMPLETE NATURAL RESOURCE PROTECTION PLAN WITH FIELD SURVEY IS REQUIRED OF SAID PARCEL A WISCONSIN DEPARTMENT OF NATURAL RESOURCES PERMIT WILL BE REQUIRED IN THE FUTURE TO CROSS ANY NAVIGABLE STREAMS OR WETLANDS PROVEN TO BE LOCATED ON SAID LOT

"RESTRICTIVE COVENANT"
 LOTS 1 AND 2 ARE NOT SERVED BY PUBLIC SANITARY SEWER AND WATER-OWNER OR ANY NEW DEVELOPMENT ON THE SUBJECT LOTS MUST CONNECT WHEN IT BECOMES AVAILABLE

- - DENOTES SET 3/4" X 18" LONG IRON REBAR WEIGHING A MINIMUM OF 113 LBS PER LINEAL FOOT

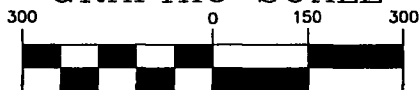


VICINITY MAP

NE 1/4 OF SECT 30-5-21
 NW 1/4 OF SECT 29-5-21
 1" = 2000'

ALL BEARINGS ARE REFERENCED TO THE SOUTH LINE OF THE NORTHEAST 1/4 OF SECTION 30-5-21, WHICH IS ASSUMED TO BEAR N89°42'41"W, WISCONSIN STATE PLANE COORDINATE SYSTEM SOUTH ZONE

GRAPHIC SCALE



(IN FEET)
 1 inch = 300 ft

ZONING LOT 1
 R-1 COUNTRYSIDE ESTATE SINGLE-FAMILY RESIDENCE DISTRICT
 FRONT SETBACK 100'
 SIDE SETBACK 30'
 REAR SETBACK 30'

ZONING LOT 2
 A-2 PRIME AGRICULTURAL DISTRICT
 FRONT SETBACK 50'
 SIDE SETBACK 25'
 REAR SETBACK 50'

PROPOSED LINKAGE PER CITY OF FRANKLIN 2025 COMPREHENSIVE MASTER PLAN

BEST AVAILABLE LOCATION OF WOODLANDS PER MCAMLLIS 2008 AERIAL PHOTOGRAPHY

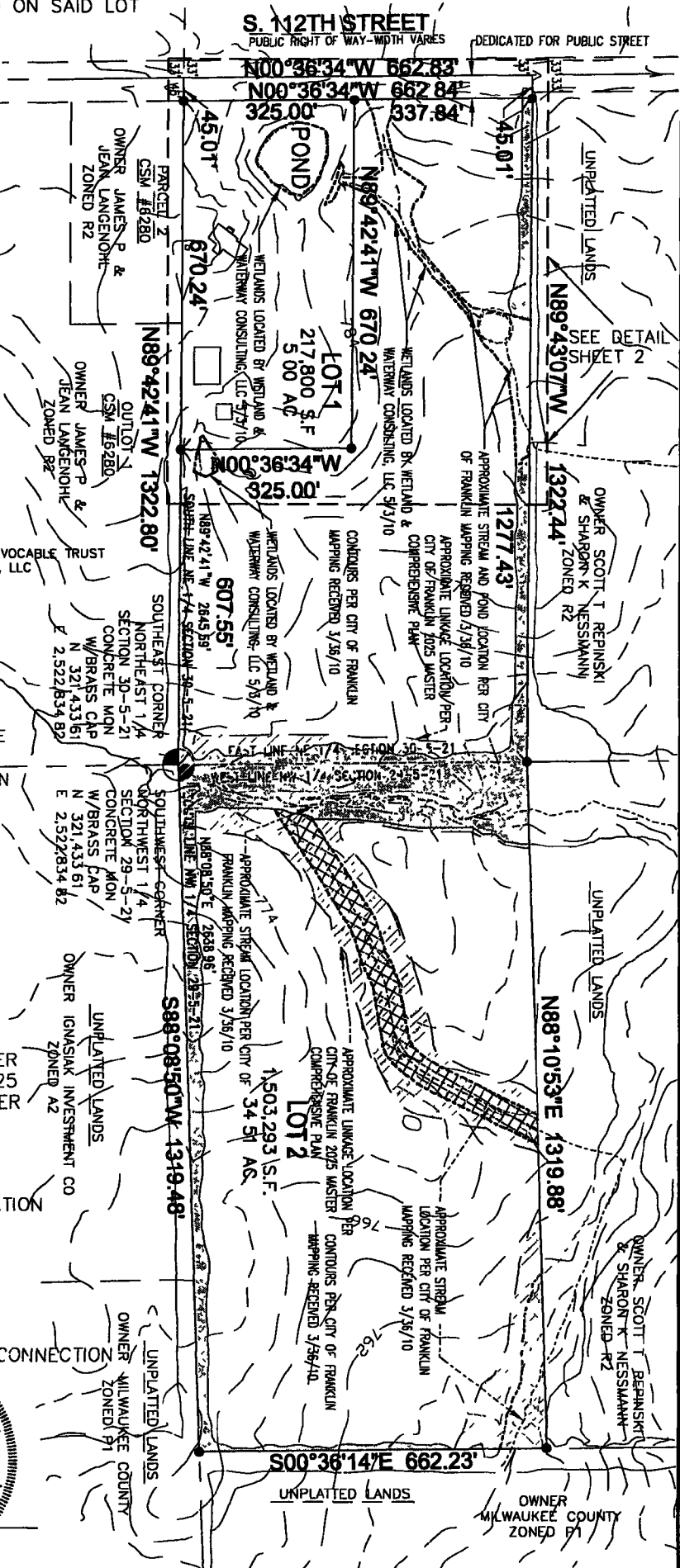
PROBABLE GREENWAY CONNECTION PER SEWER CONSTRUCTION

SURVEYING ASSOCIATES, INC.

2554 N 100th STREET
 WAUWATOSA WI 53226
 PHN 414-257-2212
 FAX 414-257-2443

WISCONSIN
 ★
 FREDERICK W SHIBILSKI
 S-1154
 WAUWATOSA
 WI
 ★

FREDERICK W SHIBILSKI





CITY OF FRANKLIN
REPORT TO THE PLAN COMMISSION

Meeting of December 9, 2021

Temporary Use

RECOMMENDATION: City Development staff recommends approval of the Temporary Use Application for Dale Zbieranek – Dale Z’s, LLC to have a food truck located in the parking lot at 3030 W Ryan Road from April 1, 2022 to March 31, 2023.

Project Name:	Zbieranek/Escamilla Food Truck Temporary Use
Project Address:	3030 W Ryan Road
Property Owner:	Big & Small LLC
Applicant:	Dale Zbieranek – Dale Z’s, LLC
Agent:	Anthony Escamilla
Zoning:	B-2 General Business District; R-6 Suburban Single Family to the northwest
Use of Surrounding Properties:	B-2 General Business District
Comprehensive Plan:	Commercial
Planner:	Marion Ecks
Applicant Action Requested:	Approval of a Temporary Use

INTRODUCTION:

On September 29, 2021, the applicant, Dale Zbieranek – Dale Z’s, LLC, represented by Anthony Escamilla, filed a Temporary Use Application to locate this food truck “Tony’s Taco Truck” in the parking lot located at 3030 W Ryan Road. The requested time period of the use is from May 2, 2022 to May 1, 2023. This temporary use permit requires Plan Commission approval because the requested period of operation is over 30 calendar days.

The food truck will operation from 11:00 AM to 7:00 PM Monday through Sunday.

A previous temporary use was approved for this location in 2005 to allow for the sale of Christmas trees.

Analysis

City Development staff reviewed this application for compliance with the Unified Development Ordinance (UDO) Section 15-3.0804.B “Temporary Miscellaneous Outdoor Sales.” Staff comments are attached; the applicant has provided responses to these comments in Plan Commission materials. Staff has no concerns with the proposed location or overall ability of the site to accommodate the food truck use and related parking.

If approved, the temporary use permit will be valid from May 2, 2022 to May 1, 2023. A separate temporary use permit will be required for any operations beyond this time frame.

The food truck lettering as presented in submitted pictures meets the requirements of the ordinance. Advertising of products/services that are not incidental to the food truck use are prohibited per Municipal Code Section 210-10 "Signs on vehicles". Other signage will require a sign permit.

The Franklin Health Department requires that the applicant obtain a Mobile Retail License and submit it to the City of Franklin Health Department as proof before he begins operating in Franklin. The applicant is aware of the requirement and prepared to provide it before the business opens at this location.

Staff Recommendation

Approval of the request to for a Temporary Use for Dale Zbieranek – Dale Z’s, LLC to have a food truck located in the parking lot at 3030 W Ryan Road from May 2, 2022 to May 1, 2023, subject to the conditions set forth in the attached resolution.

RESOLUTION NO. 2021-_____

A RESOLUTION IMPOSING CONDITIONS AND RESTRICTIONS FOR THE APPROVAL OF A TEMPORARY USE FOR TONY'S TACO TRUCK/TONY'S FOOD TRUCK OPERATION IN A PARKING LOT LOCATED AT 3030 WEST RYAN ROAD (DALE ZBIERANEK/ANTHONY R. ESCAMILLA, APPLICANTS)

WHEREAS, Dale Zbieranek/Anthony R. Escamilla having petitioned the City of Franklin for the approval of a Temporary Use to allow for a food truck (Tony's Taco Truck/Tony's Food Truck) operation in a paved parking lot located at 3030 West Ryan Road, from May 2, 2022 to May 1, 2023, with business hours from 11:00 a.m. to 7:00 p.m., Monday through Sunday (applicant has a base kitchen in the City of Milwaukee); and

WHEREAS, the Plan Commission having found that the proposed Temporary Use, subject to conditions, meets the standards set forth under §15-3.0804 of the Unified Development Ordinance.

NOW, THEREFORE, BE IT RESOLVED, by the Plan Commission of the City of Franklin, Wisconsin, that the petition of Dale Zbieranek/Anthony R. Escamilla for the approval of a Temporary Use to allow for a food truck operation, for the property particularly described in the preamble to this Resolution, be and the same is hereby approved, subject to the following conditions and restrictions:

1. The approval granted hereunder shall allow for such use from May 2, 2022 to May 1, 2023, with business hours from 11:00 a.m. to 7:00 p.m., Monday through Sunday, and all approvals granted hereunder expiring at 7:00 p.m. on May 1, 2023.
2. The food truck shall be parked generally as shown on the Site Plan provided, City file-stamped September 29, 2021.
3. A minimum of one (1) trash receptacle must be provided to properly dispose of any waste generated by this use.
4. No display, sales, or parking shall obstruct vehicular traffic. Drive aisles must be maintained at all times to allow safe and efficient vehicular access throughout the parking lot.
5. This Temporary Use approval is contingent on the applicant receiving all applicable licenses/permits through the City of Franklin. This includes, but not limited to, all necessary licenses/permits which are required through the Building Inspection Department, Clerks Office, and Health Department.

DALE ZBIERANEK//ANTHONY R. ESCAMILLA – TEMPORARY USE
RESOLUTION NO. 2021-_____

Page 2

6. The applicant must obtain a Mobile Retail License and submit it to the City of Franklin Health Department as proof before the business begins operating in Franklin.
7. Any signage other than lettering on the truck and trailer shall be subject to issuance of a Sign Permit from the City of Franklin Building Inspection Department.
8. The lettering on the truck and trailer is limited to advertising incidental to the food truck operation, any other advertising is prohibited per Municipal Code Section 210-10 "Signs on Vehicles".

Introduced at a regular meeting of the Plan Commission of the City of Franklin this _____ day of _____, 2021.

Passed and adopted at a regular meeting of the Plan Commission of the City of Franklin this _____ day of _____, 2021.

APPROVED:

Stephen R. Olson, Chairman

ATTEST:

Sandra L. Wesolowski, City Clerk

AYES _____ NOES _____ ABSENT _____

City of Franklin

Department of City Development

Date: November 9, 2021

To: Dale Zbieranek – Dale Z’s, LLC

From: Department of City Development Staff

RE: Temporary Use - Zbieranek/Escamilla Food Truck – Staff Comments

Department comments are as follows for the temporary use application for a the Zbieranek/Escamilla Food Truck Temporary Use submitted by Dale Zbieranek – Dale Z’s, LLC, and date stamped by the City of Franklin on September 29, 2021.

Department of City Development Staff Comments

City Development staff reviewed this application for compliance with the Unified Development Ordinance (UDO) Section 15-3.0804.B “Temporary Miscellaneous Outdoor Sales”:

1. *Location. No display, sales or parking is permitted in any street right-of-way, except such parking on-street as is regularly permitted. In addition, no display, sales or parking shall obstruct pedestrian or vehicular traffic. All display areas or temporary structures shall comply with the minimum required yard setbacks for the zoning district for the property upon which the temporary miscellaneous outdoor sale occurs.*
 - a. City Development staff has no concerns with the proposed location.
2. *Parking. All parking shall be on-site, except such on-street parking as is regularly permitted. The applicant must demonstrate that there will be adequate parking for the existing uses as well as the proposed temporary miscellaneous outdoor sale.*
 - a. Please note that on-street parking is not allowed, all parking must be within the property.
3. *Trash and Debris. The applicant must demonstrate and provide adequate facilities to dispose of all trash or other waste generated by the temporary miscellaneous outdoor sale.*
 - a. City Development staff recommends that the operator must provide at least one (1) trash receptacle for customers.
4. *Signage. All signage shall be in accordance with the sign regulations set forth in this Ordinance.*

- a. Please provide photos or examples of signage for the truck.
 - b. Please note that advertising of products that are not incidental to the food truck use are prohibited per Municipal Code Section 210-10 “Signs on vehicles”.
 - c. Note that signage is not permitted in the City right of way.
5. *Temporary Outdoor Structures. All proposed temporary outdoor structures (tents, canopies) are subject to review and approval of the Fire Inspector and the Building Inspector.*
 - Please verify whether any tents or canopies are proposed.
6. *Temporary Miscellaneous Outdoor Sales Shall be Limited to 14 Consecutive Days. Owners must obtain a Temporary Use Permit for each temporary miscellaneous outdoor sale before the use is permitted. Each such uses shall not exceed 14 consecutive calendar days. The total days of such temporary uses during a calendar year shall not exceed 30 calendar days.*
 - a. If approved, the temporary use permit will be valid from December 10, 2021 to December 10, 2022, a separate temporary use permit will be required for any operations beyond this time frame.
7. *A Site Plan is Required. A site plan showing location of existing buildings, locations of proposed structures for the sales/events, locations of parking spaces, signage, hours of operation, what merchandise is being sold and any other information pertinent to the review of the sales/events and as may be so required by the Zoning Administrator or designee of the City Planning Department or the Plan Commission, as applicable, shall be submitted as part of the application for a commercial temporary outdoor sale use.*
 - a. No comments.

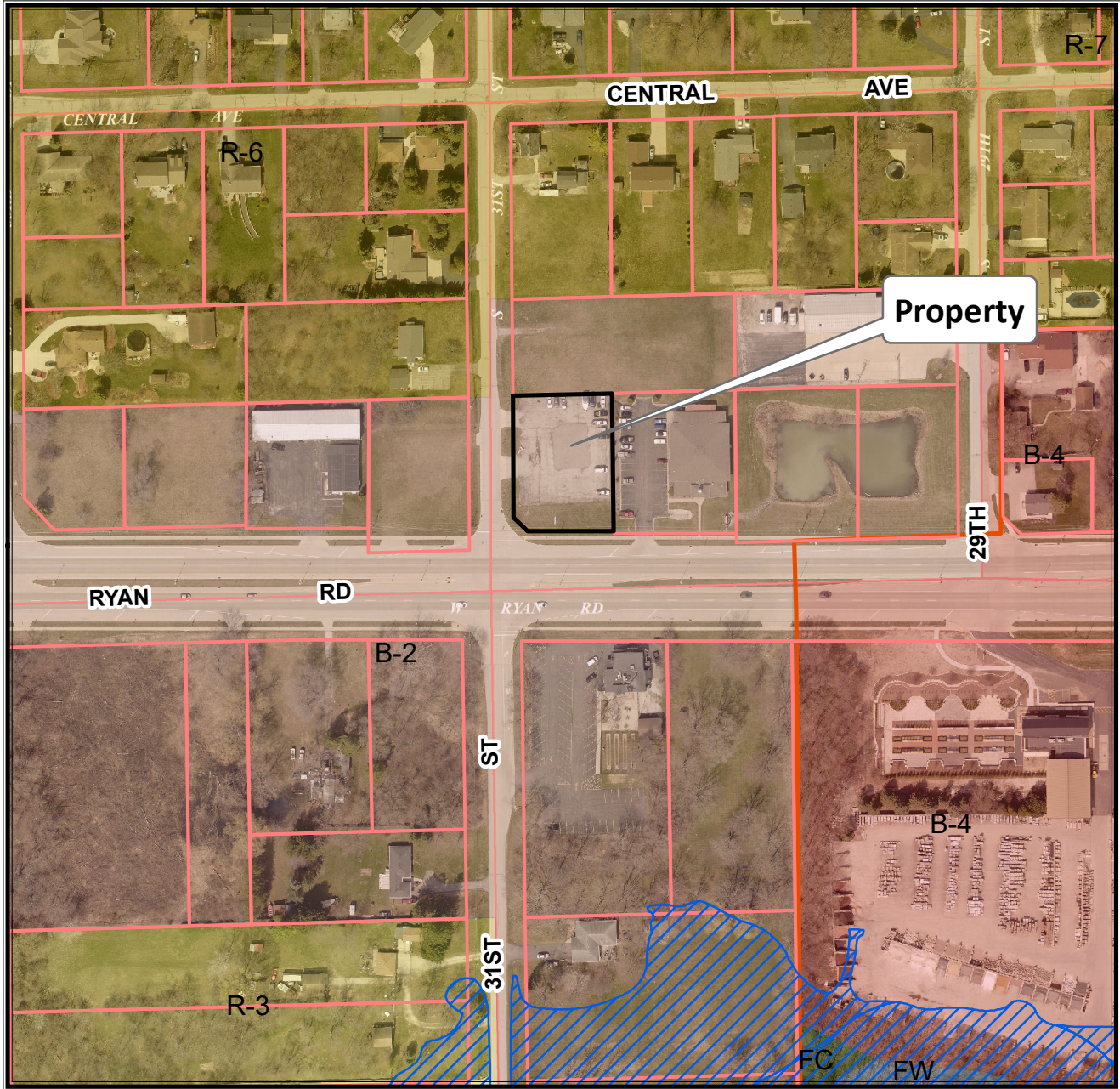
Health Department Staff Comments

Please provide proof of current Mobile Service Base License and Mobile Retail Food License to Franklin Health Department

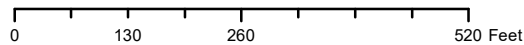
Legal Department Staff Comments

Please provide the middle name initial for Zbieranek and Escamilla. Also, will the food truck be named “Tony’s Taco Truck”?

3030 W. Ryan Road
TKN: 879 9981 001



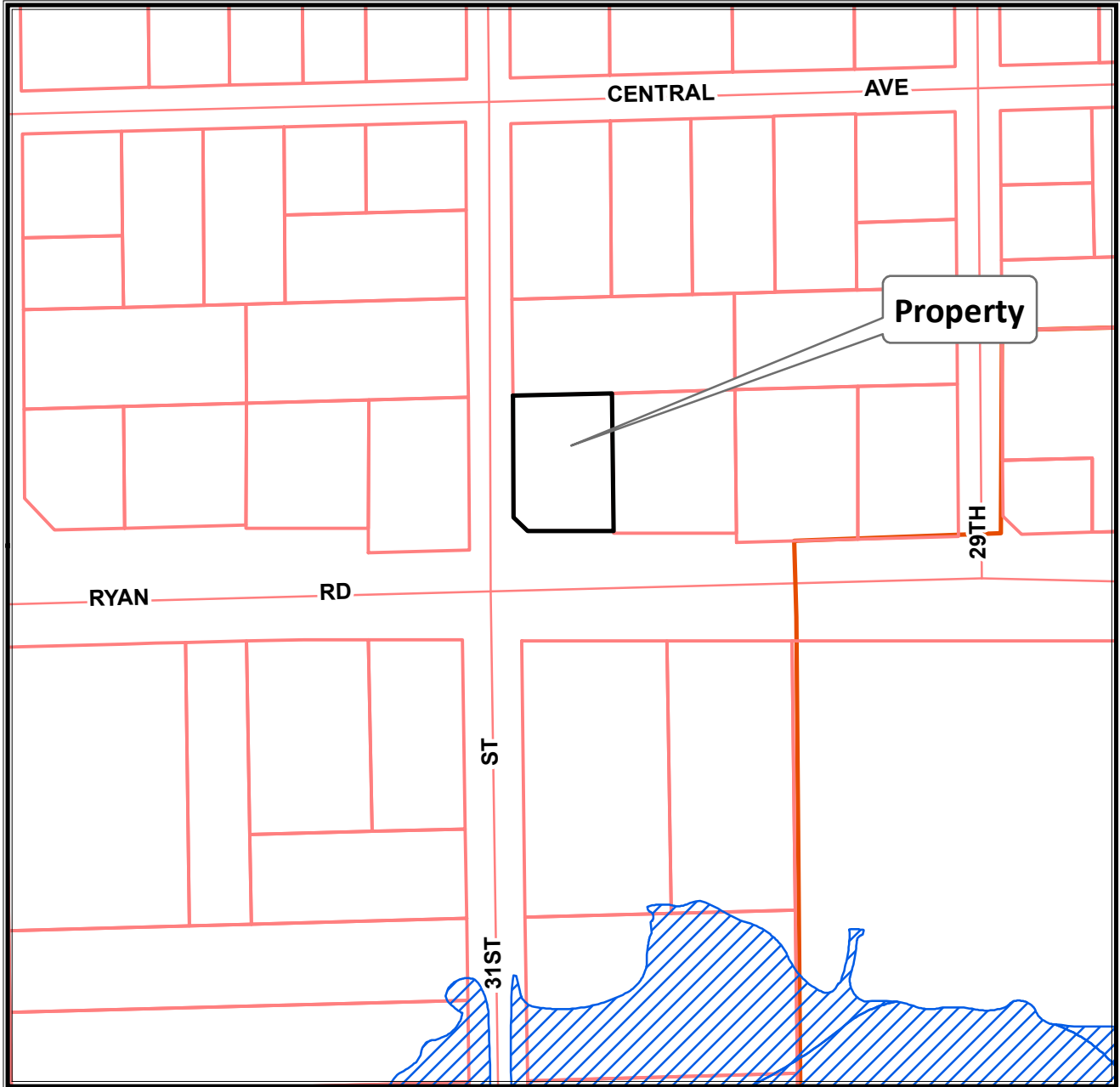
Planning Department
(414) 425-4024



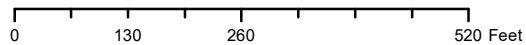
2021 Aerial Photo

This map shows the approximate relative location of property boundaries but was not prepared by a professional land surveyor. This map is provided for informational purposes only and may not be sufficient or appropriate for legal, engineering, or surveying purposes.

3030 W. Ryan Road
TKN: 879 9981 001



Planning Department
(414) 425-4024



This map shows the approximate relative location of property boundaries but was not prepared by a professional land surveyor. This map is provided for informational purposes only and may not be sufficient or appropriate for legal, engineering, or surveying purposes.

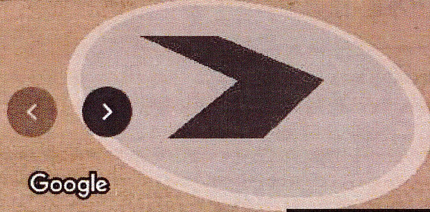


3030 WI-100
Franklin, Wisconsin
Google
Street View - Jun 2019

Asphalt & Concrete Paved Lot

Enter & Exit Approach

Truck location



**Tony's
Taco
Truck**

Tony's Taco Truck

Executive Summary for Franklin Planning Dept. for Temp. Permit

Opportunity

Location:

3030 W. Ryan Rd. - Zoning B2 – General Business

Please look @ attachments for 2 different views of location

Base Kitchen location 3585 S. Howell Ave. Milwaukee, WI 53207 with permits through City Of Milwaukee

Market:

Franklin Business Park & Franklin Residences

Convenience Summary:

This business is perfect for the location for Franklin. The people that work & live in Franklin, can enjoy authentic Mexican food. The hours would be from 11am-7pm Mon.-Sun. The location is safe for traffic to never be parked/stop on any Franklin Streets, due to the fact of off street parking is available. (see attachments) Garbage receptacles will be available @ all times for customers & dispose from us every day @ our base kitchen.

Why Us?/Expectations

We been in business for over 10 years. Customer Service business over 20 years. Great food, cleanliness, & customer satisfaction for Franklin residences is our drive to do this another 20 years. We also like to be part of the community by joining the South Suburban Chamber of Commerce, to show our commitment to this location.

***Please see sample copies for signage for the taco truck**

***Please see copy of list of materials**

***There will NOT be any tents or canopies**

*** If approved we would like to start Temp Permit on May 2nd of 2022, NOT Dec.10th 2021.** The reason is, it would be pretty hard to start up a drive up food amenity in the beginning of the Winter before even being established.

Dept. of City Development:

Tony's Taco Truck: List of materials

- 1) 2 coolers
- 2) 1 food warmer
- 3) 1 flat top griddle
- 4) 1 generator
- 5) 1 propane tank
- 6) 1 hand wash sink
- 7) 1 stainless table





CITY OF FRANKLIN



REPORT TO THE PLAN COMMISSION

Meeting of December 9, 2021

Site Plan Amendment

RECOMMENDATION: City Development staff recommends approval of the Site Plan Amendment subject to the conditions of approval in attached draft Resolution.

Project Name:	Franklin Public Schools Site Plan Amendment
Project Address:	8222 S 51st Street
Applicant:	Franklin Public Schools
Property Owner:	Franklin Public Schools
Current Zoning:	I-1 - Institutional District, FW – Floodway District, & C-1 – Conservancy District
2025 Comprehensive Plan	Residential – Multi-Family
Use of Surrounding Properties:	R-6 – Suburban Single-Family Residence District to the north, south, east and west, with areas of FW – Floodway District to the north and west, and R-7 Two-Family Residence District to the north on the western ¼ of the property line.
Applicant Action Requested:	Approval of the Site Plan Amendment
Planner:	Marion Ecks, Associate Planner

On July 15, 2022 the applicant submitted an application for a Site Plan Amendment to install a turf surface and related drainage to replace the existing grass baseball and softball fields on the northwest corner of the Franklin High School property. Turf fields will extend the useable season for these facilities.

The turf surface requires additional stormwater facilities which will be provided via underground storage and a collector pipe system. The project will disturb approximately 3.6 acres of land. Construction will be limited to the area of the fields themselves (See site plan – Sheet C3).

BACKGROUND AND PRIOR APPROVALS

Site Plan Amendment

On May 9, 2013, Plan Commission approved a Site Plan to expand existing sports facilities at the Franklin Public High School to create a football field within the existing track, a baseball field and other facilities. As part of that development, the Natural Resource Special Exception was approved on August 20, 2013 for impacts to wetlands and their buffer and setback. A conservation easement was recorded on December 31, 2014 via Document Number 10423457 (see Exhibit A) for remaining natural resources including floodplain, shoreline setback, and various wetlands on the property. It does not allow for development within the easement.

Minor Site Plan Amendment

On May 23, 2014 a Minor Site Plan Amendment (MSPA) was approved which included the addition of a second softball field to the north of the original field, along with other sports facilities and stormwater facilities. The northwest corner of the softball field is in FW Floodway zoning. FW zoning allows for open space activities, but does not permit structures. Although it is mostly outside the FEMA flood insurance floodplain, one small area of the north edge of the new softball field was shown on plans to be within the 100 year floodplain on plans at the time of approval (see figure 1). The development included grading and installation of a fence within this area of this shown floodplain.

The conservation easement in this area is not shown on approved plans (see figure 1), as it had not yet been recorded. No approvals were required at that time for possible changes to areas within the conservation easement, and so it is not possible to determine if the easement has been impacted via prior approvals.

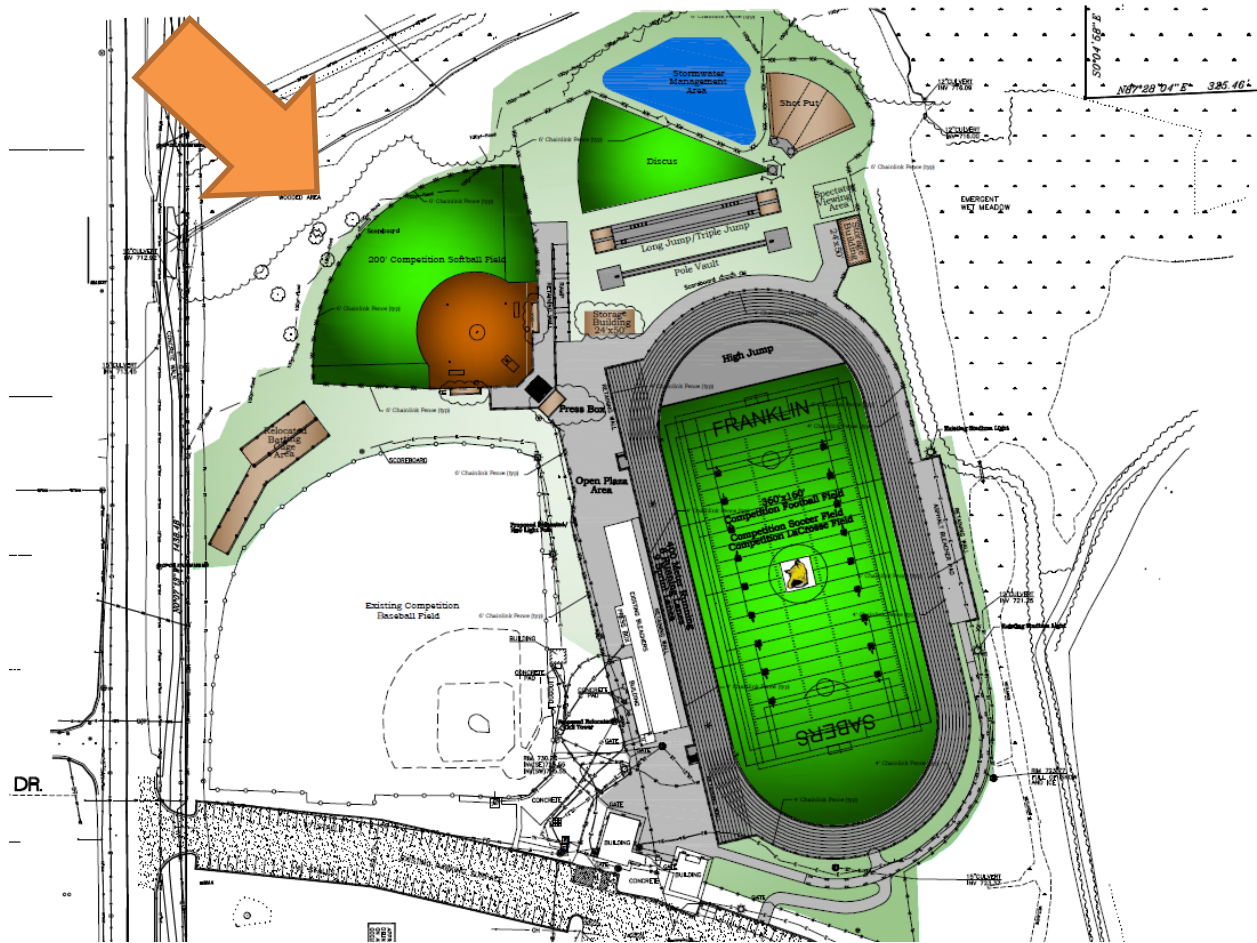


Figure 1

It must be noted that the facilities approved through the MSPA also do not conform to the setback requirements of I-1 zoning, or the standards of Division 15-3.0800: Accessory and Temporary Uses

and Structures Standards and Regulations with regard to the placement of the field, or fences, in the front yard of the lot.

CURRENT SITE PLAN AMENDMENT REQUEST

The current request does not propose to alter the general layout of these previously approved facilities. The applicants have completed required stormwater reviews for the proposed detention system.

The Natural Resource Protection Plan and Report for the current proposal does not show the northern softball field to be in the 100 year floodplain, and the DNR's Surface Water Data Viewer and FEMA Flood Insurance maps likewise show it to be outside the 100 year floodplain. Impacts are not proposed within areas of natural resources described by the Natural Resource Protection Plan provided. The NRPP must also include easement information and show it on related maps (§15-7.0201.F and §15-7.0201.H).

The current site plan likewise does not show the location of the recorded conservation easement. Staff recommends that the applicants submit a revised site plan which indicates the conservation easement areas, as required by §15-3.0801D, and §15-7.0103X, subject to staff approval.

Recommendation:

City Development staff recommends approval of the Site Plan Amendment subject to the conditions of approval in attached draft Resolution.

RESOLUTION NO. 2021-_____

A RESOLUTION AMENDING THE SITE PLAN FOR PROPERTY
LOCATED AT 8222 SOUTH 51ST STREET TO ALLOW FOR
INSTALLATION OF SYNTHETIC TURF AND RELATED DRAINAGE TO
REPLACE THE EXISTING GRASS VARSITY BASEBALL/ SOFTBALL
FIELDS AT THE FRANKLIN HIGH SCHOOL SITE
(TAX KEY NO. 807-9999-001)
(FRANKLIN PUBLIC SCHOOLS, APPLICANT)

WHEREAS, Franklin Public Schools having applied for an amendment to the site plan for the property located at 8222 South 51st Street, such Site Plan having been previously approved as part of a Zoning Permit approval (Permit No. 61-147) applied for on December 12, 1961, and amended thereafter by a Zoning Permit dated September 25, 1963 and November 29, 1965 (Permit No. 178), Rezoning Ordinance No. 1995-1330, Site Plan approval dated March 12, 1998, Site Plan approval dated November 20, 2003 and Site Plan approval dated May 9, 2013, by Resolution No. 2013-004; and

WHEREAS, such proposed amendment proposes installation of a synthetic turf surface, requiring minor regrading and related stormwater management via underground drainage stone storage and a collector pipe system, to replace the existing Franklin High School grass varsity baseball/softball fields [the project will disturb approximately 3.6 acres of land], and the Plan Commission having reviewed such proposal and having found same to be in compliance with and in furtherance of those express standards and purposes of a Site Plan review pursuant to Division 15-7.0100 of the Unified Development Ordinance.

NOW, THEREFORE, BE IT RESOLVED, by the Plan Commission of the City of Franklin, Wisconsin, that the Site Plan for Franklin High School, dated November 30, 2021, as submitted by Franklin Public Schools, as described above, be and the same is hereby approved, subject to the following conditions:

1. Franklin Public Schools, successors and assigns and any developer of the Franklin High School synthetic turf and related drainage installation project shall pay to the City of Franklin the amount of all development compliance, inspection and review fees incurred by the City of Franklin, including fees of consults to the City of Franklin, for the Franklin High School synthetic turf and related drainage installation project, within 30 days of invoice for same. Any violation of this provision shall be a violation of the Unified Development Ordinance, and subject to §15-9.0502 thereof and §1-19 of the Municipal Code, the general penalties and remedies provisions, as amended from time to time.

FRANKLIN PUBLIC SCHOOLS - SITE PLAN AMENDMENT
RESOLUTION NO. 2021-_____

Page 2

2. The approval granted hereunder is conditional upon Franklin Public Schools and the Franklin High School synthetic turf and related drainage installation project for the property located at 8222 South 51st Street: (i) being in compliance with all applicable governmental laws, statutes, rules, codes, orders and ordinances; and (ii) obtaining all other governmental approvals, permits, licenses and the like, required for and applicable to the project to be developed and as presented for this approval.
3. The Franklin High School synthetic turf and related drainage installation project shall be developed in substantial compliance with the plans City file-stamped November 30, 2021.
4. The applicants shall submit a revised site plan which indicates the conservation easement areas, as required by Unified Development Ordinance §15-3.0801D. and §15-7.0103X., subject to staff approval.

BE IT FURTHER RESOLVED, by the Plan Commission of the City of Franklin, Wisconsin, that the Franklin High School synthetic turf and related drainage installation as depicted upon the plans City file-stamped November 30, 2021, attached hereto and incorporated herein, shall be developed and constructed within one year from the date of adoption of this Resolution, or this Resolution and all rights and approvals granted hereunder shall be null and void, without any further action by the City of Franklin; and the Site Plan for the property located at 8222 South 51st Street, as previously approved, is amended accordingly.

Introduced at a regular meeting of the Plan Commission of the City of Franklin this _____ day of _____, 2021.

Passed and adopted at a regular meeting of the Plan Commission of the City of Franklin this _____ day of _____, 2021.

APPROVED:

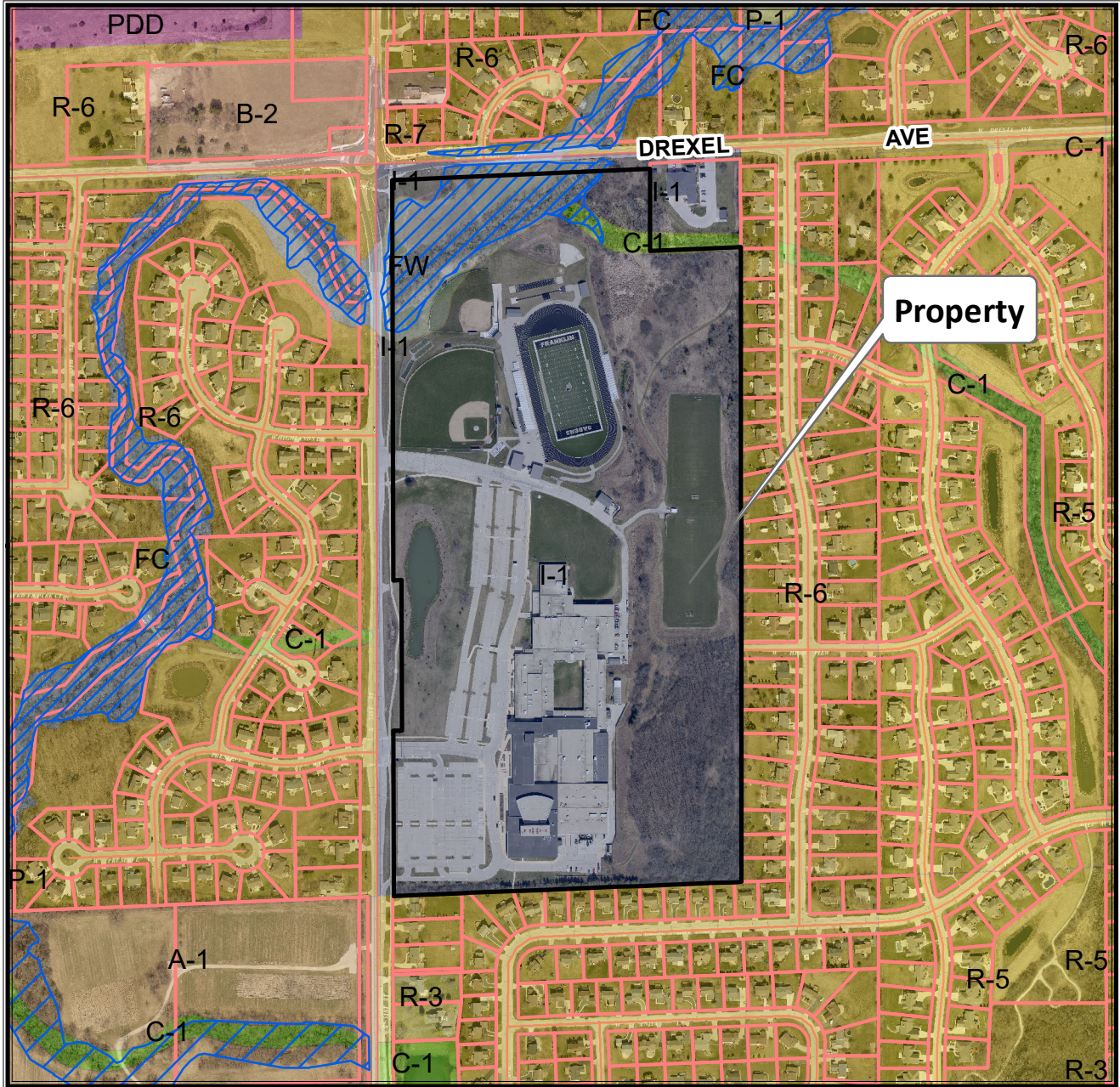
ATTEST:

Stephen R. Olson, Chairman

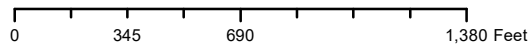
Sandra L. Wesolowski, City Clerk

AYES _____ NOES _____ ABSENT _____

8222 S. 51st Street
TKN: 807 9999 001

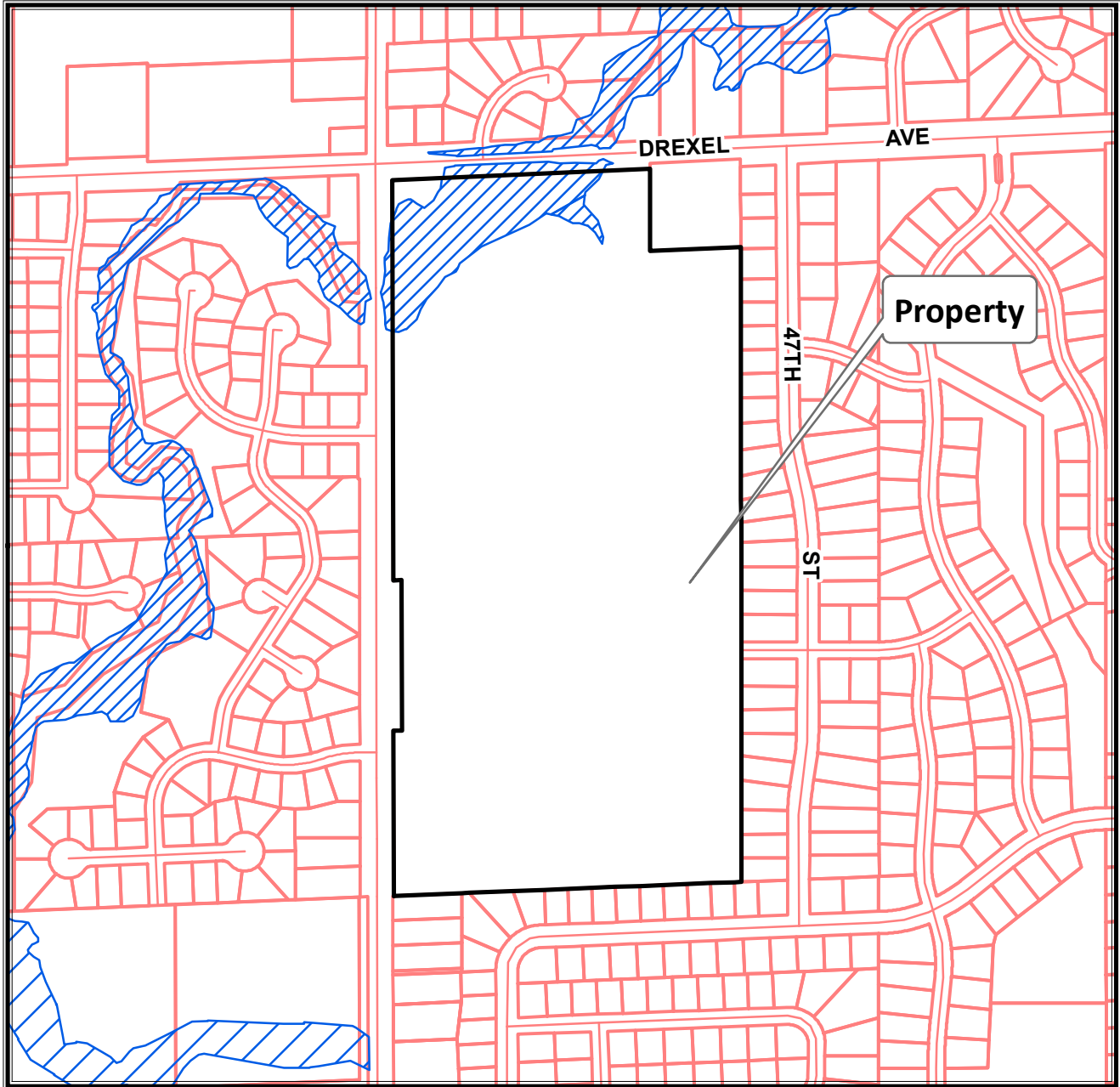


Planning Department
(414) 425-4024

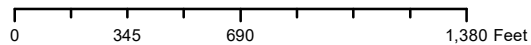


This map shows the approximate relative location of property boundaries but was not prepared by a professional land surveyor. This map is provided for informational purposes only and may not be sufficient or appropriate for legal, engineering, or surveying purposes.

8222 S. 51st Street
TKN: 807 9999 001



Planning Department
(414) 425-4024



This map shows the approximate relative location of property boundaries but was not prepared by a professional land surveyor. This map is provided for informational purposes only and may not be sufficient or appropriate for legal, engineering, or surveying purposes.





Point of Beginning

4941 Kirschling Court, Stevens Point, WI 54481
1497 6th Street - Suite C, Green Bay, WI 54304
1261 W Main Street - Suite 102, Sun Prairie, WI 53590

November 29, 2021

City of Franklin
Attn: Marion Ecks, Associate Planner
9229 W. Loomis Road
Franklin, WI 53132

RE: Franklin Public Schools Site Plan Amendment – 8222 S 51st Street - Staff Comments

Dear Ms. Ecks,

Please see the responses below in **blue** to site plan review comments I received from you 11/12/2021. Supporting documentation is attached.

Unified Development Ordinance (UDO)

1. Note that the setback requirements of the district must be met for any new structures. Please refer to Table 15-3.0312 for standards. Existing nonconforming structures may remain.
Noted. Per the construction plans, no new structures are proposed within the setback areas.
2. Open recreational uses, such as parks and sport fields, etc. are permitted in the FW district per the standards of §15-3.0604A5.d, “provided that such use shall not involve the erecting or placing of a structure.” Please verify that no new structures will be placed
Noted. Per the construction plans, no new structures are proposed in the FW district.

Site Plan

3. The Owner’s Name and Address (§15-7.0103.B).
The project’s title sheet, C0.0, has been modified to add the owner’s name and address.
4. Height of all building(s), including both principal and accessory, expressed in both feet and stories. (§15-7.0103.J)
Not applicable, no principal or accessory buildings are proposed to be built or modified.
5. Please show any shoreline setbacks/buffers, and wetland setback or buffer. The shoreline buffer is 75’ from the ordinary high water mark (§15-7.0103.M).
The ordinary high water mark and 75’ shoreline buffer have been noted on the construction plans. The wetland delineation found no wetlands, therefore there is no wetland setback or buffer.

6. Note that §15-7.0103.P requires approval of stormwater plans as a condition of approval for any Site. Plan. Please verify that stormwater requirements for the site have been met.

The project's stormwater plans have been approved by the City of Franklin, MMSD, and the DNR. See attached approval letters.

7. A Natural Resource Protection Plan has been provided as required by §15-7.0103.Q. Comments on the NRPP are provided in that section of the memo.

Noted.

8. Site intensity calculations, as required by §15-7.0103.S, 15-7.0102.C, §15-7.0201.N etc. should be calculated for the total site, not just the project area. Please provide revised calculations.

The site intensity calculations (found within Appendix C of the NRPP) have been update to account for the whole site, not just the project area.

9. Are changes to lighting proposed? If so, please provide a "Lighting Plan" which meets the lighting regulations set forth in Division 15-5.0400.

No lighting changes are proposed.

10. Show the location of all easements on the site plan (15-7.0103.X).

Easements have been added to the site plan.

11. Note that additional data may be required by Plan Commission, Zoning Administrator, City Planner, or the City Engineer (15-7.0103.DD).

Noted.

Natural Resource Protection Plan

12. Complete contact information for the owner (§15-7.0201.C)

Owner contact information has been updated, see page one of the report.

13. Date of the NRPP (§15-7.0201.D).

The NRPP date is included on the title page of the report.

14. Location of any easements, including the location of any easements on (immediately adjacent to) the property line (§15-7.0201.F and §15-7.0201.H).

The NRPP has been updated to include the locations of nearby easements.

15. A table on the NRPP with information about the total area of each natural resource. If a category of protected resource is not present, list it in the table with a zero for the quantity (§15-7.0201.I).

See the site intensity calculations found within Appendix C of the NRPP.

Additional Planning Comments

16. Please verify that the fence and other structures will not be located within any easement (§15-3.0801D, §15-7.0103X).

No fences or other structures will be located within any easement.

17. (§15-3.0803.C.2.a) Fences may be located in all yards in nonresidential zoning districts. Fences located in the front yard shall be approved by the Plan Commission prior to the issuance of a Building Permit for the construction of the fence.

Per §15-3.0803.C.4, fencing over six feet in height, enclosing a park, elementary, middle or high school site shall be permitted in all yards. The proposed baseball outfield fence shall be 8' tall chain link fence and meet the requirements of §15-3.0803.C.2 and §15-3.0803.C.4.

18. Fences must meet the standards of §15-3.0803.C.2 and §15-3.0803.C.4

Per §15-3.0803.C.4, fencing over six feet in height, enclosing a park, elementary, middle or high school site shall be permitted in all yards. The proposed baseball outfield fence shall be 8' tall chain link fence and meet the requirements of §15-3.0803.C.2 and §15-3.0803.C.4.

Inspection Services Department Comments

19. Contact Inspection Services (Chief Plumbing Inspector) for possible additional submittal requirements for stormwater drainage system.

I reached out to Justin Ligocki, chief plumbing inspector, and he indicated that he will need a hard copy and PDF of the stamped state approved drawings, and a plumbing permit from the contractor. The DSPS is currently reviewing the drawings.

Engineering Department Comments

20. The applicants must satisfy any outstanding Engineering requirements.

Noted. To the best of my knowledge, all engineering comments have been addressed. This was coordinated with Tyler Beinlich, Assistant City Engineer.

Please feel free to reach out if there are additional comments or concerns to be addressed.

Sincerely,

Jesse Becker

Jesse Becker, P.E. - Project Engineer

FRANKLIN HIGH SCHOOL BASEBALL/SOFTBALL

SYNTHETIC TURF DEVELOPMENT

FRANKLIN, WISCONSIN

OWNER CONTACT INFO

OWNER:
FRANKLIN PUBLIC SCHOOLS, KASEY STUMVOLL

ADDRESS:
8255 WEST FOREST HILL AVENUE
FRANKLIN, WISCONSIN 53132

PHONE:
414-529-8220



CIVIL DRAWINGS

- C0.0 TITLE SHEET
- C0.1 EXISTING SITE SURVEY
- C1.0 SITE DEMOLITION PLAN
- C2.0 SITE LAYOUT PLAN
- C3.0 SITE GRADING PLAN
- C4.0 SITE EROSION CONTROL PLAN
- C5.0 SITE STORM SEWER PLAN
- C6.0 SITE DETAILS
- C6.1 SITE DETAILS

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REVISIONS

CHECKED:	DLP
DRAWN:	DLP
DATE:	11/19/2021
PROJECT NO.:	21.036

TITLE SHEET

FRANKLIN HIGH SCHOOL
BASEBALL/SOFTBALL
SYNTHETIC TURF DEVELOPMENT
FRANKLIN, WI

Civil Engineering
Land Surveying
Landscape Architecture
4941 Kirschling Court
Stevens Point, WI 54481
715.344.9999 (PH) 715.344.9922 (FX)

POB
Point of Beginning

SHEET
C0.0

FRANKLIN HIGH SCHOOL
BASEBALL/SOFTBALL
SYNTHETIC TURF DEVELOPMENT
FRANKLIN, WI

Civil Engineering
Land Surveying
Landscape Architecture
4941 Kirschling Court
Stevens Point, WI 54481
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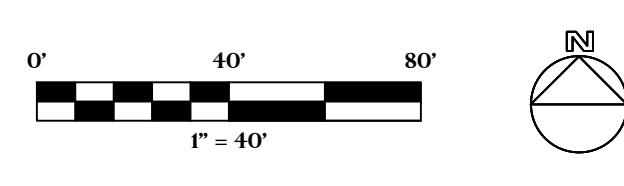
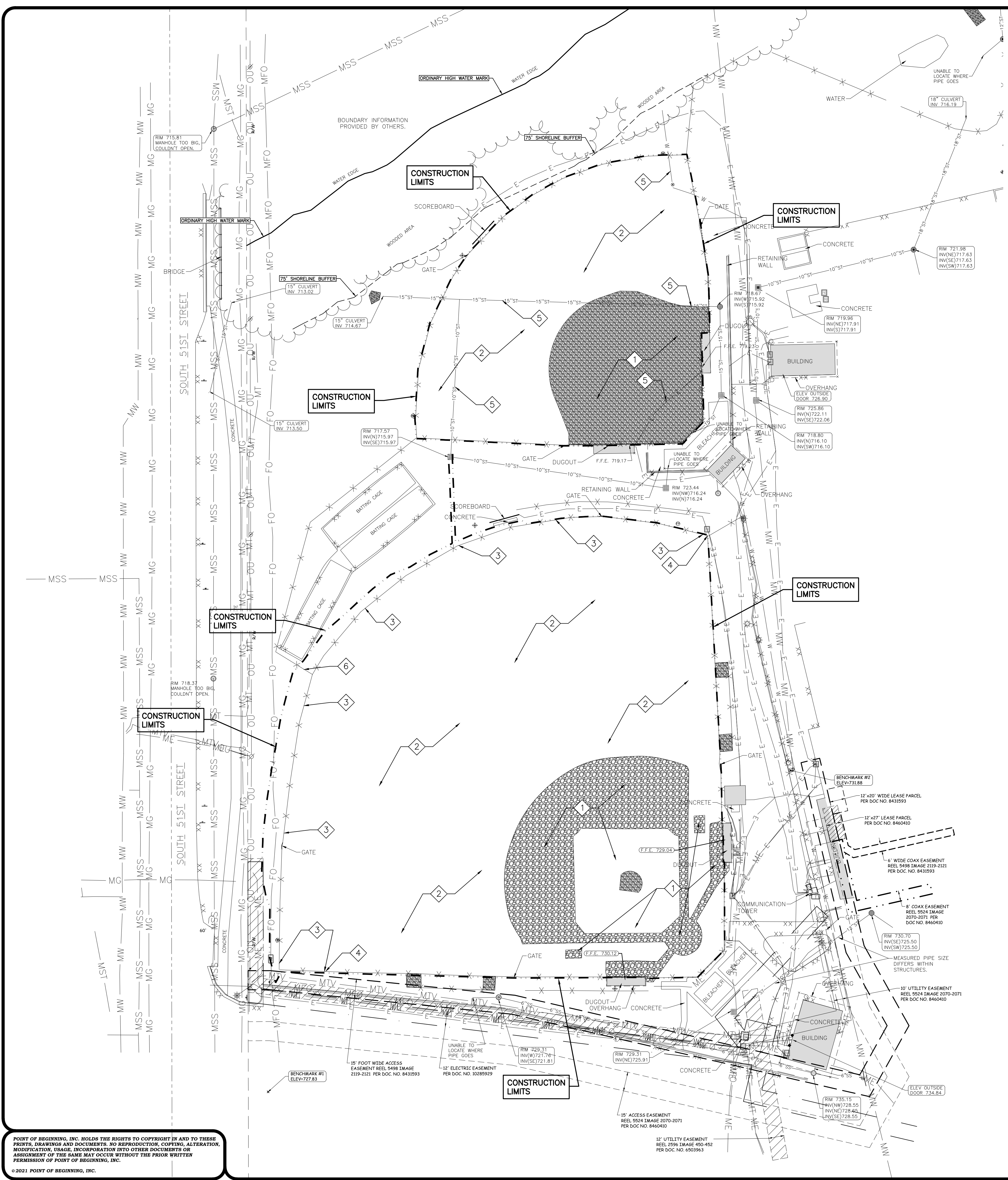
CHECKED:	DLP
DRAWN:	DLP
DATE:	11/19/2021
PROJECT NO.:	21.036

GENERAL NOTES:

- CONTACT DIGGER'S HOTLINE 5 WORKING DAYS PRIOR TO THE START OF DEMOLITION/CONSTRUCTION.
- ALL DEMOLITION MATERIALS SHALL BE REMOVED FROM THE SITE AND DISPOSED OF IN A LEGAL MANNER EXCEPT FOR THOSE ITEMS NOTED TO BE SALVAGED, WHICH SHOULD BE TURNED OVER TO THE OWNER.
- INSTALL AND MAINTAIN ALL REQUIRED EROSION CONTROL MEASURES FOR PERIMETER PROTECTION PRIOR TO THE START OF DEMOLITION/CONSTRUCTION, IN ACCORDANCE WITH THE LOCAL AND STATE GOVERNING AUTHORITIES.
- BIDDERS SHALL VISIT THE SITE AND REVIEW EXISTING CONDITIONS PRIOR TO THE BID DATE.
- COORDINATE WITH THE OWNER AND LOCAL UTILITY COMPANIES TO LOCATE ANY EXISTING UTILITIES ON SITE PRIOR TO THE START OF WORK.
- ANY EXISTING UTILITIES NOT SHOWN ON THIS DOCUMENT WHICH NEED TO BE REMOVED, RELOCATED, AND/OR ADJUSTED SHALL BE COORDINATED WITH PROPER UTILITY COMPANY.
- STRIP TOPSOIL WITHIN THE PROJECT LIMITS IN ACCORDANCE WITH THE PROJECT MANUAL SPECIFICATIONS.
- IF STRIPPED TOPSOIL IS STOCKPILED ON SITE, SILT FENCE SHALL BE INSTALLED AROUND THE BASE OF THE STOCKPILE TO PREVENT SEDIMENT TRANSPORT.
- PRIOR TO PERFORMING WORK WITHIN PUBLIC RIGHT OF WAYS, NOTIFY AND COORDINATE WORK WITH THE LOCAL MUNICIPALITY.
- MAINTAIN TRAFFIC CIRCULATION TO ALL RETAIL AND COMMERCIAL BUILDINGS IF SHOWN ON THIS DOCUMENT. COORDINATE ALL WORK WITH SAID BUSINESSES.

KEYNOTES:

- REMOVE INFIELD MATERIAL/ SUBGRADE MATERIAL TO PROPOSED SUBGRADE ELEVATIONS. SEE DETAILS & GRADING PLAN FOR PROPOSED SUBGRADE ELEVATIONS.
- STRIP ALL TOPSOIL/ SUBGRADE MATERIAL UNDER SYNTHETIC TURF AREAS TO PROPOSED SUBGRADE DEPTHS. SEE DETAILS & GRADING PLAN FOR PROPOSED SUBGRADE ELEVATIONS. IF LEVELS OF TOPSOIL ARE DEEPER THAN PROPOSED SUBGRADE ELEVATIONS PER GEOTECHNICAL REPORT THE ADDITIONAL TOPSOIL SHALL ALSO BE REMOVED AND BACKFILL WITH CLEAN IMPORTED FILL.
- REMOVE EXISTING FENCE/ FOUNDATIONS
- FENCE REMOVAL LIMITS
- MAINTAIN EXISTING UTILITIES
- REMOVE/REPLACE AS REQUIRED FOR GRADING TRANSITIONS



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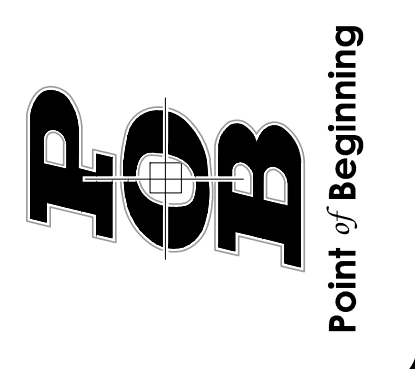
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CHECKED:	DLP
DRAWN:	DLP
DATE:	11/19/2021
PROJECT NO.:	21.036

SITE LAYOUT PLAN

**FRANKLIN HIGH SCHOOL
BASEBALL/SOFTBALL
SYNTHETIC TURF DEVELOPMENT
FRANKLIN, WI**

Civil Engineering
Land Surveying
Landscape Architecture
4941 Kirschling Court
Stevens Point, WI 54481
715.344.9999 (PH) 715.344.9922 (FX)



GENERAL NOTES:

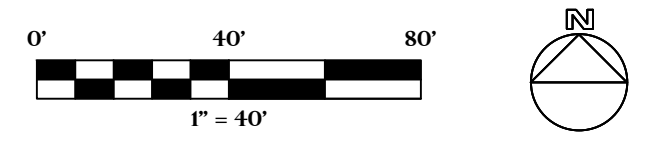
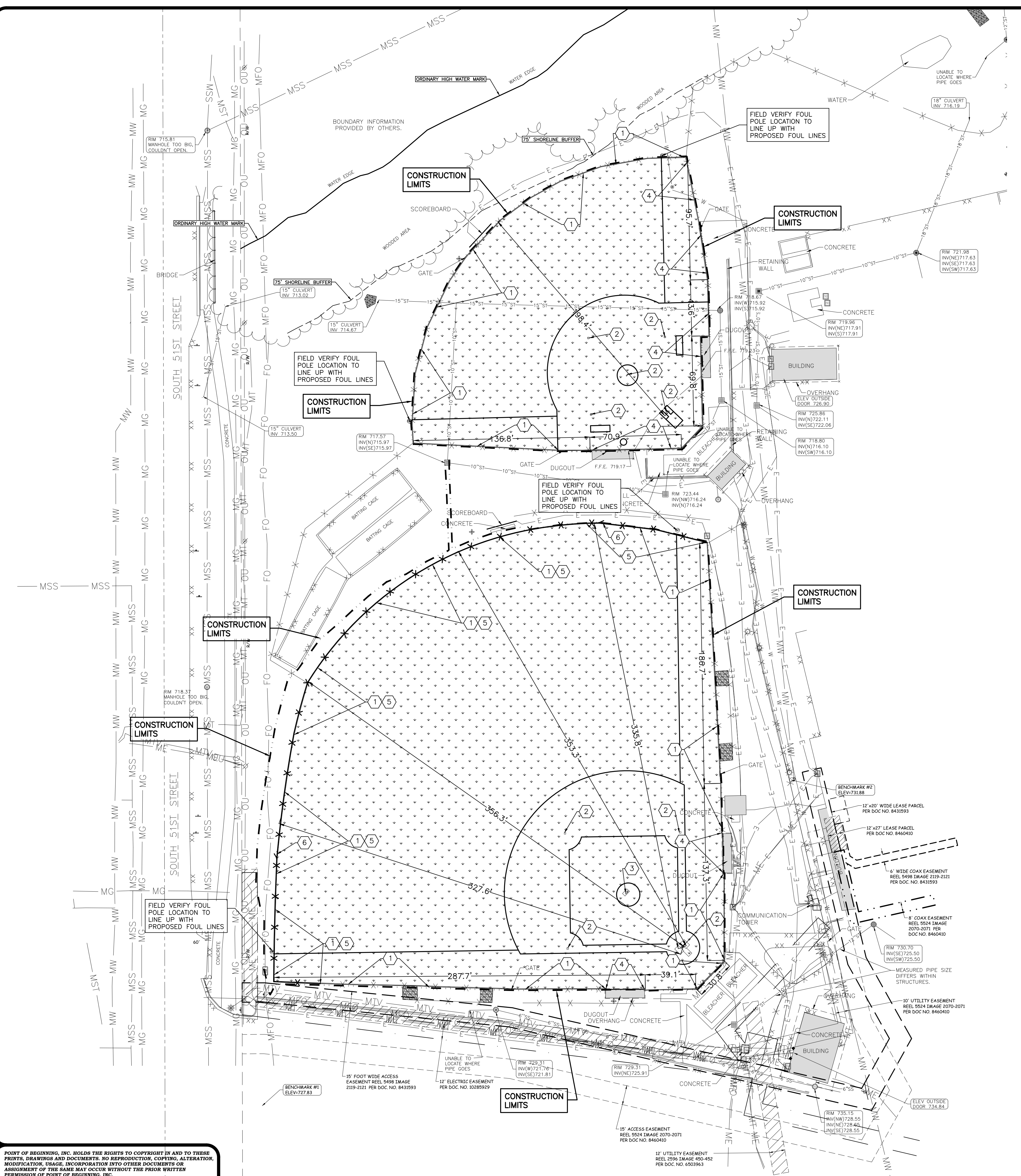
- CONTACT DIGGER'S HOTLINE 5 WORKING DAYS PRIOR TO THE START OF DEMOLITION/CONSTRUCTION.
- INSTALL ALL TEMPORARY EROSION CONTROL ELEMENTS PRIOR TO THE START OF DEMOLITION AND/OR ANY LAND DISTURBING ACTIVITIES.
- SEE EROSION CONTROL PLAN FOR ALL REQUIRED EROSION CONTROL ELEMENTS.
- ANY EXISTING UTILITIES NOT SHOWN ON THIS DOCUMENT WHICH NEED TO BE REMOVED, RELOCATED AND OR ADJUSTED SHALL BE COORDINATED WITH PROPER UTILITY COMPANY.
- VERIFY THE LOCATION OF ALL EXISTING UTILITIES PRIOR TO THE START OF DEMOLITION/CONSTRUCTION.
- ALL BIDDERS SHALL VISIT THE SITE AND REVIEW EXISTING CONDITIONS PRIOR TO SUBMITTING A BID.
- PRIOR TO THE START OF WORK VERIFY WITH THE LOCAL AUTHORITIES THAT ALL REQUIRED PERMITS HAVE BEEN ACQUIRED.
- COORDINATE CONSTRUCTION IN THE RIGHT OF WAY WITH THE LOCAL AUTHORITIES.
- PROVIDE PROPER BARRICADES, SIGNS AND TRAFFIC CONTROL TO MAINTAIN THRU TRAFFIC ALONG ADJACENT STREETS IN ACCORDANCE WITH LOCAL MUNICIPAL REQUIREMENTS.
- SIDEWALK JOINTS TO BE AS INDICATED OR AS APPROVED BY CONSTRUCTION MANAGER.
- ALL SAWCUTS SHALL BE AT AN EXISTING JOINT IN THE CURB AND PAVEMENT.
- ALL GENERAL LANDSCAPE AREAS SHALL BE SEEDED/FERTILIZED/CRIMP HAY MULCHED IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS.
- EACH CONTRACTOR SHALL PROVIDE OWN PRIVATE UTILITY LOCATE AS NEEDED.

SURFACE HATCH PATTERNS:



KEYNOTES:

- 6"x12" CONCRETE CURB W/ TREATED 2"x4" WOOD NAILER ALONG FENCE 5
C6.0
- BASES/ HOME PLATE/ PITCHER'S PLATE 2 3 4
C6.0 C6.0 C6.0
- PITCHER'S MOUND 1
C6.0
- TREATED 2"x4" WOOD NAILER ALONG CONCRETE EDGE 6
C6.0
- 8'H CHAINLINK FENCING ALONG OUTFIELD
- 5'W CHAINLINK PEDESTRIAN GATE



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SITE GRADING PLAN

FRANKLIN HIGH SCHOOL BASEBALL/SOFTBALL SYNTHETIC TURF DEVELOPMENT FRANKLIN, WI

Civil Engineering Land Surveying Landscape Architecture 4941 Kirschling Court Stevens Point, WI 54481 715.344.9999 (PH) 715.344.9922 (FX)

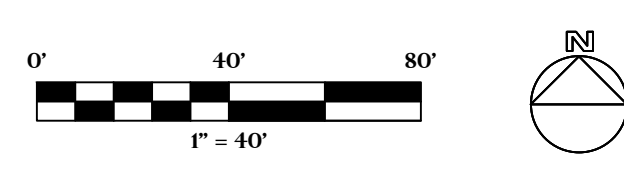
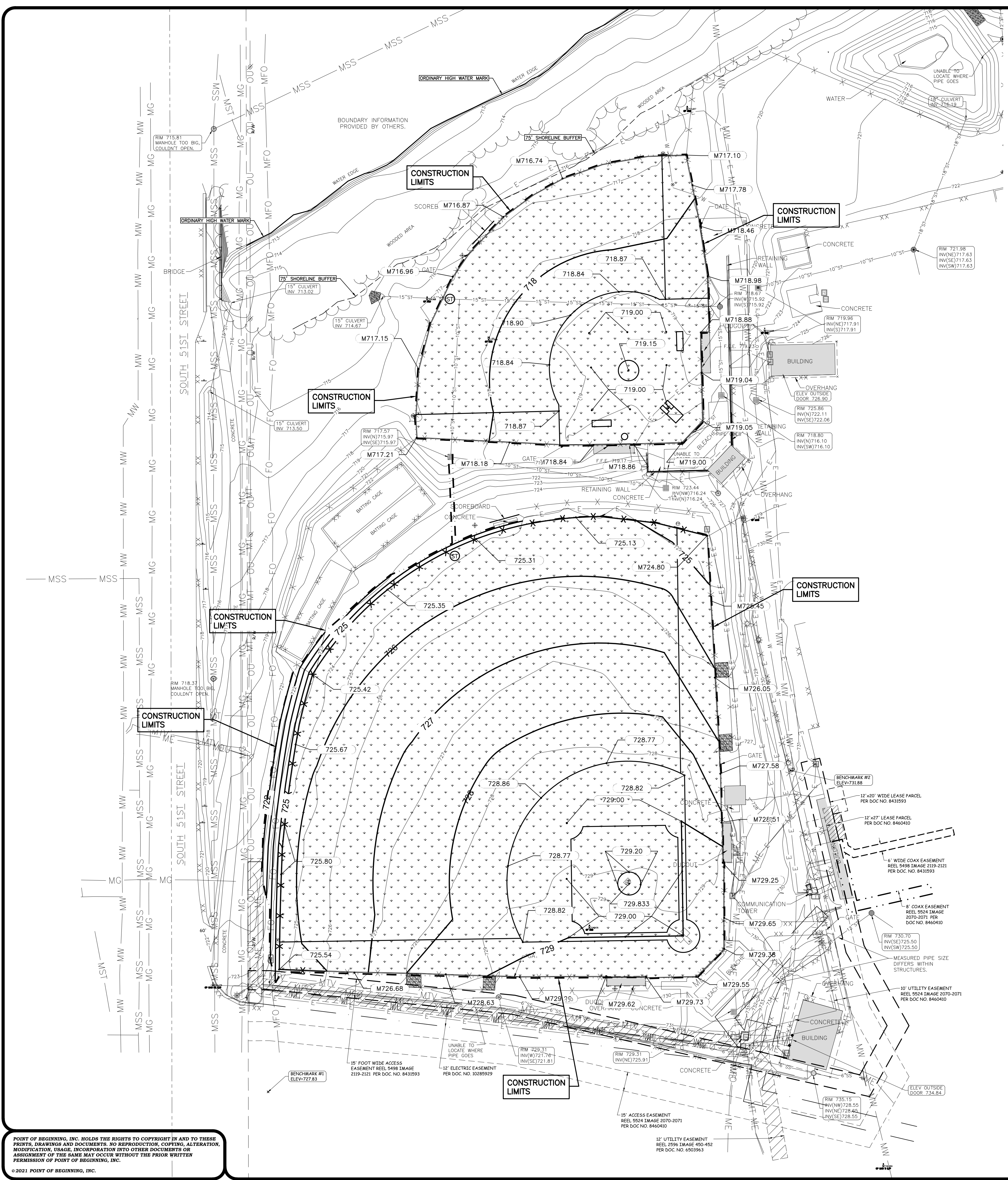


GENERAL NOTES:

- 1. CONTACT DIGGER'S HOTLINE 5 WORKING DAYS PRIOR TO THE START OF DEMOLITION/CONSTRUCTION.
2. GRADE, LINE AND LEVEL SHALL BE REVIEWED IN THE FIELD BY THE CONSTRUCTION MANAGER.
3. INSTALL AND MAINTAIN ALL REQUIRED EROSION CONTROL MEASURES IN ACCORDANCE WITH LOCAL MUNICIPAL AND DEPARTMENT OF NATURAL RESOURCES REGULATIONS.
4. 6" OF TOPSOIL SHALL BE PROVIDED IN ALL GENERAL LAWN AREAS.
5. SEE SHEET C4.0 FOR ALL REQUIRED EROSION CONTROL ELEMENTS.
6. ANY EXISTING UTILITIES NOT SHOWN ON THIS DOCUMENT WHICH NEED TO BE REMOVED, RELOCATED, AND/OR ADJUSTED SHALL BE COORDINATED WITH PROPER UTILITY.
7. COORDINATE ALL EARTHWORK ACTIVITIES WITH THE RESPECTIVE TRADES RESPONSIBLE FOR THE INSTALLATION OF GAS, CABLE, TELEPHONE AND ELECTRICAL (INCLUDING MAIN SERVICE, SITE LIGHTING, CONDUITS AND SIGNAGE).
8. PROVIDE RIP RAP AT ALL CULVERT ENDWALL STRUCTURES TO PREVENT WASHOUT AND EROSION.
9. INSTALL WisDOT TYPE HR FILTER FABRIC BENEATH UNDER RIP RAP.
10. EXCESS TOPSOIL SHALL BE REMOVED FROM SITE, UNLESS OTHERWISE DIRECTED BY THE OWNER. COORDINATE WITH OWNER FOR LOCATION OF STOCKPILE IF THE OWNER CHOOSES TO SALVAGE EXCESS TOPSOIL FOR FUTURE USE. SILT FENCE SHALL BE PLACED AROUND STOCKPILE.
11. ALL TESTING AND INSPECTION SHALL BE DONE IN ACCORDANCE WITH SPS 382.21.
12. THE LOCAL MUNICIPALITY SHALL BE CONTACTED PRIOR TO ANY EXCAVATION IN THE PUBLIC RIGHT-OF-WAY.
13. THE CONTRACTOR SHALL HAVE HIS TRAFFIC CONTROL PLAN APPROVED BY THE CITY OF FRANKLIN PRIOR TO WORK COMMENCING.
14. THE LOCAL MUNICIPALITY SHALL OPERATE ALL EXISTING WATER VALVES IF NEEDED.
15. SEDIMENT SHALL BE PROPERLY DISPOSED OF ONCE THE DEPOSITS REACH 1/2 THE HEIGHT OF THE SILT FENCE.

GRADING LEGEND:

Table with 2 columns: Description and Symbol. Includes: EXISTING CONTOUR (725), PROPOSED CONTOUR (724), PROPOSED SPOT ELEVATION (724.25), PROPOSED RIM ELEVATION (R7255.00), MATCH EXISTING FINISH GRADE (FIELD VERIFY) (M723.00), PROPOSED STORM MANHOLE (circle with M).

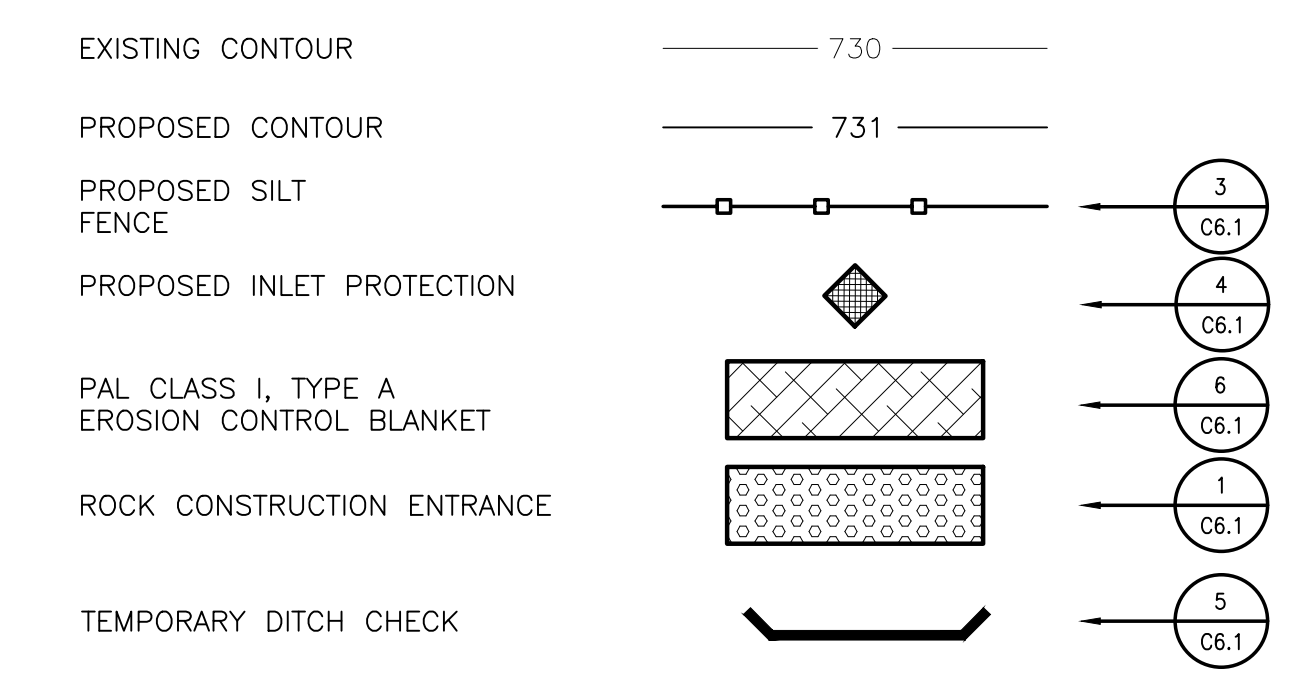


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GENERAL NOTES:

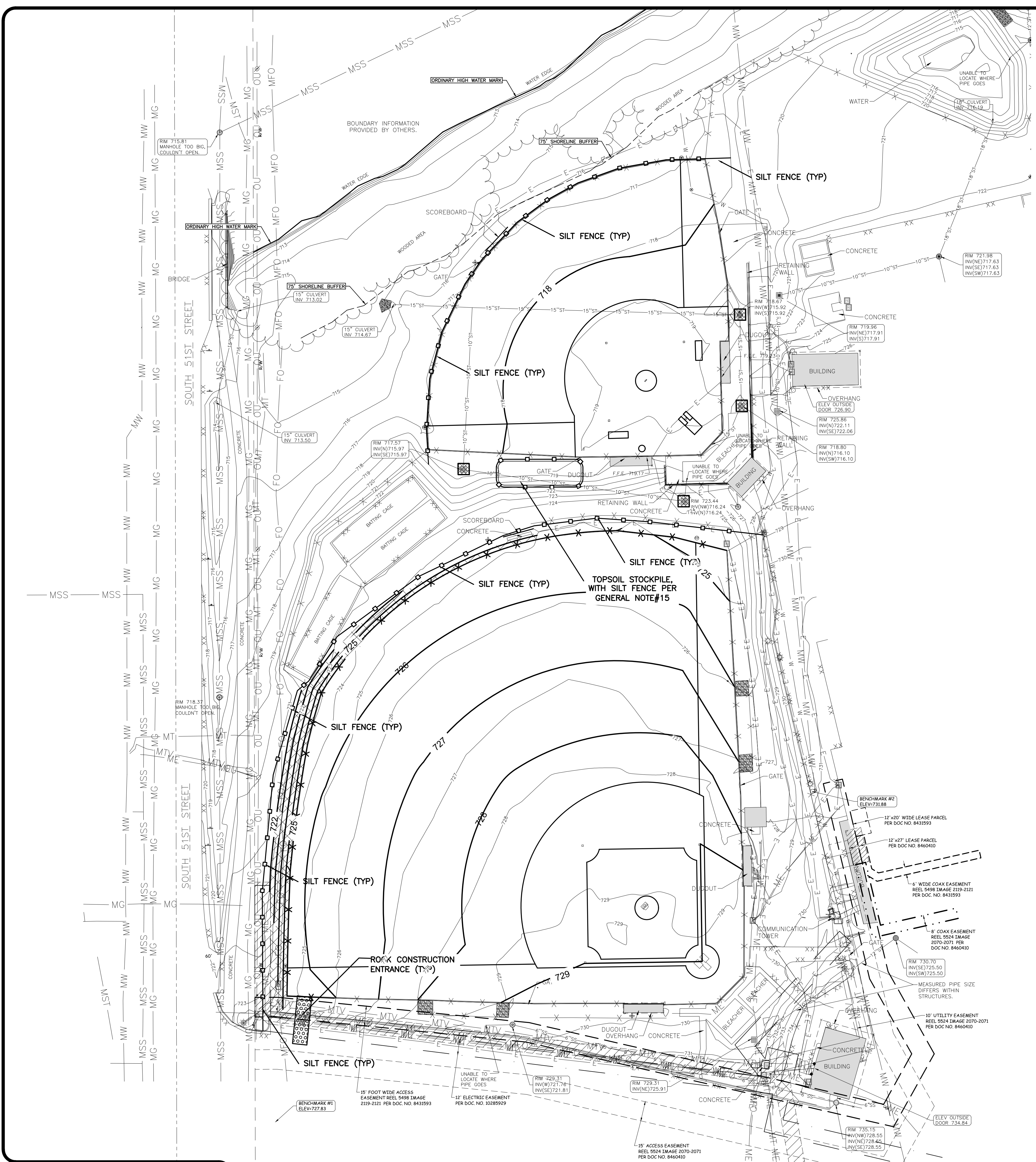
- CONTACT DIGGER'S HOTLINE 5 WORKING DAYS PRIOR TO THE START OF DEMOLITION/CONSTRUCTION.
- NOTIFY THE LOCAL MUNICIPALITY AT LEAST 2 WORKING DAYS PRIOR TO THE START OF SOIL DISTURBING ACTIVITIES.
- INSTALL ALL TEMPORARY EROSION CONTROL ELEMENTS PRIOR TO THE START OF DEMOLITION AND/OR ANY LAND DISTURBING ACTIVITIES.
- ALL ACTIVITIES SHALL BE CONDUCTED IN A LOGICAL SEQUENCE TO MINIMIZE THE AMOUNT OF BARE SOIL EXPOSED AT ANY ONE TIME. MAINTAIN EXISTING VEGETATION AS LONG AS POSSIBLE.
- CRUSHED ROCK DRIVES FOR SEDIMENT TRACKING UTILIZING 3" CRUSHED ROCK SHALL BE MAINTAINED AT ALL CONSTRUCTION ENTRANCES TO THE SITE. THE ROCK DRIVE SHALL BE A MINIMUM OF 12" THICK AND BE A MINIMUM OF 50 FEET IN LENGTH BY THE WIDTH OF THE DRIVEWAY.
- OFF SITE SEDIMENT DEPOSITS OCCURRING AS A RESULT OF A STORM EVENT SHALL BE CLEANED UP BY THE END OF THE NEXT WORK DAY. ALL OFF SITE SEDIMENT DEPOSITS OCCURRING AS A RESULT OF CONSTRUCTION ACTIVITIES, INCLUDING SOIL TRACKED BY CONSTRUCTION TRAFFIC, SHALL AT A MINIMUM BE CLEANED BY THE END OF EACH WORK DAY. EXCESSIVE AMOUNTS OF SEDIMENT OR OTHER DEBRIS TRACKED ONTO ADJACENT STREETS SHALL BE CLEANED BY THE END OF EACH WORK DAY. EXCESSIVE AMOUNTS OF SEDIMENT OR OTHER DEBRIS TRACKED ONTO ADJACENT STREETS SHALL BE CLEANED IMMEDIATELY. FINE SEDIMENT ACCUMULATIONS SHALL BE CLEANED FROM ADJACENT STREETS BY THE USE OF MECHANICAL OR MANUAL SWEEPING OPERATIONS ONCE A DAY AT A MINIMUM AND BEFORE IMMINENT RAIN EVENTS.
- DISTURBED GROUND OUTSIDE OF THE EVERYDAY CONSTRUCTION AREAS, INCLUDING SOIL STOCKPILES, THAT ARE LEFT INACTIVE FOR MORE THAN 7 DAYS SHALL BE TEMPORARILY STABILIZED BY SEEDING/MULCHING OR OTHER APPROVED METHODS.
- WASTE MATERIAL THAT IS GENERATED ON THE CONSTRUCTION SITE SHALL BE PROPERLY DISPOSED OF AND NOT ALLOWED TO RUN INTO RECEIVING WATERS.
- EROSION CONTROL DEVICES DESTROYED AS A RESULT OF CONSTRUCTION ACTIVITIES SHALL BE REPAIRED BY THE END OF EACH WORK DAY.
- INSPECT ALL EROSION CONTROL MEASURES AT LEAST ONCE A WEEK AND AFTER ANY RAINFALL OF 0.5" OR MORE. MAKE NEEDED REPAIRS AND DOCUMENT ALL ACTIVITIES AS PER THE REQUIREMENTS OF THE NOTICE OF INTENT SUBMITTED BY THE PROJECT CIVIL ENGINEER.
- ALL TEMPORARY EROSION CONTROL ELEMENTS SHALL REMAIN IN PLACE UNTIL 95% VEGETATION HAS BEEN ESTABLISHED AND THEN BE REMOVED AS PART OF THE BASE BID.
- IF SEDIMENT LADEN WATER NEEDS TO BE REMOVED FROM THE SITE, FILTER BAGS OR SCREENING SHALL BE USED IN ACCORDANCE WITH WI DNR TECHNICAL STANDARD 1061 TO PREVENT SEDIMENT DISCHARGE TO THE MAXIMUM EXTENT PRACTICABLE.
- COORDINATE ALL EARTHWORK ACTIVITIES WITH THE RESPECTIVE TRADES RESPONSIBLE FOR THE INSTALLATION OF GAS, CABLE, TELEPHONE AND ELECTRICAL (INCLUDING MAIN SERVICE, SITE LIGHTING, CONDUITS AND SIGNAGE).
- IF BARE SOIL IS EXPOSED DURING THE WINTER MONTHS, STABILIZATION BY MULCHING OR ANIONIC POLYACRYLAMIDE SHALL OCCUR PRIOR TO SNOWFALL OR GROUND FREEZE.
- SILT FENCE SHALL BE INSTALLED AROUND THE TOPSOIL STOCKPILE.
- THE CONTRACTOR SHALL PERFORM INSPECTIONS AND MONITORING OF EROSION CONTROL PRACTICES IN ACCORDANCE WITH THE WI DNR "CONSTRUCTION SITE INSPECTION REPORT" FORM 3400-187. THIS FORM CAN BE FOUND IN THE CONSTRUCTION SPECIFICATIONS.
- DUST CONTROL PRACTICES SHALL BE IMPLEMENTED TO REDUCE OR PREVENT THE SURFACE AND AIR TRANSPORT OF DUST DURING CONSTRUCTION IN ACCORDANCE WITH DNR TECHNICAL STANDARD 1068 AND CITY OF FRANKLIN REQUIREMENTS. DUST CONTROL FOR CONSTRUCTION ACTIVITIES INCLUDE MINIMIZATION OF SOIL DISTURBANCE, APPLYING MULCH AND ESTABLISHING VEGETATION, WATER SPRAYING, SURFACE ROUGHENING, APPLYING ADDITIVES (POLYMERS), SPRAY-ON TACKIFIERS, CHLORIDES, AND BARRIERS.

EROSION CONTROL LEGEND:



EROSION CONTROL SEQUENCING:

- INSTALL PERIMETER EROSION CONTROL
- BEGIN DEMOLITION
- BEGIN ROUGH GRADING AND UTILITY INSTALLATION
- DURING GRADING ACTIVITIES EXISTING GRASS AND VEGETATION, TO BE REMOVED, SHALL REMAIN IN PLACE FOR AS LONG AS POSSIBLE, TO AVOID SEDIMENT TRANSPORT.
- TEMPORARY STABILIZATION ACTIVITY SHALL COMMENCE WHEN LAND DISTURBING CONSTRUCTION ACTIVITIES HAVE TEMPORARILY CEASED AND WILL NOT RESUME FOR A PERIOD EXCEEDING 14 CALENDAR DAYS.
- FINAL STABILIZATION ACTIVITY SHALL COMMENCE WHEN LAND DISTURBING ACTIVITIES CEASE AND FINAL GRADE HAS BEEN REACHED ON ANY PORTION OF THE SITE.



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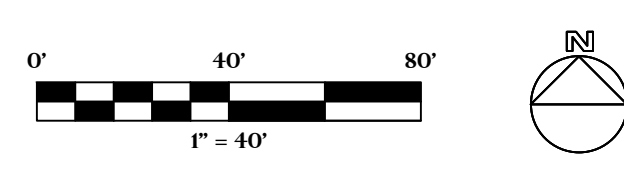


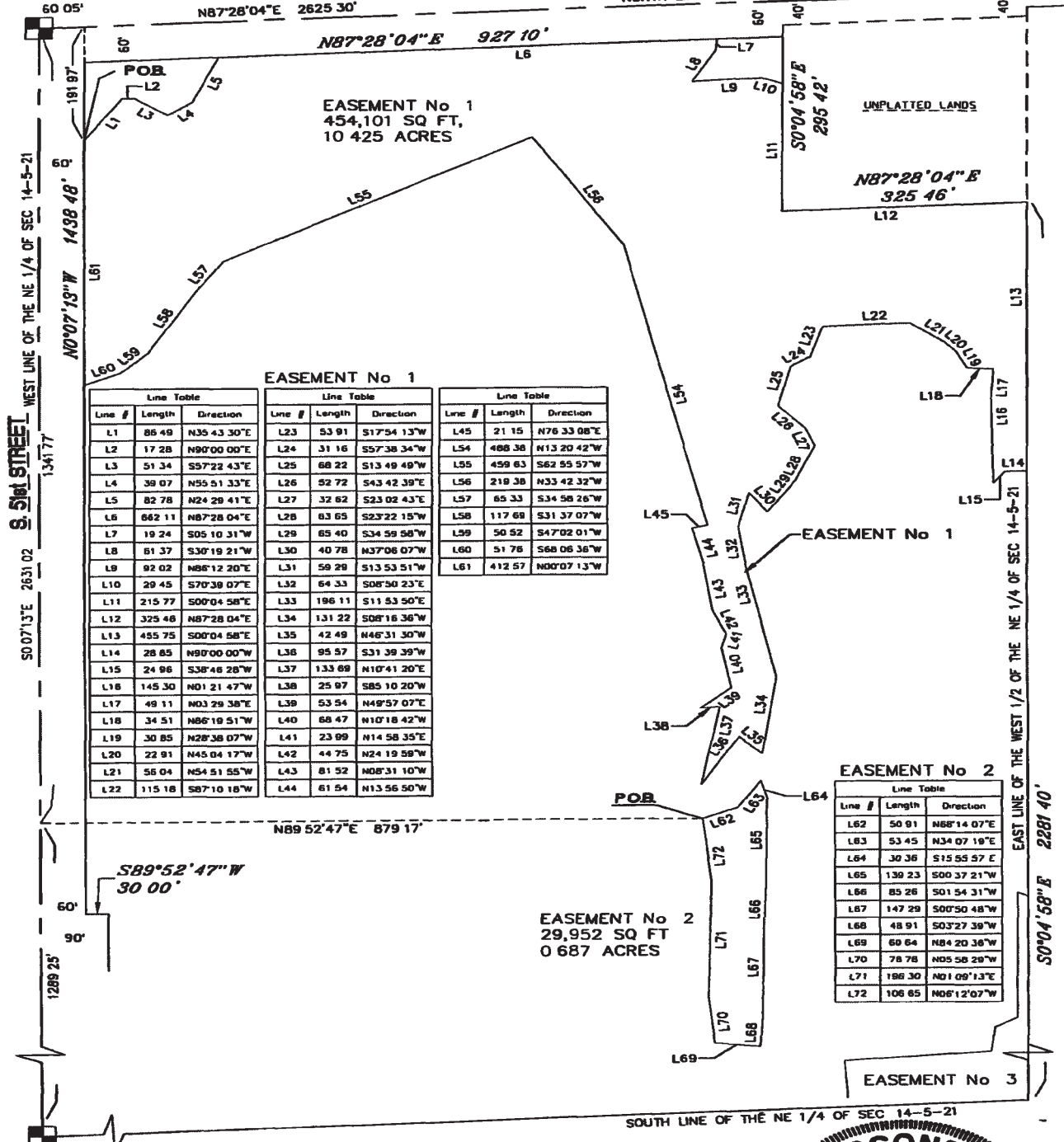
EXHIBIT A CONSERVATION EASEMENT

THAT PART OF THE WEST 1/2 OF THE NORTHEAST 1/4 OF SECTION 14, TOWN 5 NORTH, RANGE 21 EAST, CITY OF FRANKLIN, MILWAUKEE COUNTY, WISCONSIN.

NORTH 1/4 CORNER
SEC. 14, T 5 N, R 21 E
CONC. MON. W/ BRASS
CAP

W. DREXEL AVE.

NORTH LINE OF THE NE 1/4 OF SEC 14-5-21



EASEMENT No 1

Line Table			Line Table			Line Table		
Line #	Length	Direction	Line #	Length	Direction	Line #	Length	Direction
L1	86 49	N35 43 30"E	L23	53 91	S17 54 13"W	L45	21 15	N76 33 08"E
L2	17 28	N90 00 00"E	L24	31 16	S57 38 34"W	L54	488 38	N13 20 42"W
L3	51 34	S57 22 43"E	L25	68 22	S13 49 49"W	L55	459 63	S62 55 57"W
L4	39 07	N55 51 33"E	L26	52 72	S43 42 39"E	L56	219 38	N33 42 32"W
L5	82 78	N24 29 41"E	L27	32 82	S23 02 43"E	L57	85 33	S34 56 26"W
L6	662 11	N87 28 04"E	L28	63 65	S23 22 15"W	L58	117 68	S31 37 07"W
L7	19 24	S05 10 31"W	L29	65 40	S34 59 58"W	L59	50 52	S47 02 01"W
L8	81 37	S30 19 21"W	L30	40 78	N37 08 07"W	L60	51 78	S68 06 36"W
L9	92 02	N86 12 20"E	L31	59 29	S13 53 51"W	L61	412 57	N00 07 13"W
L10	29 45	S70 39 07"E	L32	64 33	S08 50 23"E			
L11	215 77	S00 04 58"E	L33	196 11	S11 53 50"E			
L12	325 48	N87 28 04"E	L34	131 22	S08 16 38"W			
L13	455 75	S00 04 58"E	L35	42 49	N46 31 30"W			
L14	28 85	N90 00 00"W	L36	95 57	S31 39 39"W			
L15	24 96	S38 48 28"W	L37	133 69	N10 41 20"E			
L16	145 30	N01 21 47"W	L38	25 97	S85 10 20"W			
L17	49 11	N03 29 38"E	L39	53 54	N49 57 07"E			
L18	34 51	N86 19 51"W	L40	68 47	N10 18 42"W			
L19	30 85	N28 38 07"W	L41	23 99	N14 58 35"E			
L20	22 91	N45 04 17"W	L42	44 75	N24 19 59"W			
L21	56 04	N54 51 55"W	L43	81 52	N08 31 10"W			
L22	115 18	S87 10 18"W	L44	61 54	N13 56 50"W			

EASEMENT No 2

Line Table		
Line #	Length	Direction
L62	50 91	N88 14 07"E
L63	53 45	N34 07 19"E
L64	30 36	S15 55 57"E
L65	139 23	S00 37 21"W
L66	85 26	S01 54 31"W
L67	147 29	S00 50 48"W
L68	48 91	S03 27 39"W
L69	60 64	N84 20 38"W
L70	78 78	N05 58 29"W
L71	186 30	N01 09 13"E
L72	106 65	N06 12 07"W

CENTER SECTION 14, T 5
N, R 21 E
CONC. MON. W/ BRASS
CAP

PARCEL ADDRESS IS 8222 S
51ST STREET (FRANKLIN HIGH
SCHOOL)

HORIZONTAL DATUM IS THE WISCONSIN
STATE PLANE COORDINATE SYSTEM,
SOUTH ZONE (NAD 27) NORTH
REFERENCED TO THE NORTH LINE OF THE
NE 1/4 OF SEC 14-5-21, BEARING
N87°28'04"E



KAPUR & ASSOCIATES, INC.
CONSULTING ENGINEERS
MILWAUKEE, WISCONSIN
414 351 6668



S:_SiteDesign\Eppstein\20049 Franklin High School Natural Resource Protection Plan\Conservation Easement\20049_ENV_EASE 9-8-14.dwg