



**AGENDA**  
**CITY OF CEDAR FALLS, IOWA**  
**PLANNING AND ZONING COMMISSION MEETING**  
**WEDNESDAY, OCTOBER 23, 2024**  
**5:30 PM AT CITY HALL, 220 CLAY STREET**

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**Call to Order and Roll Call**

**Approval of Minutes**

1. Planning and Zoning Commission Regular Meeting Minutes for October 9, 2024

**Public Comments**

**Old Business**

2. **Rezoning – 2.68 acres located south of 1st Street and 350 ft. east of Winding Ridge Estates from A-1 Agriculture to R-P Planned Residence (RZ24-003)**  
**Petitioner:** ME Associates, Owner; VJ Engineering, Project Engineer  
**Previous discussion:** October 9, 2024  
**Recommendation:** *Discuss and provide direction*  
**P&Z Action:** *Discuss and provide direction; continue the hearing to November 6*
3. **R-P District Master Plan Amendment – Meadow Ridge (MP24-004x)**  
**Petitioner:** ME Associates, Owner; VJ Engineering, Project Engineer  
**Previous discussion:** October 9, 2024  
**Recommendation:** *Discuss and provide direction*  
**P&Z Action:** *Discuss and provide direction; continue to November 6 (cannot be approved before the previous rezoning item)*

**New Business**

4. **Petition to Renew the College Hill Self Supporting Municipal Improvement District (SSMID)**  
**Location:** College Hill Business District  
**Applicant:** College Hill Partnership  
**Previous discussion:** None  
**Recommendation:** *Recommend Approval*  
**P&Z Action:** *Review and make a recommendation to City Council*

**Commission Updates**

**Adjournment**

**Reminders:**

- \* November 6 and November 20 - Planning & Zoning Commission Meetings
- \* November 4 and November 18 - City Council Meetings

**Cedar Falls Planning and Zoning Commission  
Regular Meeting  
October 9, 2024  
Cedar Falls, Iowa**

**MINUTES**

The Cedar Falls Planning and Zoning Commission met in regular session on October 9, 2024 at 5:30 p.m. at City Hall. The following Commission members were present: Alberhasky, Grybovych, Hartley, Henderson, Johnson, Moser, Sorensen and Stalnaker. Watkins was absent. Karen Howard, Planning and Community Services Manager, Thomas Weintraut, Planner III, Jaydevsinh Atodaria, Planner II, and Chris Sevy, Planner II were also present.

- 1.) Chair Hartley noted the Minutes from the September 25, 2024 regular meeting are presented. Alberhasky made a motion to approve the Minutes as presented. Sorensen seconded the motion. The motion was approved unanimously with 8 ayes (Alberhasky, Grybovych, Hartley, Henderson, Johnson, Moser, Sorensen and Stalnaker), and 0 nays.

Ms. Howard clarified a typographical error in the agenda, noting that the public hearing date for item number five should be October 23 instead of October 9.

- 2.) The first item of business was the vacation of a utility easement at 1907 Valley High Drive (VAC24-002). Chair Hartley introduced the item and Mr. Sevy provided background information. He explained that the property owner would like to vacate a five-foot-wide utility easement that divides their property at 1907 Valley High Drive. They would like to construct a raised deck over the utility easement. He discussed the factors that need to be considered, including whether the easement is needed for public use, whether it is needed for access to other easements and utility lines and if there are utilities within the easement that will need to be retained. As the criteria is met for this request, staff recommends approval.

Sorensen made a motion to approve the item. Grybovych seconded the motion. The motion was approved unanimously with 8 ayes (Alberhasky, Grybovych, Hartley, Henderson, Johnson, Moser, Sorensen and Stalnaker), and 0 nays.

- 3.) The next item for consideration by the Commission was a PC-2 District Site Plan Amendment for 924 West Viking Road (SP24-00x). Chair Hartley introduced the item and Mr. Atodaria provided background information. He explained that it is proposed to amend the PC-2 district site plan to allow an already constructed retaining wall to remain on-site and bring the site into compliance with City Code requirements. During the construction, a 9 ft. high retaining wall was constructed to create a level soccer field, as there was not enough room to create a gradual slope. A minimum 42-inch guardrail/fence will be added 21 feet north of the retaining wall to comply with building code, as well as the addition of Austrian pine trees between the fence and retaining wall for a more substantial buffer.

Staff recommends approval of the proposed PC-2 site plan amendment subject to any comments or direction from the Commission.

Alberhasky made a motion to approve the item. Sorensen seconded the motion. The motion was approved unanimously with 8 ayes (Alberhasky, Grybovych, Hartley, Henderson, Johnson, Moser, Sorensen and Stalnaker), and 0 nays.

- 4.) The next item for consideration by the Commission was and R-P District Master Plan Amendment and Site Plan for the Cedar Falls Bible Conference Building Addition (SP24-003).

Chair Hartley introduced the item and Mr. Atodaria provided background information. He explained that the proposal is to amend the RP Master plan to reflect existing development and a proposed new building addition, as well as approve a site plan for a new event center. He explained that the property was originally part of the Riverview Park subdivision that was platted in 1920. In 1987 it was rezoned from R-2 to RP with a Master Plan and a Developmental Procedures Agreement. Many of the anticipated changes on the Master Plan have not been realized and the site has remained mostly unchanged. Any significant future development on the campus will require another amendment of the Master Plan and a detailed site plan review. Mr. Atodaria discussed the proposed master plan that shows existing development on campus and the proposed new building addition.

Mr. Atodaria discussed the proposed building addition, as well as the parking requirements, the stormwater detention facility and the proposed building design. Staff recommends approval subject to any comments or direction by the Commission. Johnson asked about the parking and the walking distances, and Moser asked about the ability to accommodate large groups.

Dan Levi, Levi Architecture, explained that it is an unusual site and that while there are two events each year that draw large numbers of people, typically that is not the case. For the large events, the parking will be extended throughout some of the greenspace and graveled areas. Typical usage entails people renting out the cabins, which have parking with each unit. However, when there are larger events there is a cart that shuttles people to the event center who are parked further away.

Cody Haman, 625 Baker Drive, spoke about the parking during the larger events and how people park on both sides of the road on North Division and South Park, making it nearly impossible to traverse those roads. He stated that some of those problems could be alleviated by adding no parking signs.

Moser asked if it should be a recommendation to have public safety direct traffic. Ms. Howard stated that as a private entity, this is something that Riverview Ministries should take into account and reach out to the City to coordinate the necessary traffic control measures during the large events.

Sorensen made a motion to approve the item. Alberhasky seconded the motion. The motion was approved unanimously with 8 ayes (Alberhasky, Grybovych, Hartley, Henderson, Johnson, Moser, Sorensen and Stalnaker), and 0 nays.

- 5.) The next item for consideration by the Commission was a rezoning request for 2.68 acres located south of 1<sup>st</sup> Street and 350 ft. east of Winding Ridge Estates from A-1 Agriculture to R-P Planned Residence (RZ24-003). Chair Hartley introduced the item and Mr. Weintraut provided background information. He explained that the property is currently zoned A-1 Agriculture. The Future Land Use Map shows the area as a Medium Density Residential. The site is in an area that has access to public service, however a subdivision would be required to extend the water and sewer into the development site. The rezoning site does not have access to a public street, so a subdivision would be required to establish right-of-way for the extension of Lake Ridge Drive to the south property line.

An easement plat and agreement will need to be prepared and agreed upon for the area where the extension of Lake Ridge Drive is to be extended before the rezoning can be set for a public hearing. A final draft of a developmental procedures agreement for the R-P District, including provisions for the construction of Lake Ridge Drive, will need to be prepared and agreed upon before the rezoning can be set for public hearing as well. A subdivision will need to be required to divide the R-P portion of the property from the A-1 portion to the north, to

establish Lake Ridge Drive and the necessary utilities to support the development of the Meadow Ridge development.

Staff recommends gathering any comments from the Commission and setting a date for public hearing for the rezoning request at the next Commission meeting on October 23, 2024.

Mr. Weintraut spoke then about the R-P District Master Plan Amendment and for Meadow Ridge (MP24-004x), explaining that the proposal is to amend the plan to allow for commercial at the north end of the property and build seven multi-unit buildings on the site. He discussed the proposed setbacks, buffers, and the gazebos amenities that will be placed in the area. He noted the wetland areas and stream corridor on the site. He noted that the applicant has received a Army Corps of Engineers permit to mitigate for the loss of wetlands and stream corridor that will be caused by the development. He also showed a rendering of what the buildings will look like. Mr. Weintraut then discussed the next steps necessary to develop the property. A subdivision will be required to combine the property with the property rezoned from the A-1 to R-P to the north and establish the right-of-way for Lake Ridge Drive, which must be constructed from 1<sup>st</sup> Street to the southern boundary of the property prior to development of the subject property. Detailed site plans will also be required prior to development on the R-P site and must be reviewed and approved by the Commission and City Council.

Staff recommends gathering comments from the Commission and continuing the discussion at the next Planning and Zoning meeting on October 23, 2024, the recommended date for the public hearing for the rezoning from A-1 Agriculture to R-P Planned Residential. Mr. Weintraut answered Commission questions.

Wendell Lupkes, VJ Engineering, spoke as the project engineer and noted that their company has been affiliated with this project since 1996. He explained the three different kinds of wetlands on the property and that they are all being addressed. He spoke about the section of the City's subdivision code that protects wetlands but also offers an opportunity to mitigate them if they are deemed of lesser quality. He also discussed chronological wetland delineations and displayed a rendering showing how the wetland areas had reduced in size over the years. He explained how this is an unusual case and why it may call for exceptions and allowance for mitigation.

Tom Nagle, 328 Winding Ridge Road, stated he would like to see a copy of the 2020 traffic study and asked about whether the pandemic could have an effect on the numbers. There was also a question about the school district and whether the school boundaries may be shifted to accommodate schools to avoid overcrowding. Nagle also asked about the wetlands and noted concerns with runoff, as well as the water assessment at Birdsall Creek. Nagle asked if the density is potentially too much.

Taner Tuken, 218 Winding Ridge Road, provided perspective on the density between the current neighborhood and the proposed neighborhood and feels there should be a better transition between high and low density. He asked a question about how the density is calculated. Ms. Howard explained.

Mark Boss, 810 Juanita Avenue, noted concerns with water runoff and worries about sediment in their neighborhood lake. Lupkes explained that there will be a detention basin that will detain runoff from Lake Ridge Drive and the development site. The runoff from south of the property will continue to run through as usual as they are not allowed to touch the stream, except where they have permission to cross it per the Army Corps permit.

Genevieve Shafer, 602 Oak Park Boulevard, stated concerns with stormwater runoff. Shafer also noted concerns with the crossings on 1<sup>st</sup> Street and how pedestrians and students will be

affected by additional traffic. Shafer also asked about a housing needs assessment to determine if that much added housing is needed.

Pete Rhee, 3105 Northridge, echoed what the previous commenters voiced and added that his concern with the aesthetics and their effect on the neighborhood. Rhee asked about the rent level of the proposed housing and details of the buffer on the west side of the property.

Cameron Lee, 220 Winding Ridge Road, stated concerns about the water and elevation change, and a three story building overlooking his yard.

Atul Patel, 307 Winding Ridge Road, feels there is a loss of quality of life and too much density and loss of community aesthetics and noted that there needs to be better transition between the neighborhoods.

Lupkes shared final comments, noting that the RP zoning has been in place since 2003 and the area has always been set aside for this type of development and the current property owners have relied on the zoning for that area when they purchased their properties.

Hartley made a motion to set a public hearing for the rezoning. Alberhasky seconded the motion. The motion was approved unanimously with 8 ayes (Alberhasky, Grybovych, Hartley, Henderson, Johnson, Moser, Sorensen and Stalnaker), and 0 nays.

- 6.) Ms. Howard noted that the November and December meetings have been changed to the first and third Wednesdays to accommodate holidays.
- 7.) As there were no further comments, Sorensen made a motion to adjourn. Alberhasky seconded the motion. The motion was approved unanimously with 8 ayes (Alberhasky, Grybovych, Hartley, Henderson, Johnson, Moser, Sorensen and Stalnaker), and 0 nays.

The meeting adjourned at 7:05 p.m.

Respectfully submitted,

  
 Karen Howard  
 Community Services Manager

  
 Joanne Goodrich  
 Administrative Assistant



**DEPARTMENT OF COMMUNITY DEVELOPMENT**

**City of Cedar Falls**  
220 Clay Street  
Cedar Falls, Iowa 50613  
Phone: 319-273-8600  
Fax: 319-273-8610  
www.cedarfalls.com

**MEMORANDUM**

*Planning & Community Services Division*

**TO:** Planning & Zoning Commission  
**FROM:** Thom Weintraut, AICP, Planner III  
**DATE:** October 23, 2024  
**SUBJECT:** Rezoning Request, W 1<sup>st</sup> Street (RZ24-003)

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**REQUEST:** Rezone property from A-1 Agriculture District to R-P Planned Residence District.

**PETITIONER:** ME Associates, Applicant & Owner; VJ Engineering, Project Engineer

**LOCATION:** South side of W 1<sup>st</sup> Street, 350 feet east of Winding Ridge Estates

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**PROPOSAL**

The proposal is to rezone a 2.68 acres parcel owned by ME Associates located 350 feet east of Winding Ridge Estates and 450 feet south of W 1<sup>st</sup> Street from A-1 Agriculture District to R-P Planned Residence District.

**BACKGROUND**

The property was annexed into Cedar Falls in 1971 and was zoned to A-1 Agriculture District by default. In 2005, Thunder Ridge Development Corporation purchased the property from the Fluidyne Corporation. The current owners, ME Associates, have owned the property since 2019.

The property to the south and west of this parcel owned by ME Associates has been zoned R-P Planned Residence District since 1994. ME Associates would like to rezone the portion of the property labeled as “site” on the next page from A-1 Agriculture to R-P and incorporate it with the adjacent R-P property for development. This proposal is tied to a request for an amendment to an approved R-P Master Plan for Meadow Ridge, which is described in a separate staff report under case number MP24-004.

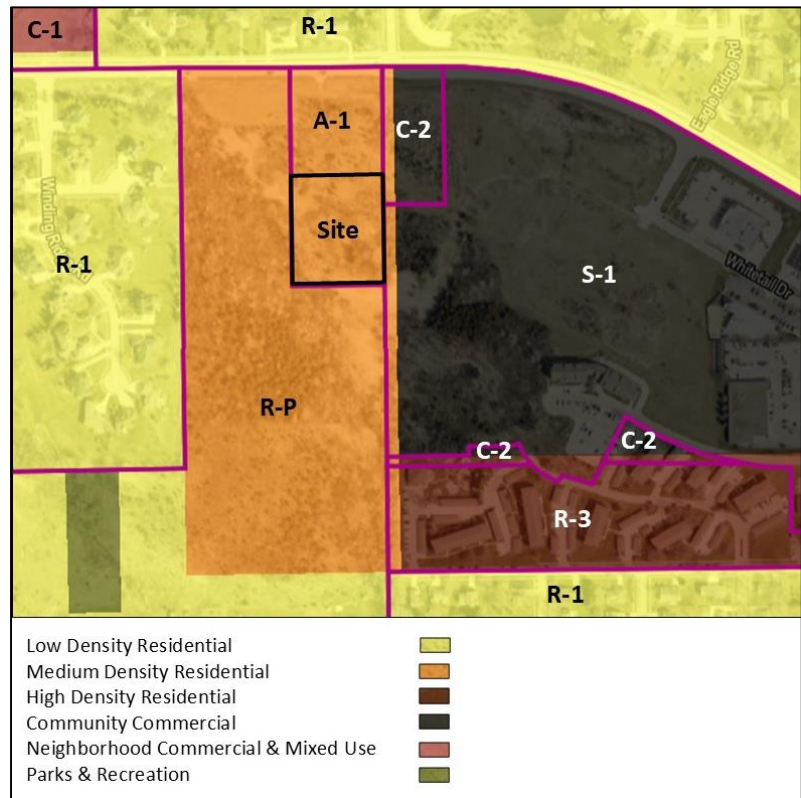
**ANALYSIS**

**CURRENT ZONING**

The purpose of the A-1 Agriculture District is to act as a “holding zone” in areas of the city that are undeveloped and not served by essential municipal services.

**PROPOSED ZONING**

The purpose of the R-P Planned Residence District is to permit integrated multi-use residential neighborhoods and to provide for orderly planned growth of residential developments on larger tracts of land. It is also intended that such R-P Planned Districts be designed with recognized principals of civic design, land use planning and landscape architecture. An R-P District requires approval of a master plan. The R-P Plan will be discussed in a separate staff report under Case #MP24-004.



**COMPLIANCE WITH THE COMPREHENSIVE PLAN**

The Future Land Use Map in the 2012 Comprehensive Plan identifies this parcel as “Medium Density Residential,” a designation that emphasizes a mixture of housing types. It indicates that limited multi-family development may be permitted with special review and criteria, such as through a planned development, such as the Planned Residential District. Residential density typically ranges between 4 to 12 units per acre.

If the rezoning to R-P is approved and the R-P Master Plan amendment is approved the proposed project will have 11.2 units per acre, which is less than the current approved R-P plan density of 14.4 units per acre. Staff notes that the original R-P District was approved in 1994 long before the 2012 Comprehensive Plan was adopted and prior to development of the single family neighborhood to the west.

**ACCESS TO PUBLIC SERVICES**

The property is in a developed area of the city and has access to public services; however, public sewer is only available to the northwest corner of the property along W 1<sup>st</sup> Street. Water and sewer lines will be constructed as part of the Lake View Drive extension. A subdivision is the next step in the development process and will be required to establish the street corridor and the right-of-way for the installation of public sewer and water. It will also be required to separate the R-P zoned property from the remaining portion of the A-1 parcel. The developer has provided plans for the extension of the utilities as part of the street extension. To support the rezoning of this property and to provide for adequate utilities, the developer proposes establishing an easement in favor of the City of Cedar Falls that will encompass the land necessary for the right-of-way for the extension of Lake Ridge Drive and associated utilities.

## ACCESS TO ADEQUATE STREET NETWORK

The larger R-P property fronts on the south side of W 1st Street, but there is no direct access proposed to 1<sup>st</sup> Street. The parcel to be rezoned does not have access to a public street. The developer has provided plans for the construction of an extension of Lake Ridge Drive to serve this development; however, the proposed alignment of the street is split between this R-P zoned property and the undeveloped property to the east. As mentioned above, a subdivision will be required to establish adequate right-of-way for the street extension. To ensure that that adequate ROW is set aside for construction of this roadway to support the rezoning of this property to R-P, the applicant proposes to establish an easement in favor of the City of Cedar Falls. Development of the R-P land will be contingent on the developer constructing this street extension.

## PUBLIC NOTICE

City staff mailed letters to the surrounding property owners notifying them of the rezoning request on September 17 and 19, 2024.

## TECHNICAL COMMENTS

1. A subdivision will be required to divide the R-P portion of the property from the A-1 portion to the north and to combine it with the R-P property to the west.
2. An easement plat and agreement will need to be prepared and agreed upon for the area where the extension of Lake Ridge Drive is to be extended before the rezoning can be set for a public hearing at City Council.
3. A final draft of a developmental procedures agreement for the R-P District, including provisions for the construction of Lake Ridge Drive, will need to be prepared and agreed upon before the rezoning can be set for a public hearing at City Council.

### Cedar Falls Utilities

Water, electric, gas, and communications utility services are available in accordance with the service policies of CFU. The developer is responsible for the construction of a properly sized water system throughout the proposed addition from the existing 12" water main on W 1st Street and the existing 8" water main on Whitetail Drive. The water system within the property will be privately owned and maintained while the water main along Lake Ridge Drive will be publicly owned and maintained. Included in the installation are valves, fire hydrants and water service stubs for the new lots. The developer will need to make refundable investments for the installation of the electric and gas utilities to and throughout the addition. For a ten-year period after the installation, CFU will refund a portion of the refundable investment based upon the number of new service connections to the electric and gas distribution system. There is no interest paid on the refundable investment and the total refund will not exceed the original investment amount. Total refund of the electric refundable investment is unlikely due to the large cost increases in electrical equipment. CFU will install the communication utility to serve the addition. See attached Developer Information Sheet for detailed information regarding utility installations.

## STAFF RECOMMENDATION

*Due to several outstanding questions from the Planning and Zoning Commission and the public regarding the site layout, stormwater management, and the wetland mitigation process,*



associated with the rezoning and the associated RP Master Plan amendment, staff recommends gathering additional information and continuing the public hearing to the next meeting or to a future date certain.

## OUTSTANDING QUESTIONS

*Below is the list of comments and concerns regarding the RP Master Plan Amendment.*

*The Planning and Zoning Commission and public requested an opportunity to review the traffic study and documentation related to the Army Corps of Engineers permit that allows for mitigating for the disturbance of a portion of the wetlands and stream corridor. In addition, there were several questions and comments from the Planning and Zoning Commission and the public that should be further addressed by the applicant. Since the rezoning to R-P includes approval of an associated master plan, any outstanding questions related to the master plan should be addressed to the satisfaction of the Planning and Zoning Commission prior to making a recommendation on the rezoning. These questions include:*

- *Does the new high school have an effect on traffic patterns that should be taken into account with the traffic study?*
- *Were the wetlands deemed to be a lesser quality?*
- *Will the reduction in wetlands impact the water quality and the flow of water from the upstream area?*
- *Will the large amount of impervious surface impact the water quality of the watershed?*
- *Can greater details be provided for the landscaping within the buffer areas?*
- *Can more details on the change in grade and placement of the buildings along the Winding Ridge Estates be provided?*

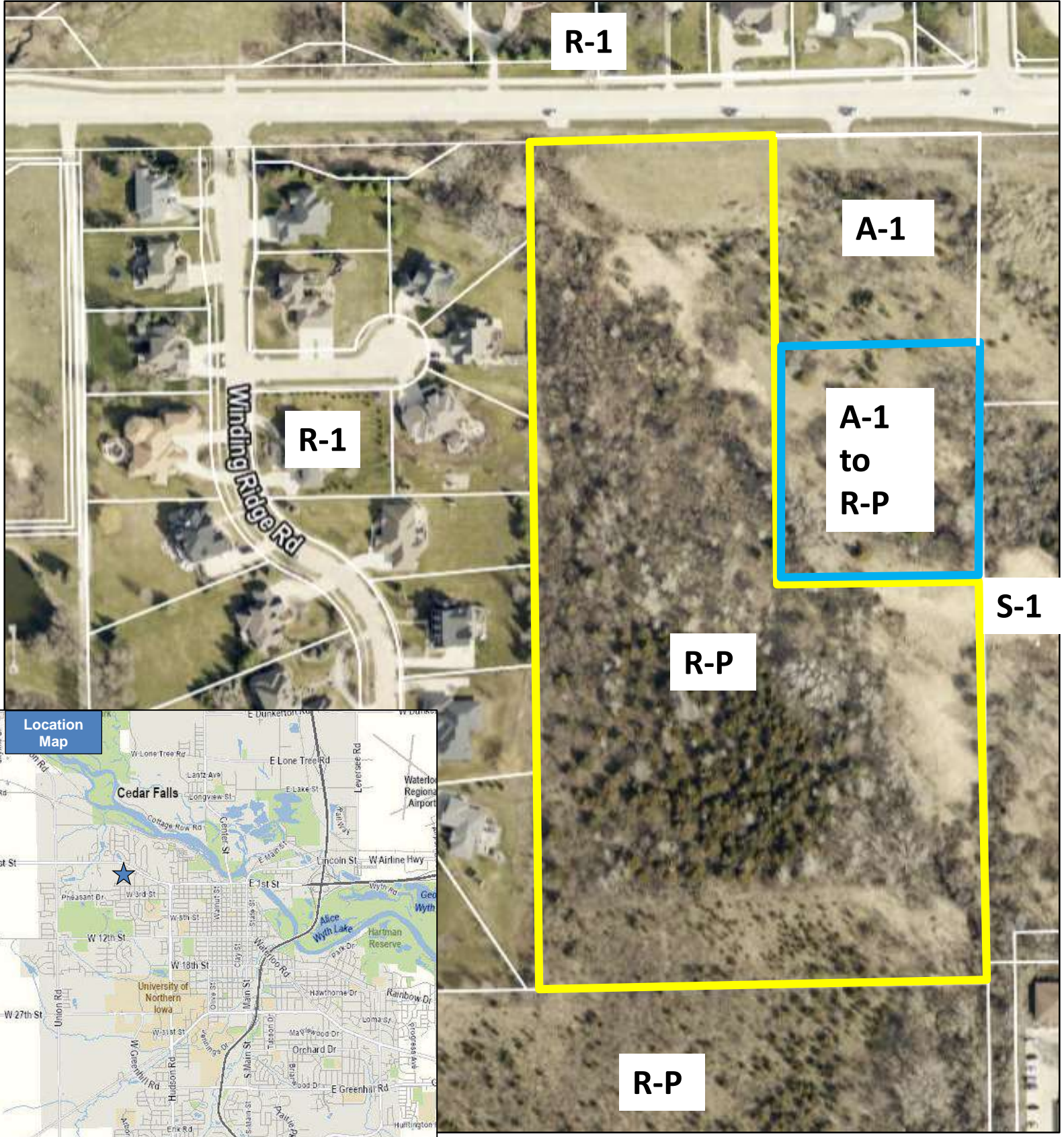
## PLANNING & ZONING COMMISSION

Introduction 10/9/2024 Chair Hartley introduced the item and Mr. Weintraut provided background information. He explained that the property is currently zoned A-1 Agriculture. The Future Land Use Map shows the area as a Medium Density Residential. The site is in an area that has access to public service, however a subdivision would be required to extend the water and sewer into the development site. The rezoning site does not have access to a public street, so a subdivision would be required to establish right-of-way for the extension of Lake Ridge Drive to the south property line.

An easement plat and agreement will need to be prepared and agreed upon for the area where the extension of Lake Ridge Drive is to be extended before the rezoning can be set for a public hearing. A final draft of a developmental procedures agreement for the R-P District, including provisions for the construction of Lake Ridge Drive, will need to be prepared and agreed upon before the rezoning can be set for public hearing as well. A subdivision will need to be required to divide the R-P portion of the property from the A-1 portion to the north, to establish Lake Ridge Drive and the necessary utilities to support the development of the Meadow Ridge development.

Staff recommends gathering any comments from the Commission and setting a date for public hearing for the rezoning request at the next Commission meeting on October 23, 2024.

Attachments: Location Map  
Rezoning request letter  
Legal Description  
Rezoning Exhibit  
Public Correspondence



**Meadow Ridge Rezoning and R-P  
Master Plan Amendment  
W 1st**



**VJ Engineering**  
1501 Technology Pkwy., Suite 100  
Cedar Falls, Iowa 50613  
ph: (319) 266-5829 fax: (319) 266-5160

engineering – surveying

August 8, 2024

Planning and Zoning Commission  
City of Cedar Falls

Re: A-1 to R-P Rezoning Request

To Whom it may concern:

On behalf of the owners of the property west of future Lake Ridge Drive, and east of the Winding Ridges Estates First Addition, and south of W. 1<sup>st</sup> Street, we would like to propose rezoning of a portion of the current A-1 Zoning District adjacent to the approved 1994 R-P plan.

In this A-1 to R-P Rezoning Request, the boundary of the 1994 R-P district will be changed, to coincide with the R-P Site Plan Amendment previously submitted. As part of that submittal, we have a new site plan showing the revised layout of buildings on the site, and incorporate the revised boundary, pending the inclusion of this A-1 to R-P zoning change. This adjustment was due to both traffic circulation in the R-P site plan which originally involved making a connection to W. 1<sup>st</sup> Street, and to avoid impacts to the stream which bisects the property.

This A-1 to R-P rezoning request dovetails with the R-P site plan amendment and provides the catalyst for the extension of Lake Ridge Drive from W. 1<sup>st</sup> Street to the owner's south property line. There was a draft Developmental Procedures Agreement addressing said extension previously submitted at part of the R-P site plan amendment. As a part of the preliminary work prior to the R-P site plan submittal, we have been in contact with Cedar Falls Utilities regarding the relocation (lowering) of the water main, electric, gas, and communications lines near the Lake Ridge and W. 1<sup>st</sup> Street intersection. We have also submitted preliminary road plans to the Cedar Falls Engineering department for their review and comment. We have also sent the layout to the Cedar Falls Fire Department and have their approval of the layout submitted. This project is within the area designated as medium density residential on the Future Land Use Map.

Thank you for your consideration,

Wendell Lupkes, P.L.S  
VJ Engineering

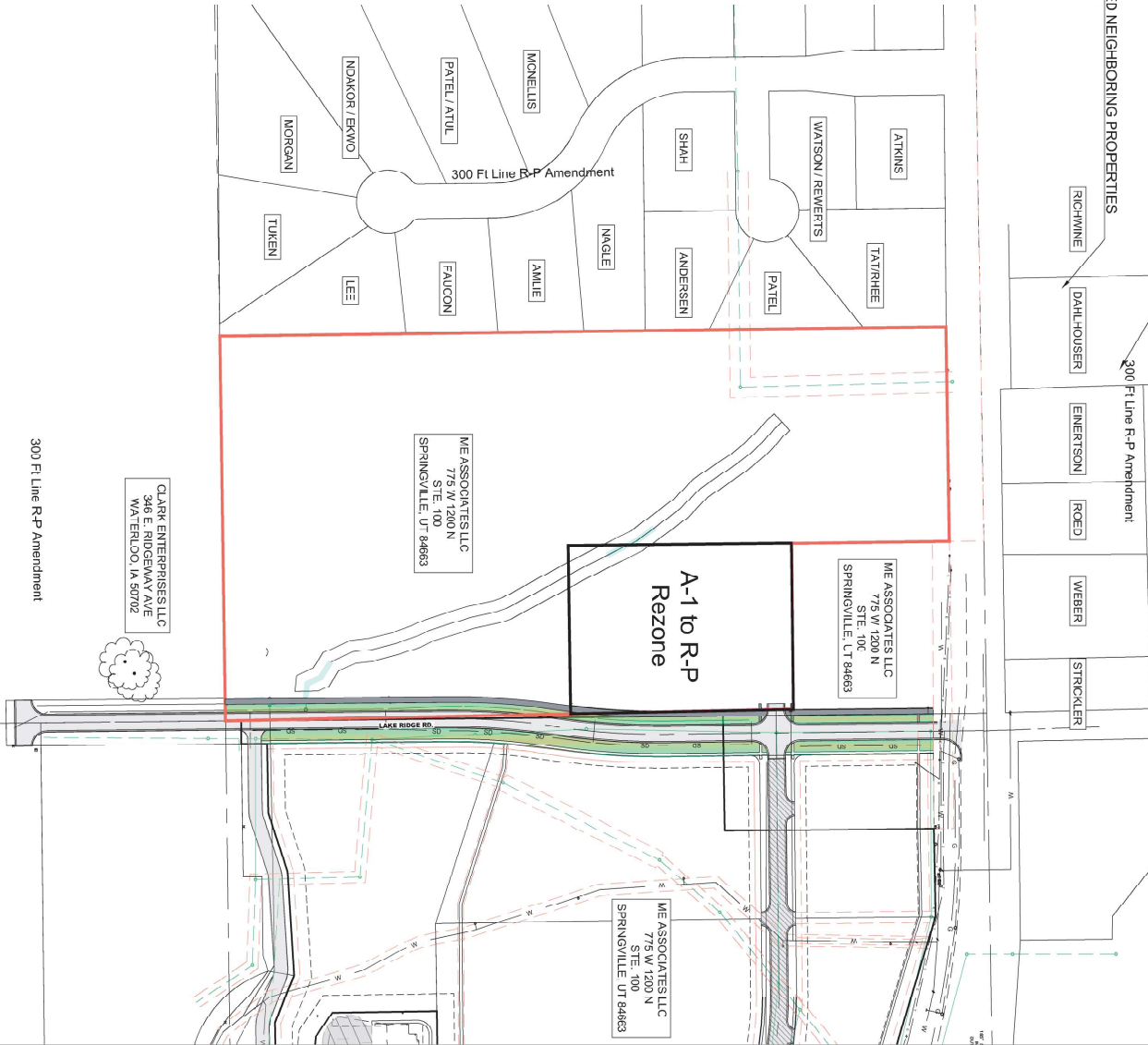
## A-1 to R-P Rezone

### Legal Description

The East 300 feet of the North 724 feet of the NW 1/4 of the NE 1/4 of Section No. 10, Township 89 North, Range 14 West of the 5<sup>th</sup> P.M., In Cedar Falls, Black Hawk County, Iowa, except the North 335 feet thereof.

300' DISTANCE OF AFFECTED NEIGHBORING PROPERTIES

200' DISTANCE OF AFFECTED NEIGHBORING PROPERTIES



Owners within 300' of R-P  
Site Plan Amendment

- EQUIDISTANT LINE
- EASEMENT LINE
- PERMITS/PAZM, JNE
- SECTION/PAZM, JNE
- CONTOUR LINE
- ELECTRIC LINE
- FENCE LINE
- FIBER LINE
- GAS MAIN
- GROUND UTILITY LINE
- OVERHEAD UTILITY LINE
- SANITARY SEWER LINE
- SPLIT FENCE LINE
- TELLUSION LINE
- WATER LINE
- PROPOSED CORNER
- CONCRETE TREE
- GAS VALVE
- SANITARY MANHOLE
- SIGN
- STORM INLET
- STORM MANHOLE
- TYPICAL STREET
- UTILITY POLE
- WATER HYDRANT
- WATER SHUT OFF
- WREN INLET

MEADOW RIDGE DEVELOPMENT  
LAKERIDGE DR  
CEDAR FALLS, IOWA 50613

SCALE: 1"=50'

2 OF 2

Drawn  
FPA  
Reviewed  
JPA  
DATE  
2024.03.02  
Revisions

228094

VJ Engineering  
1501 Technology Parkway  
Cedar Falls, Iowa - 319-266-5829

460827

## Thomas Weintraut

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**From:** Len Searfoss <jeezman07@icloud.com>  
**Sent:** Tuesday, September 24, 2024 4:28 PM  
**To:** Thomas Weintraut  
**Subject:** [EXTERNAL] New Appt Building Proposal

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Mr Weintraut

Below is what I would ask you to submit to the City Council as our (my family's) input regarding this proposed apartment build-out.

Ladies and gentlemen of the council, esteemed colleagues, and anyone brave enough to tackle the morning drop-off line at Hansen or Holmes:

I come before you today not merely as a concerned citizen, but as someone who has had the pleasure of reading the Cedar Falls housing assessment (for fun, I assure you) and reviewing the latest proposal regarding the addition of numerous apartments in the area. While I deeply respect the creativity involved in drafting this plan, I must respectfully and humorously suggest—this is not a good idea.

In legal terms, I would argue that this proposal will be Exhibit A in a case of “Let’s Make This Area Completely Unlivable.” The sheer number of cars, children, and general infrastructural chaos would effectively turn this neighborhood into a live-action traffic jam. If you’ve ever experienced the pick-up or drop-off situation at either school, you’ll know that it currently operates on a “Lord of the Flies” traffic model. Adding more vehicles to that equation would be tantamount to public endangerment—or at least an exhibit in the court of common sense. If you personally haven’t experienced the joy of navigating the parking and drop-off lines, I highly recommend it as a sort of civic duty. It’s truly eye-opening. Now imagine adding even more to that delightful chaos. No reasonable person could conclude that cramming more bodies into this area will benefit anyone’s sanity or safety.

Furthermore, the schools—Hansen and Holmes—are already operating at near maximum capacity, both in terms of students and parents’ collective patience. Class sizes are cumbersome, to say the least. Teachers cannot be expected to take on more than they already have. Then, there’s the issue of parking, which is already beyond full, forcing people to park in the green space just to attend events. On top of those concerns, we have food prep, building resources, available space for teaching and events, and so on.

Let’s now turn to the basics of traffic management—or as I like to call it, “Chaos Theory 101.” The streets around this proposed apartment complex are already under strain and simply cannot handle the additional daily traffic. Considering the existing apartment buildings, housing developments, and recent business growth in the area, there is no room for a project of this scale. Without a sudden influx of

taxpayer dollars, it will be us, the citizens, footing the bill to repair the inevitable wear and tear on our roads and intersections. We will also be the ones paying for immediate upgrades to accommodate the increased traffic. Ironically, these roads were expanded not too long ago, and yet they're already overwhelmed by the current growth.

In closing, the list of negative impacts to real estate values, infrastructure, and general livability is as long as the line at school pick-up. So while I appreciate the thought that went into this proposal, I must respectfully suggest we put this plan where it belongs: back in the "needs a lot of work" pile.

Sincerely,  
Len Searfoss



**Thomas Weintraut**

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**From:** Xavier Faucon <FauconXavier@live.com>  
**Sent:** Sunday, September 29, 2024 4:31 PM  
**To:** Thomas Weintraut  
**Subject:** [EXTERNAL] Rezoning Request - Meadow Ridge Development  
**Attachments:** Sep 29 2024 - Xavier and Mariela Faucon.pdf

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Dear Mr. Weintraut,

As invited in your letters dated September 17 and September 19, 2024, we would like to submit the following comments in regard to the Meadow Ridge Development rezoning request--see attached pdf file. Our comments are repeated below.

Respectfully,

Xavier & Mariela Faucon  
302 Winding Ridge Rd  
Cedar Falls, IA 50613

**Property Values**

Adding a 207-units apartment complex right next to Winding Ridge Estates can only diminish our properties value.

The Fall 2024 edition of 'Currents' includes a reminder that the City of Cedar Falls has adopted regulations on nuisances, and that "one neighbor's enjoyment, safety, and property values should not be diminished by another neighbor." I would like to think the City of Cedar Falls Planning and Zoning office is also taking neighboring safety and property values into consideration when discussing rezoning requests so that they don't have to publish an erratum in an upcoming edition of 'Currents'.

**Wetlands**

The proposed request to rezone the property located east of Winding Ridge Estates from A-1 to R-P includes a location map and plat ("R-P Master Plan") identifying a wetland/stream impact area. It does not appear that any mitigation plan has been proposed or developed.

The very same Fall 2024 edition of ‘Currents’ mentioned above reminds that the City of Cedar Falls has two code enforcement officers whose primary task is to enforce the nuisance identified in Chapter 15 of the City Code. Although there is no mention on how Chapter 20 of the City Code is enforced, Section 20-6(d) says that “No portion of a proposed subdivision or plat shall establish building lots, streets or other facilities wholly or partially in areas that are identified as wetlands or contain characteristics of wetlands as defined herein or as defined by the United States Army Corps of Engineers.” I would hope the Cedar Falls Planning and Zoning office is taking respect of the City Code to its utmost level and will immediately reject any proposed subdivision or plat in areas that are defined as wetlands in the City of Cedar Falls.

**Visual Impact**

The proposed addition of five 33-units and two 21-units apartment complex appears to merely respect the minimum easement distances alongside Winding Ridge Estates. However, it does not clearly convey that the land immediately east of Winding Ridge Estates is, significantly above the Winding Ridge lots, particularly in its southern area where the proposed units are located. Where we reside, at 302 Winding Ridge Rd, the land of the proposed apartments complex is about 10-15 feet above the level of our backyard, and we assume these apartment units will be 3-story tall. No mitigation measure has been undertaken to minimize the visual impact of these apartment literally “towering” the Winding Ridge Estates lots.

In comparison, the nearby Thunder Ridge Blvd. apartment complex is comprised of 3-story buildings, with half-sunken first level. The elevation of the land where these units are located is, if anything, lower than the surrounding residential areas. In addition, a minimum of one street width separates the apartment complex from the surrounding residences.

**School District Impact**

The addition of 207 apartments will result in the addition of 60 to 100 children of school age. I believe Hansen, the Elementary School deserving this area, does not have much, if any, extra capacity available. This is not a new topic in Cedar Falls, and it is part of the reasons that led to the opening of the new Aldrich elementary school.

Where is the (elementary) school rezoning plan designed to accommodate the addition of these 207 apartments?

**Proposed PC-2 Area**

The R-P Master Plan identifies proposed PC-2 (planned commercial) areas east of the proposed R-P site.

We believe it is common knowledge that the Thunder Ridge Mall has been struggling to maintain viable businesses in this area of the City of Cedar Falls. How is adding more commercial or business sites a solution to this problem? Shouldn’t the Planning and Zoning Commission prioritize potential solutions, such as improving the connections of the immediate surrounding residential areas to these businesses instead of “throwing more” valuable land onto the problem?

One solution would be to consider the proposed PC-2 areas for multi-family residential usage instead—in other words, moving the entire proposed apartment complex east, within walking distance of the existing local businesses. We would think having direct walking access to the Fareway Grocery Store and Walgreens

Pharmacy on the east side, and a “green” area on the west side will make this multi-family apartment complex much more attractive to new residents.

Furthermore, the recent Arabella Apartments complex located at the angle of West 1st Street and Clay Street, and other comparable buildings in several cities in Iowa show how residential and businesses areas can be combined into attractive business & multi-family resident buildings.

### **Lake Ridge Drive street**

The proposed R-P site would be accessed from a new street, Lake Ridge Drive.

As noted above, despite the proximity of available local businesses, such as the Fareway Grocery Store, it is quite surprising that the only way to access those nearby businesses from the new multi-family apartment complex would be for the residents to take their car, merge onto the upcoming (high-speed) traffic of West 1st Street, and drive the few hundred yards separating them from the Thunder Ridge business area. How can this be considered good planning?

Again, moving the entire proposed multi-family apartment complex east would solve this very undesirable consequence of “isolating” the Meadow Ridge residents. Access to the apartment complex could be provided from the existing White Tail Dr. instead of creating a new Lake Ridge Drive street and a potentially dangerous intersection with West 1st Street. Direct walking access to the Thunder Ridge businesses would be provided, and a natural “green” area buffer would be maintained on the west side, benefiting the new multi-family complex as well as the Thunder Ridge Seniors apartment residents.



## DEPARTMENT OF COMMUNITY DEVELOPMENT

City of Cedar Falls  
 220 Clay Street  
 Cedar Falls, Iowa 50613  
 Phone: 319-273-8600  
 Fax: 319-273-8610  
 www.cedarfalls.com

### MEMORANDUM

#### *Planning & Community Services Division*

**TO:** Planning & Zoning Commission  
**FROM:** Thom Weintraut, AICP, Planner III  
**DATE:** October 23, 2024  
**SUBJECT:** R-P District Master Plan Amendment for Meadow Ridge (MP24-004x)

**REQUEST:** To Amend the Planned Residence District (R-P) Master Plan for Meadow Ridge.

**PETITIONER:** ME Associates LLC, Applicant & Owner; VJ Engineering, Project Engineer

**LOCATION:** South side of W 1<sup>st</sup> Street, east of Winding Ridge Estates

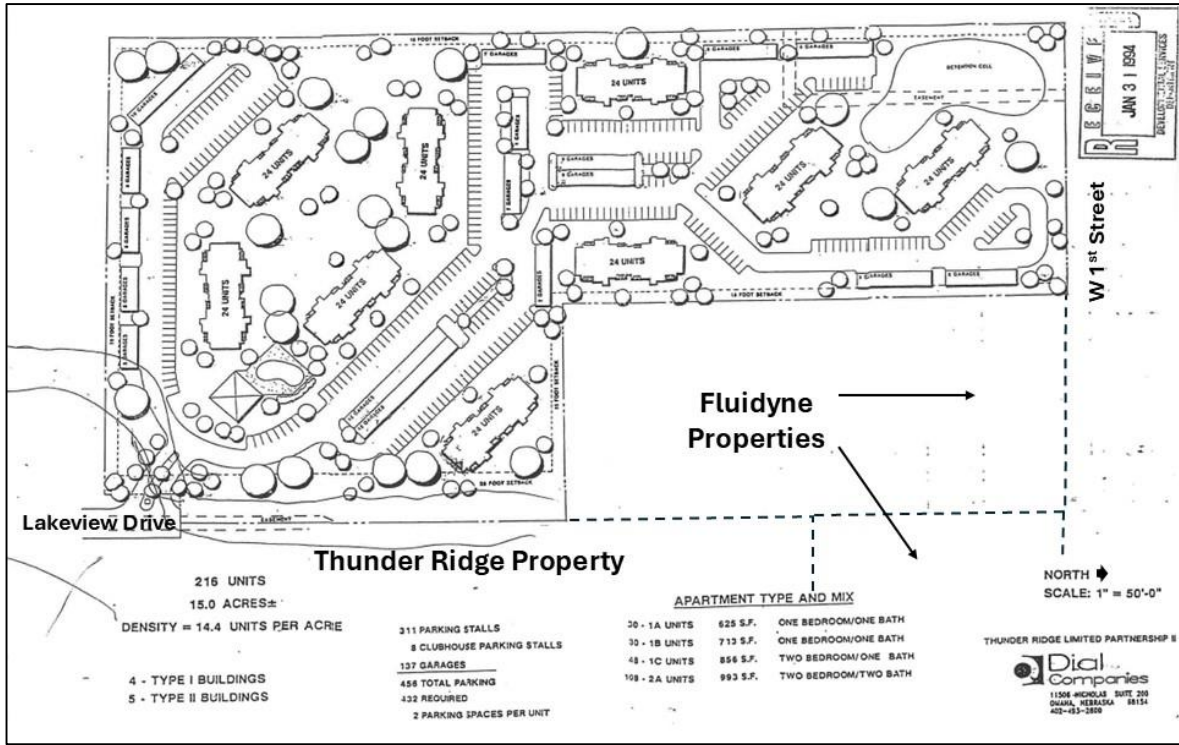
#### PROPOSAL

The proposal is to amend an R-P Master Plan that was approved August 8, 1994. The amendment includes adding 2.68 acres to the R-P Master Plan (see RZ24-003), reconfiguring the layout of the site to better address the environmental features, and allowing for a future professional or medical office use to the area abutting W 1<sup>st</sup> Street. The project will require the extension of Lake Ridge Drive from W 1<sup>st</sup> Street to the southern property line to provide adequate street access.

#### BACKGROUND

The property was annexed into Cedar Falls in 1971. In 1979, the property was rezoned to S-1 Shopping Center District along with the area to the east (Thunder Ridge) up to Magnolia Drive. In 1992, the Dial Companies and Thunder Ridge Limited Partnership submitted plans for a major shopping mall on the property to the east and a 216-unit multi-family residential plan for this area. The Planning and Zoning Commission approved the plan, but the proposal did not receive City Council approval due to unsuccessful attempts to structure an acceptable developmental procedures agreement.

In 1996, a request to rezone this parcel to R-P Planned Resident District was approved for Lake View Apartments (since renamed to Meadow Ridge Development) containing 9 three-story buildings with a total of 216 units on 15 acres. The access to the site was to be provided by an extension of what was then known as Lakeview Drive from the south property boundary to the entrance and there was no access to be provided from W 1<sup>st</sup> Street. A copy of that plan is shown below and larger copy of the of the 1994 R-P Site Plan is attached with the packet.



In 2019, ME Associates, LLC acquired this property along with the remaining holdings of Thunder Ridge Development, LLC which included the Fluidyne properties. In 2021, ME Associates, LLC, brought forth a proposal to rezone the S-1 Shopping Center District property and the former Fluidyne properties to PC-2 Planned Commercial District. This request was never approved by City Council due to issues associated with the Lake Ridge Drive extension and the phasing of the development.

**ANALYSIS**

The R-P Master Plan, approved in 1994, included 216 dwelling units within 8 multi-unit buildings with a density of 14.4 units/acre. The proposed amendment to the master plan includes 207 dwelling units within 7 buildings, with a total density of 11.2 units/acres, a reduction in both units and density.



This plan amendment incorporates an office use located at the northwest corner of the development. The R-P Planned Residence District allows no more than 15 percent of a planned residence district to be used for commercial purposes. The proposal shows an area of 2.33 acres or 13.3 percent of the development. In addition, no permit for a commercial building can be issued until 25 percent of the district has been developed for residential use. The commercial site will be accessed from a private street that will be internal to the proposed development and will align with a proposed future extension of Whitetail Drive. Staff notes that this private street extension should be built to SUDAS standards and include sidewalks on both sides of the street, since it will carry traffic for both the multi-family development and commercial development. The plan shows a conceptual footprint for an office building with associated parking area located toward the eastern edge of the development leaving the western half as undisturbed wetland and natural area. This will provide a buffer between the office building and Winding Ridge Estates. When a more detailed site plan is submitted for development of the commercial building, a significant buffer should be maintained with adequate landscaping to screen parking areas and commercial activity.

The purpose of the R-P Planned Residence District is to permit integrated multiuse residential neighborhoods and to provide for orderly planned growth of residential developments on larger tracts of land. It is also intended that such the R-P Planned Districts be designed with recognized principals of civic design, land use planning and landscape architecture. The following analysis compares the revised plan to the previously approved plan with regard to protection of sensitive environmental areas, stormwater management, traffic and pedestrian circulation, and proposed amenity space to support the future residents of the development.

### **Residential Density and Perimeter Setback Requirements**

The R-P Planned Residence District uses the R-4 Residence District for development standards such as density and setbacks. The R-4 Residence District standards require a minimum of 850 square feet or lot area per unit. This proposal is well below the maximum density allowed in the R-D District.

In addition, the 2012 Comprehensive Plan Future Land Use Map show this property as Medium Density Residential which limits the density to no more than 12 units per acre. The proposal has a density of 11.2 units. The previous R-P Plan, approved in 1994, approved a density of 14.7 units per acre.

The R-P District also requires a buffer of open space or screening based on the required yards in the R-4 District. These buffers shall not contain any structures or hard surfaces. Below are the buffer standards:

- 20 feet for front yards - W 1<sup>st</sup> Street and Lake Ridge Drive.
- 15 feet for side yards – property to the south.
- 35 feet for rear yards – Winding Ridge Estates.

The developer meets the minimum buffers as required. Staff notes that the previously approved R-P plan indicates a 15-foot buffer around the entire site.

### Sensitive Environmental Areas

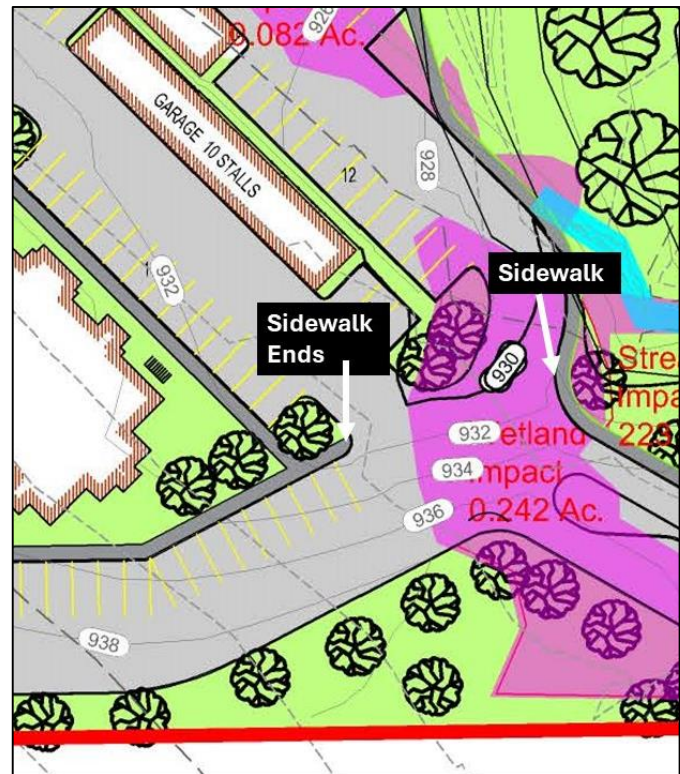
There are delineated wetland areas shown on the site plan that will be impacted by the development and stormwater facilities. The U. S. Army Corps of Engineers have reviewed and approved a mitigation plan for 1.8 acres of wetland and 0.06 acres of stream area that will be removed so the land can be developed. The mitigation plan requires the developer to purchase 1.8 acres of wetland credits and 1,481 stream credits from an approved wetland and stream mitigation bank in the service area of the impacts. Even though the wetlands will be removed, a stream channel will be maintained as a natural drainageway through the property. When the subdivision plat and detailed site plans are submitted for review, this stream channel and an appropriate buffer must be identified with details on how this area will be protected over time through a conservation easement. In addition, any remaining wetlands must be set aside in a separate tract and measures for protection established through a conservation easement.

### Stormwater Management

The areas shown on the master plan are preliminary calculations based on the proposed design. A detailed stormwater management plan must be provided with the preliminary plat, and if any major changes to the site layout are required to meet the stormwater regulations, the master plan will need to be amended again with review and approval by Planning and Zoning and City Council.

### Traffic and Pedestrian Circulation

Development of the property requires the construction of Lake Ridge Drive from W 1<sup>st</sup> Street to the southern boundary of the development site to provide adequate public street access. The developmental procedures agreement required for the R-P District Plan will address the necessary platting and construction of the road infrastructure necessary to support this development. The developer has not decided on whether the development will be completed in phases. Regardless, a preliminary and final plat and construction of Lake Ridge Drive to the southern boundary of the site and extension of associated utilities will be required prior to approval of any building permits for development on the R-P site. The timing of these processes and construction of the street will be included in the developmental procedures agreement.



The access to the development will be provided by three private drives that connect to Lake Ridge Drive. There are two internal access drives that will cross the stream channel. These crossings are included in the stream mitigation plan. In addition to the above-mentioned access points there is a single parking lot with the entrance connecting to Lake Ridge Drive.

An internal network of sidewalks will be required throughout the site to provide access for pedestrians to and between buildings, to parking areas, to amenities and connections to public sidewalks. The developer has provided a preliminary plan for sidewalks, but it is not complete

as details like entrances to buildings and specific routes will not be determined until detailed building and site plans are submitted. Staff notes some issues with how the sidewalks are currently shown, but these can be addressed at site plan review. For example, sidewalks are on the perimeter of the building sites and not providing clear pedestrian crossings to and between the buildings. For instance, on the image to the right, there is a sidewalk shown along the north side of the south entrance from Lake Ridge Drive, but there is no clear pedestrian connection to the building site to the west. There is also no sidewalk shown along the north side of the private drive. All sidewalks and paths will need to conform with ADA standards and will be reviewed with the site plan(s).

### **Open Space and Amenities**

The proposal shows landscape buffering along the west side of the site that abuts Winding Ridge Estates. The number of plantings appears to be adequate; however, no specific details have been provided on the plantings. Staff would recommend that the buffer opposite of the parking areas and garages be planted with evergreen trees to provide both privacy and noise reduction for those areas. The area where the proposed office use is shown will have buffering provided by the undisturbed wetland area. Robust landscaping in the buffer along the southern boundary of the site should also be provided, since the area to the south is platted but not yet developed for lower density residential buildings (1-4 dwelling units per building).

### **Character of the Development**

The proposal features three-story buildings, which are designed with a mixture of brick, EIFS, and cement board siding for cladding and accents with metal awnings and canopies and flat roofs. The building has alternating bays that project where balconies are located and at the main entrances. The developer has provided architectural renderings of the proposed buildings which are included in your packet. One of those renderings is shown below. The detailed building designs will be reviewed with the site plans, which will require P&Z and Council review and approval.



### **Summary**

The proposed amendments to the approved R-P plan include a reconfiguration of the layout of the buildings and the drives in order to better address the environmentally sensitive areas of the site. The amended plan is reduced in overall residential density and the wider buffer areas and enhanced landscaping will provide a good transition between the lower density residential areas to the west and south. Once Lake Ridge Drive is constructed, the site will have good access to public streets. If the area to the east is developed with neighborhood-serving



commercial uses as anticipated, the future residents of this development will have goods and services within walking distance. The recently completed housing needs study indicates a need for a variety of housing types throughout the community to meet current and future needs. Construction of Lake Ridge Drive will open up possibilities for additional development to the south and east.

Staff notes that the amended R-P Master Plan cannot be approved until the rezoning of that portion of the proposed development still zoned as A-1 Agriculture District is approved.

### PUBLIC NOTICE

City staff mailed letters to the surrounding property owners on September 17 and 19, 2024, notifying them of the R-P Master Plan amendment request.

### TECHNICAL COMMENTS

Many of the technical issues will be addressed with the subdivision platting process and the developmental procedures agreement, while others are items that will need to be shown in more detail on the site plans when they are submitted for review. Again, this amendment to the R-P Master Plan is contingent on approval of the rezoning, which is detailed in a separate staff report under case #RZ24-003. Conditions of approval that will need to be addressed in the developmental procedures agreement, include:

1. A subdivision will be required to combine this property with the property rezoned from the A-1 to R-P (RZ24-003) to the north and to establish the ROW for Lake Ridge Drive, which must be constructed from 1<sup>st</sup> Street to the southern boundary of the property prior to development of the subject property.
2. The existing water and sewer lines will need to be reconstructed during the Lake Ridge Drive construction and new easements will need to be established. The existing utilities will need to be disconnected and removed from the existing easements (see additional comments by CFU). This should include the details on the timing of the infrastructure connections.
3. Detailed site plans will be required prior to development on the R-P site and must be reviewed and approved by the Planning and Zoning Commission and City Council.

The following are comments from CFU.

Cedar Falls Utilities (CFU) has reviewed the RP amendment for Meadow Ridge and has no objections. There are existing water, electric, gas, and communication utilities that will need to be relocated at Developer expense to facilitate the connection of Lake Ridge Drive to W 1<sup>st</sup> Street. 12' water mains will need to be installed on Lake Ridge, the stubs laying west for the new development, and the water connecting to the existing 12' main at the west side of Thunder Ridge. Valving and hydrant locations will be finalized with the submitted construction plans.

Water, electric, gas, and communications utility services are available in accordance with the service policies of CFU. The developer is responsible for the construction of a properly sized water system throughout the proposed addition from the existing 12" water main on W 1<sup>st</sup> Street and the existing 8" water main on Whitetail Drive. The water system

within the property will be privately owned and maintained while the water main along Lake Ridge Drive will be publicly owned and maintained. Included in the installation are valves, fire hydrants and water service stubs for the new lots. The developer will need to make refundable investments for the installation of the electric and gas utilities to and throughout the addition. For a ten-year period after the installation, CFU will refund a portion of the refundable investment based upon the number of new service connections to the electric and gas distribution system. There is no interest paid on the refundable investment and the total refund will not exceed the original investment amount. Total refund of the electric refundable investment is unlikely due to the large cost increases in electrical equipment. CFU will install the communication utility to serve the addition.

**OUTSTANDING QUESTIONS**

*At the October 9<sup>th</sup> meeting, the Planning and Zoning Commission and public requested an opportunity to review the traffic study and documentation related to the Army Corps of Engineers permit that allows for mitigating for the disturbance of a portion of the wetlands and stream corridors. This documentation was shared in this meeting packet (October 23, 2024). In addition, there were several questions and comments from the Planning and Zoning Commission and the public that should be further addressed by the applicant.*

- *Does the new high school have an effect on traffic patterns that should be taken into account with the traffic study?*
- *Were the wetlands deemed to be a lesser quality?*
- *Will the reduction in wetlands impact the water quality and the flow of water from the upstream area?*
- *Will the large amount of impervious surface impact the water quality of the watershed?*
- *Can greater details be provided for the landscaping within the buffer areas?*
- *Can more details on the change in grade and placement of the buildings along the Winding Ridge Estates be provided?*

**STAFF RECOMMENDATION**

*Due to several outstanding questions from the Planning and Zoning Commission and the public regarding the site layout, stormwater management, and the wetland mitigation process, staff recommends gathering more information and continuing the discussion to the next meeting or to a future date certain.*

**PLANNING & ZONING COMMISSION**

Introduction 10/9/2024	Mr. Weintraut spoke then about the R-P District Master Plan Amendment and for Meadow Ridge (MP24-004x), explaining that the proposal is to amend the plan to allow for commercial at the north end of the property and build seven units on the site. He discussed the proposed setbacks, buffers, and the gazebos amenities that will be placed in the area. He noted the wetland areas on the site and showed a rendering of what the buildings will look like. Mr. Weintraut then discussed the next steps necessary to develop the property. A subdivision will be required to combine the property with the property rezoned from the A-1 to R-P to the north and establish the right-of-way for Lake Ridge Drive, which must be constructed from 1 <sup>st</sup> Street to the southern boundary of the property prior to development of the subject property. Detailed site plans will also be required prior to development on the R-P site and must be reviewed and approved by the Commission and City Council.
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Staff recommends gathering comments from the Commission and continuing the discussion at the next Planning and Zoning meeting on October 23, 2024, the recommended date for the public hearing for the rezoning from A-1 Agriculture to R-P Planned Residential. Mr. Weintraut answered Commission questions and then gave the public to comment and ask questions.

Wendell Lupkes, VJ Engineering, spoke as the project engineer and noted that their company has been affiliated with this project since 1996. He explained the three different kinds of wetlands on the property and that they are all being addressed. He spoke about the section of the code that protects wetlands but also offers an occasional chance to mitigate them. He also discussed chronological wetland delineations and displayed a rendering showing the different stages at different times. He explained how this is an unusual case and why it may call for exceptions.

Tom Nagle, 328 Winding Ridge Road, stated he would like to see a copy of the 2020 traffic study and asked about whether the pandemic could have an effect on the numbers. There was also a question about the school district and whether the school boundaries may be shifted to accommodate schools to avoid overcrowding. Nagle also asked about the wetlands and noted concerns with runoff, as well as the water assessment at Birdsall Creek. Nagle asked if the density is potentially too much.

Taner Tuken, 218 Winding Ridge Road, provided perspective on the density between the current neighborhood and the proposed neighborhood and feels there should be a better transition between high and low density. Ms. Howard explained how density is calculated and how the density was calculated for that area.

Mark Boss, 810 Juanita Avenue, noted concerns with water runoff and worries about sediment in their neighborhood lake. Lupkes explained that there will be a detention basin that will detain runoff from Lake Ridge Drive and the development site. The runoff from south of the property will continue to run through as usual as they are not allowed to touch the stream.

Genevieve Shafer, 602 Oak Park Boulevard, stated concerns with stormwater runoff. Shafer also noted concerns with the crossings on 1<sup>st</sup> Street and how pedestrians and students will be affected by additional traffic. Shafer also asked about a housing needs assessment to determine if that much added housing is needed.

Pete Rhee, 3105 Northridge, echoed what the previous commenters voiced and added that his concern with the aesthetics and their effect on the neighborhood. Rhee asked about the rent level of the proposed housing and details of the buffer on the west side of the property.

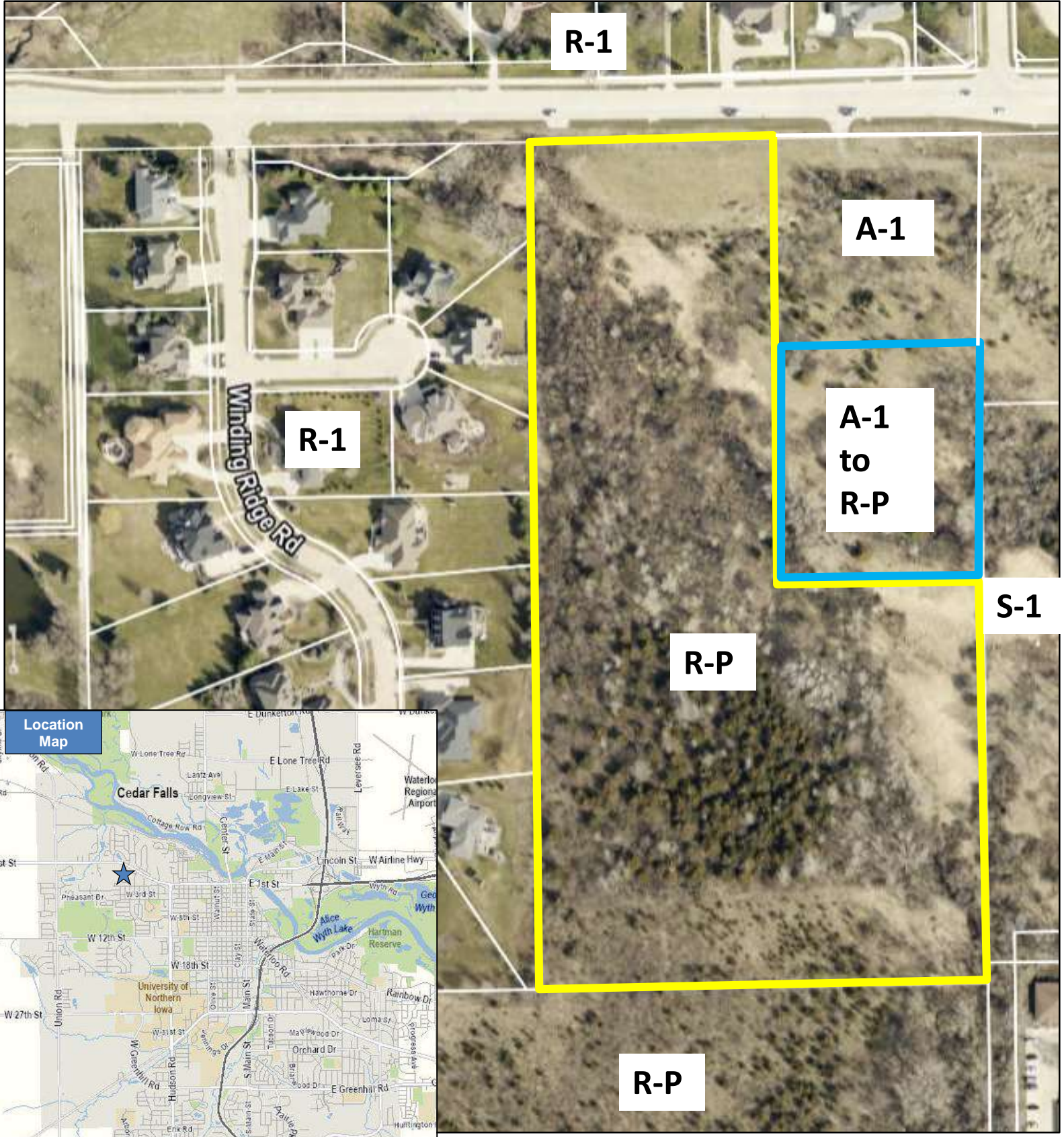
Cameron Lee, 220 Winding Ridge Road, stated concerns about the water and elevation change, and a three story building overlooking his yard.

Atul Patel, 307 Winding Ridge Road, feels there is a loss of quality of life and too much density and loss of community aesthetics and noted that there needs to be better transition between the neighborhoods.

Lupkes shared final comments, noting that the RP zoning has been in place since 2003 and the area has always been set aside for this type of development and the current property owners could have looked at the zoning for that area when they purchased their properties.

Hartley made a motion to set a public hearing for the rezoning. Alberhasky seconded the motion. The motion was approved unanimously with 8 ayes (Alberhasky, Grybovych, Hartley, Henderson, Johnson, Moser, Sorensen and Stalnaker), and 0 nays.

Attachments: Location Map  
Master Plan amendment request letter  
1994 approved Master Plan  
R-P Revised Master Plan  
Preliminary Architecture Drawings  
Chronological Wetlands Delineation  
USACE Regional Permit  
Thunder Ridge Traffic Report  
Threatened and Endangered Species Review  
Public Correspondence



**Meadow Ridge Rezoning and R-P  
Master Plan Amendment  
W 1st**



**VJ Engineering**  
1501 Technology Pkwy., Suite 100  
Cedar Falls, Iowa 50613  
ph: (319) 266-5829 fax: (319) 266-5160

engineering – surveying

July 26, 2024

Planning and Zoning Commission  
City of Cedar Falls

Re: Major R-P Site Plan Amendment

To Whom it may concern:

On behalf of the owners of the property west of future Lake Ridge Drive, and east of the Winding Ridges Estates First Addition, and south of W. 1<sup>st</sup> Street, we would like to propose a major revision of the approved 1994 R-P plan.

In this R-P Site Plan Amendment, the boundary of the 1994 R-P district is changed, as well as the building sizes and circulation. These changes were necessary to comply with the changes in regulations and requirements over the past 30 years. As part of the submittal, we have a new site plan showing the revised layout of buildings on the site, the revised boundary, now pulled back south from W. 1<sup>st</sup> Street to provide a straight north line of the R-P district. This adjustment was due to both the difficulty of making a connection to W. 1<sup>st</sup> Street, as originally planned, and to avoid impacts to the stream which bisects the property. The wetlands have been delineated multiple times over the years, and with each delineation they have been shrinking in coverage area. For that reason, we have applied for and received a Regional Permit from the Corps of Engineers to purchase wetland credits to mitigate the “lesser-quality” wetlands off-site. We will discuss in more detail the information regarding the causes of the wetland hydrology related to leaking sanitary sewer lines, their repair in 2013, and impacts of those repairs causing reductions in impact area.

Included in this submittal are a number of reports, studies, permits, plans, renderings, and a draft agreement for the extension of Lake Ridge to the southern line of the owner’s property. They include the following:

- 1) Original 1994 R-P Resolution, Site Plan, Development Agreement
- 2) R-P Site Plan Amendment Site Plan
- 3) Traffic Impact Study - by Traffic Impact Group, LLC – June 26, 2020
- 4) Meadow Ridge Environmental Report – by Terracon – Sept. 26, 2023
- 5) Phase 1 Cultural Resources Investigation – by Bear Creek – Sept 29, 2023
- 6) Revised R-P Site Layout with Wetland Impact – by VJ Engineering – July 1, 2024
- 7) Regional Permit - Corps of Engineers - USACE Permit # is CEMVR-RD-2023-614
- 8) Preliminary Plans for Lake Ridge extension with utilities
- 9) Renderings and architectural drawings for apartments
- 10) Draft Developmental Procedures Agreement for the extension of Lake Ridge Drive

The R-P Site Plan Amendment was developed utilizing the original plan approved by the City of Cedar Falls in 1994. Understandably, a number of things have changed over the last 30 years since the original plan was approved. Not least among them is the federal and city regulations concerning wetlands. Cedar Falls proactively protects wetlands, with an allowance for mitigation when the wetlands are determined to be of "lesser quality" or to be "less critical". The wetlands delineated on the R-P site plan are definitely "lesser quality", as illustrated on the Chronological Wetlands Delineation Exhibit. The wetlands have been delineated numerous times over the years, by various environmental firms, under the direction of various predecessors in title to the current owners. In addition, as part of the Thunder Ridge Senior housing project in 2012, the City required replacement of approximately 300' of public sanitary sewer prior to approval of that project. The next wetland delineation was in 2014 and showed a significant reduction in wetland area. That reduction in wetland area, along with the email from the City regarding sewerage overflows, caused us to test a theory that the sewer line was impacting the wetlands, and had the groundwater tested for caffeine. The result showed caffeine, not a naturally occurring element in groundwater, was present at all locations tested. This means that the wetland area was in part due to the leaking and overflowing sanitary sewer line. Most of that 1970's sewer line is still in service but is proposed to be replaced as part of the Lake Ridge extension.

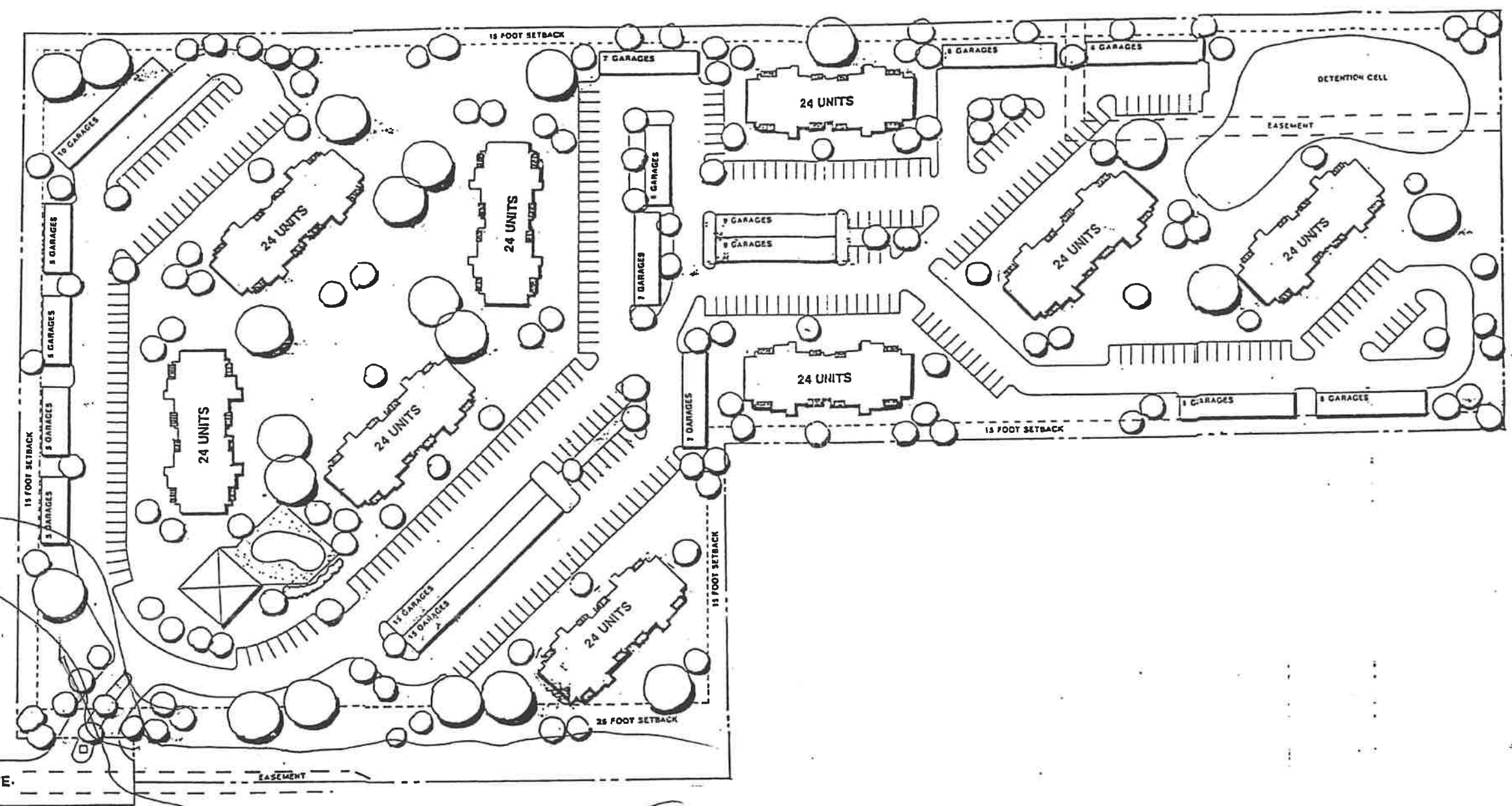
The Corps of Engineers has been familiar with this property since at least 2011, with the same permitting official(s) for this development. In addition to the wetland delineation, we were required to conduct an archeological investigation and an endangered species evaluation, both of which are included in this submittal. The Corps has issued a Regional Permit for this project, which allows us to provide mitigation for disturbed wetlands in a wetlands bank by purchasing credits. In addition, it sets requirements for protection of the stream not impacted by the project and limits tree removal to avoid disturbance of the long-eared bat habitat.

This R-P project provides the catalyst for the extension of Lake Ridge Drive from W. 1<sup>st</sup> Street to the owner's south property line. There is a draft Developmental Procedures Agreement addressing said extension. As a part of the preliminary work prior to this submittal, we have been in contact with Cedar Falls Utilities regarding the relocation (lowering) of the water main, electric, gas, and communications lines near the Lake Ridge and W. 1<sup>st</sup> Street intersection. We have also submitted preliminary road plans to the Cedar Falls Engineering department for their review and comment. And we have sent the layout to the Cedar Falls Fire Department, and have their approval of the layout submitted. Also, this project is within the area designated as medium density residential on the Future Land Use Map.

It has been a long path since the 1994 R-P approval by the City of Cedar Falls. There have been several changes in ownership, changes in the local and federal regulations regarding wetlands, and obviously changes in City administration and the Planning & Zoning Commission. We are ready to answer any questions regarding this site plan amendment, and look forward to productive conversations toward the end goal of providing this residential development for the benefit of all of Cedar Falls.

Wendell Lupkes, P.L.S  
VJ Engineering

cd-962



**RECEIVED**  
 JAN 31 1994  
 DEVELOPMENTAL SERVICES  
 DEPARTMENT

**CONCEPTUAL SITE PLAN**  
 JANUARY 19, 1994

**LAKEVIEW APARTMENTS**  
 CEDAR FALLS, IOWA.

*Randy Slack*  
 ARCHITECTS  
 403 North 15th Street - Suite 200  
 Des Moines, Iowa 50319 - (515) 281-4444

LAKEVIEW DRIVE

**216 UNITS**

**15.0 ACRES ±**

**DENSITY = 14.4 UNITS PER ACRE**

- 4 - TYPE I BUILDINGS
- 5 - TYPE II BUILDINGS

- 311 PARKING STALLS
- 8 CLUBHOUSE PARKING STALLS
- 137 GARAGES
- 456 TOTAL PARKING
- 332 REQUIRED
- 2 PARKING SPACES PER UNIT

**APARTMENT TYPE AND MIX**

30 - 1A UNITS	625 S.F.	ONE BEDROOM/ONE BATH
30 - 1B UNITS	713 S.F.	ONE BEDROOM/ONE BATH
48 - 1C UNITS	856 S.F.	TWO BEDROOM/ONE BATH
108 - 2A UNITS	993 S.F.	TWO BEDROOM/TWO BATH

**NORTH**  $\uparrow$   
**SCALE: 1" = 50'-0"**

THUNDER RIDGE LIMITED PARTNERSHIP II

**Dial Companies**  
 11506 NICHOLAS SUITE 200  
 OMAHA, NEBRASKA 68154  
 402-493-2800

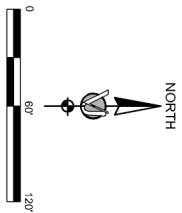
NO.	DATE	BY	REVISION
1	1/19/94		
2			
3			
4			
5			



R-P Zoning Area = 17.5 Acres  
 Commercial Use = 2.33 Acres  
 Residential Use = 15.17 Acres  
 207 Units / 15.17 Acres = 13.65 Units/Acre

Wetland Impact Areas = 1.809  
 Stream Impact Credit = 0.062  
 Total Wetland/Stream Impact = 1.871 Ac.

Project is authorized under USACE  
 Regional Permit CEM/R-RD-2023-614  
 Dated June 17, 2024

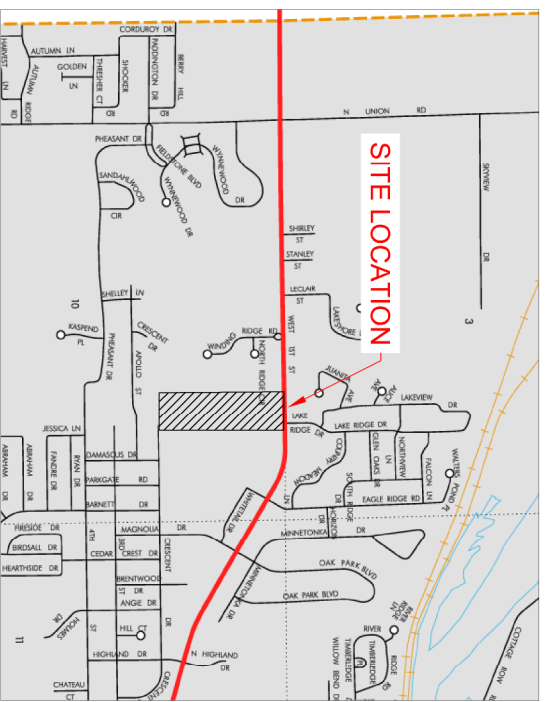


**Notes:**

All sidewalks within the project are 5 feet wide, with the exception of those along the private drive to the cul-de-sac, which are 4 feet wide to align with the future public walks east of Lake Ridge Drive.

- Buffer along west side (rear) = 35'
- Buffer along east side (front) = 20'
- Buffer along north side (side) = 15'
- Buffer along south side (side) = 15'

Details of remaining wetland protection and stream protection are outlined in Corps of Engineers Regional Permit



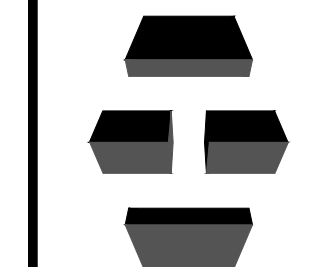
PARKING STALL REQUIREMENTS					
Building description	Buildg Designation	No. of 1-bdrm apartments	No. of 2-bdrm apartments	No. of 3-bdrm apartments plus one for each addl. bdrm)	Total Req'd
33-unit apartment	101	16	15	2	32 + 30 + 6
33-unit apartment	102	16	15	2	32 + 30 + 6
33-unit apartment	103	16	15	2	32 + 30 + 6
33-unit apartment	104	16	15	2	32 + 30 + 6
33-unit apartment	105	16	15	2	32 + 30 + 6
21-unit apartment	201	11	9	1	22 + 18 + 3
21-unit apartment	202	11	9	1	22 + 18 + 3
Visitor Stalls					41
Total Required					467
Provided					467

**LEGAL DESCRIPTION**

That part of the Northeast Quarter of Section 10, Township 89 North, Range 14 West of the 5th P.M., in the City of Cedar Falls, Black Hawk County, Iowa, described as follows:  
 The Northwest Quarter of the Northeast Quarter (NW 1/4, NE 1/4) of said Section 10, except the West 560 feet, and except the North 335 feet of the East 300 feet thereof, containing 17.50 acres.

LEGEND	
Existing Proposed	BOUNDARY LINE
---	EASEMENT LINE
---	PROPERTY LINE
---	SECTION/R.O.W. LINE
---	SETBACK LINE
---	CONTOUR LINE
---	ELECTRIC LINE
---	FENCE LINE
---	FIBER LINE
---	GAS LINE
---	OVERHEAD UTILITY LINE
---	SANITARY SEWER LINE
---	SILT FENCE LINE
---	STORM SEWER LINE
---	TELEVISION LINE
---	WATER LINE
---	PROPERTY CORNER
---	BENCH MARK
---	CONCRETE TREE
---	DECIDUOUS TREE
---	GAS MANHOLE
---	SANITARY MANHOLE
---	SIGN
---	STORM INTAKE
---	STORM MANHOLE
---	TELEPHONE PEDestal
---	UTILITY POLE
---	WATER HOB/ANT
---	WATER SHUT OFF
---	WATER VALVE

**IOWA ONE CALL**  
 800 292-8989  
 CALL BEFORE YOU DIG



# A NEW APARTMENT COMPLEX MEADOW RIDGE

## BUILDINGS 'A' & 'B'

## CEDAR FALLS, IOWA

DEVELOPER	GENERAL CONTRACTOR	ARCHITECT	CIVIL ENGINEER	LANDSCAPE	STRUCTURAL ENGINEER	MECH. & ELEC. ENGINEER
AMERICAN DEVELOPMENT CORP. SPRINGVILLE, UTAH <small>PACKER MORLEY</small>	M-13 CONSTRUCTION SPRINGVILLE, UTAH	HARRIS ARCHITECTURE OREM, UTAH 801.377.6303 <small>BRET J. HARRIS (801) 567-8840</small>	VJ ENGINEERING CEDAR FALLS, IOWA 319.266.5829	T.B.D.	T.B.D.	T.B.D.

THESE DRAWINGS OR ANY PARTS THEREOF, AS INSTRUMENTS OF SERVICE, REMAIN THE PROPERTY OF THE ARCHITECTS AND MAY NOT BE REPRODUCED OR USED ON OTHER WORK WITHOUT THEIR WRITTEN CONSENT.  
PLOT DATE: 7/17/2024 I:\Harris\_Synology\Draws\ACD\M13\APARTMENT BUILDINGS\CEDAR FALLS\DWG\FB\LOG-A\_A01-1.dwg



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PLOT DATE: 7/11/2024 \\harris\_synology\Drawings\APARTMENT BUILDINGS\CEDAR FALLS\BID\04\_A\_01-1-1.dwg



**1 33 UNIT - LEVEL 1 - FLOOR PLAN (LEVEL 2 & 3 SIMILAR)**

SCALE: 1/8" = 1'-0"	APARTMENTS: (11 UNITS)	8,895 SF
LEVEL 1 FLOOR PLAN	ACCESSORY:	261 SF
ELEV. 100'-0" (DATUM)	COMMON CORRIDOR & STAIRS:	2,313 SF
SEE CROSS SECTIONS	TOTAL FLOOR AREA:	11,469 SF

SEE CIVIL DRAWINGS FOR EXTERIOR GRADES, CURBS, SIDEWALKS, AND OTHER SIMILAR SITE ELEMENTS



ALUMINUM STOREFRONT

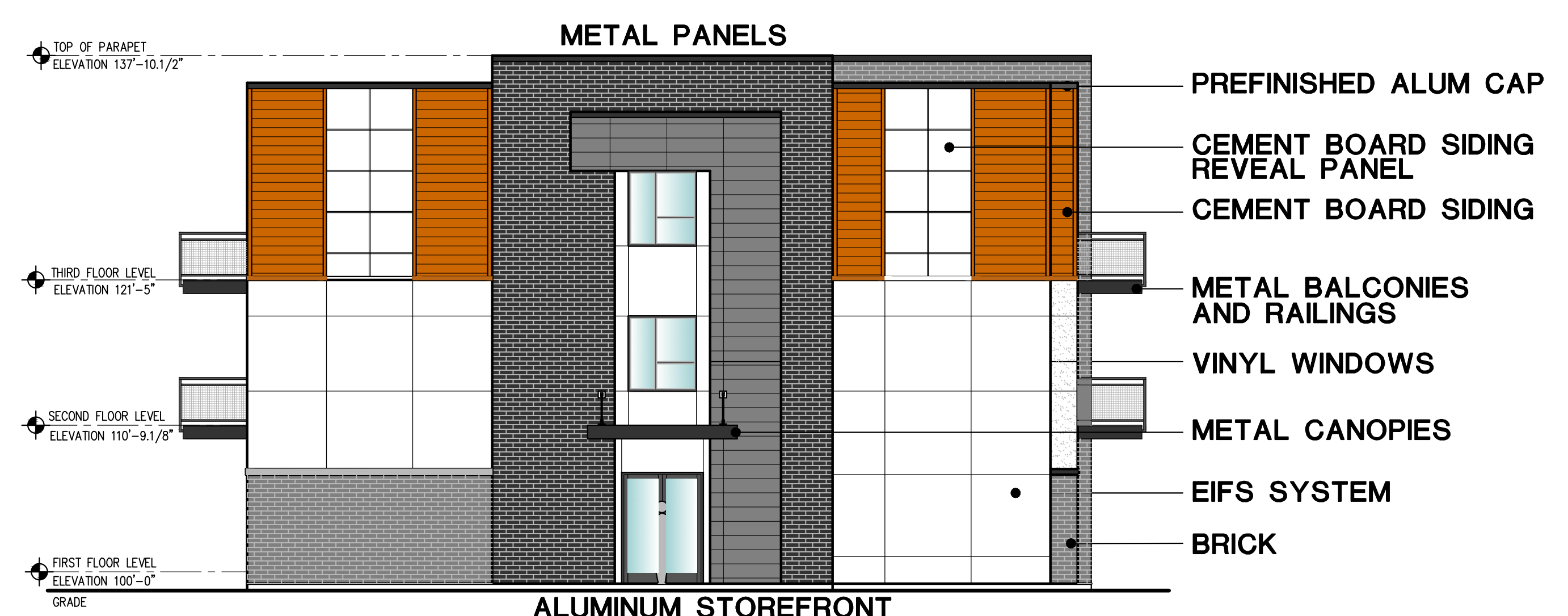
# FRONT ELEVATION

SCALE: 1/8" = 1'



# REAR ELEVATION

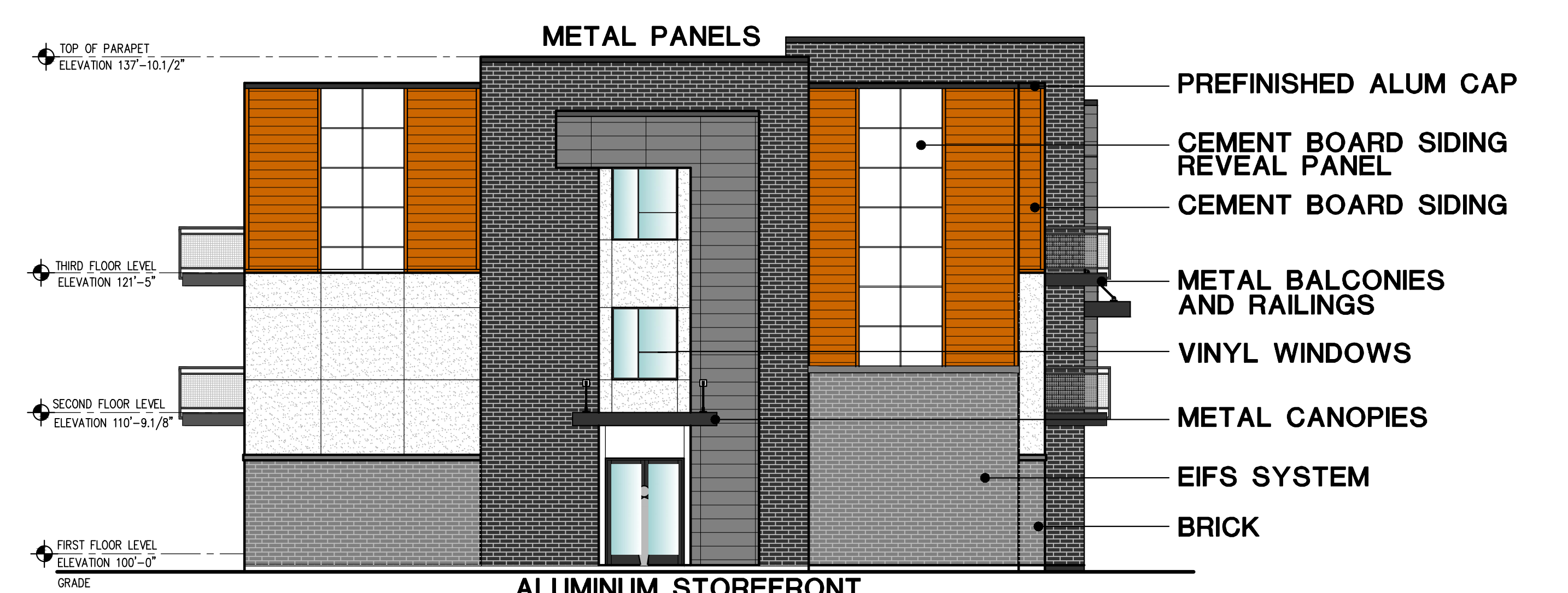
SCALE: 1/8" = 1'



ALUMINUM STOREFRONT

# RIGHT SIDE ELEVATION

SCALE: 1/8" = 1'



ALUMINUM STOREFRONT

# LEFT SIDE ELEVATION

SCALE: 1/8" = 1'

THESE DRAWINGS OR ANY PARTS THEREOF, AS INSTRUMENTS OF SERVICE, REMAIN THE PROPERTY OF THE ARCHITECTS AND MAY NOT BE REPRODUCED OR USED ON OTHER WORK WITHOUT THEIR WRITTEN CONSENT.

LEVEL 1 FLOOR PLAN  
ELEV. 100'-0" (DATE)  
SEE CROSS SECTIONS  
SEE CIVIL DRAWINGS FOR EXTERIOR  
GRASS, CURBS, SIDEWALKS, AND  
OTHER SIMILAR SITE ELEMENTS



**1 21 UNIT - LEVEL 1 - FLOOR PLAN (LEVEL 2 & 3 SIMILAR)**

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

LEVEL 1 FLOOR PLAN  
ELEV. 100'-0" (DATUM)  
SEE CROSS SECTIONS

SEE CIVIL DRAWINGS FOR EXTERIOR  
GRACES, CURBS, SIDEWALKS, AND  
OTHER SIMILAR SITE ELEMENTS

APARTMENTS: (7 UNITS PER FLOOR)	5,815 SF
ACCESSORY:	281 SF
COMMON CORRIDOR & STAIRS:	2,022 SF
TOTAL FLOOR AREA:	7,842 SF

TOTAL APARTMENTS: (21 UNITS; 7 PER FLOOR)	17,445 SF
TOTAL ACCESSORY:	783 SF
TOTAL COMMON CORRIDOR & STAIRS:	6,081 SF
BUILDING TOTAL FLOOR AREA:	24,309 SF

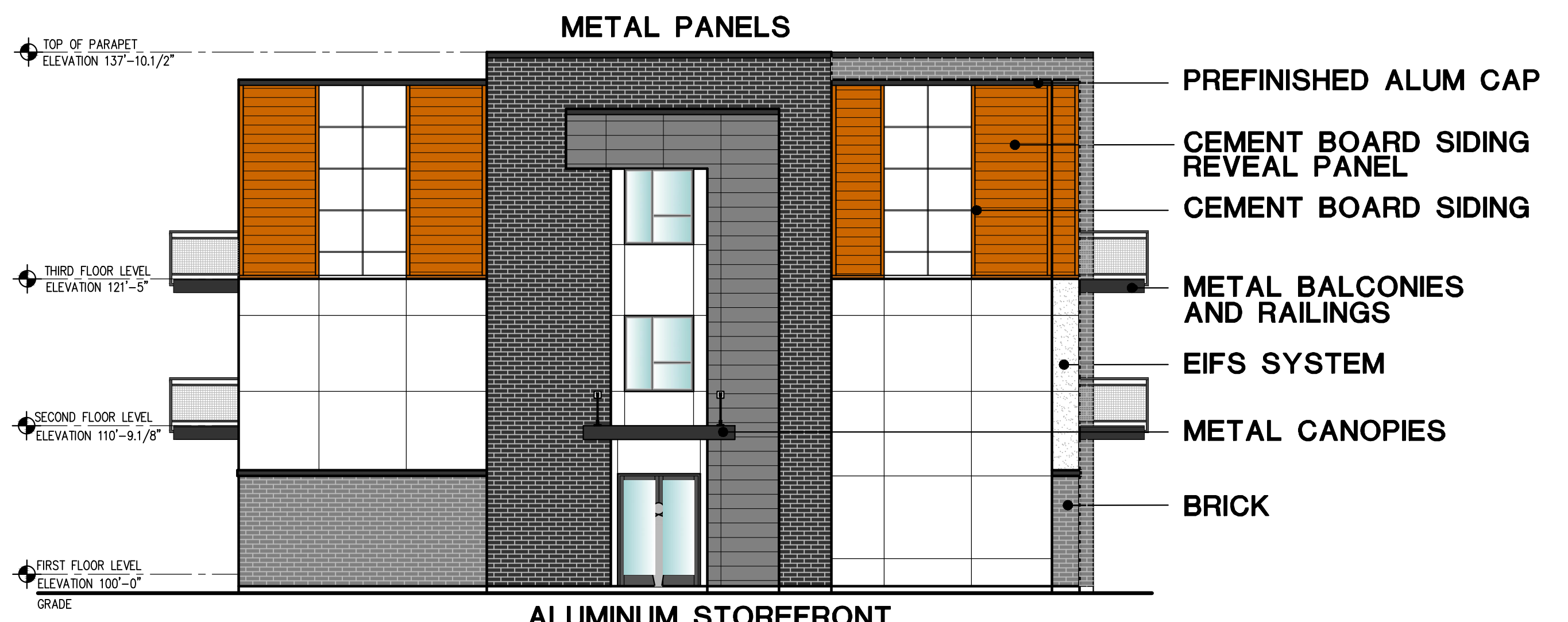
THESE DRAWINGS OR ANY PARTS THEREOF, AS INSTRUMENTS OF SERVICE, REMAIN THE PROPERTY OF THE ARCHITECTS AND MAY NOT BE REPRODUCED OR USED ON OTHER WORK WITHOUT THEIR WRITTEN CONSENT.  
PLOT DATE: 7/11/2024 \\harris\_synology\Drawings\ACD\M13\APARTMENT BUILDINGS\CEDAR FALLS\DWG\A1.3.dwg



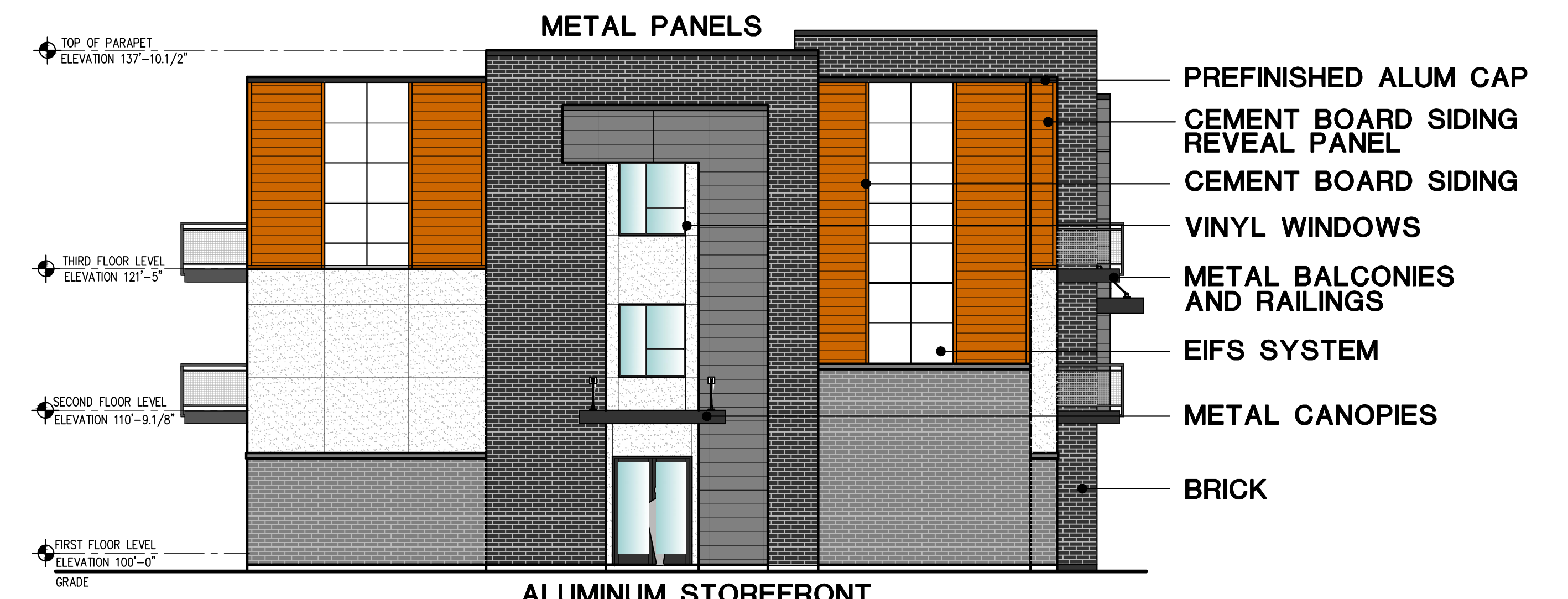
ALUMINUM STOREFRONT  
**FRONT ELEVATION**  
SCALE: 1/8" = 1'



**REAR ELEVATION**  
SCALE: 1/8" = 1'



ALUMINUM STOREFRONT  
**RIGHT SIDE ELEVATION**  
SCALE: 1/8" = 1'



ALUMINUM STOREFRONT  
**LEFT SIDE ELEVATION**  
SCALE: 1/8" = 1'

LEVEL 1 FLOOR PLAN  
ELEV. 100'-0" (DATUM)  
SEE CROSS SECTIONS  
SEE CIVIL DRAWINGS FOR EXTERIOR  
GRADES, CURBS, SIDEWALKS, AND  
OTHER SIMILAR SITE ELEMENTS

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PLOT DATE: 7/11/2024 \\harris\_synology\Draws\ACD\M13\APARTMENT BUILDINGS\CEDAR FALLS\DWG\FB\LOG-A\_A01-1.dwg



**BUILDING A**

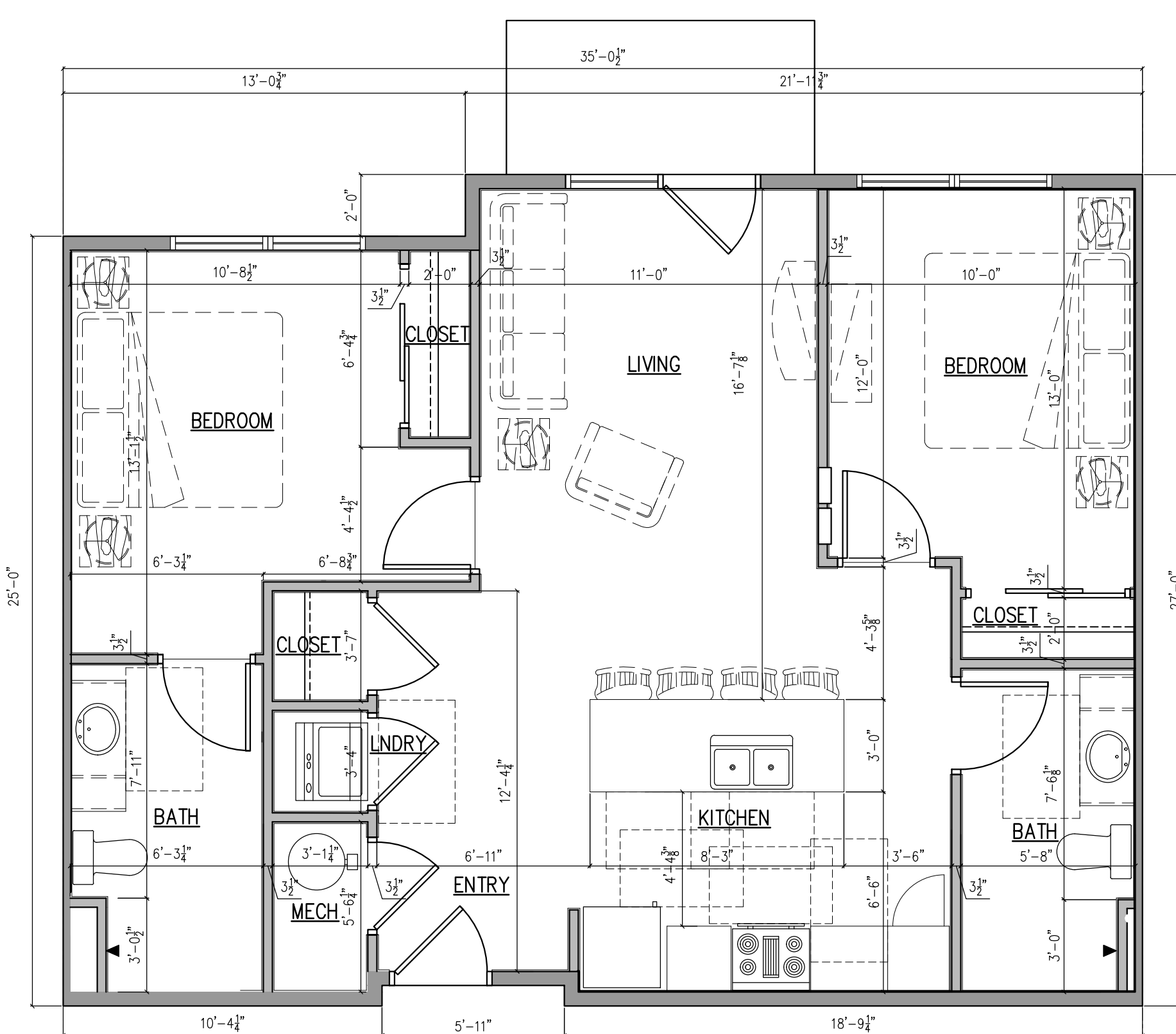
33 UNITS - 12,234 sf/level

LEVEL	UNIT TYPE	# OF UNITS	# OF BEDS	INTERIOR SQUARE FEET	EXTERIOR SQUARE FEET
LEVEL 1	STUDIO	1 UNIT(S)	1 BR	568 SF	596 SF
LEVEL 1	1 BED	5 UNIT(S)	5 BR	720 SF	767 SF
LEVEL 1	2 BED	4 UNIT(S)	8 BR	870 SF	915 SF
LEVEL 1	3 BED	1 UNIT(S)	3 BR	1165 SF	1221 SF
		11 UNIT(S)	17 BR		
LEVEL 1	STUDIO	1 UNIT(S)	1 BR	568 SF	596 SF
LEVEL 1	1 BED	5 UNIT(S)	5 BR	720 SF	767 SF
LEVEL 1	2 BED	4 UNIT(S)	8 BR	870 SF	915 SF
LEVEL 1	3 BED	1 UNIT(S)	3 BR	1165 SF	1221 SF
		11 UNIT(S)	17 BR		
		33 UNITS	51 BR		
TOTAL UNITS FOR BUILDNG A		%			
	STUDIO	3 UNIT(S)	9%		
	1 BED	15 UNIT(S)	45.4%		
	2 BED	12 UNIT(S)	36.6%		
	3 BED	3 UNIT(S)	9%		

**BUILDING B**

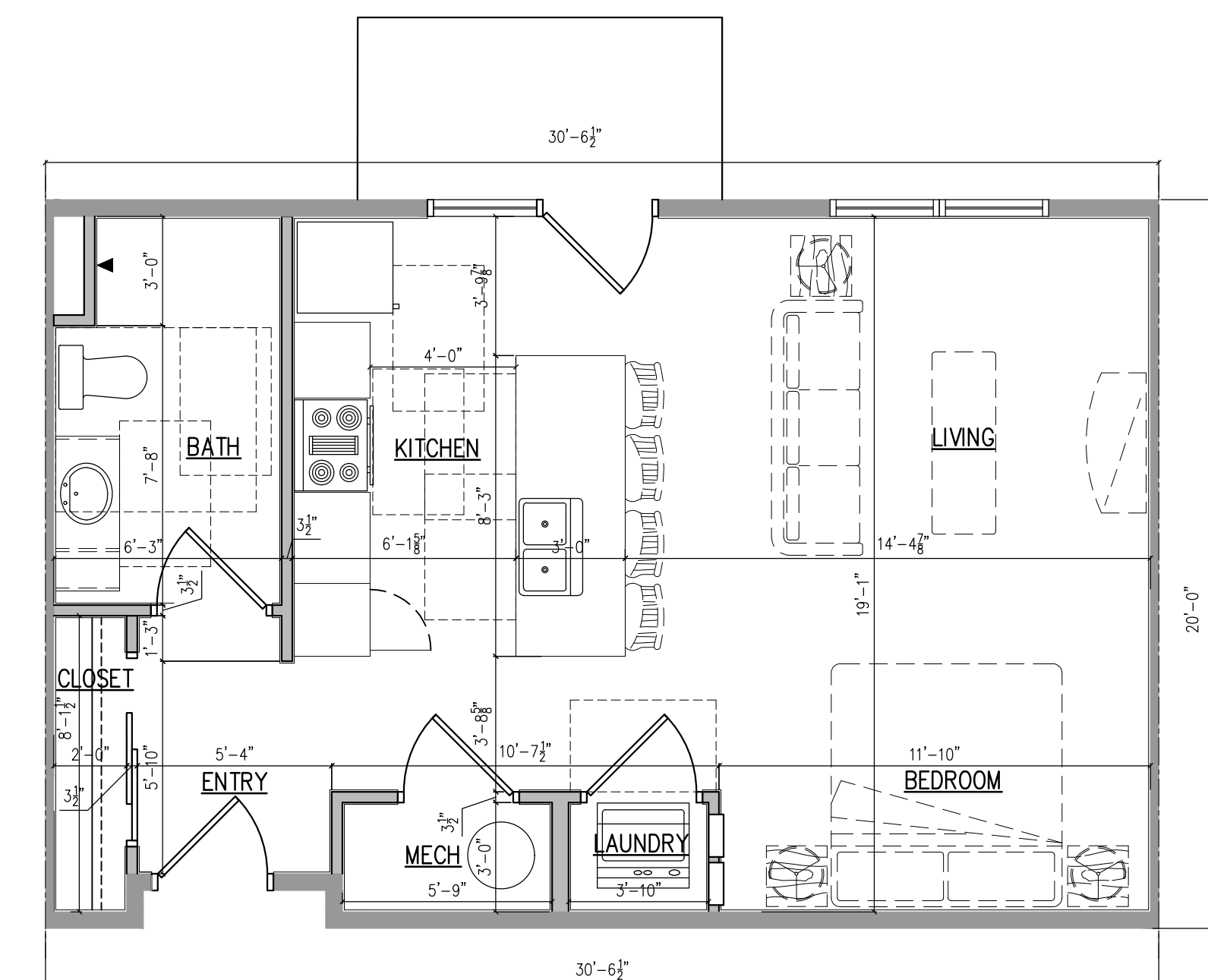
21 UNITS - 7,842 sf/level

LEVEL	UNIT TYPE	# OF UNITS	# OF BEDS	INTERIOR SQUARE FEET	EXTERIOR SQUARE FEET
LEVEL 1	1 BED	3 UNIT(S)	3 BR	720 SF	767 SF
LEVEL 1	2 BED	4 UNIT(S)	8 BR	870 SF	915 SF
		7 UNIT(S)	11 BR		
LEVEL 1	1 BED	3 UNIT(S)	3 BR	720 SF	767 SF
LEVEL 1	2 BED	4 UNIT(S)	8 BR	870 SF	915 SF
		7 UNIT(S)	11 BR		
LEVEL 1	1 BED	3 UNIT(S)	3 BR	720 SF	767 SF
LEVEL 1	2 BED	4 UNIT(S)	8 BR	870 SF	915 SF
		7 UNIT(S)	11 BR		
		21 UNITS	33 BR		
TOTAL UNITS FOR BUILDNG A		%			
	1 BED	9 UNIT(S)	42.9%		
	2 BED	12 UNIT(S)	57.1%		



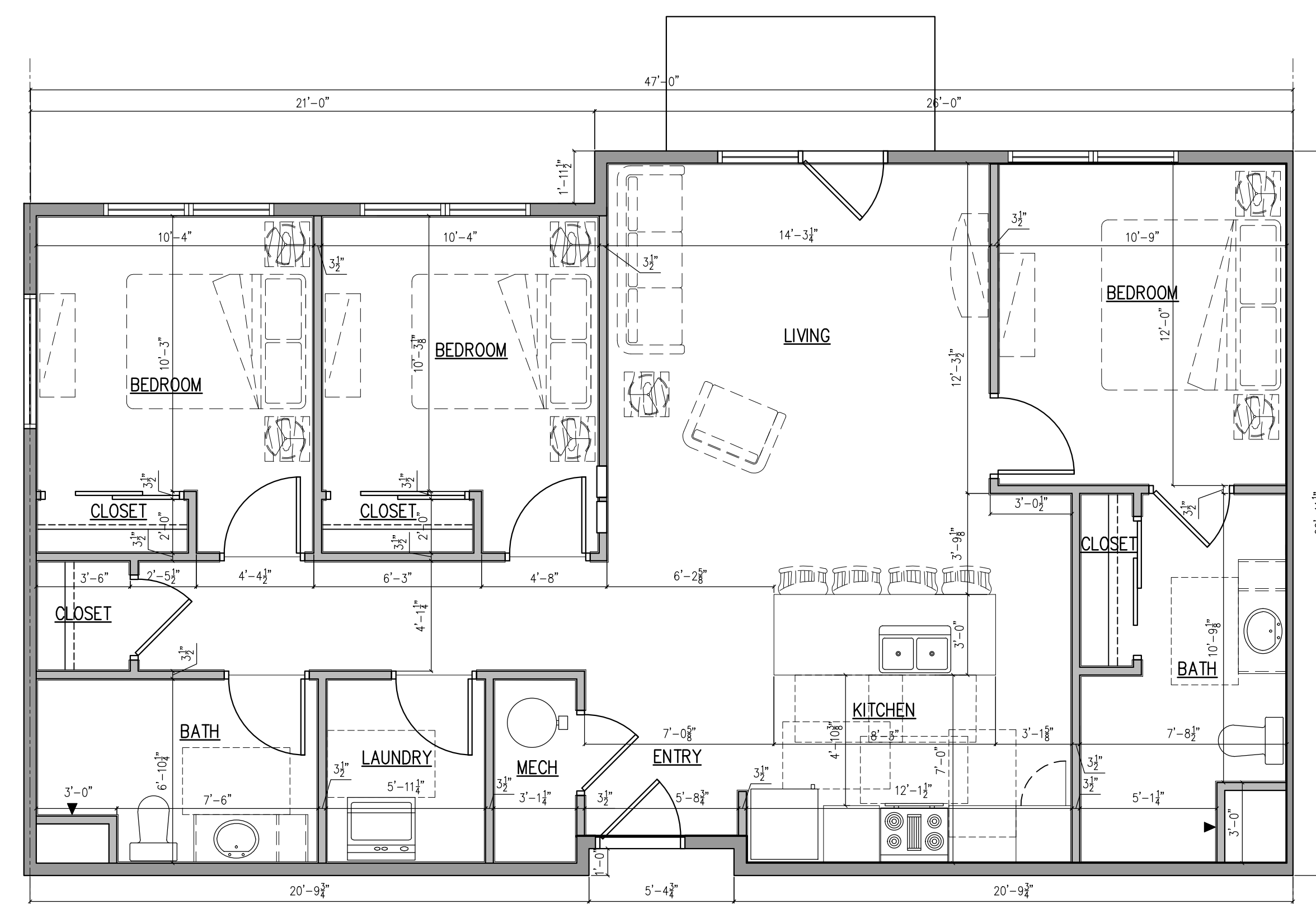
**2 BEDROOM-2 BATH UNIT**

INTERIOR 870 SF  
EXTERIOR 915 SF



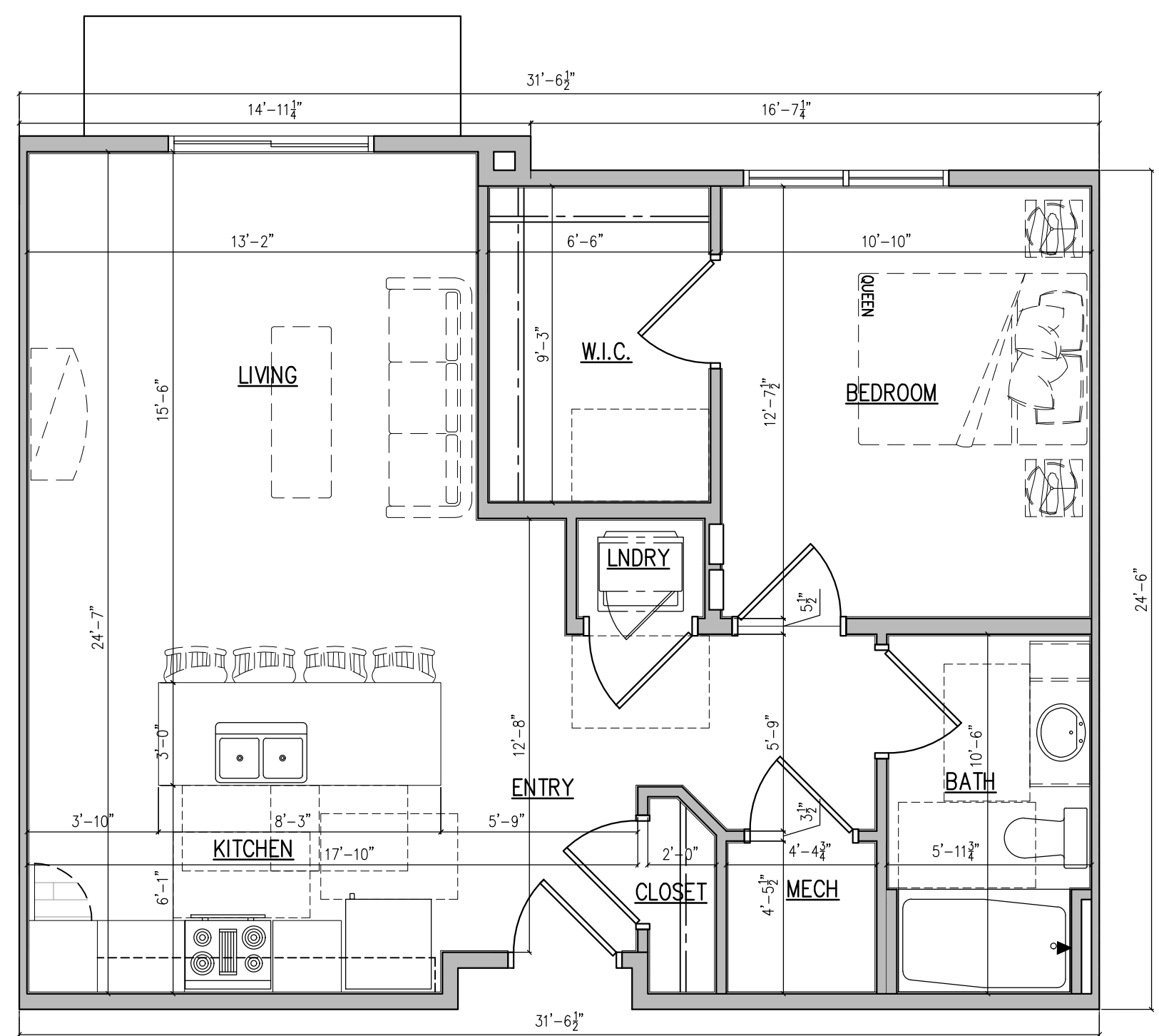
**STUDIO UNIT**

INTERIOR 568 SF  
EXTERIOR 596 SF



**3 BEDROOM-2 BATH UNIT**

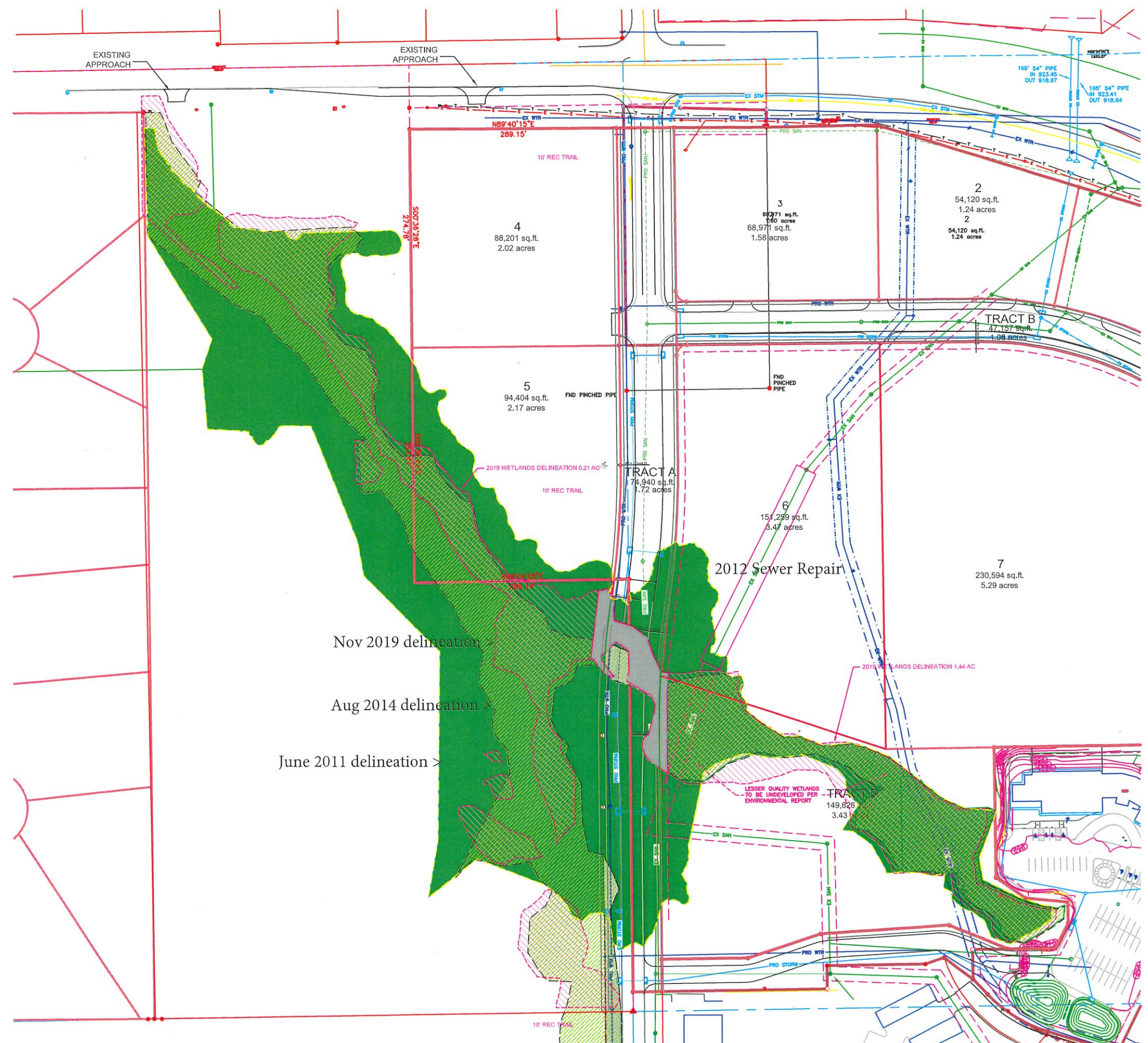
INTERIOR 1,165 SF  
EXTERIOR 1,221 SF



**UNIT FLOOR PLANS (BOTH BLDGS.)**

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

THESE DRAWINGS OR ANY PARTS THEREOF, AS INSTRUMENTS OF SERVICE, REMAIN THE PROPERTY OF THE ARCHITECTS AND MAY NOT BE REPRODUCED OR USED ON OTHER WORK WITHOUT THEIR WRITTEN CONSENT. PLOT DATE: 7/11/2024 \\harris\_synology\Draws\ACD\M13\APARTMENT BUILDINGS\CEDAR FALLS\BLOG-A\_A01-1.dwg







**DEPARTMENT OF THE ARMY  
CORPS OF ENGINEERS, ROCK ISLAND DISTRICT  
PO BOX 2004 CLOCK TOWER BUILDING  
ROCK ISLAND, ILLINOIS 61204-2004**

June 17, 2024

Regulatory Division

SUBJECT: CEMVR-RD-2023-614

Mr. Packer Morley  
ME Associates, LLC  
775 West 1200 N. Suite 100  
Springville, Utah 84663

Dear Mr. Morley:

Our office has reviewed your application received April 26, 2023, concerning the proposed residential development to include multiple multi-family units, road infrastructure and 2 culverted crossings, utilities, a stormwater detention basin and parking lots located in Section 3, Township 89 North, Range 14 West, Black Hawk County, Iowa. This project will result in the loss of 1.81 acres of wetland (1.21 emergent and 0.59 forested) and 356 feet of stream loss.

Your project is authorized under Department of the Army, Section 404, Regional Permit No. 48 - Residential Developments (Iowa; CEMVR-RD-2022-0884), provided you meet the terms and conditions included in the permit. A copy of this permit can be found on the Rock Island District Regulatory Webpage at: <https://www.mvr.usace.army.mil/Missions/Regulatory/Permits/>. The Iowa Department of Natural Resources (IADNR) has also issued Section 401 Water Quality Certification with conditions for this Regional Permit.

The Corps has made a determination of may affect, not likely to adversely affect on federally threatened and endangered species and/or critical habitat under Section 7 of the Endangered Species Act. In accordance with Section 106 of the National Historic Preservation Act, the Corps has made a determination of no effect to historic properties. The decisions regarding these actions are based on information found in the administrative record, which document the District's decision-making process, the basis for the decision, and the final decision. Special conditions associated with this permit will be listed below and must also be adhered to.

Your permit includes the following special condition(s):

- 1) This project will result in the loss of 1.81 acres of wetland (1.21 emergent and 0.59 forested wetland) and 0.06 acres of streams (356 feet). To compensate for

- 2 -

this loss, the permittee will purchase 1.21 acres of emergent wetland credit and 0.59 acres of forested wetland credit and 1481 stream credits from an approved wetland and stream mitigation bank in the service area of the impacts. The permittee will provide a copy of the proof of purchase prior to placing fill material into the Waters of the U.S.

2) To protect the Northern Long-eared Bat tree removal shall not be completed between April 1 and September 30.

Please contact our office if the project plans change and there are different impacts caused by dredged or fill material into Corps' regulated waters. This may require modification of your Department of the Army Section 404 authorization.

This authorization does not eliminate the requirement that you must still obtain other applicable Federal, state, and local permits. If you have not already coordinated your project with the IADNR, please contact them by telephone 866/849-0321 to determine if a floodplain development permit is required for your project. You should also contact Casey Laskowski, in writing or telephone 515/330-6432 to determine if a sovereign lands construction permit is required or if this project may adversely impact Iowa threatened or endangered species or their habitat.

You are required to complete and return the enclosed "Completed Work Certification" form upon completion of your project. A representative of this office may make periodic inspections of the authorized work.

A preliminary jurisdictional determination was completed for this project. This is not an appealable action.

The Rock Island District Regulatory Division is committed to providing quality and timely service to our customers. In an effort to improve customer service, please take a moment to complete our Customer Service Survey found on our web site at <https://regulatory.ops.usace.army.mil/ords/f?p=136:4> (be sure to select "Rock Island District" under the area entitled: Which Corps office did you deal with?).

Should you have any questions, please contact me by letter, telephone at 309-215-5570 or email at [Albert.J.Frohlich@usace.army.mil](mailto:Albert.J.Frohlich@usace.army.mil).

Sincerely,

Albert J. Frohlich  
Project Manager, Western Branch  
Regulatory Division

- 3 -

Enclosures

cc:  
Iowa Department of Natural Resources  
Floodplain Management Division

Mr. Will Downey  
Impact 7G  
315 West Cherry Street, Suite 4  
North Liberty, Iowa 52317

### COMPLETED WORK CERTIFICATION

Permit Number: CEMVR-RD-2023-614

Name of Permittee/Project: ME Associates, LLC

County/State: Black Hawk / Iowa

Date of Issuance: June 17, 2024

Upon completion of the activity authorized by this permit and any mitigation required by the permit, sign this certification, and return it to the following address:

U.S. Army Engineer District, Rock Island  
ATTN: Regulatory Division  
Clock Tower Building  
Post Office Box 2004  
Rock Island, Illinois 61204-2004

Please note that your permitted activity is subject to a compliance inspection by a U.S. Army Corps of Engineers representative. If you fail to comply with this permit, you are subject to permit suspension, modification, or revocation.

I hereby certify that the work authorized by the above reference permit has been completed in accordance with the terms and conditions of the said permit, and required mitigation was completed in accordance with the permit conditions.

\_\_\_\_\_  
Signature of Permittee

\_\_\_\_\_  
Date

AF

**DEPARTMENT OF THE ARMY PERMIT  
Regional Permit 48  
Fill Material Placed for Residential Developments  
In Waters of the United States  
In the State of Iowa**

**Permittee:** General Public meeting the terms and conditions herein.

**Number:** CEMVR-RD-2022-0884 (Regional Permit 48)

**Expiration Date:** September 20, 2027

**Issuing Office:** U.S. Army Corps of Engineers, Rock Island District  
Clock Tower Building-P.O. Box 2004  
Rock Island, Illinois 61204-2004

You are authorized to perform work in accordance with the terms and conditions specified below.

**NOTE:** The term “you” and its derivatives, as used in this permit, means the permittee or any future transferee. The term “this office” refers to the appropriate district or division office of the Corps of Engineers (Corps) having jurisdiction over the permitted activity, or the appropriate official of that office, acting under the authority of the Commanding Officer.

You are authorized to perform work in accordance with the terms and conditions specified below.

The permittee must notify the District Engineer (DE), Rock Island District, for authorization of this Regional General Permit (RP).

## **1. Authorized Work.**

### **Proposed Limits.**

(a) Activities required for the construction, expansion, modification, or improvement of residential developments of a single residence, a multiple unit residential development, or a residential subdivision, which result in a total loss of up to 2.0 acre of waters of the United States, including the loss of up to 1,000 linear feet of stream bed. The loss of stream bed plus any other losses of jurisdictional wetlands and waters caused by the activity cannot exceed 2.0 acre, which includes no more than 1,000 linear feet of stream bed loss. Activities may include, but are not limited to, construction of building foundations and building pads and attendant features that are necessary for the use of the residence or residential development. Attendant features include (but are not limited to) roads, parking lots, garages, yards, utility lines, storm water management facilities, septic fields, and recreational facilities such as playgrounds, playing fields, and golf courses (provided the golf course is an integral part of the residential development).

1. For residential subdivisions, the aggregate total aggregate total loss of Waters of the United States (WUS) authorized by the RP cannot exceed 2.0 acre of WUS, including the loss of up to 1,000 linear feet of stream bed. This includes any loss of WUS associated with development of individual subdivision lots.

(b) The project must be a single and complete project. The maximum impact limitations will be applied on a cumulative basis for activities that are part of a larger common plan of development or sale.

2. **Project Location.** All waters of the United States in Iowa within the regulatory boundaries of the Rock Island District. This permit may be used on tribal lands in the state of Iowa; however, an individual 401 Water Quality Certification must be obtained from the Meskwaki Nation - Sac and Fox tribe of the Mississippi in Iowa, prior to authorization.

### 3. Permit Conditions:

#### A. General Conditions:

- 1) The permittee must notify the DE, Rock Island District, for authorization of this RP. The notification must include detailed drawings and sufficient information to determine if the proposed work conforms to the criteria and conditions of the RP, as well as a mitigation plan (see Section D), if unavoidable stream or wetland impacts will occur as a part of the project. Department of the Army (DA) permit application can be found and submitted on the Iowa Department of Natural Resources PERMT website.
- 2) The time limit for submittals ends 60 days prior to the expiration of the RP, unless the RP is modified, reissued, or revoked. If you find that you need more time to complete the authorized activity, submit your request for a time extension to this office for consideration at least one month before that date is reached. If you commence or are under contract to commence this activity before the date the RP is modified or revoked, you will have twelve months from this date to complete your activity under the present terms and conditions of this RP.
- 3) If the project impacts an Outstanding Iowa Water (OIW), an individual 401 Water Quality Certification (WQC) must be obtained and permittee shall not begin work on the activity until a 401 is issued by the State or waived by the DE, and you have received notification from this office to proceed.
- 4) You must maintain the activity authorized by this permit in good condition and in conformance with the terms and conditions of this permit. You are not relieved of this requirement if you abandon the permitted activity, although you may make a good faith transfer to a third party. If you sell the property associated by this permit, you must obtain the signature of the new owner in the space provided and forward a copy of the permit to this office to validate the transfer of this authorization. Should you wish to cease to maintain the authorized activity, or should you desire to abandon it without a good faith transfer, you must obtain a modification of this permit from this office, which may require restoration of the area,
- 5) If you discover any previously unknown historic or archaeological remains while accomplishing the activity authorized by this permit, you must immediately notify this office of what you have found. We will initiate the Federal and state coordination required to determine if the remains warrant a recovery effort or if the site is eligible for listing in the National Register of Historic Places.
- 6) You must allow representatives from this office to inspect the authorized activity at any time deemed necessary to ensure that it is being or has been accomplished in accordance with the terms and conditions of your permit.

**B. Special Conditions:**

- 1) Riprap, if used for bank stabilization, shall be clean native fieldstone, clean quarry rock, or appropriately graded clean broken concrete with all reinforcing rods and/or wire cut flush with the surface of the concrete. It shall be the permittee's responsibility to maintain the riprap such that any reinforcement material that becomes exposed in the future is removed. The concrete pieces shall be appropriately graded, and no piece shall be larger than 3 feet across the longest flat surface. No riprap shall be placed at a distance greater than 4 feet horizontally from the toe of the bank. Asphalt, broken concrete containing asphalt, petroleum-based material, liquid concrete, and items such as car bodies are specifically excluded from this authorization.
- 2) This regional permit also authorizes temporary structures, fill, and work necessary to construct, expand, modify, or improve residential developments, including associated infrastructure and attendant features. Temporary impacts must be the minimum necessary to achieve project objectives.
  - a. All temporary structures and fill will be removed entirely no later than 30 days after they are no longer needed for construction activities.
  - b. Temporary fill materials cleared vegetative materials, construction debris, and other fill not necessary for meeting the project purpose, must be disposed of at an upland area or licensed landfill as appropriate. The discharge location must be provided to the Corps as part of the application packet.
  - c. Temporary fills must consist of materials that will not be eroded by expected high flows. If materials might erode they must be removed prior to high flow events.
  - d. Areas affected temporarily must be returned to pre-construction contours and must be re-vegetated with native vegetation if not armored.
- 3) Measures must be taken for heavy equipment usage in wetland areas to minimize soil disturbance and compaction.
- 4) Any spoil material excavated, dredged, or otherwise produced, must not be returned to the waterway or wetlands but must be deposited in a self-contained area in compliance with all state statutes. Any backfilling must be done with clean material and placed in a manner to prevent violation of applicable water quality standards.
- 5) Construction of stormwater management facilities, including but not limited to stormwater detention and retention basins, is authorized; however, the construction of a stormwater management facility in a WUS does not change the regulatory authority/designation of the basin/stream. Mitigation for the construction of the basin may be required for wetland losses greater than 0.1 acre and/or stream losses greater than 300 linear feet and/or 0.03 acres of streambed impacts. Stormwater basins cannot be used for compensatory mitigation.
- 6) Applicants must identify and notify the Rock Island District, Corps of Engineers of all impacts to fens, bogs, seeps, or sedge meadows. Fill that will adversely impact these resources are not authorized.
- 7) Side slopes of a newly constructed channel will be no steeper than 2:1 and planted to permanent, perennial, native vegetation if not armored.
- 8) No activity may use unsuitable material (e.g. trash, debris, car bodies, asphalt, liquid concrete, etc.). Material used for construction or discharge must be free from toxic pollutants in toxic amounts (see section 307 of the Clean Water Act). If broken concrete is used as riprap, all reinforcing rods must be cut flush with the surface of the concrete, and individual pieces of concrete shall be appropriately graded and not exceed 3 feet in any dimension.

- 9) No non-native, invasive or other plant species included on the Corps “Excluded Plant List” shall be planted for re-vegetation or stabilization purposes, with the exception of any species that hold particular cultural or traditional significance to the Meskawki Nation (the Sac and Fox Tribe of the Mississippi in Iowa). The plant list can be found on the Corps website at: <http://www.mvr.usace.army.mil/Missions/Regulatory.aspx>. To prevent the spread of non-native and/or invasive plant species, the permittee shall ensure that equipment to be utilized in WUS is cleaned before arriving on site. Wash water shall not be discharged into any wetland, waterway, or any other surface water conveyance.
- 10) No activity may substantially disrupt the necessary life cycle movements of those species of aquatic life indigenous to the waterway, including those species that normally migrate through the area, unless the activity’s primary purpose is to impound water. All permanent and temporary crossings of waterbodies shall be suitably culverted, bridged, or otherwise designed and constructed to maintain low flows to sustain the movement of those aquatic species.
- 11) Activities in spawning areas during spawning seasons must be avoided to the maximum extent practicable. No activity may occur in areas of concentrated shellfish populations.
- 12) If the activity creates an impoundment of water, adverse effects to the aquatic system due to accelerating the passage of water, and/or restricting its flow must be minimized to the maximum extent practicable.
- 13) To the maximum extent practicable, the pre-construction course, condition, capacity, and location of open waters must be maintained for each activity, including stream channelization, storm water management activities, and temporary and permanent road crossing. The activity must be constructed to withstand expected high flows. The activity must not restrict or impede the passage of normal or high flows unless the primary purpose of the activity is to impound water or manage high flows. The activity may alter the pre-construction course, condition, capacity, and location of open waters if it benefits the aquatic environment (e.g. stream restoration or relocation activities).
- 14) Activities in WUS that serve as breeding areas for migratory birds must be avoided to the maximum extent practicable. The permittee is responsible for ensuring that an action authorized by RP 48 complies with the Migratory Bird Treat Act and the Bald and Golden Eagle Protection Act. The permittee is responsible for contacting the appropriate local office of the U.S. Fish and Wildlife Service to determine what measures, if any, are necessary or appropriate to reduce adverse effects to migratory birds or eagles, including whether “incidental take” permits are necessary and available under the Migratory Bird Treaty Act or Bald and Golden Eagle Protection Act for a particular activity.
- 15) No activity may occur in areas of concentrated shellfish population.
- 16) No activity may occur in the proximity of a public water supply intake, except where the activity is for the repair or improvement of public water supply intake structures or adjacent bank stabilization.
- 17) The activity must comply with applicable Federal Emergency Management Agency-approved state or local floodplain management requirements.
- 18) No activity or its operation may impair reserved tribal rights, including, but not limited to, reserved water rights and treaty fishing and hunting rights.
- 19) To ensure that all impoundment structures are safely designed, the district engineer may require non-Federal applicant to demonstrate that the structures comply with established state or federal, dam safety criteria or have been designed by qualified persons. The district engineer may also require documentation that the design has been independently reviewed by similarly qualified persons, and appropriate modifications made to ensure safety.



**C. Temporary Impacts/Restoration Requirements:**

- 1) The permittee is required to replant all temporary construction right-of-way (ROW) located within wetlands to the standards stated in the Rock Island District (MVR) Regulatory Branch Mitigation and Monitoring Guidelines.
- 2) Side slopes of a newly constructed channel will be no steeper than 2:1 and planted with permanent, perennial, native vegetation if not armored.
- 3) If jurisdictional wetlands and/or streams will be excavated within the permit area, the permittee must side-cast and stockpile the topsoil (top 10-12 inches), if practicable and/or if site conditions allow, that is being removed during the initial construction, in order to re-establish the topsoil once construction is complete. The soil must be returned to its original contours and a re-established topsoil shall be present prior to the re-planting of vegetation. This ensures that the organic/hydric soils that were present prior to construction are returned to their natural condition and can provide for a fertile habitat to re-plant vegetation and increase the survival rate of any new habitat.

**D. Mitigation:**

- 1) If the permanent loss of wetland exceeds 0.10 acres or for stream losses greater than 300 linear feet and/or 0.03 acres of streambed, compensatory mitigation is required and must follow the regulations published in the Federal Register dated April 10, 2008 under 33 CFR Parts 332 and 40 CFR Part 230 – Subpart J entitled “Compensatory Mitigation for Losses of Aquatic Resources,” and any such Corps regulation/guidance that would supplement these mitigation requirements such as the Rock Island District Mitigation and Monitoring Guidelines and the MVR Stream Mitigation Policy.
- 2) The amount of mitigation required will be determined during review for authorization under this permit as per the mitigation rule requirements. Mitigation must be adequate to offset unavoidable impacts or losses to regulated WUS. For all permanent stream losses greater than 300 feet and/or 0.03 acres completion of the Iowa Stream Mitigation Method (ISMM) is required to determine adequate compensatory stream mitigation. The Corps has the final approval in determining the appropriate and practicable mitigation necessary. The discharge of fill material into WUS prior to Corps approval of the mitigation plan is prohibited.

**E. Historic Properties/Archaeological:**

- 1) Section 106 consultation is not required when the Corps determines that the activity does not have the potential to cause effects on historic properties (see 36 CFR 800.3(a)). In cases where the DE determines that the activity may affect properties listed, or eligible for listing, in the National Register of Historic Places (National Register), the activity is not authorized, until the requirements of Section 106 of the National Historic Preservation Act (NHPA) are met.
- 2) Federal permittees should follow their own procedures for complying with the requirements of Section 106 of NHPA, permittee’s must provide the DE with the appropriate documentation to demonstrate compliance with those requirements.
- 3) Non-federal permittees must submit information to the DE if the authorized activity may have the potential to cause effects to any historic properties listed, determined to be eligible for listing on, or potentially eligible for listing on the National Register, including previously unidentified properties. For such activities, the information must state which historic properties may be affected by the proposed work and include a vicinity map indicating the location of the historic properties or the potential for the presence of historic properties. Assistance regarding information on the location of or potential for the presence of historic resources can be sought from the State Historic Preservation Officer (SHPO) or Tribal Historic Preservation Officer

- (THPO), as appropriate, and the National Register (see 33 CFR 330.4(g)). The DE shall make a reasonable and good faith effort to ensure that appropriate identification efforts are carried out, which may include background research, consultation, history interviews, sample field investigation, and field survey. Based on the information submitted and these efforts, the DE shall determine whether the proposed activity has the potential to cause an effect on the historic properties. Where the non-Federal applicant has identified historic properties which the activity may have the potential to cause effects, and so notified the Corps, the non-Federal applicant shall not begin the activity until notified by the DE either that the activity has no potential to cause effects, or that consultation under Section 106 of the NHPA has been completed.
- 4) The DE will notify the prospective permittee within 45 days of receipt of a complete application whether NHPA Section 106 consultation is required. Section 106 consultation is not required when the Corps determines that the activity does not have the potential to cause effects on historic properties (see 36 CFR 800.3(a)). If NHPA Section 106 consultation is required, the non-Federal applicant cannot begin work until Section 106 consultation is completed.
  - 5) Permittee's should be aware that section 110k of the NHPA (16 U.S.C. 16 470h-2(k)) prevents the Corps from granting a permit or other assistance to an applicant who, with intent to avoid the requirements of Section 106 of the NHPA has intentionally significantly adversely affected a historic property to which the permit would relate, or having legal power to prevent it, allowed such significant adverse effect to occur, unless the Corps, after consultation with the Advisory Council on Historic Preservation (ACHP), determines that circumstances justify granting such assistance despite the adverse effect created or permitted by the applicant. If circumstances justify granting the assistance, the Corps is required to notify the ACHP and provide documentation specifying the circumstances, explaining the degree of damage to the integrity of any historic properties affected, and proposed mitigation. This documentation must include any views obtained from the applicant, SHPO/THPO, appropriate Indian tribes if the undertaking occurs on or affects historic properties on tribal lands or affects properties of interest to those tribes, and other parties known to have a legitimate interest in the impacts to the permitted activity on historic properties.

#### **F. Endangered Species:**

- 1) No activity is authorized under this regional permit which is likely to directly or indirectly jeopardize the continued existence of a threatened or endangered species or a species proposed for such designation, as identified under Section 7 of the Endangered Species Act (ESA), or which will directly or indirectly destroy or adversely modify the critical habitat of such species. No activity is authorized under this regional permit which "may affect" a listed species or critical habitat, unless Section 7 consultation addressing the effects of the proposed activity has been completed to address the effects of the proposed activity on a listed species or critical habitat.
- 2) Federal permittees and their designated state agencies should follow their own procedures for complying with the requirements of the ESA. Federal permittees must provide the Corps with the appropriate documentation to demonstrate compliance with those requirements. The Corps will review the documentation and determine whether it is sufficient to address ESA compliance for the activity, or whether additional ESA consultation is necessary.
- 3) Non-federal permittees must provide the Corps with the appropriate documentation to demonstrate compliance with the ESA. If the authorized activity may have the potential to effect any listed species or designated critical habitat might be affected or is in the vicinity of the project, or is located in designated critical habitat, permittee shall not begin work on the activity until notified by the DE that the requirements of the ESA have been satisfied and that the activity is authorized. For activities that may affect Federally-listed endangered or threatened species or designated critical habitat,

the notification must include the name(s) of the endangered or threatened species that may be affected by the proposed work or that utilize the designated critical habitat that may be affected by the proposed work. The DE will determine whether the proposed activity “may affect” or will have “no effect” on listed species and designated critical habitat.

- 4) Authorization of an activity by this regional general permit does not authorize the "take" of a threatened or endangered species as defined under the ESA. In the absence of separate authorization (e.g., an ESA Section 10 Permit, a Biological Opinion with "incidental take" provisions, etc.) from the U.S. Fish and Wildlife Service (USFWS), both lethal and non-lethal "takes" of protected species are in violation of the ESA. Information on the location of threatened and endangered species and their critical habitat can be obtained directly from the USFWS webpage.

**G. Water Quality Certification:** By letter dated August 30, 2022, the Iowa Department of Natural Resources issued General Section 401 water quality certification for this regional permit.

The permittee understands and agrees that, if future operations by the United States requires the removal, relocation, or other alteration, of the structure or work herein authorized, or if, in the opinion of the Secretary of the Army of his authorized representative, said structure or work shall cause unreasonable obstruction to the free navigation of the navigable waters, the permittee will be required, upon due notice from the Corps of Engineers, to remove, relocate, or alter the structural work or obstructions caused thereby, without expense to the United States. No claim shall be made against the United States on account of any such removal or alteration.

<<<<< **END OF SPECIAL CONDITIONS** >>>>>

**Further information:**

1. **Congressional Authorities:** You have been authorized to undertake the activity described above pursuant to:
  - (X) Section 10 of the Rivers and Harbors Act of 1899 (33 U.S.C. 403).
  - (X) Section 404 of the Clean Water Act (33 U.S.C. 1344).
  - ( ) Section 103 of the Marine Protection, Research and Sanctuaries Act of 1972 (33 U.S.C. 1413).
  
2. **Limits of this authorization.**
  - a. This permit does not obviate the need to obtain other Federal, state, or local authorizations required by law.
  - b. This permit does not grant any property rights or exclusive privileges.
  - c. This permit does not authorize any injury to the property or rights of others.
  - d. This permit does not authorize interference with any existing or proposed Federal project.
  
3. **Limits of Federal Liability.** In issuing this permit, the Federal Government does not assume any liability for the following:
  - a. Damages to the permitted project or uses thereof as a result of other permitted or unpermitted activities or from natural causes.
  - b. Damages to the permitted project or uses thereof as a result of current or future activities undertaken by or on behalf of the United States in the public interest.
  - c. Damages to persons, property, or to other permitted or unpermitted activities or structures caused by the activity authorized by this permit.
  - d. Design or construction deficiencies associated with the permitted work.
  - e. Damage claims associated with any future modification, suspension, or revocation of this permit.
  
4. **Reliance on Applicant's Data.** The determination of this office that issuance of this permit is not contrary to the public interest was made in reliance on the information you provided.
  
5. **Reevaluation of Permit Decision.** This office may reevaluate its decision on this permit at any time the circumstances warrant. Circumstances that could require a reevaluation include, but are not limited to, the following:
  - a. You fail to comply with the terms and conditions of this permit.
  - b. The information provided by you in support of your permit application proves to have been false, incomplete, or inaccurate (See 4 above).
  - c. Significant new information surfaces which the issuing office did not consider in reaching the original public interest decision. Such a reevaluation may result in a determination that it is appropriate to use the suspension, modification and revocation procedures contained in 33 CFR 325.7 or enforcement procedures such as those contained in 33 CFR 326.4 and 326.5. The referenced enforcement procedures provide for the issuance of an administrative order requiring you to comply with the terms and conditions of your permit and for the initiation of legal action, where

appropriate. You will be required to pay for any corrective measures ordered by this office and if you fail to comply with such directive, this office may in certain situations (such as those specified in 33 CFR 209.170) accomplish the corrective measures by contract or otherwise and bill you for the cost.

- 6. **Extensions.** General condition 2 establishes a time limit for the completion of the activity authorized by this permit. Unless there are circumstances requiring either a prompt completion of the authorized activity or a reevaluation of the public interest decision, the Corps will normally give favorable consideration to a request for an extension of this time limit.

This permit becomes effective when the Federal official, designated to act for the Secretary of the Army, has signed below


 Digitally signed by G.  
 Ward Lenz  
 Date: 2022.09.20 12:44:10  
 -05'00'

\_\_\_\_\_  
 Ward Lenz  
 Chief, Rock Island District  
 Regulatory Division

\_\_\_\_\_  
 20/Sept/22  
 Date

When the structures or work authorized by this permit are still in existence at the time the property is transferred, the terms and conditions of this permit will continue to be binding on the new owner(s) of the property. To validate the transfer of this permit and associated liabilities associated with compliance with its terms and conditions, have the transferee sign and date below.

\_\_\_\_\_  
 Transferee

\_\_\_\_\_  
 Date



August 30, 2022

Mr. Ward Lenz  
Rock Island District Corps of Engineers  
Clock Tower Building  
PO Box 2004  
Rock Island, IL 61204-2004

Subject: Section 401 Water Quality Certification for Regional Permit 48 (Fill Material Placed in Waters of the United States for Residential Developments in the State of Iowa) CEMVR-RD-2022-0884

Dear Mr. Lenz,

The Iowa Department of Natural Resources (DNR) has examined the information furnished by the Rock Island District Corps of Engineers in the July 8, 2022 Joint Public Notice and the draft Regional Permit 48.

This conditional Section 401 Water Quality Certification is hereby granted for Regional Permit 48 by the DNR under the authority of Section 401 of the Federal Water Pollution Control Act (40 C.F.R. Part 121, effective September 11, 2020). The DNR certifies RP 48 (CEMVR-RD-2022-0884) because there is reasonable expectation that the discharge from the proposed projects will comply with Iowa's water quality requirements with the following conditions:

- (1) During construction and upon completion of the project, actions must be taken to prevent pollution affecting public health, fish, shellfish, wildlife, and recreation due to turbidity, pH, nutrients, suspended solids, floating debris, visible oil and grease, or other pollutants entering a water of the state. This condition will ensure permittees comply with Iowa's narrative water quality standards found at 567 IAC 61.3(2);
- (2) Equipment used in waters of the state shall be cleaned of all hazardous materials, pesticides, fuels, lubricants, oils, hydraulic fluids, or other construction-related, potentially hazardous substances before arriving on site. Wash water shall not be discharged into a water of the state. This condition will ensure permittees comply with Iowa's narrative water quality standards found at 567 IAC 61.3(2);
- (3) All cleared vegetative material shall be properly managed in such a manner that it cannot enter a water of the state and cause a violation of water quality standards. This condition will ensure permittees comply with Iowa's narrative water quality standards found at 567 IAC 61.3(2);
- (4) All construction debris shall be properly managed in such a manner that it cannot enter a water of the state. This condition will ensure permittees comply with Iowa's narrative water quality standards found at 567 IAC 61.3(2);

(5) Erosion shall be managed so that sediment is not discharged to a water of the state in a manner that causes a violation of water quality standards. This condition will ensure permittees comply with Iowa's narrative water quality standards found at 567 IAC 61.3(2);

(6) Riprap and temporary crossings shall consist of clean material free of coatings of potentially hazardous substances. No asphalt or petroleum-based material shall be used as or included in riprap material placed in any water of the state or within the high-water table. This condition will ensure permittees comply with Iowa's narrative water quality standards found at 567 IAC 61.3(2); and

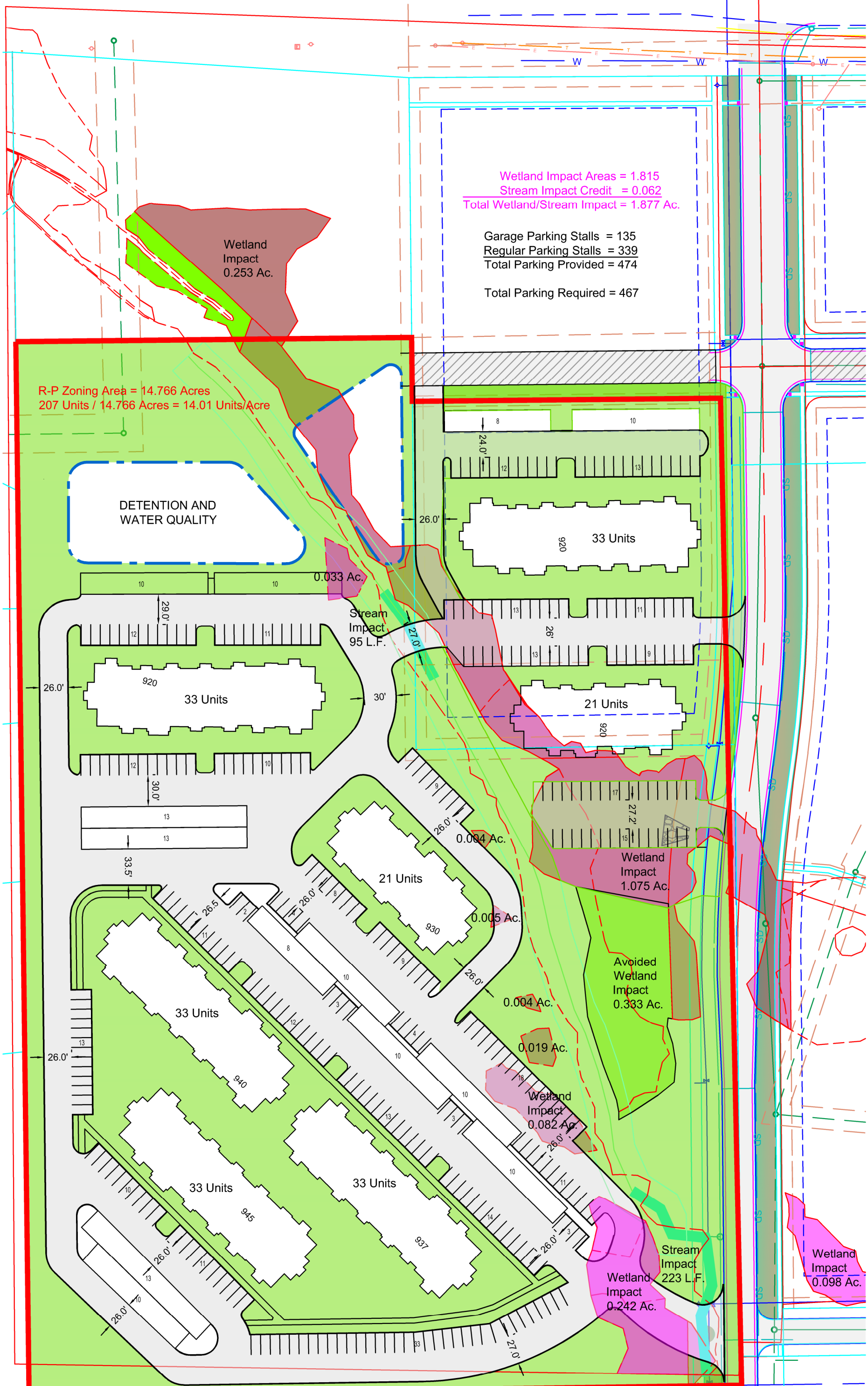
(7) Stockpiled dredged materials on the shore shall be managed so that sediment is not discharged to a water of the state in a manner that causes a violation of water quality standards. This condition will ensure permittees comply with Iowa's narrative water quality standards found at 567 IAC 61.3(2).

If you have any questions about the certification or any conditions contained therein, please contact me at [Christine.schwake@dnr.iowa.gov](mailto:Christine.schwake@dnr.iowa.gov) or call (515) 725-8399.

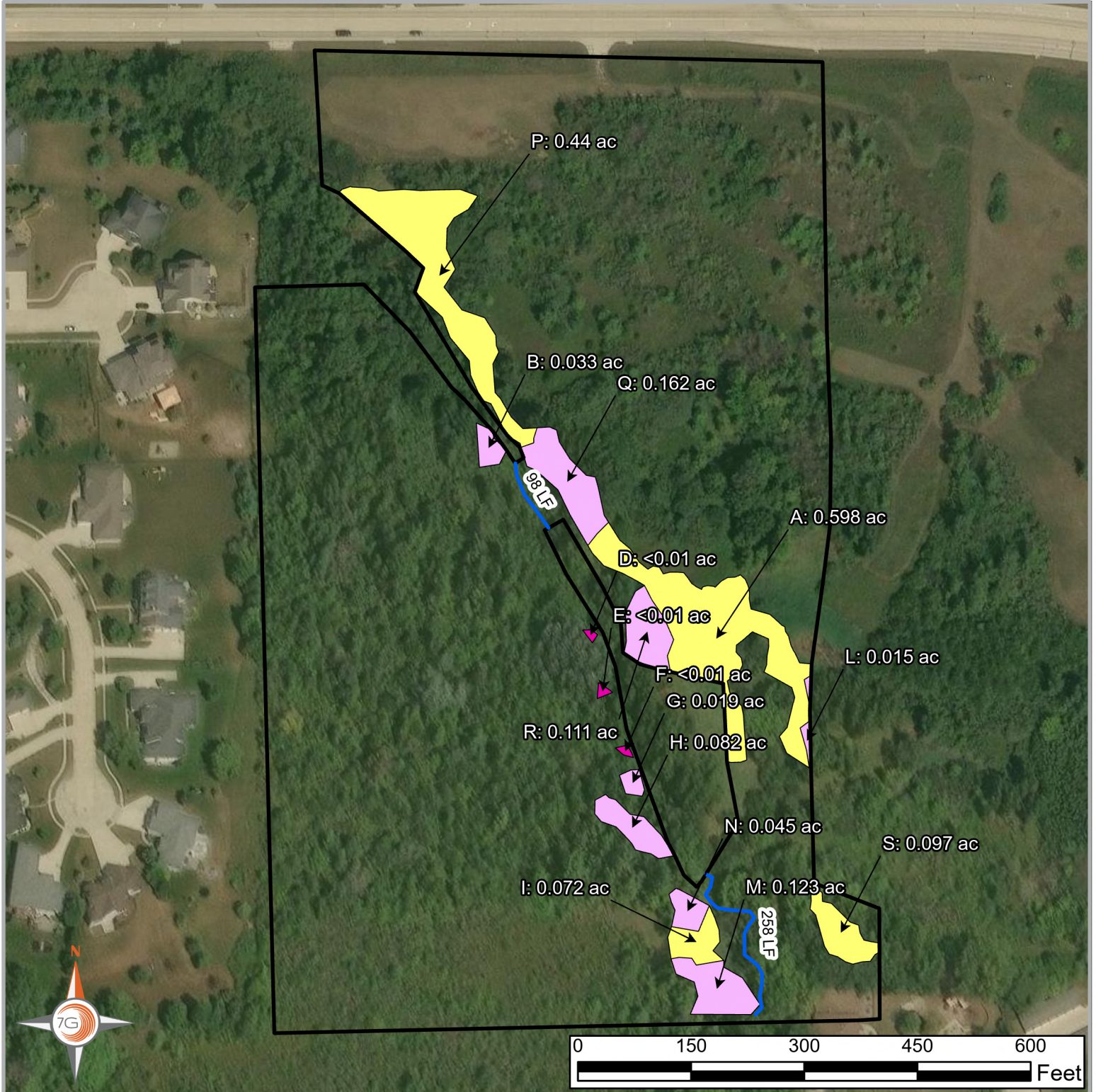
Sincerely,

**Christine  
Schwake**  Digitally signed by  
Christine Schwake  
Date: 2022.08.30  
13:57:32 -05'00'

Christine Schwake  
Environmental Specialist







DESCRIPTION

Lake Ridge Drive Development  
 ME Associates, LLC  
 Physical Location  
 42.540245°, -92.481307°  
 Map Creator: wdowney

Service Layer Credits: ArcGIS World Imagery, Maxar, Microsoft  
 Coordinate System: NAD 1983 UTM Zone 15N  
 Date Exported: 4/18/2024

LEGEND

- Project Footprint  
3/5/2024
- Stream Impacts
- Wetland Impacts**
- emergent
- forested
- shrub-scrub

## NOTIFICATION OF ADMINISTRATIVE APPEAL OPTIONS AND PROCESS AND REQUEST FOR APPEAL

Applicant: ME Associates, LLC.	File Number: 2023-614	Date: 6/17/2024
Attached is:		See Section below
<input type="checkbox"/>	INITIAL PROFFERED PERMIT (Standard Permit or Letter of permission)	A
<input type="checkbox"/>	PROFFERED PERMIT (Standard Permit or Letter of permission)	B
<input type="checkbox"/>	PERMIT DENIAL WITHOUT PREJUDICE	C
<input type="checkbox"/>	PERMIT DENIAL WITH PREJUDICE	D
<input type="checkbox"/>	APPROVED JURISDICTIONAL DETERMINATION	E
<input checked="" type="checkbox"/>	PRELIMINARY JURISDICTIONAL DETERMINATION	F

### SECTION I

The following identifies your rights and options regarding an administrative appeal of the above decision. Additional information may be found at <https://www.usace.army.mil/Missions/Civil-Works/Regulatory-Program-and-Permits/appeals/> or Corps regulations at 33 CFR Part 331.

**A: INITIAL PROFFERED PERMIT:** You may accept or object to the permit

- **ACCEPT:** If you received a Standard Permit, you may sign the permit document and return it to the district engineer for final authorization. If you received a Letter of Permission (LOP), you may accept the LOP and your work is authorized. Your signature on the Standard Permit or acceptance of the LOP means that you accept the permit in its entirety, and waive all rights to appeal the permit, including its terms and conditions, and approved jurisdictional determinations associated with the permit.
- **OBJECT:** If you object to the permit (Standard or LOP) because of certain terms and conditions therein, you may request that the permit be modified accordingly. You must complete Section II of this form and return the form to the district engineer. Upon receipt of your letter, the district engineer will evaluate your objections and may: (a) modify the permit to address all of your concerns, (b) modify the permit to address some of your objections, or (c) not modify the permit having determined that the permit should be issued as previously written. After evaluating your objections, the district engineer will send you a proffered permit for your reconsideration, as indicated in Section B below.

**B: PROFFERED PERMIT:** You may accept or appeal the permit

- **ACCEPT:** If you received a Standard Permit, you may sign the permit document and return it to the district engineer for final authorization. If you received a Letter of Permission (LOP), you may accept the LOP and your work is authorized. Your signature on the Standard Permit or acceptance of the LOP means that you accept the permit in its entirety, and waive all rights to appeal the permit, including its terms and conditions, and approved jurisdictional determinations associated with the permit.
- **APPEAL:** If you choose to decline the proffered permit (Standard or LOP) because of certain terms and conditions therein, you may appeal the declined permit under the Corps of Engineers Administrative Appeal Process by completing Section II of this form and sending the form to the division engineer. This form must be received by the division engineer within 60 days of the date of this notice.

**C. PERMIT DENIAL WITHOUT PREJUDICE: Not appealable**

You received a permit denial without prejudice because a required Federal, state, and/or local authorization and/or certification has been denied for activities which also require a Department of the Army permit before final action has been taken on the Army permit application. The permit denial without prejudice is not appealable. There is no prejudice to the right of the applicant to reinstate processing of the Army permit application if subsequent approval is received from the appropriate Federal, state, and/or local agency on a previously denied authorization and/or certification.

**D: PERMIT DENIAL WITH PREJUDICE: You may appeal the permit denial**

You may appeal the denial of a permit under the Corps of Engineers Administrative Appeal Process by completing Section II of this form and sending the form to the division engineer. This form must be received by the division engineer within 60 days of the date of this notice.

**E: APPROVED JURISDICTIONAL DETERMINATION: You may accept or appeal the approved JD or provide new information for reconsideration**

- **ACCEPT:** You do not need to notify the Corps to accept an approved JD. Failure to notify the Corps within 60 days of the date of this notice means that you accept the approved JD in its entirety and waive all rights to appeal the approved JD.
- **APPEAL:** If you disagree with the approved JD, you may appeal the approved JD under the Corps of Engineers Administrative Appeal Process by completing Section II of this form and sending the form to the division engineer. This form must be received by the division engineer within 60 days of the date of this notice.
- **RECONSIDERATION:** You may request that the district engineer reconsider the approved JD by submitting new information or data to the district engineer within 60 days of the date of this notice. The district will determine whether the information submitted qualifies as new information or data that justifies reconsideration of the approved JD. A reconsideration request does not initiate the appeal process. You may submit a request for appeal to the division engineer to preserve your appeal rights while the district is determining whether the submitted information qualifies for a reconsideration.

**F: PRELIMINARY JURISDICTIONAL DETERMINATION: Not appealable**

You do not need to respond to the Corps regarding the preliminary JD. The Preliminary JD is not appealable. If you wish, you may request an approved JD (which may be appealed), by contacting the Corps district for further instruction. Also, you may provide new information for further consideration by the Corps to reevaluate the JD.

**POINT OF CONTACT FOR QUESTIONS OR INFORMATION:**

If you have questions regarding this decision you may contact:

Albert Frohlich  
 USACE – Rock Island District – Regulatory Division  
 P.O. Box 2004  
 Rock Island, IL 61204  
 (309) 794-5859

If you have questions regarding the appeal process, or to submit your request for appeal, you may contact:

Brian Oberlies  
 Regulatory Appeals Review Officer  
 Mississippi Valley Division  
 1400 Walnut St.  
 Vicksburg, MS 39180  
 (601) 634-5820

**SECTION II – REQUEST FOR APPEAL or OBJECTIONS TO AN INITIAL PROFFERED PERM**

REASONS FOR APPEAL OR OBJECTIONS: (Describe your reasons for appealing the decision or your objections to an initial proffered permit in clear concise statements. Use additional pages as necessary. You may attach additional information to this form to clarify where your reasons or objections are addressed in the administrative record.)

ADDITIONAL INFORMATION: The appeal is limited to a review of the administrative record, the Corps memorandum for the record of the appeal conference or meeting, and any supplemental information that the review officer has determined is needed to clarify the administrative record. Neither the appellant nor the Corps may add new information or analyses to the record. However, you may provide additional information to clarify the location of information that is already in the administrative record.

RIGHT OF ENTRY: Your signature below grants the right of entry to Corps of Engineers personnel, and any government consultants, to conduct investigations of the project site during the course of the appeal process. You will be provided a 15-day notice of any site investigation and will have the opportunity to participate in all site investigations.

<p>_____</p> <p>Signature of appellant or agent.</p>	<p>Date:</p>
<p>Email address of appellant and/or agent:</p>	<p>Telephone number:</p>

**BACKGROUND INFORMATION****A. REPORT COMPLETION DATE FOR PJD:** 16-OCT-2023**B. NAME AND ADDRESS OF PERSON REQUESTING PJD:**

Morley, Packer  
 Me Associates, Llc  
 775 West 1200 N. Suite 100  
 Springville, UT 84663

**C. DISTRICT OFFICE, FILE NAME, AND NUMBER:**

MVR, ME Associates, LLC, MVR-2023-00614-RG

**D. PROJECT LOCATION(S) AND BACKGROUND INFORMATION:  
 (USE THE TABLE BELOW TO DOCUMENT MULTIPLE AQUATIC RESOURCES AND/OR AQUATIC RESOURCES AT DIFFERENT SITES)**

State: IA County/parish/borough: Black Hawk County City: Cedar Falls

Center coordinates of site (lat/long in degree decimal format):

Lat.: 42.540345° Long.: -92.479754°

Universal Transverse Mercator: 15

Name of nearest waterbody: West Fork Cedar River

**E. REVIEW PERFORMED FOR SITE EVALUATION (CHECK ALL THAT APPLY):** Office (Desk) Determination. Date: 10/16/2023 Field Determination. Date(s):

TABLE OF AQUATIC RESOURCES IN REVIEW AREA WHICH "MAY BE" SUBJECT TO REGULATORY JURISDICTION.

Site Number	Latitude (decimal degrees)	Longitude (decimal degrees)	Estimated amount of aquatic resource in review area (acreage and linear feet, if applicable)	Type of aquatic resource (i.e., wetland vs. non-wetland waters)	Geographic authority to which the aquatic resource "may be" subject (i.e., Section 404 or Section 10/404)
A	42.540067	-92.480674	0.75 acres	Wetland	Section 404
B	42.540388	-92.481918	0.03 acres	Wetland	Section 404
C	42.541998	-92.48284	0.12 acres	Wetland	Section 404
D	42.539693	-92.481057	0.01 acres	Wetland	Section 404
E	42.539951	-92.481589	0.01 acres	Wetland	Section 404
F	42.539941	-92.481326	0.01 acres	Wetland	Section 404
G	42.539233	-92.48092	0.02 acres	Wetland	Section 404
H	42.539384	-92.481392	0.08 acres	Wetland	Section 404
I	42.538802	-92.480568	0.07 acres	Wetland	Section 404
J	42.539177	-92.478796	0.53 acres	Wetland	Section 404
K	42.539177	-92.479223	0.16 acres	Wetland	Section 404
L	42.539708	-92.479899	0.39 acres	Wetland	Section 404
M	42.53848	-92.480328	0.12 acres	Wetland	Section 404
N	42.539037	-92.480827	0.04 acres	Wetland	Section 404
O	42.541391	-92.482386	0.09 acres	Wetland	Section 404
P	42.54127	-92.481838	0.53 acres	Wetland	Section 404
Q	42.540589	-92.481545	0.16 acres	Wetland	Section 404

<sup>1</sup> Districts may establish timeframes for requester to return signed PJD forms. If the requester does not respond within the established time frame, the district may presume concurrence and no additional follow up is necessary prior to finalizing an action.

R	42.539921	-92.480986	0.29 acres	Wetland	Section 404
S	42.538746	-92.479426	0.1 acres	Wetland	Section 404
Stream 1	42.540213	-92.480763	1469 feet	Non-wetland waters	Section 404
Stream 2	42.54133	-92.482012	256 feet	Non-wetland waters	Section 404

- 1) The Corps of Engineers believes that there may be jurisdictional aquatic resources in the review area, and the requestor of this PJD is hereby advised of his or her option to request and obtain an approved JD (AJD) for that review area based on an informed decision after having discussed the various types of JDs and their characteristics and circumstances when they may be appropriate.
- 2) In any circumstance where a permit applicant obtains an individual permit, or a Nationwide General Permit (NWP) or other general permit verification requiring "pre-construction notification" (PCN), or requests verification for a non-reporting NWP or other general permit, and the permit applicant has not requested an AJD for the activity, the permit applicant is hereby made aware that: (1) the permit applicant has elected to seek a permit authorization based on a PJD, which does not make an official determination of jurisdictional aquatic resources; (2) the applicant has the option to request an AJD before accepting the terms and conditions of the permit authorization, and that basing a permit authorization on an AJD could possibly result in less compensatory mitigation being required or different special conditions; (3) the applicant has the right to request an individual permit rather than accepting the terms and conditions of the NWP or other general permit authorization; (4) the applicant can accept a permit authorization and thereby agree to comply with all the terms and conditions of that permit, including whatever mitigation requirements the Corps has determined to be necessary; (5) undertaking any activity in reliance upon the subject permit authorization without requesting an AJD constitutes the applicant's acceptance of the use of the PJD; (6) accepting a permit authorization (e.g., signing a proffered individual permit) or undertaking any activity in reliance on any form of Corps permit authorization based on a PJD constitutes agreement that all aquatic resources in the review area affected in any way by that activity will be treated as jurisdictional, and waives any challenge to such jurisdiction in any administrative or judicial compliance or enforcement action, or in any administrative appeal or in any Federal court; and (7) whether the applicant elects to use either an AJD or a PJD, the JD will be processed as soon as practicable. Further, an AJD, a proffered individual permit (and all terms and conditions contained therein), or individual permit denial can be administratively appealed pursuant to 33 C.F.R. Part 331. If, during an administrative appeal, it becomes appropriate to make an official determination whether geographic jurisdiction exists over aquatic resources in the review area, or to provide an official delineation of jurisdictional aquatic resources in the review area, the Corps will provide an AJD to accomplish that result, as soon as is practicable. This PJD finds that there "may be" waters of the U.S. and/or that there "may be" navigable waters of the U.S. on the subject review area, and identifies all aquatic features in the review area that could be affected by the proposed activity, based on the following information:

**SUPPORTING DATA. Data reviewed for PJD (check all that apply)**

Checked items should be included in subject file. Appropriately reference sources below where indicated for all checked items:

- Maps, plans, plots or plat submitted by or on behalf of the PJD requestor:  
Map: Page 8 – Figure A – Wetland Delineation Map, included in wetland delineation dated 9/30/2021.

<sup>1</sup> Districts may establish timeframes for requester to return signed PJD forms. If the requester does not respond within the established time frame, the district may presume concurrence and no additional follow up is necessary prior to finalizing an action.

- Data sheets prepared/submitted by or on behalf of the PJD requestor.
  - Office concurs with data sheets/delineation report.
  - Office does not concur with data sheets/delineation report. Rationale: \_\_\_\_\_.
- Data sheets prepared by the Corps: \_\_\_\_\_.
- Corps navigable waters' study: \_\_\_\_\_.
- U.S. Geological Survey Hydrologic Atlas: \_\_\_\_\_.
- USGS NHD data.
- USGS 8 and 12 digit HUC maps.
- U.S. Geological Survey map(s). Cite scale & quad name: Waterloo, IA 24K, Figure C.
- Natural Resources Conservation Service Soil Survey. Citation: Figure D – Wetland Delineation.
- National wetlands inventory map(s). Cite name: \_\_\_\_\_.
- State/local wetland inventory map(s): \_\_\_\_\_.
- FEMA/FIRM maps: \_\_\_\_\_.
- 100-year Floodplain Elevation is: \_\_\_\_\_. (National Geodetic Vertical Datum of 1929)
- Photographs:  Aerial (Name & Date): \_\_\_\_\_.
- or  Other (Name & Date): \_\_\_\_\_.
- Previous determination(s). File no. and date of response letter: \_\_\_\_\_.
- Other information (please specify): \_\_\_\_\_.

**IMPORTANT NOTE: The information recorded on this form has not necessarily been verified by the Corps and should not be relied upon for later jurisdictional determinations.**

\_\_\_\_\_  
Signature and date of Regulatory staff member completing PJD

\_\_\_\_\_  
Signature and date of person requesting PJD (REQUIRED, unless obtaining the signature is impracticable)<sup>1</sup>

<sup>1</sup> Districts may establish timeframes for requester to return signed PJD forms. If the requester does not respond within the established time frame, the district may presume concurrence and no additional follow up is necessary prior to finalizing an action.

# Figure A: Wetland Delineation Map

Item 3.







## Traffic Impact Study

### *Thunder Ridge West Second Addition*

Cedar Falls, Iowa

ME Associates



26 June 2020

**TRAFFIC IMPACT**  
GROUP, LLC

7900 International Drive, Suite 300  
Bloomington, MN 55425  
612.875.2417



Thunder Ridge West Second Addition - Cedar Falls

	<p>I hereby certify that this report was prepared by me or under my direct supervision, and that I am a duly Licensed Professional Engineer under the laws of the State of Iowa.</p>
	<p style="text-align: center;"> <u>6/26/2020</u></p>
	<p>(Signature) <span style="float: right;">(Date)</span></p>
	<p>Printed Name: <u>Scott P. Israelson, P.E., PTOE</u></p>
	<p>License Number <u>20363</u></p>
	<p>My license renewal date is December 31, <u>2020</u></p>
	<p>Pages or sheets covered by this seal: <u>    </u> All</p>

# Executive Summary

## Project Description

Thunder Ridge West Second Addition is a proposed commercial development in Cedar Falls, Iowa. The site is located on the south side of 1st Street (IA 57) between Lake Ridge Drive on the west and Magnolia Drive/Oak Park Boulevard on the east.

The development is proposed to consist of 9 lots with a variety of uses including a bank, gas station/convenience store, pharmacy, restaurants, general retail strip center, a medical/office building, and an assisted living facility. There is also a multifamily housing development planned west of the 9 lots with 216 units.

Access to the property will be via extensions of Lake Ridge Drive, White Tail Drive, and Eagle Ridge Road into the new development acreage.

The City of Cedar Falls requires a Traffic Impact Analysis (TIA) for developments of this zoning classification to determine “impacts upon surrounding roadways.”

## Trip Generation

The proposed new development is expected to generate 292 entering trips and 192 exiting trips in the AM peak hour, and 226 entering and 266 exiting trips in the PM peak hour. This site will also experience pass-by and diverted link trips, which have also been included in the driveway analysis.

## Turn Lanes/Access Management

The development proposes to utilize three existing roadway connections to 1st Street (IA 57) and extend internal roads to provide access to individual lot developments.

## Traffic Impacts

Analysis shows that the new development traffic can be accommodated within the existing roadway infrastructure with minimal impact. The new development roadways and extensions and existing intersections on 1st Street (IA 57) indicate acceptable levels of service for the Full Build 2025 scenario.

## Recommended Improvements

The following summarizes recommended improvements:

### 1st Street (IA 57) & Lake Ridge Drive

- Construct an eastbound right-turn lane on 1st Street (IA 57) and construct a northbound left-turn lane on Lake Ridge Drive new connection.

### 1st Street (IA 57) & Eagle Ridge Road

- Stripe the existing northbound approach for a left-turn lane/through-right lane.

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## I. Introduction

Thunder Ridge West Second Addition is a proposed commercial development in Cedar Falls, Iowa. The site is located on the south side of 1st Street (IA 57) between Lake Ridge Drive on the west and Magnolia Drive/Oak Park Boulevard on the east.

The development is proposed to consist of 9 lots with a variety of uses including a bank, gas station/convenience store, pharmacy, restaurants, general retail strip center, a medical/office building, and an assisted living facility. There is also a multifamily housing development planned west of the 9 lots with 216 units.

Access to the property will be via an extension of Lake Ridge Drive south approximately 1,300 feet with connections to the east to a White Tail Drive extension, and an Eagle Ridge Road extension.

The City of Cedar Falls requires a Traffic Impact Analysis (TIA) for developments of this zoning classification to determine “impacts upon surrounding roadways.”

The study area included the following intersections:

- 1st Street (IA 57) & Lake Ridge Drive
- 1st Street (IA 57) & Eagle Ridge Road
- 1st Street (IA 57) & Oak Park Boulevard/Magnolia Drive
- Magnolia Drive & White Tail Drive
- Lake Ridge Drive & White Tail Drive
- Lake Ridge Drive & Eagle Ridge Road
- Eagle Ridge Road & White Tail Drive

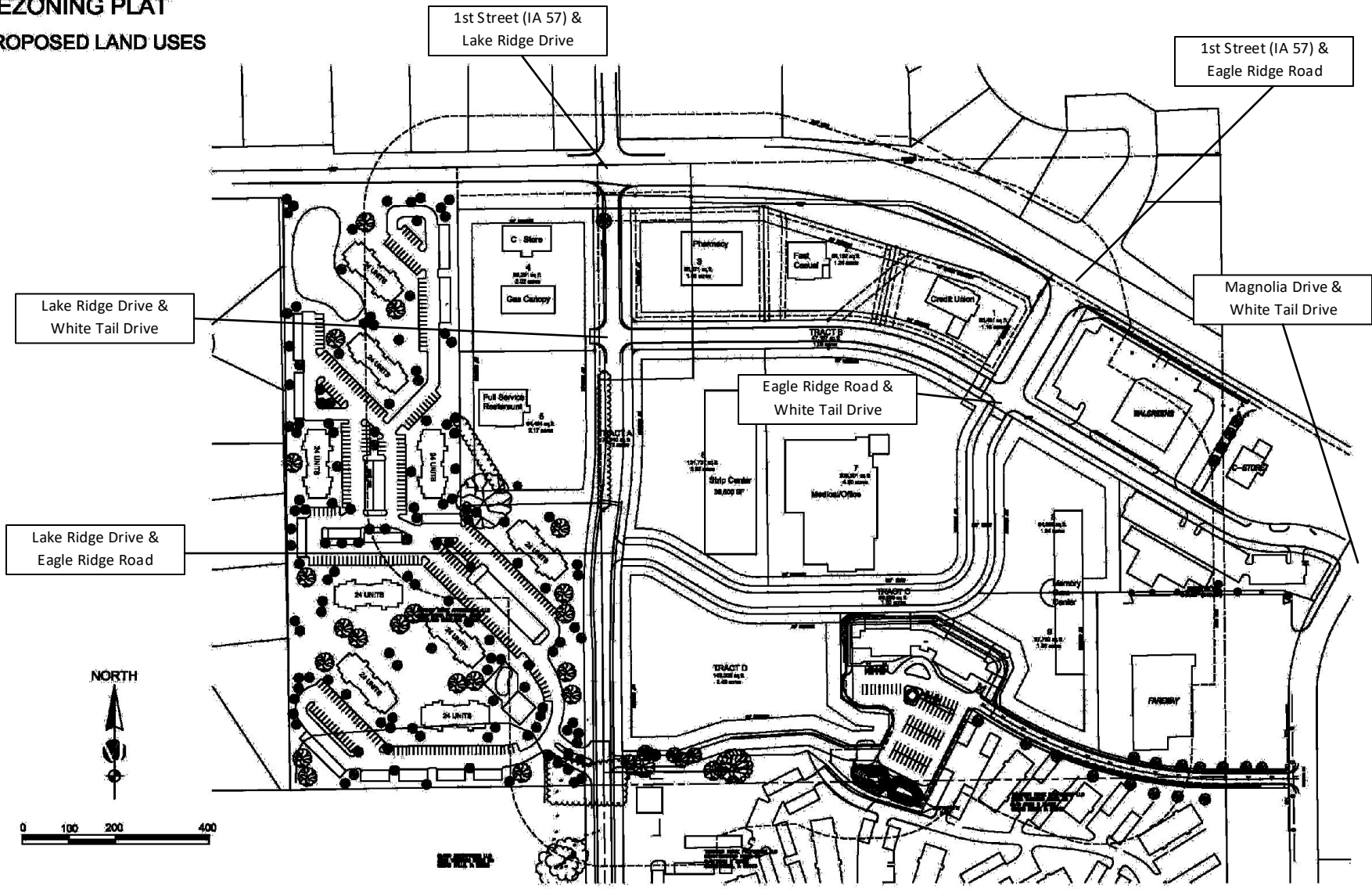
The study analyzed the following scenarios:

- 2020 Existing Conditions
- Full Build 2025 Conditions

The AM peak hour and PM peak hour were analyzed.

**Figure 1** shows the most recent site plan. **Figure 2** shows the project vicinity map.

**REZONING PLAT  
PROPOSED LAND USES**



Item 3.

page #	
scale	1"=200'
drawn by	W.J.L.
date	4-6-2020

WJ Engineering  
1501 Technology Parkway  
Cedar Falls, Iowa - 319-266-5829



Thunder Ridge Rezoning Plat  
PC-2, Planned Commercial  
Cedar Falls, Iowa

208032

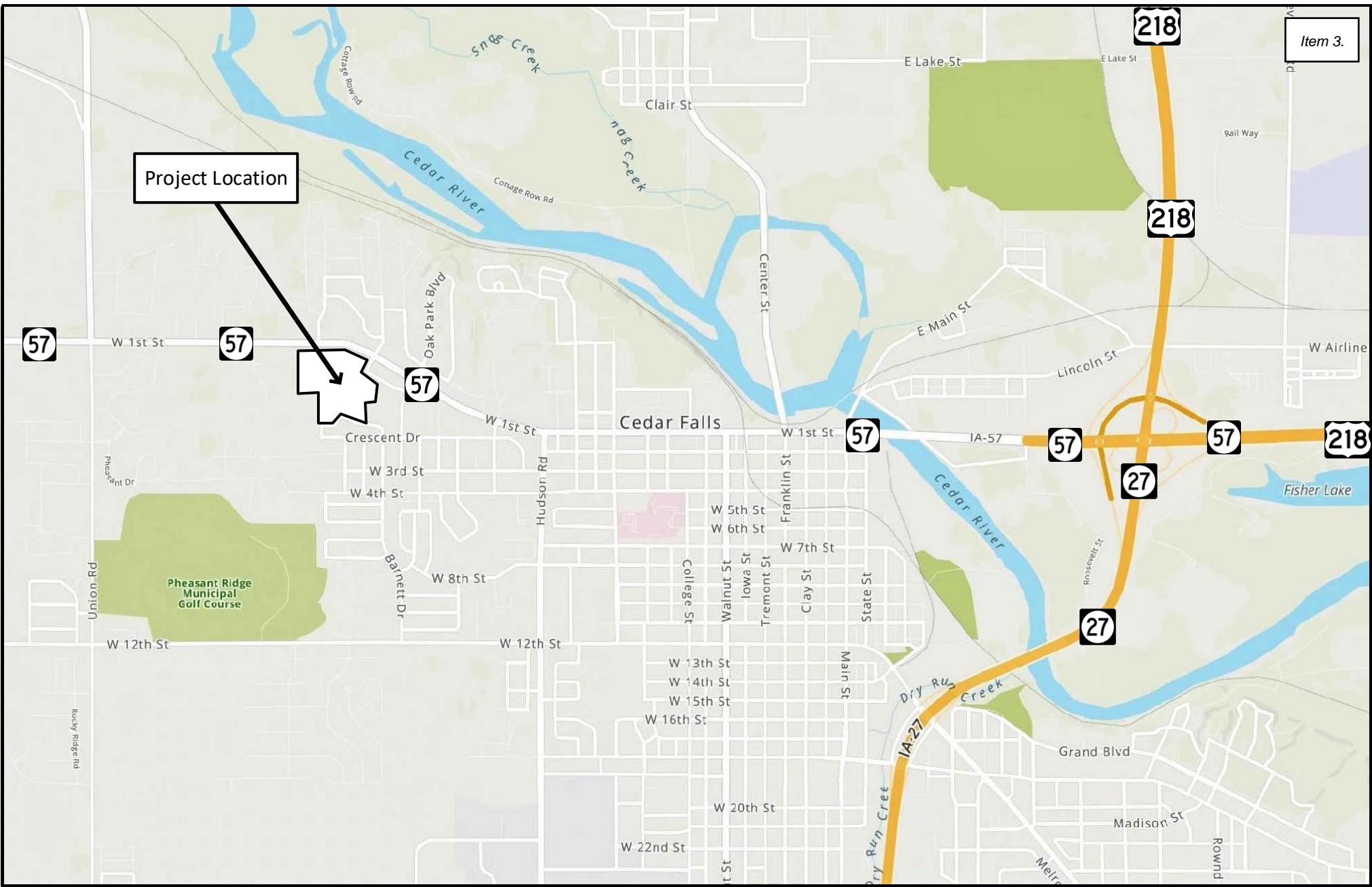
Site Plan

Figure 1

Thunder Ridge West Second Addition - Cedar Falls

Date: 25 June 2020





Vicinity Map

Figure 2

Thunder Ridge West Second Addition - Cedar Falls

Date: 23 June 2020

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## II. Existing Conditions

### A. Existing Roadway Conditions

Table 2.1 presents a summary of the existing roadway conditions in the study area.

Table 2.1 - Existing Roadways				
Street Name	Functional Class	Typical Section	Posted Speed	AADT
1st Street (IA 57)	Major Arterial	Four-lane divided Two-way Left-Turn Lane (TWLTL)	45 mph	10,758 E 7,643 W
Lake Ridge Drive (south extension)	Collector	Two-lane undivided	25 mph	-
Magnolia Drive	Collector	Two-lane undivided	25 mph	4,828
Eagle Ridge Road	Local street	two-lane undivided	25 mph	-

### B. Existing/Proposed Intersection Geometry

1st Street (IA 57) & Lake Ridge Drive is an unsignalized T-intersection with stop sign control on Lake Ridge Drive. The eastbound approach has a left-turn lane and a through lane. The westbound approach has a through lane and a right-turn lane. The southbound approach is a single lane. This development will add a fourth leg to this intersection on the south side of 1st Street (IA 57) to provide a new access roadway for the project.

1st Street (IA 57) & Eagle Ridge Road is unsignalized with stop sign control on Eagle Ridge Drive. The eastbound and westbound approaches have a left-turn lane, a through lane, and a combination through/right lane. The northbound and southbound approaches consist of a single lane.

1st Street (IA 57) & Oak Park Boulevard/Magnolia Drive is signalized with protected/permitted left-turn phasing on the eastbound and westbound approaches. The northbound approach has a right-turn overlap phase which runs concurrent with the westbound leading left-turn phase. The eastbound and westbound approaches have a left-turn lane, a through lane, and a combination through/right lane. The northbound approach has a combination left/through lane and a right-turn lane. The southbound approach consists of a single lane.

Magnolia Drive & White Tail Drive is unsignalized with stop sign control on White Tail Drive. All approaches consist of a single lane.

Lake Ridge Drive & White Tail Drive is a proposed unsignalized intersection with stop sign control on White Tail Drive. All approaches will consist of a single lane.

Lake Ridge Drive & Eagle Ridge Road is a proposed unsignalized intersection with stop sign control on Eagle Ridge Road. All approaches will consist of a single lane.



Eagle Ridge Road & White Tail Drive is an existing intersection which currently has only a westbound approach and a southbound approach. The eastbound and northbound approaches will both be extended to connect to the Lake Ridge Drive extension. All approaches consist of a single lane.

**C. Traffic Volumes**

Traffic data collection for study area intersections was performed on May 19, 20, and 21, 2020. **Figure 3** displays existing traffic volumes - 2020. These volumes can be found in the Appendix.

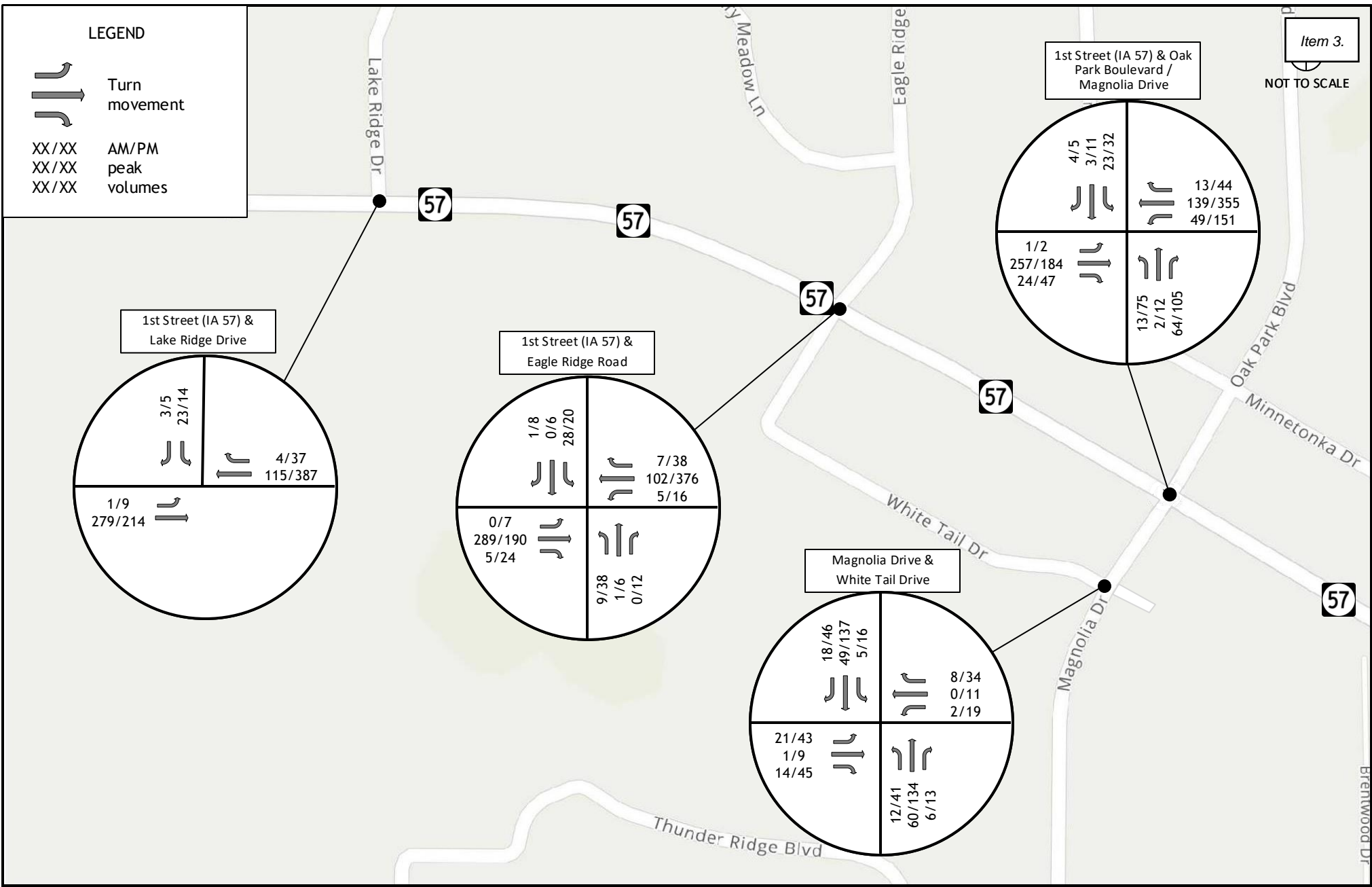
Due to shut downs which occurred because of coronavirus concerns, traffic volumes counted at this time will not be at normal levels. In order to determine an adjustment factor for the volumes collected, a comparison was made to intersection turning volumes which were collected by the Iowa DOT on July 10, 2017 for the intersection of 1st Street (IA 57) & Oak Park Boulevard/Magnolia Drive. This comparison is shown in Table 2.2.

Table 2.2 - Count Comparison - 2017 Iowa DOT vs 2020														
Time	SB			WB			NB			EB			Total	Year
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT		
7:00-8:00	50	2	2	64	125	7	9	7	85	0	372	22	745	2017
7:30-8:30	23	3	4	49	139	13	13	2	64	1	257	24	592	2020
Difference	-54%	50%	100%	-23%	11%	86%	44%	-71%	-25%		-31%	9%	-21%	
16:00-17:00	29	14	3	228	386	42	98	16	136	0	263	51	1266	2017
16:30-17:30	32	11	5	151	355	44	75	12	105	2	184	47	1023	2020
Difference	10%	-21%	67%	-34%	-8%	5%	-23%	-25%	-23%		-30%	8%	-19%	

As shown, while individual movements vary, the overall current counts are 20% less than the counts done in 2017.

In order to adjust the current traffic, all newly counted volumes will be adjusted by a factor of 1.236. This will account for the 20% increase along with a 1% per year growth factor for the time period 2017 to 2020. For the 1st Street (IA 57) & Oak Park Boulevard/Magnolia Drive intersection, the 2017 Iowa DOT counts will be utilized, with a 1% per year growth factor applied. **Figure 4** displays adjusted existing traffic volumes, which will be utilized as the base traffic for analysis.

Current Average Annual Daily Traffic (AADT) volumes were retrieved from the Iowa DOT Planning Office website.



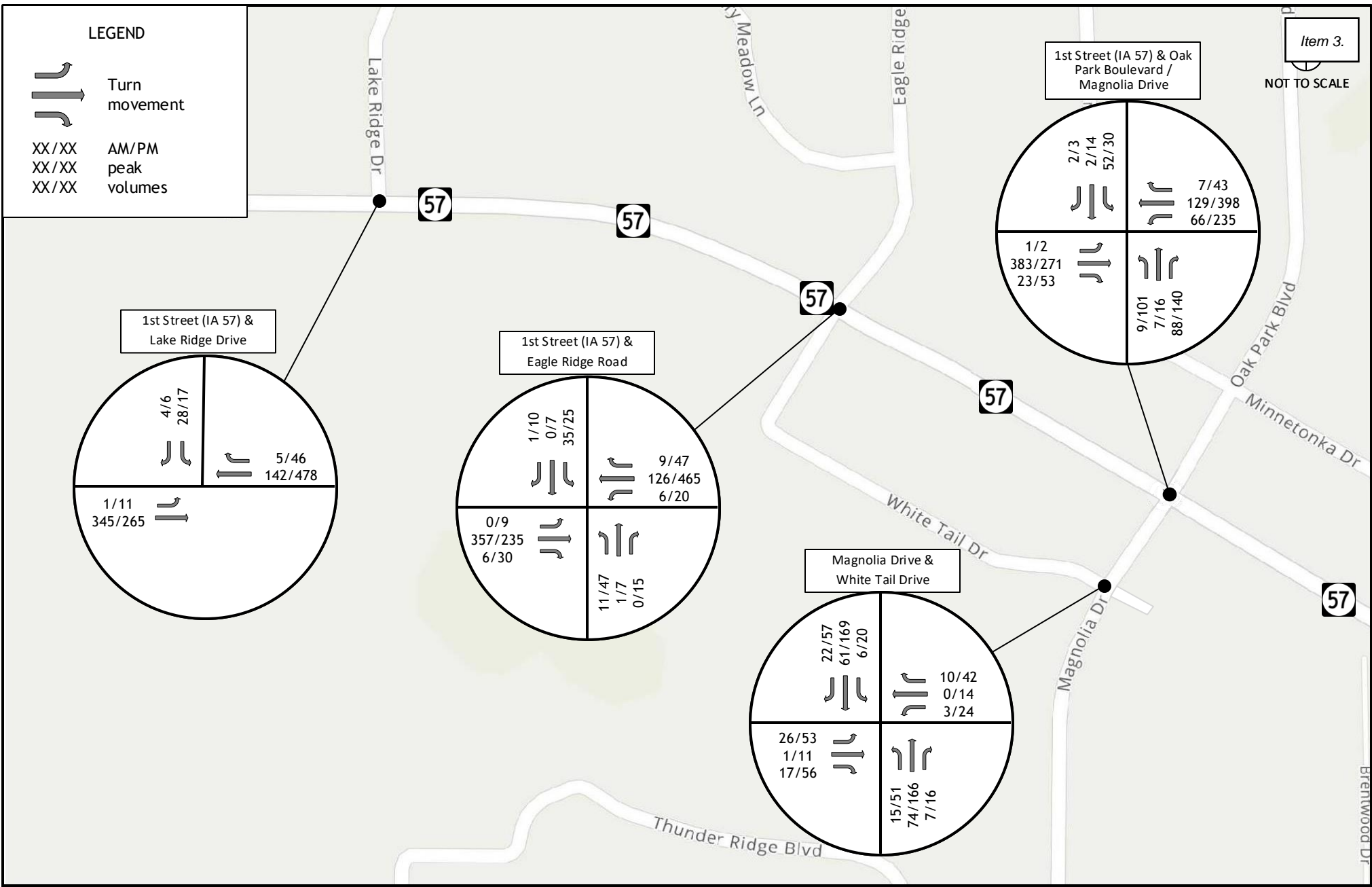
Existing Traffic Volumes - 2020

Figure 3

Thunder Ridge West Second Addition - Cedar Falls

Date: 23 June 2020

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Adjusted Existing Traffic Volumes

Figure 4

Thunder Ridge West Second Addition - Cedar Falls

Date: 23 June 2020

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GROUP LLC

### III. Methodology

#### A. Base Assumptions

Intersection capacity analysis was conducted using Synchro v10.0. Trip generation was calculated using the 10th edition of the Institute of Transportation Engineers (ITE) *Trip Generation Manual*. Right-turn lanes were examined using the National Cooperative Highway Research Program (NCHRP) Report No. 279 *Intersection Channelization Design Guide*. Signal timing was determined from site observation.

#### B. Background Growth

The average annual background growth rate is calculated using historical AADT volumes. Calculations show that the background growth on 1st Street (IA 57) is 0.81% per year. These calculations can be found in the Appendix.

Existing volumes were increased by 1% per year to estimate background growth for Full Build 2025 conditions.

#### C. Trip Generation

The development is proposed to consist of 9 lots with a variety of uses, as shown below.

Lot 1	Credit Union with drive-thru window	6,000	sq. ft.
Lot 2	Gas Station/Convenience Store	12	vehicle fuel positions
Lot 3	Pharmacy/Drugstore, drive-thru	15,000	sq. ft.
Lot 4	Fast Food, drive-thru	2,500	sq. ft.
Lot 5	High-Turnover (Sit Down) restaurant	7,000	sq. ft.
Lot 6	Retail Strip Center	38,500	sq. ft.
Lot 7	Medical-Dental Office	45,000	sq. ft.
Lots 8 and 9	Memory Care Center	110	beds
West Lot	Multifamily Housing	216	dwelling units

The *ITE Trip Generation Manual, 10th Edition* was used to estimate the projected trips by this development.

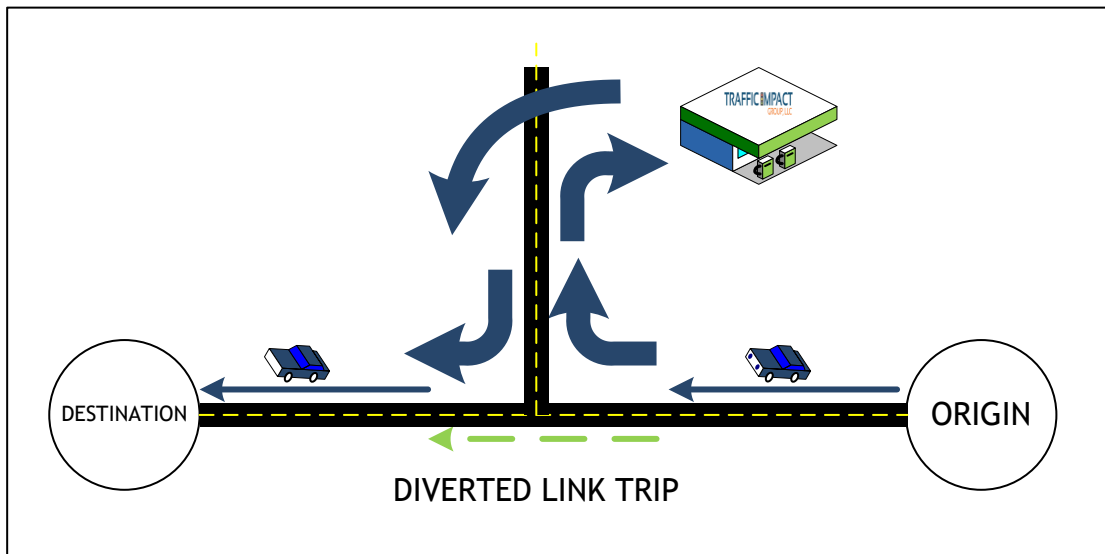
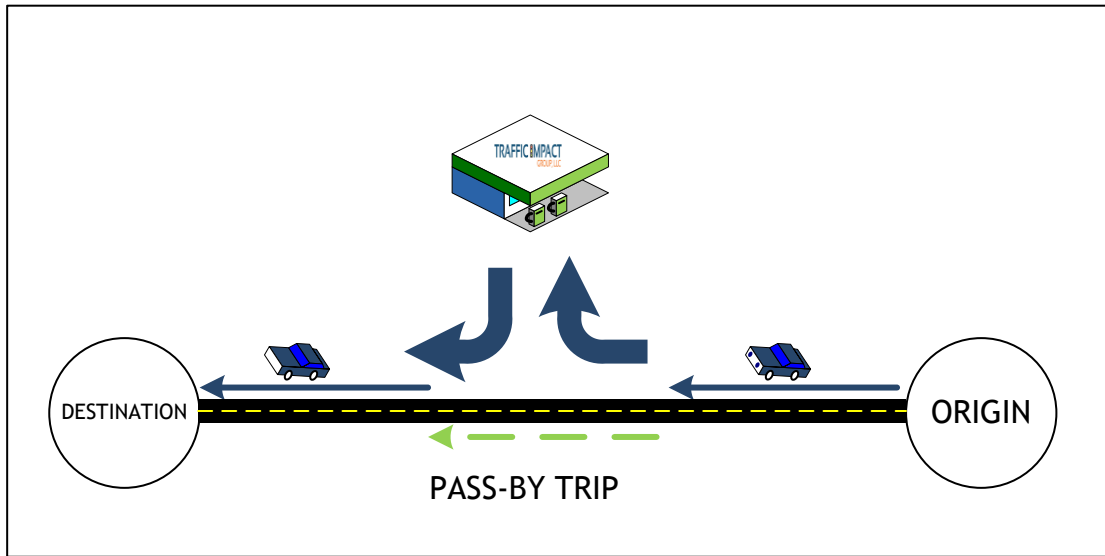
Table 3.1 contains the summary of the land uses and sizes used for trip generation estimates.

Table 3.1 - ITE Trip Generation								
Average Weekday Driveway Volumes					AM Peak Hour		PM Peak Hour	
Land Use	ITE Code	Size		Daily Trips	Enter	Exit	Enter	Exit
Drive-in Bank	912	6	Th.Sq.Ft. GFA	614	33	24	62	61
Gasoline/Service Station with Convenience Market	945	12	Vehicle Fueling Positions	2464	77	73	86	82
Pharmacy/Drugstore with Drive-Through Window	881	15	Th.Sq.Ft. GFA	1637	31	27	77	77
Fast Food Restaurant with Drive-Through Window	934	2.5	Th.Sq.Ft. GFA	1177	51	49	43	39
High-Turnover (Sit-Down) Restaurant	932	7	Th.Sq.Ft. GFA	785	39	31	42	26
Shopping Center	820	38.5	Th.Sq.Ft. GLA	3141	106	65	129	139
Medical-Dental Office Building	720	45	Th.Sq.Ft. GFA	1641	86	24	43	112
Assisted Living	254	110	Beds	286	13	8	11	18
Multifamily Housing (Mid-Rise)	221	216	Dwelling Units	1175	19	54	57	36
<b>Unadjusted Peak Hour Trips</b>				<b>12920</b>	<b>455</b>	<b>355</b>	<b>550</b>	<b>590</b>
Internal Capture Reduction - from NCHRP No 684								
Internal Capture Reduction	<i>Office</i>				-16	-22	-10	-26
	<i>Retail</i>				-19	-28	-64	-58
	<i>Restaurant</i>				-51	-24	-35	-38
	<i>Residential</i>				-1	-13	-37	-24
<b>Driveway Peak Hour Trips</b>					<b>368</b>	<b>268</b>	<b>404</b>	<b>444</b>
Pass-By/Diverted Link Reduction - from ITE Manual								
Pass-By/Diverted Link Reduction	<i>Drive-in Bank</i>				-7	-7	-21	-21
	<i>Gasoline/Service Station with Convenience Market</i>				-45	-45	-46	-46
	<i>Pharmacy/Drugstore with Drive-Through Window</i>				0	0	-37	-37
	<i>Fast Food Restaurant with Drive-Through Window</i>				-24	-24	-19	-19
	<i>High-Turnover (Sit-Down) Restaurant</i>				0	0	-11	-11
	<i>Shopping Center</i>				0	0	-44	-44
<b>Total New Peak Hour Trips to Adjacent Network</b>					<b>292</b>	<b>192</b>	<b>226</b>	<b>266</b>

This retail/office/residential development generates “internal capture” trips summarized in the table above. Internal capture trip reduction is a method to estimate interaction between different uses within the same development. While each land use in a development generates vehicle trips, some people will visit more than one land use within the development. This phenomenon of multiple land uses adjacent to each other ultimately results in fewer vehicle trips to the external road network, and less impact, than free-standing retail, office, or residential areas. This reduction was calculated in accordance with the *NCHRP Report No. 684, Enhancing Internal Trip Capture for Mixed-use Development*.

Pass-by reductions are included to account for the phenomenon where land uses such as convenience stores or other similar uses attract vehicles whose ultimate destination is elsewhere. These driveway turning movement trips replace what would otherwise be “through” movements, but do not contribute to “new trips” on the roadway network. This reduction was calculated in accordance with the *ITE Trip Generation Handbook, 3rd Edition*.

The following graphic illustrates how pass-by and diverted link trips affect traffic calculations at the project driveways and adjacent intersection.



The percentages and directionality of pass-by and diverted link trips is based on the count data collected in the PM peak. Table 3.3 summarizes the calculation.

Table 3.3 - Pass-by/Diverted Link Trips							
Roadway	Direction	AM Volume	% of total AM	AM Pass-by Trips	PM Volume	% of total PM	PM Pass-by Trips
1st Street (IA 57)	EB Through	407	66.8%	51	326	32.5%	58
	WB Through	202	33.2%	25	676	67.5%	120

Pass-by trips are shown in Figure 5.

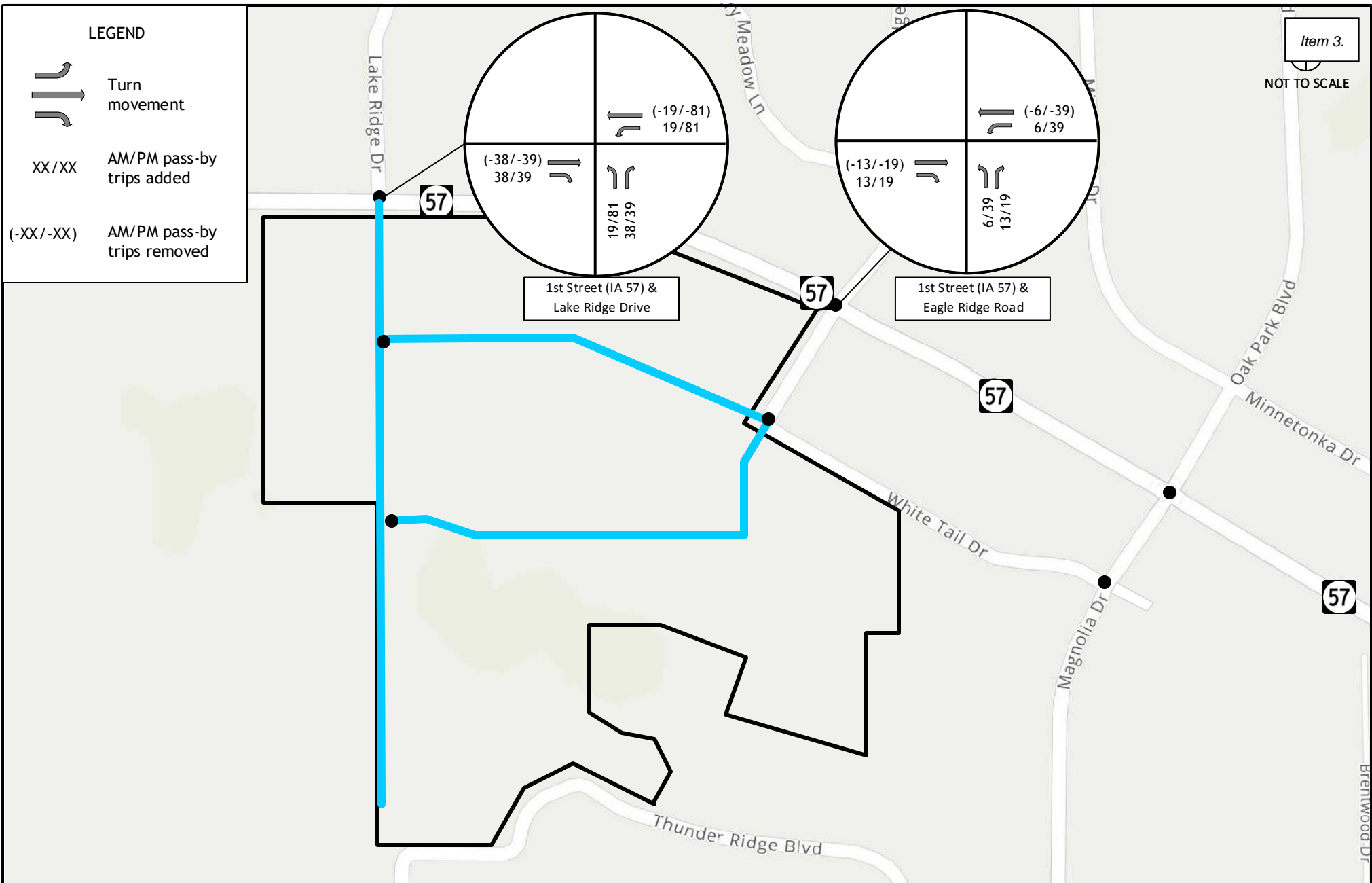
**D. Trip Distribution**

Trips for this proposed development were assigned to the surrounding roadway network based on existing traffic patterns. The proposed trip distribution for this project can be found in Figure 6, and the projected site trips are shown in Figure 7.

Full Build 2025 volumes are shown in Figure 8



**Eagle Ridge Road at 1st Street (IA 57) (looking south)**



Pass-by/Diverted Link Trips

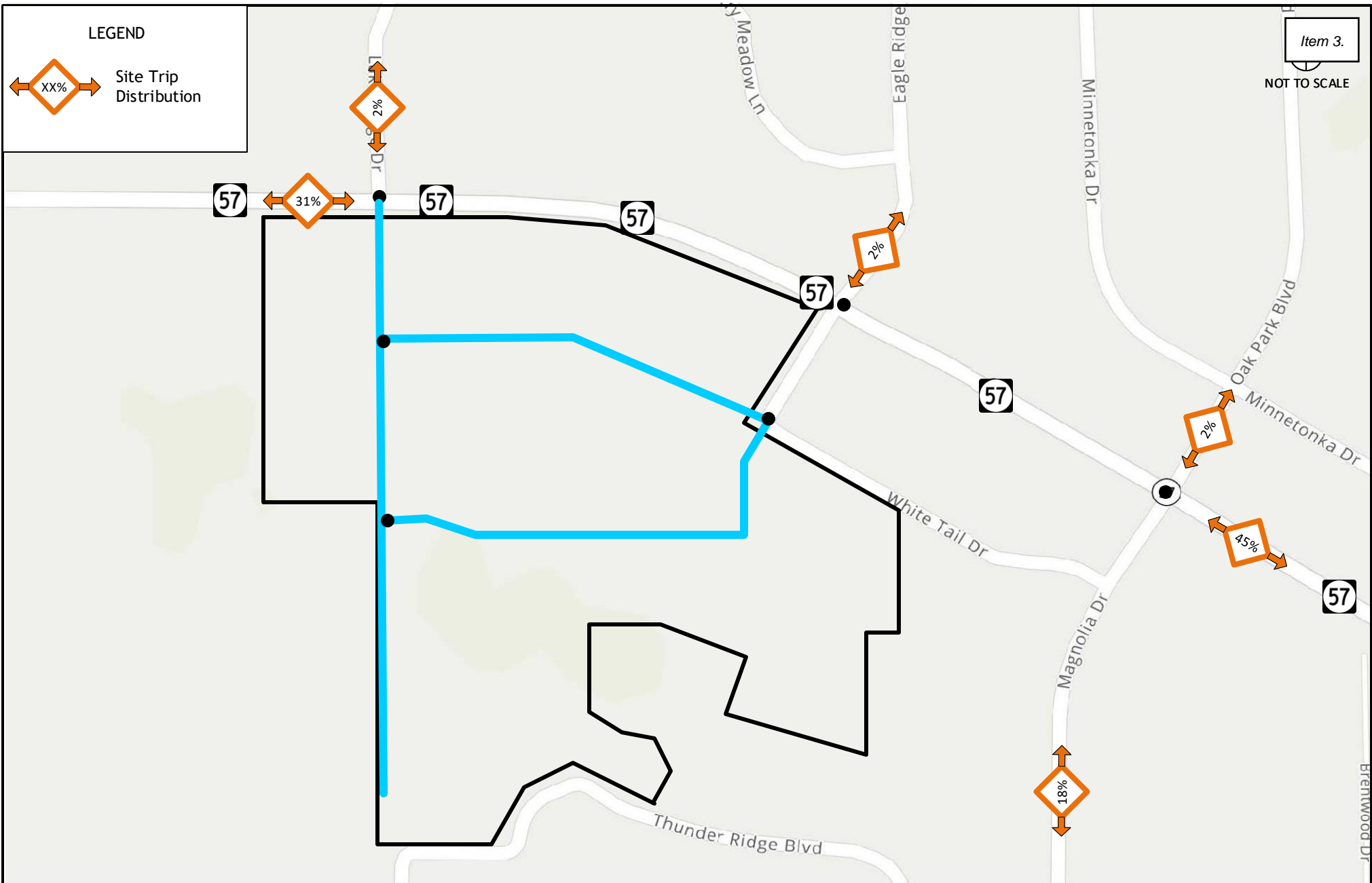
Figure 5

Thunder Ridge West Second Addition - Cedar Falls

Date: 23 June 2020

**TRAFFIC IMPACT**  
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Trip Distribution

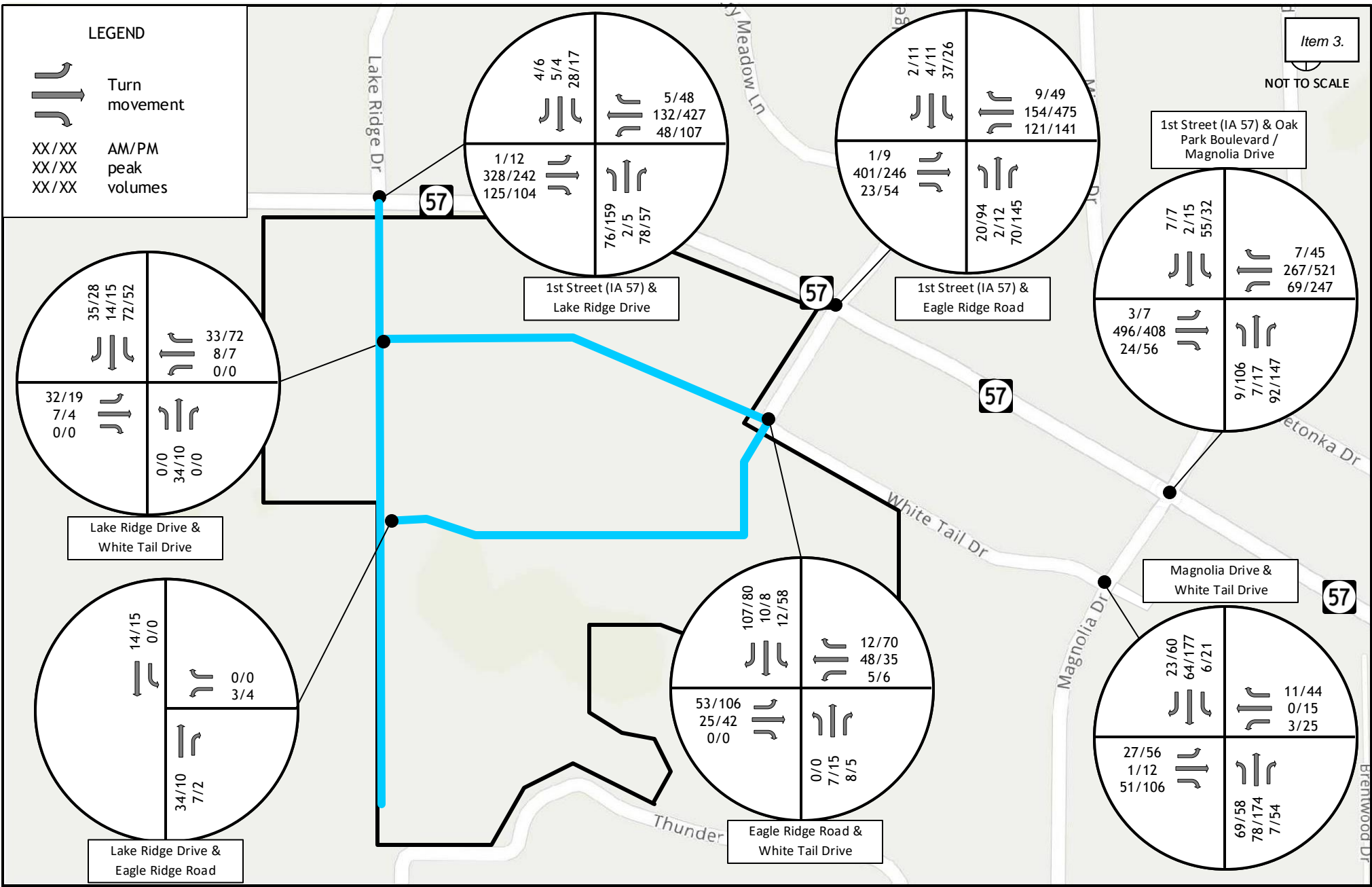
Figure 6

Thunder Ridge West Second Addition - Cedar Falls

Date: 23 June 2020

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Full Build 2025 Volumes

Figure 8

Thunder Ridge West Second Addition - Cedar Falls

Date: 24 June 2020

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## IV. Turn Lane Analysis

### A. Right-Turn Lanes

The National Cooperative Highway Research Program (NCHRP) Report 279 *Intersection Channelization Design Guide* was used to determine right-turn lane thresholds for this study.

For public officials that do not have formal thresholds for determining when new access requires turn lane treatments, the NCHRP Report 279 is a tool in assessing the impacts from development. Specifically, this report allows the traffic engineering professional to input roadway type, posted speed, advancing volume, and number of turning vehicles. The result is a plot on a graph defined by the above inputs as either recommending turn lanes or not.

Right-turn lane warrant analysis was performed on the two main locations for the proposed development new traffic generation access, as shown below.

Table 4.1 shows the volumes used for analysis.

Driveway	AM/PM	Approach	Posted Speed	Advancing Vol	RT Vol	Turn Lane needed?
1st Street (IA 57) & Lake Ridge Drive	AM	EB	45	454	125	Yes
	PM			358	104	Yes
1st Street (IA 57) & Eagle Ridge Road	AM	EB	45	425	23	No
	PM			309	54	No

Based on Full Build 2025 volumes, a right-turn lane from 1st Street (IA 57) is warranted for the Lake Ridge Drive access. **It is recommended** to construct an eastbound right-turn lane at the Lake Ridge Drive intersection. These calculations can be found in the Appendix.

### B. Left-Turn Lanes

Left-turn lanes exist along 1st Street (IA 57) due to the two-way left-turn lane configuration of the roadway. No additional left-turn lanes will be warranted for this development.

## V. Capacity Analysis

The Transportation Research Board’s Highway Capacity Manual (HCM) utilizes a term “level of service” (LOS) to measure how traffic operates in intersections. There are currently six levels of service ranging from A to F. Level of Service “A” represents the best conditions and Level of Service “F” represents the worst. Synchro software was used to determine the level of service for intersections in the study area. All worksheet reports from the analyses can be found in the Appendix.

Table 5.1 shows the control delay per vehicle associated with LOS A through F for signalized and unsignalized intersections.

Table 5.1 - Highway Capacity Manual Levels of Service and Control Delay			
Signalized Intersection		Unsignalized Intersection	
Level of Service	Control Delay per Vehicle (sec)	Level of Service	Control Delay per Vehicle (sec)
A	≤ 10	A	≤ 10
B	> 10 and ≤ 20	B	> 10 and ≤ 15
C	> 20 and ≤ 35	C	> 15 and ≤ 25
D	> 35 and ≤ 55	D	> 25 and ≤ 35
E	> 55 and ≤ 80	E	> 35 and ≤ 50
F	> 80	F	> 50

### A. 1st Street (IA 57) & Lake Ridge Drive

1st Street (IA 57) & Lake Ridge Drive is an unsignalized T-intersection with stop sign control on Lake Ridge Drive. The eastbound approach has a left-turn lane and a through lane. The westbound approach has a through lane and a right-turn lane. The southbound approach is a single lane. This development will add a fourth leg to this intersection on the south side of 1st Street (IA 57) to provide a new access roadway for the project.

Table 5.2 shows the current LOS, control delay, and 95th percentile queue length for existing conditions.

Table 5.2 - Intersection LOS, Delay, and Queue by Movement - 2020 Existing								
Intersection	Approach	Movement	AM			PM		
			LOS	Delay	Queue	LOS	Delay	Queue
1st Street (IA 57) & Lake Ridge Drive	EB	LT	A	7.5	0'	A	8.8	0'
		TH	FREE					
	WB	TH	FREE					
		RT	FREE					
	SB	LT	B	12.0	5'	C	16.8	8'
		RT						

Table 5.3 shows the expected LOS, control delay, and 95th percentile queue length for Full Build 2025 conditions.

Table 5.3 - Intersection LOS, Delay, and Queue by Movement - 2025 Full Build								
Intersection	Approach	Movement	AM			PM		
			LOS	Delay	Queue	LOS	Delay	Queue
1st Street (IA 57) & Lake Ridge Drive	EB	LT	A	7.5	0'	A	8.6	0'
		TH	FREE					
		RT	FREE					
	WB	LT	A	8.4	3'	A	8.5	10'
		TH	FREE					
		RT	FREE					
	NB	LT	C	16.5	20'	E	45.8	115'
		TH	B	11.0	10'	B	11.1	10'
		RT						
	SB	LT	C	17.6	10'	C	19.4	10'
		TH						
		RT						

Analysis shows that acceptable levels of service are maintained for 2025 Full Build conditions. **It is recommended** to construct a northbound left-turn lane to accommodate the left-turn volume and construct an eastbound right-turn lane based on the turn lane analysis in Section IV.



1st Street (IA 57) at Lake Ridge Drive (looking west)

**B. 1st Street (IA 57) & Eagle Ridge Road**

1st Street (IA 57) & Eagle Ridge Road is unsignalized with stop sign control on Eagle Ridge Drive. The eastbound and westbound approaches have a left-turn lane, a through lane, and a combination through/right lane. The northbound and southbound approaches consist of a single lane.

Table 5.4 shows the current LOS, control delay, and 95th percentile queue length for existing conditions.

Table 5.4 - Intersection LOS, Delay, and Queue by Movement - 2020 Existing								
Intersection	Approach	Movement	AM			PM		
			LOS	Delay	Queue	LOS	Delay	Queue
1st Street (IA 57) & Eagle Ridge Road	EB	LT	A	0.0	0'	A	8.8	0'
		TH	FREE					
		RT	FREE					
	WB	LT	A	8.7	0'	A	7.9	3'
		TH	FREE					
		RT	FREE					
	NB	LT	B	13.3	3'	C	18.3	23'
		TH						
		RT						
	SB	LT	B	11.6	5'	C	19.7	15'
		TH						
		RT						

Table 5.5 shows the expected LOS, control delay, and 95th percentile queue length for Full Build 2025 conditions.

Table 5.5 - Intersection LOS, Delay, and Queue by Movement - 2025 Full Build								
Intersection	Approach	Movement	AM			PM		
			LOS	Delay	Queue	LOS	Delay	Queue
1st Street (IA 57) & Eagle Ridge Road	EB	LT	A	7.6	0'	A	8.8	0'
		TH	FREE					
		RT	FREE					
	WB	LT	A	9.5	13'	A	8.5	10'
		TH	FREE					
		RT	FREE					
	NB	LT	C	22.4	8'	D	29.5	53'
		TH	B	10.5	10'	B	12.3	28'
		RT						
	SB	LT	C	20.0	15'	C	24.3	23'
		TH						
		RT						

Analysis shows that acceptable levels of service are maintained for Full Build 2025 conditions. It is recommended to stripe the existing northbound approach for a separate left-turn lane to accommodate the northbound left-turn volume.

**C. 1st Street (IA 57) & Oak Park Boulevard/Magnolia Drive**

1st Street (IA 57) & Oak Park Boulevard/Magnolia Drive is signalized with protected/permitted left-turn phasing on the eastbound and westbound approaches. The northbound approach has a right-turn overlap phase which runs concurrent with the westbound leading left-turn phase. The eastbound and westbound approaches have a left-turn lane, a through lane, and a combination through/right lane. The northbound approach has a combination left/through lane and a right-turn lane. The southbound approach consists of a single lane.

Table 5.6 shows the current LOS, control delay, and 95th percentile queue length for existing conditions.

**Table 5.6 - Intersection LOS, Delay, and Queue by Movement - 2020 Existing**

Intersection	Approach	Movement	AM			PM		
			LOS	Delay	Queue	LOS	Delay	Queue
1st Street (IA 57) & Oak Park Blvd/Magnolia Drive	EB	LT	B	11.0	2'	B	13.0	4'
		TH	C	25.2	125'	C	30.3	112'
		RT						
	WB	LT	B	12.2	37'	B	17.8	117'
		TH	B	13.3	42'	B	16.5	126'
		RT						
	NB	LT	B	13.9	16'	B	15.9	77'
		TH						
		RT	A	1.9	16'	A	1.2	17'
	SB	LT	B	14.1	40'	B	14.0	35'
		TH						
		RT						
OVERALL			B (18.3)			B (18.4)		



Table 5.7 shows the expected LOS, control delay, and 95th percentile queue length for Full Build 2025 conditions.

Table 5.7- Intersection LOS, Delay, and Queue by Movement - 2025 Full Build								
Intersection	Approach	Movement	AM			PM		
			LOS	Delay	Queue	LOS	Delay	Queue
1st Street (IA 57) & Oak Park Blvd/Magnolia Drive	EB	LT	A	10.0	4'	B	12.1	8'
		TH	C	25.3	161'	C	31.4	158'
		RT						
	WB	LT	B	11.9	37'	B	17.8	117'
		TH	B	13.8	79'	B	16.2	161'
		RT						
	NB	LT	B	15.9	18'	B	18.5	90'
		TH	A	2.3	19'	A	1.6	21'
		RT						
	SB	LT	B	15.5	48'	B	15.4	42'
		TH						
		RT						
OVERALL			B (18.6)			B (19.6)		

Analysis shows that acceptable levels of service are maintained, with overall LOS B for the intersection AM and PM peak hours. No improvements recommended.



**Magnolia Drive at 1st Street (IA 57) (looking north)**

**D. Magnolia Drive & White Tail Drive**

Magnolia Drive & White Tail Drive is unsignalized with stop sign control on White Tail Drive. All approaches consist of a single lane.

Table 5.8 shows the current LOS, control delay, and 95th percentile queue length for existing conditions.

**Table 5.8 - Intersection LOS, Delay, and Queue by Movement - 2020 Existing**

Intersection	Approach	Movement	AM			PM		
			LOS	Delay	Queue	LOS	Delay	Queue
Magnolia Drive & White Tail Drive	EB	LT	B	10.1	5'	C	16.7	35'
		TH						
		RT						
	WB	LT	A	9.2	3'	B	14.4	20'
		TH						
		RT						
	NB	LT	FREE					
		TH						
		RT						
	SB	LT	FREE					
		TH						
		RT						

Table 5.9 shows the expected LOS, control delay, and 95th percentile queue length for Full Build 2025 conditions.

**Table 5.9 - Intersection LOS, Delay, and Queue by Movement - 2025 Full Build**

Intersection	Approach	Movement	AM			PM		
			LOS	Delay	Queue	LOS	Delay	Queue
Magnolia Drive & White Tail Drive	EB	LT	B	10.7	13'	C	18.8	58'
		TH						
		RT						
	WB	LT	A	9.7	3'	C	16.6	25'
		TH						
		RT						
	NB	LT	FREE					
		TH						
		RT						
	SB	LT	FREE					
		TH						
		RT						

Analysis shows that acceptable levels of service are maintained for 2025 Full Build conditions. No improvements recommended.

**E. Lake Ridge Drive & White Tail Drive**

Lake Ridge Drive & White Tail Drive is a proposed unsignalized intersection with stop sign control on White Tail Drive. All approaches will consist of a single lane.

Table 5.10 shows the expected LOS, control delay, and 95th percentile queue length for Full Build 2025 conditions.

Table 5.2 - Intersection LOS, Delay, and Queue by Movement - 2025 Full Build								
Intersection	Approach	Movement	AM			PM		
			LOS	Delay	Queue	LOS	Delay	Queue
Lake Ridge Drive & White Tail Drive /Driveway	EB	LT	B	11.0	5'	B	10.5	3'
		TH						
		RT						
	WB	LT	A	9.1	5'	A	8.8	8'
		TH						
		RT						
	NB	LT	FREE					
		TH						
		RT						
	SB	LT	FREE					
		TH						
		RT						

Analysis shows that acceptable levels of service are projected for 2025 Full Build conditions. No improvements recommended.

**F. Lake Ridge Drive & Eagle Ridge Road**

Lake Ridge Drive & Eagle Ridge Road is a proposed unsignalized intersection with stop sign control on Eagle Ridge Road. All approaches will consist of a single lane.

Table 5.11 shows the expected LOS, control delay, and 95th percentile queue length for Full Build 2025 conditions.

Table 5.11 - Intersection LOS, Delay, and Queue by Movement - 2025 Full Build								
Intersection	Approach	Movement	AM			PM		
			LOS	Delay	Queue	LOS	Delay	Queue
Lake Ridge Drive & Eagle Ridge Road	WB	LT	A	8.8	0'	A	8.6	0'
		RT						
	NB	TH	FREE					
		RT						
	SB	LT	FREE					
		TH						

Analysis shows that acceptable levels of service are projected for 2025 Full Build conditions. No improvements recommended.

**G. Eagle Ridge Road & White Tail Drive**

Eagle Ridge Road & White Tail Drive is an existing intersection which currently has only a westbound approach and a southbound approach. The eastbound and northbound approaches will both be extended to connect to the Lake Ridge Drive extension. All approaches consist of a single lane.

Table 5.12 shows the expected LOS, control delay, and 95th percentile queue length for Full Build 2025 conditions.

Table 5.12 - Intersection LOS, Delay, and Queue by Movement - 2025 Full Build								
Intersection	Approach	Movement	AM			PM		
			LOS	Delay	Queue	LOS	Delay	Queue
Eagle Ridge Road & White Tail Drive	EB	LT	B	10.3	10'	B	13.0	28'
		TH						
		RT						
	WB	LT	B	10.1	8'	A	9.9	13'
		TH						
		RT						
	NB	LT	FREE					
		TH	FREE					
		RT	FREE					
	SB	LT	FREE					
		TH	FREE					
		RT	FREE					

Analysis shows that acceptable levels of service are projected for 2025 Full Build conditions. No improvements recommended.

## VI. Summary and Conclusion

This study serves as an analysis of the traffic impacts from the Thunder Ridge West Second Addition development in Cedar Falls, Iowa.

This analysis was necessary due to City of Cedar Falls guidelines that require a TIA for developments in this zoning category to analyze impacts upon surrounding roadways from the project.

The proposed development is expected to generate 292 entering and 192 exiting trips in the AM peak hour, and 226 entering and 266 exiting trips in the PM peak hour. This analysis also included pass-by/diverted link trip reductions and internal capture trips.

Analysis shows that the new development traffic can be accommodated within the existing roadway infrastructure with minimal impact. The new development roadways and extensions and existing intersections on 1st Street (IA 57) indicate acceptable levels of service for the Full Build 2025 scenario.

The following summarize recommended improvements for **Full Build 2025 Conditions**:

### 1st Street (IA 57) & Lake Ridge Drive

- Construct an eastbound right-turn lane on 1st Street (IA 57) and construct a northbound left-turn lane on Lake Ridge Drive new connection.

### 1st Street (IA 57) & Eagle Ridge Road

- Stripe the existing northbound approach for a left-turn lane/through-right lane.

# Appendix

Background Information

Traffic Volumes

Trip Generation

Trip Distribution

Capacity Analysis

Turn Lane Analysis

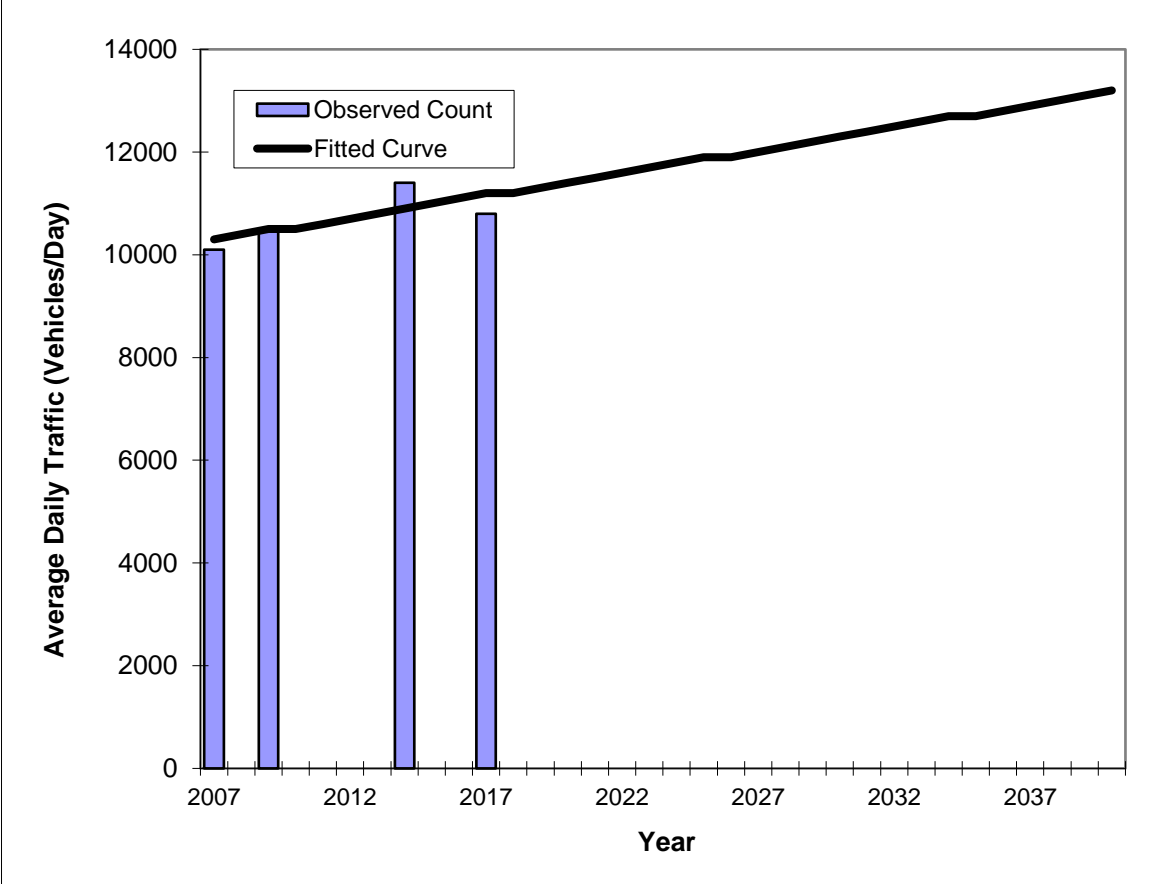
# **BACKGROUND INFORMATION**

## Traffic Trends - V2.0

### 1st Street (IA 57) -- at Magnolia/Oak Park

Location	Intersection East Leg
----------	-----------------------

County:	Blackhawk
Station #:	07317966099
Highway:	1st Street (IA 57)



Year	Traffic (ADT/AADT)	
	Count*	Trend**
2005	10100	10300
2009	10500	10500
2014	11400	10900
2017	10800	11200
<b>2007 Opening Year Trend</b>		
2005	N/A	10300
<b>2020 Mid-Year Trend</b>		
2020	N/A	11400
<b>2022 Design Year Trend</b>		
2022	N/A	11600
<b>TRANPLAN Forecasts/Trends</b>		

** Annual Trend Increase:	88
Trend R-squared:	53.56%
Trend Annual Historic Growth Rate:	0.81%
Trend Growth Rate (2019 to Design Year):	0.88%
Printed:	6-May-20
<b>Straight Line Growth Option</b>	

\*Axle-Adjusted



# **TRAFFIC VOLUMES**

# Turn Count Summary

Location: 1st Street (IA 57) & Lake Ridge Drive      GPS      42°32'31.77"N      92°28'48.52"W  
 Date      5/20/2020      Day      Wednesday  
 Weather      Cloudy, 57      Peak      AM  
 Counter      DAW



## Total vehicle traffic

Interval starts	Southbound			Westbound			Northbound			Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
7:00	3	0	2	0	20	3	0	0	0	1	42	0	71
7:15	2	0	1	0	23	0	0	0	0	0	81	0	107
7:30	9	0	0	0	23	2	0	0	0	1	73	0	108
7:45	6	0	2	0	35	1	0	0	0	0	68	0	112
8:00	6	0	0	0	34	1	0	0	0	0	57	0	98
8:15	6	0	1	0	27	3	0	0	0	0	43	0	80
8:30	2	0	2	0	28	3	0	0	0	0	50	0	85
8:45	3	0	0	0	24	1	0	0	0	1	58	0	87

## Car traffic

Interval starts	Southbound			Westbound			Northbound			Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
7:00	3	0	2	0	20	3	0	0	0	1	41	0	70
7:15	2	0	1	0	22	0	0	0	0	0	76	0	101
7:30	9	0	0	0	19	2	0	0	0	1	72	0	103
7:45	5	0	2	0	34	1	0	0	0	0	67	0	109
8:00	6	0	0	0	29	1	0	0	0	0	53	0	89
8:15	6	0	1	0	25	3	0	0	0	0	43	0	78
8:30	2	0	2	0	26	3	0	0	0	0	47	0	80
8:45	3	0	0	0	17	1	0	0	0	1	57	0	79

## Truck traffic

Interval starts	Southbound			Westbound			Northbound			Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
7:00	0	0	0	0	0	0	0	0	0	0	1	0	1
7:15	0	0	0	0	1	0	0	0	0	0	5	0	6
7:30	0	0	0	0	4	0	0	0	0	0	1	0	5
7:45	1	0	0	0	1	0	0	0	0	0	1	0	3
8:00	0	0	0	0	5	0	0	0	0	0	4	0	9
8:15	0	0	0	0	2	0	0	0	0	0	0	0	2
8:30	0	0	0	0	2	0	0	0	0	0	3	0	5
8:45	0	0	0	0	7	0	0	0	0	0	1	0	8

## Intersection Peak Hour

7:15 to 8:15	Southbound			Westbound			Northbound			Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
Vehicle Total	23	0	3	0	115	4	0	0	0	1	279	0	425
Pk 15 min PHF	6	0	2	0	35	1	0	0	0	0	68	0	112
													0.95

## Peak Hour Vehicle Summary

7:15 to 8:15	Southbound			Westbound			Northbound			Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
Car	22	0	3	0	104	4	0	0	0	1	268	0	402
Truck	1	0	0	0	11	0	0	0	0	0	11	0	23
HV %age	4%	#DIV/0!	0%	#DIV/0!	10%	0%	#DIV/0!	#DIV/0!	#DIV/0!	0%	4%	#DIV/0!	

## Pedestrians

	EAST Leg		NORTH Leg		WEST Leg		SOUTH Leg		Total
7:00									0
7:15									0
7:30									0
7:45									0
8:00									0
8:15									0
8:30									0
8:45									0

# Turn Count Summary

Location: 1st Street (IA 57) & Lake Ridge Drive      GPS      42°32'31.77"N      92°28'48.52"W  
 Date      5/19/2020      Day      Tuesday  
 Weather      Cloudy, 64      Peak      PM  
 Counter      DAW



## Total vehicle traffic

Interval starts	Southbound			Westbound			Northbound			Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
16:00	4	0	0	0	78	3	0	0	0	4	54	0	143
16:15	2	0	1	0	86	5	0	0	0	2	58	0	154
16:30	3	0	1	0	79	6	0	0	0	1	46	0	136
16:45	2	0	1	0	83	6	0	0	0	1	65	0	158
17:00	4	0	3	0	120	8	0	0	0	3	54	0	192
17:15	2	0	1	0	99	16	0	0	0	4	49	0	171
17:30	6	0	0	0	85	7	0	0	0	1	46	0	145
17:45	3	0	2	0	67	12	0	0	0	2	36	0	122

## Car traffic

Interval starts	Southbound			Westbound			Northbound			Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
16:00	4	0	0	0	78	3	0	0	0	4	54	0	143
16:15	2	0	1	0	83	5	0	0	0	2	57	0	150
16:30	3	0	1	0	79	6	0	0	0	1	45	0	135
16:45	2	0	1	0	83	6	0	0	0	1	61	0	154
17:00	4	0	3	0	118	8	0	0	0	3	54	0	190
17:15	2	0	1	0	97	16	0	0	0	4	49	0	169
17:30	6	0	0	0	84	7	0	0	0	1	44	0	142
17:45	3	0	2	0	66	12	0	0	0	2	36	0	121

## Truck traffic

Interval starts	Southbound			Westbound			Northbound			Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
16:00	0	0	0	0	0	0	0	0	0	0	0	0	0
16:15	0	0	0	0	3	0	0	0	0	0	1	0	4
16:30	0	0	0	0	0	0	0	0	0	0	1	0	1
16:45	0	0	0	0	0	0	0	0	0	0	4	0	4
17:00	0	0	0	0	2	0	0	0	0	0	0	0	2
17:15	0	0	0	0	2	0	0	0	0	0	0	0	2
17:30	0	0	0	0	1	0	0	0	0	0	2	0	3
17:45	0	0	0	0	1	0	0	0	0	0	0	0	1

## Intersection Peak Hour

16:45 to 17:45	Southbound			Westbound			Northbound			Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
Vehicle Total	14	0	5	0	387	37	0	0	0	9	214	0	640
Pk 15 min PHF	4	0	3	0	120	8	0	0	0	3	54	0	0.83

## Peak Hour Vehicle Summary

16:45 to 17:45	Southbound			Westbound			Northbound			Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
Car	14	0	5	0	382	37	0	0	0	9	208	0	655
Truck	0	0	0	0	5	0	0	0	0	0	6	0	11
HV %age	0%	#DIV/0!	0%	#DIV/0!	1%	0%	#DIV/0!	#DIV/0!	#DIV/0!	0%	3%	#DIV/0!	

## Peak Hour Pedestrians

	EAST Leg			NORTH Leg			WEST Leg			SOUTH Leg			Total
16:00												0	
16:15												0	
16:30												0	
16:45												0	
17:00												0	
17:15												0	
17:30												0	
17:45												0	

# Turn Count Summary

Location: 1st Street (IA 57) & Eagle Ridge Drive      GPS      42°32'29.40"N      92°28'35.22"W

Date      5/20/2020      Day      Wednesday

Weather      Cloudy, 57      Peak      AM

Counter      Govardhan



## Total vehicle traffic

Interval starts	Southbound			Westbound			Northbound			Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
7:00	4	0	0	0	18	1	2	0	0	0	42	2	69
7:15	5	0	0	0	22	2	2	0	0	0	76	0	107
7:30	9	0	0	2	21	1	0	0	0	0	80	2	115
7:45	8	0	0	2	33	3	0	0	0	0	74	2	122
8:00	6	0	1	1	26	1	7	1	0	0	59	1	103
8:15	7	0	0	0	23	1	3	0	0	1	45	3	83
8:30	9	0	1	0	25	2	1	1	0	0	50	2	91
8:45	4	1	0	2	20	6	0	1	0	1	55	3	93

## Car traffic

Interval starts	Southbound			Westbound			Northbound			Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
7:00	4	0	0	0	17	1	2	0	0	0	38	0	62
7:15	5	0	0	0	21	2	2	0	0	0	73	0	103
7:30	9	0	0	2	20	0	0	0	0	0	79	2	112
7:45	8	0	0	2	32	3	0	0	0	0	73	2	120
8:00	6	0	1	1	25	0	6	1	0	0	58	1	99
8:15	7	0	0	0	21	1	3	0	0	1	43	3	79
8:30	9	0	1	0	24	2	1	1	0	0	46	2	86
8:45	4	1	0	2	18	6	0	1	0	1	49	3	85

## Truck traffic

Interval starts	Southbound			Westbound			Northbound			Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
7:00	0	0	0	0	1	0	0	0	0	0	4	2	7
7:15	0	0	0	0	1	0	0	0	0	0	3	0	4
7:30	0	0	0	0	1	1	0	0	0	0	1	0	3
7:45	0	0	0	0	1	0	0	0	0	0	1	0	2
8:00	0	0	0	0	1	1	1	0	0	0	1	0	4
8:15	0	0	0	0	2	0	0	0	0	0	2	0	4
8:30	0	0	0	0	1	0	0	0	0	0	4	0	5
8:45	0	0	0	0	2	0	0	0	0	0	6	0	8

## Intersection Peak Hour

7:15 to 8:15	Southbound			Westbound			Northbound			Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
Vehicle Total	28	0	1	5	102	7	9	1	0	0	289	5	447
Pk 15 min	8	0	0	2	33	3	0	0	0	0	74	2	122
PHF													0.92

## Peak Hour Vehicle Summary

7:15 to 8:15	Southbound			Westbound			Northbound			Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
Car	28	0	1	5	98	5	8	1	0	0	283	5	434
Truck	0	0	0	0	4	2	1	0	0	0	6	0	13
HV %age	0%	#DIV/0!	0%	0%	4%	29%	11%	0%	#DIV/0!	#DIV/0!	2%	0%	

## Pedestrians

	EAST Leg			NORTH Leg			WEST Leg			SOUTH Leg			Total
7:00													0
7:15													0
7:30													0
7:45													0
8:00													0
8:15													0
8:30													0
8:45													0

# Turn Count Summary

Location: 1st Street (IA 57) & Eagle Ridge Drive      GPS      42°32'29.40"N      92°28'35.22"W

Date 5/19/2020      Day Tuesday

Weather Cloudy, 64      Peak PM

Counter Govardhan



## Total vehicle traffic

Interval starts	Southbound			Westbound			Northbound			Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
16:00	5	2	1	5	77	3	5	1	2	3	51	4	159
16:15	4	1	0	2	77	5	9	1	1	4	53	2	159
16:30	6	2	1	2	78	8	8	0	1	0	43	5	154
16:45	4	1	1	5	74	8	9	3	2	4	57	3	171
17:00	5	2	3	4	117	7	12	0	4	1	51	6	212
17:15	4	2	2	4	99	16	10	2	2	0	39	10	190
17:30	7	1	2	3	86	7	7	1	4	2	43	5	168
17:45	4	1	1	3	69	8	5	1	1	1	37	4	135

## Car traffic

Interval starts	Southbound			Westbound			Northbound			Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
16:00	5	2	1	4	76	3	5	1	2	2	50	3	154
16:15	3	1	0	2	76	5	8	1	1	4	52	2	155
16:30	6	2	1	2	78	8	8	0	1	0	41	5	152
16:45	4	1	1	5	74	8	9	3	2	4	56	3	170
17:00	5	2	3	4	114	7	11	0	4	1	50	6	207
17:15	4	2	2	4	96	16	9	2	2	0	38	10	185
17:30	7	1	2	3	84	7	7	1	4	2	42	4	164
17:45	4	1	1	3	67	8	5	1	1	1	36	4	132

## Truck traffic

Interval starts	Southbound			Westbound			Northbound			Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
16:00	0	0	0	1	1	0	0	0	0	1	1	1	5
16:15	1	0	0	0	1	0	1	0	0	0	1	0	4
16:30	0	0	0	0	0	0	0	0	0	0	2	0	2
16:45	0	0	0	0	0	0	0	0	0	0	1	0	1
17:00	0	0	0	0	3	0	1	0	0	0	1	0	5
17:15	0	0	0	0	3	0	1	0	0	0	1	0	5
17:30	0	0	0	0	2	0	0	0	0	0	1	1	4
17:45	0	0	0	0	2	0	0	0	0	0	1	0	3

## Intersection Peak Hour

16:45 to 17:45	Southbound			Westbound			Northbound			Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
Vehicle Total	20	6	8	16	376	38	38	6	12	7	190	24	696
Pk 15 min	5	2	3	4	117	7	12	0	4	1	51	6	212
PHF													0.82

## Peak Hour Vehicle Summary

16:45 to 17:45	Southbound			Westbound			Northbound			Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
Car	20	6	8	16	368	38	36	6	12	7	186	23	726
Truck	0	0	0	0	8	0	2	0	0	0	4	1	15
HV %age	0%	0%	0%	0%	2%	0%	5%	0%	0%	0%	2%	4%	

## Peak Hour Pedestrians

	EAST Leg			NORTH Leg			WEST Leg			SOUTH Leg			Total
16:00												0	
16:15												0	
16:30												0	
16:45												0	
17:00												0	
17:15												0	
17:30												0	
17:45												0	

# Turn Count Summary

Location: 1st Street (IA 57) & Oak Park Blvd/Magnolia Dr      GPS      42°32'25.22"N      92°28'25.93"W  
 Date      5/21/2020      Day      Thursday  
 Weather      Cloudy, 57      Peak      AM  
 Counter      DAW



## Total vehicle traffic

Interval starts	Southbound			Westbound			Northbound			Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
7:00	2	0	0	8	19	1	2	1	13	0	50	7	103
7:15	3	3	0	5	19	1	3	1	11	0	73	2	121
7:30	6	1	0	4	36	3	0	1	18	0	89	6	164
7:45	6	0	1	13	43	4	3	1	17	0	79	5	172
8:00	8	2	3	11	29	3	5	0	14	1	46	8	130
8:15	3	0	0	21	31	3	5	0	15	0	43	5	126
8:30	7	1	1	14	34	2	3	0	15	0	52	6	135
8:45	3	1	1	21	31	5	0	0	10	0	47	14	133

## Car traffic

Interval starts	Southbound			Westbound			Northbound			Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
7:00	2	0	0	8	18	1	2	1	11	0	50	6	99
7:15	3	3	0	5	19	1	3	1	11	0	72	2	120
7:30	6	1	0	4	35	3	0	1	18	0	85	6	159
7:45	6	0	1	12	42	4	3	1	17	0	78	5	169
8:00	8	2	3	11	28	3	5	0	14	1	46	8	129
8:15	3	0	0	20	31	3	5	0	15	0	42	5	124
8:30	7	1	1	13	32	2	3	0	15	0	50	6	130
8:45	3	1	1	21	30	5	0	0	10	0	47	14	132

## Truck traffic

Interval starts	Southbound			Westbound			Northbound			Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
7:00	0	0	0	0	1	0	0	0	2	0	0	1	4
7:15	0	0	0	0	0	0	0	0	0	0	1	0	1
7:30	0	0	0	0	1	0	0	0	0	0	4	0	5
7:45	0	0	0	1	1	0	0	0	0	0	1	0	3
8:00	0	0	0	0	1	0	0	0	0	0	0	0	1
8:15	0	0	0	1	0	0	0	0	0	0	1	0	2
8:30	0	0	0	1	2	0	0	0	0	0	2	0	5
8:45	0	0	0	0	1	0	0	0	0	0	0	0	1

## Intersection Peak Hour

7:30 to 8:30	Southbound			Westbound			Northbound			Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
Vehicle Total	23	3	4	49	139	13	13	2	64	1	257	24	592
Pk 15 min PHF	6	0	1	13	43	4	3	1	17	0	79	5	172
													0.86

## Peak Hour Vehicle Summary

7:30 to 8:30	Southbound			Westbound			Northbound			Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
Car	23	3	4	47	136	13	13	2	64	1	251	24	581
Truck	0	0	0	2	3	0	0	0	0	0	6	0	11
HV %age	0%	0%	0%	4%	2%	0%	0%	0%	0%	0%	2%	0%	

## Pedestrians

	EAST Leg			NORTH Leg			WEST Leg			SOUTH Leg			Total
7:00													0
7:15													0
7:30													0
7:45													0
8:00													0
8:15													0
8:30													0
8:45													0

# Turn Count Summary

Location: 1st Street (IA 57) & Oak Park Blvd/Magnolia Dr      GPS      42°32'25.22"N      92°28'25.93"W

Date      5/20/2020      Day      Wednesday

Weather      Cloudy, 65      Peak      PM

Counter      DAW



## Total vehicle traffic

Interval starts	Southbound			Westbound			Northbound			Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
16:00	6	0	1	32	71	10	11	3	26	2	43	7	212
16:15	3	4	1	35	69	4	9	5	28	1	48	11	218
16:30	10	2	0	44	89	11	14	4	17	1	56	10	258
16:45	5	3	1	32	100	6	20	0	32	1	48	13	261
17:00	8	3	3	45	78	15	14	4	34	0	44	9	257
17:15	9	3	1	30	88	12	27	4	22	0	36	15	247
17:30	6	2	0	29	74	12	18	3	28	1	39	8	220
17:45	5	0	0	33	81	8	10	1	25	1	37	12	213

## Car traffic

Interval starts	Southbound			Westbound			Northbound			Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
16:00	6	0	1	32	71	10	11	3	26	2	43	7	212
16:15	3	4	1	34	69	4	9	5	28	1	46	11	215
16:30	10	2	0	44	89	11	14	4	17	1	55	10	257
16:45	5	3	1	32	98	6	20	0	32	1	47	13	258
17:00	8	3	3	45	77	15	14	4	33	0	44	9	255
17:15	9	3	1	30	87	12	27	4	22	0	36	15	246
17:30	6	2	0	29	74	12	18	3	28	1	38	8	219
17:45	5	0	0	33	81	8	10	1	25	1	37	12	213

## Truck traffic

Interval starts	Southbound			Westbound			Northbound			Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
16:00	0	0	0	0	0	0	0	0	0	0	0	0	0
16:15	0	0	0	1	0	0	0	0	0	0	2	0	3
16:30	0	0	0	0	0	0	0	0	0	0	1	0	1
16:45	0	0	0	0	2	0	0	0	0	0	1	0	3
17:00	0	0	0	0	1	0	0	0	1	0	0	0	2
17:15	0	0	0	0	1	0	0	0	0	0	0	0	1
17:30	0	0	0	0	0	0	0	0	0	0	1	0	1
17:45	0	0	0	0	0	0	0	0	0	0	0	0	0

## Intersection Peak Hour

16:30 to 17:30	Southbound			Westbound			Northbound			Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
Vehicle Total	32	11	5	151	355	44	75	12	105	2	184	47	1023
Pk 15 min PHF	5	3	1	32	100	6	20	0	32	1	48	13	0.98

## Peak Hour Vehicle Summary

16:30 to 17:30	Southbound			Westbound			Northbound			Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
Car	32	11	5	151	351	44	75	12	104	2	182	47	1016
Truck	0	0	0	0	4	0	0	0	1	0	2	0	7
HV %age	0%	0%	0%	0%	1%	0%	0%	0%	1%	0%	1%	0%	

## Peak Hour Pedestrians

	EAST Leg			NORTH Leg			WEST Leg			SOUTH Leg			Total
16:00												0	
16:15												0	
16:30												0	
16:45												0	
17:00												0	
17:15												0	
17:30												0	
17:45												0	

# Turn Count Summary

Location: Magnolia Drive & White Tail Drive

GPS 42°32'23.30"N 92°28'27.48"W

Date 5/21/2020

Day Thursday

Weather Cloudy, 57

Peak AM

Counter Govardhan



## Total vehicle traffic

Interval starts	Southbound			Westbound			Northbound			Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
7:00	2	6	6	0	1	1	1	9	2	5	0	1	34
7:15	0	7	3	0	0	0	2	10	0	5	0	1	28
7:30	2	7	2	1	0	1	2	12	1	7	0	2	37
7:45	0	10	7	0	0	2	5	16	2	5	0	2	49
8:00	1	13	2	0	0	1	3	12	1	7	1	6	47
8:15	2	19	7	1	0	4	2	20	2	2	0	4	63
8:30	1	12	2	1	0	3	5	12	2	2	0	3	43
8:45	3	27	7	2	1	2	5	12	2	2	1	4	68

## Car traffic

Interval starts	Southbound			Westbound			Northbound			Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
7:00	2	3	6	0	1	1	1	8	1	4	0	1	28
7:15	0	5	3	0	0	0	2	10	0	5	0	1	26
7:30	2	7	1	1	0	1	2	12	1	7	0	1	35
7:45	0	9	7	0	0	2	5	14	2	4	0	2	45
8:00	1	13	1	0	0	1	3	12	0	7	1	6	45
8:15	2	19	7	1	0	4	2	20	2	2	0	4	63
8:30	1	11	2	1	0	3	5	11	2	2	0	2	40
8:45	3	27	7	2	1	2	5	12	2	2	1	4	68

## Truck traffic

Interval starts	Southbound			Westbound			Northbound			Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
7:00	0	3	0	0	0	0	0	1	1	1	0	0	6
7:15	0	2	0	0	0	0	0	0	0	0	0	0	2
7:30	0	0	1	0	0	0	0	0	0	0	0	1	2
7:45	0	1	0	0	0	0	0	2	0	1	0	0	4
8:00	0	0	1	0	0	0	0	0	1	0	0	0	2
8:15	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30	0	1	0	0	0	0	0	1	0	0	0	1	3
8:45	0	0	0	0	0	0	0	0	0	0	0	0	0

## Intersection Peak Hour

7:30 to 8:30	Southbound			Westbound			Northbound			Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
Vehicle Total	5	49	18	2	0	8	12	60	6	21	1	14	196
Pk 15 min	2	19	7	1	0	4	2	20	2	2	0	4	63
PHF													0.78

## Peak Hour Vehicle Summary

7:30 to 8:30	Southbound			Westbound			Northbound			Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
Car	5	48	16	2	0	8	12	58	5	20	1	13	188
Truck	0	1	2	0	0	0	0	2	1	1	0	1	8
HV %age	0%	2%	11%	0%	#DIV/0!	0%	0%	3%	17%	5%	0%	7%	

## Pedestrians

	EAST Leg			NORTH Leg			WEST Leg			SOUTH Leg			Total
7:00													0
7:15													0
7:30													0
7:45													0
8:00													0
8:15													0
8:30													0
8:45													0



# Turn Count Summary

Location: Magnolia Drive & White Tail Drive

GPS 42°32'23.30"N 92°28'27.48"W

Date 5/20/2020

Day Wednesday

Weather Cloudy, 65

Peak PM

Counter Govardhan



## Total vehicle traffic

Interval starts	Southbound			Westbound			Northbound			Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
16:00	0	29	8	4	1	1	7	35	2	7	2	8	104
16:15	9	32	11	2	4	6	9	30	4	7	1	7	122
16:30	2	36	13	6	2	6	11	23	0	6	2	7	114
16:45	2	38	13	5	1	7	11	35	3	7	4	8	134
17:00	7	37	15	6	6	10	13	31	4	16	4	14	163
17:15	5	36	8	3	2	9	11	37	2	9	1	12	135
17:30	2	26	10	5	2	8	6	31	4	11	0	11	116
17:45	4	25	12	0	1	4	7	25	2	8	1	10	99

## Car traffic

Interval starts	Southbound			Westbound			Northbound			Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
16:00	0	29	8	4	1	1	7	34	2	7	2	8	103
16:15	9	32	10	2	3	6	9	29	3	6	1	7	117
16:30	2	36	13	6	2	6	11	23	0	6	2	7	114
16:45	2	38	13	5	1	7	11	35	3	7	4	8	134
17:00	7	37	15	6	6	10	12	30	3	16	4	14	160
17:15	5	36	8	3	2	9	11	37	2	8	1	12	134
17:30	2	26	10	5	2	8	6	31	4	11	0	11	116
17:45	4	25	12	0	1	4	7	25	2	8	1	10	99

## Truck traffic

Interval starts	Southbound			Westbound			Northbound			Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
16:00	0	0	0	0	0	0	0	1	0	0	0	0	1
16:15	0	0	1	0	1	0	0	1	1	1	0	0	5
16:30	0	0	0	0	0	0	0	0	0	0	0	0	0
16:45	0	0	0	0	0	0	0	0	0	0	0	0	0
17:00	0	0	0	0	0	0	1	1	1	0	0	0	3
17:15	0	0	0	0	0	0	0	0	0	1	0	0	1
17:30	0	0	0	0	0	0	0	0	0	0	0	0	0
17:45	0	0	0	0	0	0	0	0	0	0	0	0	0

## Intersection Peak Hour

16:45 to 17:45	Southbound			Westbound			Northbound			Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
Vehicle Total	16	137	46	19	11	34	41	134	13	43	9	45	533
Pk 15 min	7	37	15	6	6	10	13	31	4	16	4	14	163
PHF													0.82

## Peak Hour Vehicle Summary

16:45 to 17:45	Southbound			Westbound			Northbound			Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
Car	16	137	46	19	11	34	40	133	12	42	9	45	544
Truck	0	0	0	0	0	0	1	1	1	1	0	0	4
HV %age	0%	0%	0%	0%	0%	0%	2%	1%	8%	2%	0%	0%	

## Peak Hour Pedestrians

	EAST Leg		NORTH Leg		WEST Leg		SOUTH Leg		Total
16:00									0
16:15									0
16:30									0
16:45									0
17:00									0
17:15									0
17:30									0
17:45									0

# TRIP GENERATION

Project Information	
Project Name:	Cedar Falls Thunder Ridge
No:	
Date:	6/19/2020
City:	Cedar Falls
State/Province:	Iowa
Zip/Postal Code:	
Country:	
Client Name:	
Analyst's Name:	DAW
Edition:	Trip Gen Manual, 10th Ed

Land Use	Size	Weekday		Weekday, AM Peak Hour		Weekday, PM Peak Hour	
		Entry	Exit	Entry	Exit	Entry	Exit
<b>912 - Drive-in Bank (General Urban/Suburban)</b>	6 1000 Sq. Ft. GFA	307	307	33	24	62	61
Reduction		0	0	0	0	0	0
Internal		0	0	0	0	0	0
Pass-by		0	0	7	7	21	21
Non-pass-by		307	307	26	17	41	40
<b>945 - Gasoline/Service Station With Convenience Market (General Urban/Suburban)</b>	12 Vehicle Fueling Positions	1232	1232	77	73	86	82
Reduction		0	0	0	0	0	0
Internal		0	0	0	0	0	0
Pass-by		0	0	45	45	46	46
Non-pass-by		1232	1232	32	28	40	36
<b>881 - Pharmacy/Drugstore with Drive-Through Window (General Urban/Suburban)</b>	15 1000 Sq. Ft. GFA	819	818	31	27	77	77
Reduction		0	0	0	0	0	0
Internal		0	0	0	0	0	0
Pass-by		0	0	0	0	37	37
Non-pass-by		819	818	31	27	40	40
<b>934 - Fast-Food Restaurant with Drive-Through Window (General Urban/Suburban)</b>	2.5 1000 Sq. Ft. GFA	589	588	51	49	43	39
Reduction		0	0	0	0	0	0
Internal		0	0	0	0	0	0
Pass-by		0	0	24	24	19	19
Non-pass-by		589	588	27	25	24	20
<b>932 - High-Turnover (Sit-Down) Restaurant (General Urban/Suburban)</b>	7 1000 Sq. Ft. GFA	393	392	39	31	42	26
Reduction		0	0	0	0	0	0
Internal		0	0	0	0	0	0
Pass-by		0	0	0	0	11	11
Non-pass-by		393	392	39	31	31	15
<b>820 - Shopping Center (General Urban/Suburban)</b>	38.5 1000 Sq. Ft. GLA	1571	1570	106	65	129	139
Reduction		0	0	0	0	0	0
Internal		0	0	0	0	0	0
Pass-by		0	0	0	0	44	44
Non-pass-by		1571	1570	106	65	85	95
<b>720 - Medical-Dental Office Building (General Urban/Suburban)</b>	45 1000 Sq. Ft. GFA	821	820	86	24	43	112
Reduction		0	0	0	0	0	0
Internal		0	0	0	0	0	0
Pass-by		0	0	0	0	0	0
Non-pass-by		821	820	86	24	43	112
<b>254 - Assisted Living (General Urban/Suburban)</b>	110 Beds	143	143	13	8	11	18
Reduction		0	0	0	0	0	0
Internal		0	0	0	0	0	0
Pass-by		0	0	0	0	0	0
Non-pass-by		143	143	13	8	11	18
<b>221 - Multifamily Housing (Mid-Rise) (General Urban/Suburban)</b>	216 Dwelling Units	588	587	19	54	57	36
Reduction		0	0	0	0	0	0
Internal		0	0	0	0	0	0
Pass-by		0	0	0	0	0	0
Non-pass-by		588	587	19	54	57	36
<b>Total</b>		6463	6457	455	355	550	590
<b>Total Reduction</b>		0	0	0	0	0	0
<b>Total Internal</b>		0	0	0	0	0	0
<b>Total Pass-by</b>		0	0	76	76	178	178
<b>Total Non-pass-by</b>		6463	6457	379	279	372	412

NCHRP 8-51 Internal Trip Capture Estimation Tool			
<b>Project Name:</b>	Thunder Ridge	<b>Organization:</b>	Traffic Impact Group
<b>Project Location:</b>	Cedar Falls, Iowa	<b>Performed By:</b>	DAW
<b>Scenario Description:</b>	Full Build	<b>Date:</b>	
<b>Analysis Year:</b>	2025	<b>Checked By:</b>	
<b>Analysis Period:</b>	AM Street Peak Hour	<b>Date:</b>	

Table 1-A: Base Vehicle-Trip Generation Estimates (Single-Use Site Estimate)						
Land Use	Development Data (For Information Only)			Estimated Vehicle-Trips		
	ITE LUCs <sup>1</sup>	Quantity	Units	Total	Entering	Exiting
Office				110	86	24
Retail				436	247	189
Restaurant				170	90	80
Cinema/Entertainment				0		
Residential				73	19	54
Hotel				0		
All Other Land Uses <sup>2</sup>				0		
<b>Total</b>				<b>789</b>	<b>442</b>	<b>347</b>

Table 2-A: Mode Split and Vehicle Occupancy Estimates						
Land Use	Entering Trips			Exiting Trips		
	Veh. Occ.	% Transit	% Non-Motorized	Veh. Occ.	% Transit	% Non-Motorized
Office	1.00			1.00		
Retail	1.00			1.00		
Restaurant	1.00			1.00		
Cinema/Entertainment	1.00			1.00		
Residential	1.00			1.00		
Hotel	1.00			1.00		
All Other Land Uses <sup>2</sup>	1.00			1.00		

Table 3-A: Average Land Use Interchange Distances (Feet Walking Distance)						
Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office						
Retail						
Restaurant						
Cinema/Entertainment						
Residential						
Hotel						

Table 4-A: Internal Person-Trip Origin-Destination Matrix*						
Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office		7	15	0	0	0
Retail	3		25	0	0	0
Restaurant	12	11		0	1	0
Cinema/Entertainment	0	0	0		0	0
Residential	1	1	11	0		0
Hotel	0	0	0	0	0	

Table 5-A: Computations Summary			
	Total	Entering	Exiting
All Person-Trips	789	442	347
Internal Capture Percentage	22%	20%	25%
External Vehicle-Trips <sup>3</sup>	615	355	260
External Transit-Trips <sup>4</sup>	0	0	0
External Non-Motorized Trips <sup>4</sup>	0	0	0

Table 6-A: Internal Trip Capture Percentages by Land Use		
Land Use	Entering Trips	Exiting Trips
Office	19%	92%
Retail	8%	15%
Restaurant	57%	30%
Cinema/Entertainment	N/A	N/A
Residential	5%	24%
Hotel	N/A	N/A

<sup>1</sup>Land Use Codes (LUCs) from *Trip Generation Informational Report*, published by the Institute of Transportation Engineers.  
<sup>2</sup>Total estimate for all other land uses at mixed-use development site-not subject to internal trip capture computations in this estimator  
<sup>3</sup>Vehicle-trips computed using the mode split and vehicle occupancy values provided in Table 2-A  
<sup>4</sup>Person-Trips  
\*Indicates computation that has been rounded to the nearest whole number.  
*Estimation Tool Developed by the Texas Transportation Institute*

NCHRP 8-51 Internal Trip Capture Estimation Tool			
<b>Project Name:</b>	Thunder Ridge	<b>Organization:</b>	TIG
<b>Project Location:</b>	Cedar Falls, Iowa	<b>Performed By:</b>	DAW
<b>Scenario Description:</b>	Full Build	<b>Date:</b>	
<b>Analysis Year:</b>	2025	<b>Checked By:</b>	
<b>Analysis Period:</b>	PM Street Peak Hour	<b>Date:</b>	

Land Use	Development Data (For Information Only)			Estimated Vehicle-Trips		
	ITE LUCs <sup>1</sup>	Quantity	Units	Total	Entering	Exiting
Office				155	43	112
Retail				713	354	359
Restaurant				150	85	65
Cinema/Entertainment				0		
Residential				93	57	36
Hotel				0		
All Other Land Uses <sup>2</sup>				0		
<b>Total</b>				<b>1111</b>	<b>539</b>	<b>572</b>

Land Use	Entering Trips			Exiting Trips		
	Veh. Occ.	% Transit	% Non-Motorized	Veh. Occ.	% Transit	% Non-Motorized
Office	1.00			1.00		
Retail	1.00			1.00		
Restaurant	1.00			1.00		
Cinema/Entertainment	1.00			1.00		
Residential	1.00			1.00		
Hotel	1.00			1.00		
All Other Land Uses <sup>2</sup>	1.00			1.00		

Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office						
Retail						
Restaurant						
Cinema/Entertainment						
Residential						
Hotel						

Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office		22	2	0	2	0
Retail	7		25	0	26	0
Restaurant	2	27		0	9	0
Cinema/Entertainment	0	0	0		0	0
Residential	1	15	8	0		0
Hotel	0	0	0	0	0	

	Total	Entering	Exiting
All Person-Trips	1,111	539	572
Internal Capture Percentage	26%	27%	26%
External Vehicle-Trips <sup>3</sup>	819	393	426
External Transit-Trips <sup>4</sup>	0	0	0
External Non-Motorized Trips <sup>4</sup>	0	0	0

Land Use	Entering Trips	Exiting Trips
Office	23%	23%
Retail	18%	16%
Restaurant	41%	58%
Cinema/Entertainment	N/A	N/A
Residential	65%	67%
Hotel	N/A	N/A

<sup>1</sup>Land Use Codes (LUCs) from *Trip Generation Informational Report*, published by the Institute of Transportation Engineers.  
<sup>2</sup>Total estimate for all other land uses at mixed-use development site-not subject to internal trip capture computations in this estimator  
<sup>3</sup>Vehicle-trips computed using the mode split and vehicle occupancy values provided in Table 2-P  
<sup>4</sup>Person-Trips  
\*Indicates computation that has been rounded to the nearest whole number.  
*Estimation Tool Developed by the Texas Transportation Institute*

# TRIP DISTRIBUTION

## Thunder Ridge - Cedar Falls

Vistro File: C:\...\Cedar vistro.vistro

Scenario 1 AM

Report File: C:\...\vistro AM.pdf

6/24/2020

## Turning Movement Volume: Detail

ID	Intersection Name	Volume Type	Northbound			Southbound			Eastbound			Westbound			Total Volume
			Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
1	1st St & Lake Ridge Dr	Final Base	0	0	0	4	0	4	1	345	0	0	142	5	501
		Growth Factor	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	-
		In Process	0	0	0	0	0	0	0	0	0	0	0	0	0
		Net New Trips	76	2	78	0	5	0	0	-34	125	48	-17	0	283
		Other	0	0	0	0	0	0	0	0	0	0	0	0	0
		<b>Future Total</b>	<b>76</b>	<b>2</b>	<b>78</b>	<b>4</b>	<b>5</b>	<b>4</b>	<b>1</b>	<b>328</b>	<b>125</b>	<b>48</b>	<b>132</b>	<b>5</b>	<b>808</b>

ID	Intersection Name	Volume Type	Northbound			Southbound			Eastbound			Westbound			Total Volume
			Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
2	1st St & Eagle Ridge Dr	Final Base	11	1	0	35	0	1	0	357	6	6	126	9	552
		Growth Factor	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	-
		In Process	0	0	0	0	0	0	0	0	0	0	0	0	0
		Net New Trips	8	1	70	0	4	1	1	26	17	115	22	0	265
		Other	0	0	0	0	0	0	0	0	0	0	0	0	0
		<b>Future Total</b>	<b>20</b>	<b>2</b>	<b>70</b>	<b>37</b>	<b>4</b>	<b>2</b>	<b>1</b>	<b>401</b>	<b>23</b>	<b>121</b>	<b>154</b>	<b>9</b>	<b>844</b>

ID	Intersection Name	Volume Type	Northbound			Southbound			Eastbound			Westbound			Total Volume
			Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
3	1st St & Magnolia Dr	Final Base	9	7	88	52	2	2	1	383	23	66	129	7	769
		Growth Factor	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	-
		In Process	0	0	0	0	0	0	0	0	0	0	0	0	0
		Net New Trips	0	0	0	0	0	5	2	94	0	0	132	0	233
		Other	0	0	0	0	0	0	0	0	0	0	0	0	0
		<b>Future Total</b>	<b>9</b>	<b>7</b>	<b>92</b>	<b>55</b>	<b>2</b>	<b>7</b>	<b>3</b>	<b>496</b>	<b>24</b>	<b>69</b>	<b>267</b>	<b>7</b>	<b>1038</b>

ID	Intersection Name	Volume Type	Northbound			Southbound			Eastbound			Westbound			Total Volume
			Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
4	Magnolia Dr & White Tail Dr	Final Base	15	74	7	6	61	22	26	1	17	3	0	10	242
		Growth Factor	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	-
		In Process	0	0	0	0	0	0	0	0	0	0	0	0	0
		Net New Trips	53	0	0	0	0	0	0	0	0	33	0	0	86
		Other	0	0	0	0	0	0	0	0	0	0	0	0	0
		<b>Future Total</b>	<b>69</b>	<b>78</b>	<b>7</b>	<b>6</b>	<b>64</b>	<b>23</b>	<b>27</b>	<b>1</b>	<b>51</b>	<b>3</b>	<b>0</b>	<b>11</b>	<b>340</b>

ID	Intersection Name	Volume Type	Northbound			Southbound			Eastbound			Westbound			Total Volume	
			Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right		
5	Eagle Ridge Dr & White Tail Dr	Final Base	0	0	0	12	0	0	0	0	0	0	0	0	12	24
		Growth Factor	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	-
		In Process	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		Net New Trips	0	7	8	0	10	107	53	25	0	5	48	0	0	263
		Other	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		<b>Future Total</b>	<b>0</b>	<b>7</b>	<b>8</b>	<b>12</b>	<b>10</b>	<b>107</b>	<b>53</b>	<b>25</b>	<b>0</b>	<b>5</b>	<b>48</b>	<b>12</b>	<b>0</b>	<b>287</b>

ID	Intersection Name	Volume Type	Northbound			Southbound			Eastbound			Westbound			Total Volume
			Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
6	Lake Ridge Dr & White Tail Dr	Final Base	0	0	0	0	0	0	0	0	0	0	0	0	0
		Growth 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	1.00
		In Process	0	0	0	0	0	0	0	0	0	0	0	0	0
		Net New Trips	0	34	0	72	14	35	32	7	0	0	8	33	235
		Other	0	0	0	0	0	0	0	0	0	0	0	0	0
		<b>Future Total</b>	<b>0</b>	<b>34</b>	<b>0</b>	<b>72</b>	<b>14</b>	<b>35</b>	<b>32</b>	<b>7</b>	<b>0</b>	<b>0</b>	<b>8</b>	<b>33</b>	<b>235</b>

ID	Intersection Name	Volume Type	Northbound		Southbound		Westbound		Total Volume
			Thru	Right	Left	Thru	Left	Right	
7	Lake Ridge Dr & Eagle Ridge Rd	Final Base	0	0	0	0	0	0	0
		Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0
		Net New Trips	34	7	0	14	3	0	58
		Other	0	0	0	0	0	0	0
		<b>Future Total</b>	<b>34</b>	<b>7</b>	<b>0</b>	<b>14</b>	<b>3</b>	<b>0</b>	<b>58</b>

ID	Intersection Name	Volume Type	Northbound			Southbound			Eastbound			Westbound			Total Volume
			Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
10	New Intersection	Final Base	0	0	0	0	0	0	0	0	0	0	0	0	0
		Growth 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	1.00
		In Process	0	0	0	0	0	0	0	0	0	0	0	0	0
		Net New Trips	0	0	0	0	0	17	41	0	0	0	0	0	58
		Other	0	0	0	0	0	0	0	0	0	0	0	0	0
		<b>Future Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>17</b>	<b>41</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>



## Thunder Ridge - Cedar Falls

Vistro File: C:\...\Cedar vistro.vistro

Scenario 2 PM

Report File: C:\...\vistro PM.pdf

6/24/2020

## Turning Movement Volume: Detail

ID	Intersection Name	Volume Type	Northbound			Southbound			Eastbound			Westbound			Total Volume
			Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
1	1st St & Lake Ridge Dr	Final Base	0	0	0	28	0	6	11	265	0	0	478	46	834
		Growth Factor	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	-
		In Process	0	0	0	0	0	0	0	0	0	0	0	0	0
		Net New Trips	159	5	57	0	4	0	0	-36	104	107	-75	0	325
		Other	0	0	0	0	0	0	0	0	0	0	0	0	0
		<b>Future Total</b>	<b>159</b>	<b>5</b>	<b>57</b>	<b>29</b>	<b>4</b>	<b>6</b>	<b>12</b>	<b>242</b>	<b>104</b>	<b>107</b>	<b>427</b>	<b>48</b>	<b>1200</b>

ID	Intersection Name	Volume Type	Northbound			Southbound			Eastbound			Westbound			Total Volume
			Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
2	1st St & Eagle Ridge Dr	Final Base	47	7	15	25	7	10	9	235	30	20	465	47	917
		Growth Factor	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	-
		In Process	0	0	0	0	0	0	0	0	0	0	0	0	0
		Net New Trips	45	5	129	0	4	0	0	-1	22	120	-13	0	311
		Other	0	0	0	0	0	0	0	0	0	0	0	0	0
		<b>Future Total</b>	<b>94</b>	<b>12</b>	<b>145</b>	<b>26</b>	<b>11</b>	<b>11</b>	<b>9</b>	<b>246</b>	<b>54</b>	<b>141</b>	<b>475</b>	<b>49</b>	<b>1273</b>

ID	Intersection Name	Volume Type	Northbound			Southbound			Eastbound			Westbound			Total Volume
			Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
3	1st St & Magnolia Dr	Final Base	101	16	140	30	14	3	2	271	53	235	398	43	1306
		Growth Factor	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	-
		In Process	0	0	0	0	0	0	0	0	0	0	0	0	0
		Net New Trips	0	0	0	0	0	4	5	123	0	0	103	0	235
		Other	0	0	0	0	0	0	0	0	0	0	0	0	0
		<b>Future Total</b>	<b>106</b>	<b>17</b>	<b>147</b>	<b>32</b>	<b>15</b>	<b>7</b>	<b>7</b>	<b>408</b>	<b>56</b>	<b>247</b>	<b>521</b>	<b>45</b>	<b>1608</b>

ID	Intersection Name	Volume Type	Northbound			Southbound			Eastbound			Westbound			Total Volume
			Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
4	Magnolia Dr & White Tail Dr	Final Base	16	166	51	20	169	57	53	11	56	24	14	42	679
		Growth Factor	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	-
		In Process	0	0	0	0	0	0	0	0	0	0	0	0	0
		Net New Trips	41	0	0	0	0	0	0	0	47	0	0	0	88
		Other	0	0	0	0	0	0	0	0	0	0	0	0	0
		<b>Future Total</b>	<b>58</b>	<b>174</b>	<b>54</b>	<b>21</b>	<b>177</b>	<b>60</b>	<b>56</b>	<b>12</b>	<b>106</b>	<b>25</b>	<b>15</b>	<b>44</b>	<b>802</b>

ID	Intersection Name	Volume Type	Northbound			Southbound			Eastbound			Westbound			Total Volume	
			Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right		
5	Eagle Ridge Dr & White Tail Dr	Final Base	0	0	0	57	0	0	0	0	0	0	0	0	69	126
		Growth Factor	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	-
		In Process	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		Net New Trips	0	15	5	0	8	80	106	42	0	6	35	0	0	297
		Other	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		<b>Future Total</b>	<b>0</b>	<b>15</b>	<b>5</b>	<b>58</b>	<b>8</b>	<b>80</b>	<b>106</b>	<b>42</b>	<b>0</b>	<b>6</b>	<b>35</b>	<b>70</b>	<b>425</b>	

ID	Intersection Name	Volume Type	Northbound			Southbound			Eastbound			Westbound			Total Volume
			Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
6	Lake Ridge Dr & White Tail Dr	Final Base	0	0	0	0	0	0	0	0	0	0	0	0	0
		Growth 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	1.00
		In Process	0	0	0	0	0	0	0	0	0	0	0	0	0
		Net New Trips	0	10	0	52	15	28	19	4	0	0	7	72	207
		Other	0	0	0	0	0	0	0	0	0	0	0	0	0
		<b>Future Total</b>	<b>0</b>	<b>10</b>	<b>0</b>	<b>52</b>	<b>15</b>	<b>28</b>	<b>19</b>	<b>4</b>	<b>0</b>	<b>0</b>	<b>7</b>	<b>72</b>	<b>207</b>

ID	Intersection Name	Volume Type	Northbound		Southbound		Westbound		Total Volume
			Thru	Right	Left	Thru	Left	Right	
7	Lake Ridge Dr & Eagle Ridge Rd	Final Base	0	0	0	0	0	0	0
		Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0
		Net New Trips	10	2	0	15	4	0	31
		Other	0	0	0	0	0	0	0
		<b>Future Total</b>	<b>10</b>	<b>2</b>	<b>0</b>	<b>15</b>	<b>4</b>	<b>0</b>	<b>31</b>

ID	Intersection Name	Volume Type	Northbound			Southbound			Eastbound			Westbound			Total Volume
			Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
10	New Intersection	Final Base	0	0	0	0	0	0	0	0	0	0	0	0	0
		Growth 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	-
		In Process	0	0	0	0	0	0	0	0	0	0	0	0	0
		Net New Trips	0	0	0	0	0	19	12	0	0	0	0	0	31
		Other	0	0	0	0	0	0	0	0	0	0	0	0	0
		<b>Future Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>19</b>	<b>12</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>31</b>

# **CAPACITY ANALYSIS**

## Existing Conditions

**Intersection**

Int Delay, s/veh 0.7

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↘	↗	↗	↘	↘	↘
Traffic Vol, veh/h	1	345	142	5	28	4
Future Vol, veh/h	1	345	142	5	28	4
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	75	-	-	0	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	0	4	10	0	4	0
Mvmt Flow	1	363	149	5	29	4

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	154	0	-	0	514 149
Stage 1	-	-	-	-	149 -
Stage 2	-	-	-	-	365 -
Critical Hdwy	4.1	-	-	-	6.44 6.2
Critical Hdwy Stg 1	-	-	-	-	5.44 -
Critical Hdwy Stg 2	-	-	-	-	5.44 -
Follow-up Hdwy	2.2	-	-	-	3.536 3.3
Pot Cap-1 Maneuver	1439	-	-	-	517 903
Stage 1	-	-	-	-	874 -
Stage 2	-	-	-	-	698 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	1439	-	-	-	516 903
Mov Cap-2 Maneuver	-	-	-	-	516 -
Stage 1	-	-	-	-	873 -
Stage 2	-	-	-	-	698 -

Approach	EB	WB	SB
HCM Control Delay, s	0	0	12
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1439	-	-	-	545
HCM Lane V/C Ratio	0.001	-	-	-	0.062
HCM Control Delay (s)	7.5	-	-	-	12
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.2

Intersection						
Int Delay, s/veh	0.6					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↘	↑	↑	↑	↘	↘
Traffic Vol, veh/h	11	265	478	46	17	6
Future Vol, veh/h	11	265	478	46	17	6
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	75	-	-	0	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	83	83	83	83	83	83
Heavy Vehicles, %	0	3	10	0	4	0
Mvmt Flow	13	319	576	55	20	7

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	631	0	-	0	921
Stage 1	-	-	-	-	576
Stage 2	-	-	-	-	345
Critical Hdwy	4.1	-	-	-	6.44
Critical Hdwy Stg 1	-	-	-	-	5.44
Critical Hdwy Stg 2	-	-	-	-	5.44
Follow-up Hdwy	2.2	-	-	-	3.536
Pot Cap-1 Maneuver	961	-	-	-	298
Stage 1	-	-	-	-	558
Stage 2	-	-	-	-	713
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	961	-	-	-	294
Mov Cap-2 Maneuver	-	-	-	-	294
Stage 1	-	-	-	-	550
Stage 2	-	-	-	-	713

Approach	EB	WB	SB
HCM Control Delay, s	0.4	0	16.8
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	961	-	-	-	332
HCM Lane V/C Ratio	0.014	-	-	-	0.083
HCM Control Delay (s)	8.8	-	-	-	16.8
HCM Lane LOS	A	-	-	-	C
HCM 95th %tile Q(veh)	0	-	-	-	0.3

Intersection												
Int Delay, s/veh	1.1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↕		↘	↕			↕			↕	
Traffic Vol, veh/h	0	357	6	6	126	9	11	1	0	35	0	1
Future Vol, veh/h	0	357	6	6	126	9	11	1	0	35	0	1
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	150	-	-	150	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	0	2	0	29	4	0	11	0	0	0	0	0
Mvmt Flow	0	388	7	7	137	10	12	1	0	38	0	1

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	147	0	0	395	0	0	475	553	198	351	551	74
Stage 1	-	-	-	-	-	-	392	392	-	156	156	-
Stage 2	-	-	-	-	-	-	83	161	-	195	395	-
Critical Hdwy	4.1	-	-	4.68	-	-	7.72	6.5	6.9	7.5	6.5	6.9
Critical Hdwy Stg 1	-	-	-	-	-	-	6.72	5.5	-	6.5	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.72	5.5	-	6.5	5.5	-
Follow-up Hdwy	2.2	-	-	2.49	-	-	3.61	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	1447	-	-	989	-	-	453	444	816	584	445	979
Stage 1	-	-	-	-	-	-	580	610	-	836	772	-
Stage 2	-	-	-	-	-	-	890	769	-	794	608	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1447	-	-	989	-	-	450	441	816	580	442	979
Mov Cap-2 Maneuver	-	-	-	-	-	-	450	441	-	580	442	-
Stage 1	-	-	-	-	-	-	580	610	-	836	767	-
Stage 2	-	-	-	-	-	-	883	764	-	793	608	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	0.4	13.3	11.6
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	449	1447	-	-	989	-	-	587
HCM Lane V/C Ratio	0.029	-	-	-	0.007	-	-	0.067
HCM Control Delay (s)	13.3	0	-	-	8.7	-	-	11.6
HCM Lane LOS	B	A	-	-	A	-	-	B
HCM 95th %tile Q(veh)	0.1	0	-	-	0	-	-	0.2

Intersection												
Int Delay, s/veh	2.5											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↕		↖	↕			↕			↕	
Traffic Vol, veh/h	9	235	30	20	465	47	47	7	15	25	7	10
Future Vol, veh/h	9	235	30	20	465	47	47	7	15	25	7	10
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	150	-	-	150	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	82	82	82	82	82	82	82	82	82	82	82	82
Heavy Vehicles, %	0	2	4	0	2	0	5	0	0	0	0	0
Mvmt Flow	11	287	37	24	567	57	57	9	18	30	9	12

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	624	0	0	324	0	0	664	1000	162	814	990	312
Stage 1	-	-	-	-	-	-	328	328	-	644	644	-
Stage 2	-	-	-	-	-	-	336	672	-	170	346	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.6	6.5	6.9	7.5	6.5	6.9
Critical Hdwy Stg 1	-	-	-	-	-	-	6.6	5.5	-	6.5	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.6	5.5	-	6.5	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.55	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	967	-	-	1247	-	-	340	245	861	273	248	690
Stage 1	-	-	-	-	-	-	651	651	-	433	471	-
Stage 2	-	-	-	-	-	-	643	458	-	821	639	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	967	-	-	1247	-	-	318	238	861	254	241	690
Mov Cap-2 Maneuver	-	-	-	-	-	-	318	238	-	254	241	-
Stage 1	-	-	-	-	-	-	644	644	-	428	462	-
Stage 2	-	-	-	-	-	-	608	449	-	784	632	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.3	0.3	18.3	19.7
HCM LOS			C	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	355	967	-	-	1247	-	-	296
HCM Lane V/C Ratio	0.237	0.011	-	-	0.02	-	-	0.173
HCM Control Delay (s)	18.3	8.8	-	-	7.9	-	-	19.7
HCM Lane LOS	C	A	-	-	A	-	-	C
HCM 95th %tile Q(veh)	0.9	0	-	-	0.1	-	-	0.6



Lanes, Volumes, Timings  
8: Magnolia Drive/Oak Park Blvd & 1st Street (IA 57)

06/24/2020



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	1	383	23	66	129	7	9	7	88	52	2	2
Future Volume (vph)	1	383	23	66	129	7	9	7	88	52	2	2
Ideal Flow (vphp)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150		0	300		0	0		0	0		0
Storage Lanes	1		0	1		0	0		1	0		0
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.991			0.992				0.850		0.996	
Flt Protected	0.950			0.950				0.973			0.955	
Satd. Flow (prot)	1805	3511	0	1805	3507	0	0	1849	1615	0	1807	0
Flt Permitted	0.652			0.337				0.898			0.771	
Satd. Flow (perm)	1239	3511	0	640	3507	0	0	1706	1615	0	1459	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		8			8				102		2	
Link Speed (mph)		45			45			30			30	
Link Distance (ft)		830			768			232			403	
Travel Time (s)		12.6			11.6			5.3			9.2	
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Heavy Vehicles (%)	0%	2%	0%	0%	2%	4%	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	1	445	27	77	150	8	10	8	102	60	2	2
Shared Lane Traffic (%)												
Lane Group Flow (vph)	1	472	0	77	158	0	0	18	102	0	64	0
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)		12			12			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
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA	pm+ov	Perm	NA	
Protected Phases	7	4		3	8			2	3		6	
Permitted Phases	4			8			2		2	6		
Detector Phase	7	4		3	8		2	2	3	6	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Minimum Split (s)	10.0	20.0		10.0	20.0		20.0	20.0	10.0	20.0	20.0	
Total Split (s)	14.0	49.0		20.0	55.0		31.0	31.0	20.0	31.0	31.0	
Total Split (%)	14.0%	49.0%		20.0%	55.0%		31.0%	31.0%	20.0%	31.0%	31.0%	
Maximum Green (s)	8.0	43.0		14.0	49.0		25.0	25.0	14.0	25.0	25.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0	2.0	2.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0			0.0	0.0		0.0	
Total Lost Time (s)	6.0	6.0		6.0	6.0			6.0	6.0		6.0	
Lead/Lag	Lead	Lag		Lead	Lag			Lead			Lead	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes			Yes			Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	None		None	None		Max	Max	None	Max	Max	

Lanes, Volumes, Timings  
 8: Magnolia Drive/Oak Park Blvd & 1st Street (IA 57)

06/24/2020

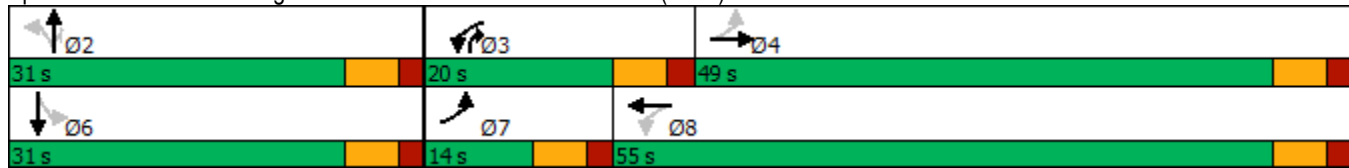


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Act Effect Green (s)	17.9	13.7		23.4	21.9			25.4	38.7		25.4	
Actuated g/C Ratio	0.29	0.22		0.38	0.36			0.41	0.63		0.41	
v/c Ratio	0.00	0.60		0.20	0.13			0.03	0.10		0.11	
Control Delay	11.0	25.2		12.2	13.3			13.9	1.9		14.1	
Queue Delay	0.0	0.0		0.0	0.0			0.0	0.0		0.0	
Total Delay	11.0	25.2		12.2	13.3			13.9	1.9		14.1	
LOS	B	C		B	B			B	A		B	
Approach Delay		25.2			12.9			3.7			14.1	
Approach LOS		C			B			A			B	
Queue Length 50th (ft)	0	86		17	17			4	0		15	
Queue Length 95th (ft)	2	125		37	42			16	16		40	
Internal Link Dist (ft)		750			688			152			323	
Turn Bay Length (ft)	150			300								
Base Capacity (vph)	473	2497		528	2814			704	1227		603	
Starvation Cap Reductn	0	0		0	0			0	0		0	
Spillback Cap Reductn	0	0		0	0			0	0		0	
Storage Cap Reductn	0	0		0	0			0	0		0	
Reduced v/c Ratio	0.00	0.19		0.15	0.06			0.03	0.08		0.11	

Intersection Summary

Area Type: Other  
 Cycle Length: 100  
 Actuated Cycle Length: 61.6  
 Natural Cycle: 50  
 Control Type: Actuated-Uncoordinated  
 Maximum v/c Ratio: 0.60  
 Intersection Signal Delay: 18.3  
 Intersection LOS: B  
 Intersection Capacity Utilization 39.7%  
 ICU Level of Service A  
 Analysis Period (min) 15

Splits and Phases: 8: Magnolia Drive/Oak Park Blvd & 1st Street (IA 57)



Lanes, Volumes, Timings  
8: Magnolia Drive/Oak Park Blvd & 1st Street (IA 57)

06/23/2020



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	2	271	53	235	398	43	101	16	140	30	14	3
Future Volume (vph)	2	271	53	235	398	43	101	16	140	30	14	3
Ideal Flow (vphp)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150		0	300		0	0		0	0		0
Storage Lanes	1		0	1		0	0		1	0		0
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.976			0.985				0.850		0.992	
Flt Protected	0.950			0.950				0.959			0.969	
Satd. Flow (prot)	1805	3494	0	1805	3524	0	0	1822	1599	0	1826	0
Flt Permitted	0.492			0.395				0.733			0.818	
Satd. Flow (perm)	935	3494	0	750	3524	0	0	1393	1599	0	1542	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		21			15				143			3
Link Speed (mph)		45			45			30				30
Link Distance (ft)		830			768			232				403
Travel Time (s)		12.6			11.6			5.3				9.2
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
Heavy Vehicles (%)	0%	1%	0%	0%	1%	0%	0%	0%	1%	0%	0%	0%
Adj. Flow (vph)	2	277	54	240	406	44	103	16	143	31	14	3
Shared Lane Traffic (%)												
Lane Group Flow (vph)	2	331	0	240	450	0	0	119	143	0	48	0
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)		12			12			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
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA	pm+ov	Perm	NA	
Protected Phases	7	4		3	8			2	3		6	
Permitted Phases	4			8			2		2	6		
Detector Phase	7	4		3	8		2	2	3	6	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Minimum Split (s)	10.0	20.0		10.0	20.0		20.0	20.0	10.0	20.0	20.0	
Total Split (s)	14.0	30.0		34.0	50.0		36.0	36.0	34.0	36.0	36.0	
Total Split (%)	14.0%	30.0%		34.0%	50.0%		36.0%	36.0%	34.0%	36.0%	36.0%	
Maximum Green (s)	8.0	24.0		28.0	44.0		30.0	30.0	28.0	30.0	30.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0	2.0	2.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0			0.0	0.0		0.0	
Total Lost Time (s)	6.0	6.0		6.0	6.0			6.0	6.0		6.0	
Lead/Lag	Lead	Lag		Lead	Lag				Lead			
Lead-Lag Optimize?	Yes	Yes		Yes	Yes				Yes			
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	None		None	None		Max	Max	None	Max	Max	

Lanes, Volumes, Timings  
 8: Magnolia Drive/Oak Park Blvd & 1st Street (IA 57)

06/23/2020

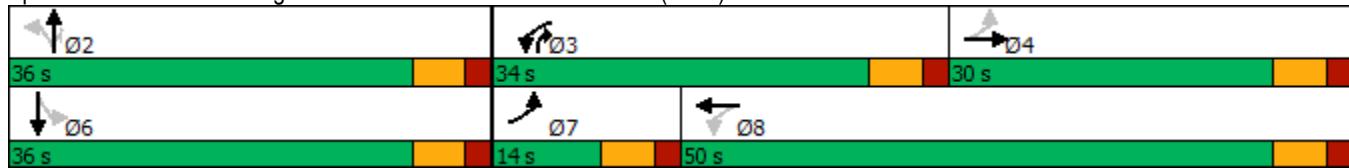


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Act Effect Green (s)	17.2	11.6		29.6	27.4			30.2	48.1		30.2	
Actuated g/C Ratio	0.24	0.16		0.41	0.38			0.42	0.67		0.42	
v/c Ratio	0.01	0.57		0.50	0.33			0.20	0.13		0.07	
Control Delay	13.0	30.3		17.8	16.5			15.9	1.2		14.0	
Queue Delay	0.0	0.0		0.0	0.0			0.0	0.0		0.0	
Total Delay	13.0	30.3		17.8	16.5			15.9	1.2		14.0	
LOS	B	C		B	B			B	A		B	
Approach Delay		30.2			17.0			7.9			14.0	
Approach LOS		C			B			A			B	
Queue Length 50th (ft)	1	66		69	65			32	0		11	
Queue Length 95th (ft)	4	112		117	126			77	17		35	
Internal Link Dist (ft)		750			688			152			323	
Turn Bay Length (ft)	150			300								
Base Capacity (vph)	353	1187		737	2176			584	1447		649	
Starvation Cap Reductn	0	0		0	0			0	0		0	
Spillback Cap Reductn	0	0		0	0			0	0		0	
Storage Cap Reductn	0	0		0	0			0	0		0	
Reduced v/c Ratio	0.01	0.28		0.33	0.21			0.20	0.10		0.07	

Intersection Summary

Area Type: Other  
 Cycle Length: 100  
 Actuated Cycle Length: 71.8  
 Natural Cycle: 50  
 Control Type: Actuated-Uncoordinated  
 Maximum v/c Ratio: 0.57  
 Intersection Signal Delay: 18.4  
 Intersection LOS: B  
 Intersection Capacity Utilization 46.4%  
 ICU Level of Service A  
 Analysis Period (min) 15

Splits and Phases: 8: Magnolia Drive/Oak Park Blvd & 1st Street (IA 57)



Intersection												
Int Delay, s/veh	3											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	26	1	17	3	0	10	15	74	7	6	61	22
Future Vol, veh/h	26	1	17	3	0	10	15	74	7	6	61	22
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	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	78	78	78	78	78	78	78	78	78	78	78	78
Heavy Vehicles, %	5	0	7	0	0	0	0	3	17	11	2	0
Mvmt Flow	33	1	22	4	0	13	19	95	9	8	78	28

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	252	250	92	258	260	100	106	0	0	104	0	0
Stage 1	108	108	-	138	138	-	-	-	-	-	-	-
Stage 2	144	142	-	120	122	-	-	-	-	-	-	-
Critical Hdwy	7.15	6.5	6.27	7.1	6.5	6.2	4.1	-	-	4.21	-	-
Critical Hdwy Stg 1	6.15	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.15	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.545	4	3.363	3.5	4	3.3	2.2	-	-	2.299	-	-
Pot Cap-1 Maneuver	695	656	952	699	648	961	1498	-	-	1433	-	-
Stage 1	890	810	-	870	786	-	-	-	-	-	-	-
Stage 2	852	783	-	889	799	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	676	644	952	672	636	961	1498	-	-	1433	-	-
Mov Cap-2 Maneuver	676	644	-	672	636	-	-	-	-	-	-	-
Stage 1	878	805	-	859	776	-	-	-	-	-	-	-
Stage 2	830	773	-	862	794	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	10.1	9.2	1.2	0.5
HCM LOS	B	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1498	-	-	760	874	1433	-
HCM Lane V/C Ratio	0.013	-	-	0.074	0.019	0.005	-
HCM Control Delay (s)	7.4	0	-	10.1	9.2	7.5	0
HCM Lane LOS	A	A	-	B	A	A	A
HCM 95th %tile Q(veh)	0	-	-	0.2	0.1	0	-

Intersection												
Int Delay, s/veh	5.4											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	53	11	56	24	14	42	51	166	16	20	169	57
Future Vol, veh/h	53	11	56	24	14	42	51	166	16	20	169	57
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	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	82	82	82	82	82	82	82	82	82	82	82	82
Heavy Vehicles, %	2	0	0	0	0	0	2	1	8	0	0	0
Mvmt Flow	65	13	68	29	17	51	62	202	20	24	206	70

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	659	635	241	666	660	212	276	0	0	222	0	0
Stage 1	289	289	-	336	336	-	-	-	-	-	-	-
Stage 2	370	346	-	330	324	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.5	6.2	7.1	6.5	6.2	4.12	-	-	4.1	-	-
Critical Hdwy Stg 1	6.12	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4	3.3	3.5	4	3.3	2.218	-	-	2.2	-	-
Pot Cap-1 Maneuver	377	399	803	376	386	833	1287	-	-	1359	-	-
Stage 1	719	677	-	682	645	-	-	-	-	-	-	-
Stage 2	650	639	-	687	653	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	322	369	803	315	357	833	1287	-	-	1359	-	-
Mov Cap-2 Maneuver	322	369	-	315	357	-	-	-	-	-	-	-
Stage 1	679	663	-	644	610	-	-	-	-	-	-	-
Stage 2	560	604	-	603	639	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	16.7		14.4		1.7		0.6	
HCM LOS	C		B					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1287	-	-	454	482	1359	-	-
HCM Lane V/C Ratio	0.048	-	-	0.322	0.202	0.018	-	-
HCM Control Delay (s)	7.9	0	-	16.7	14.4	7.7	0	-
HCM Lane LOS	A	A	-	C	B	A	A	-
HCM 95th %tile Q(veh)	0.2	-	-	1.4	0.8	0.1	-	-

## **Full Build 2025 Conditions**

Intersection												
Int Delay, s/veh	3.9											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	1	328	125	48	132	5	76	2	78	28	5	4
Future Vol, veh/h	1	328	125	48	132	5	76	2	78	28	5	4
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	75	-	150	150	-	0	150	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	90	90	90	95	95	95
Heavy Vehicles, %	0	4	0	0	10	0	0	0	0	4	0	0
Mvmt Flow	1	345	132	51	139	5	84	2	87	29	5	4

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	144	0	0	477	0	0	595	593	345	699	720	139
Stage 1	-	-	-	-	-	-	347	347	-	241	241	-
Stage 2	-	-	-	-	-	-	248	246	-	458	479	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.2	7.14	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.14	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.14	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.536	4	3.3
Pot Cap-1 Maneuver	1451	-	-	1096	-	-	419	421	702	352	356	915
Stage 1	-	-	-	-	-	-	673	638	-	758	710	-
Stage 2	-	-	-	-	-	-	760	706	-	579	558	-
Platoon blocked, %		-	-	-	-	-						
Mov Cap-1 Maneuver	1451	-	-	1096	-	-	397	401	702	296	339	915
Mov Cap-2 Maneuver	-	-	-	-	-	-	397	401	-	296	339	-
Stage 1	-	-	-	-	-	-	672	637	-	757	677	-
Stage 2	-	-	-	-	-	-	716	673	-	505	557	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	0			2.2			13.7			17.6		
HCM LOS							B			C		

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	397	689	1451	-	-	1096	-	-	325
HCM Lane V/C Ratio	0.213	0.129	0.001	-	-	0.046	-	-	0.12
HCM Control Delay (s)	16.5	11	7.5	-	-	8.4	-	-	17.6
HCM Lane LOS	C	B	A	-	-	A	-	-	C
HCM 95th %tile Q(veh)	0.8	0.4	0	-	-	0.1	-	-	0.4



Intersection												
Int Delay, s/veh	7.6											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	12	242	104	107	427	48	159	5	57	17	4	6
Future Vol, veh/h	12	242	104	107	427	48	159	5	57	17	4	6
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	75	-	150	150	-	0	150	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	1	-	-	1	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	83	83	83	83	83	83	90	90	90	83	83	83
Heavy Vehicles, %	0	3	0	0	1	0	0	0	0	0	0	0
Mvmt Flow	14	292	125	129	514	58	177	6	63	20	5	7

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	572	0	0	417	0	0	1127	1150	292	1189	1217	514
Stage 1	-	-	-	-	-	-	320	320	-	772	772	-
Stage 2	-	-	-	-	-	-	807	830	-	417	445	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	1011	-	-	1153	-	-	183	200	752	166	182	564
Stage 1	-	-	-	-	-	-	696	656	-	395	412	-
Stage 2	-	-	-	-	-	-	378	388	-	617	578	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1011	-	-	1153	-	-	~ 161	175	752	135	159	564
Mov Cap-2 Maneuver	-	-	-	-	-	-	255	267	-	246	254	-
Stage 1	-	-	-	-	-	-	686	647	-	389	366	-
Stage 2	-	-	-	-	-	-	327	345	-	552	570	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.3			1.6			36.1			19.4		
HCM LOS							E			C		

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	255	656	1011	-	-	1153	-	-	283
HCM Lane V/C Ratio	0.693	0.105	0.014	-	-	0.112	-	-	0.115
HCM Control Delay (s)	45.8	11.1	8.6	-	-	8.5	-	-	19.4
HCM Lane LOS	E	B	A	-	-	A	-	-	C
HCM 95th %tile Q(veh)	4.6	0.4	0	-	-	0.4	-	-	0.4

Notes  
 ~: Volume exceeds capacity    \$: Delay exceeds 300s    +: Computation Not Defined    \*: All major volume in platoon

Intersection												
Int Delay, s/veh	3.8											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↕↗		↖	↕↗		↖	↗			↕↗	
Traffic Vol, veh/h	1	401	23	121	154	9	20	2	70	37	4	2
Future Vol, veh/h	1	401	23	121	154	9	20	2	70	37	4	2
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	150	-	-	150	-	-	150	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	0	2	0	29	4	0	11	0	0	0	0	0
Mvmt Flow	1	436	25	132	167	10	22	2	76	40	4	2

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	177	0	0	461	0	0	801	892	231	657	899	89
Stage 1	-	-	-	-	-	-	451	451	-	436	436	-
Stage 2	-	-	-	-	-	-	350	441	-	221	463	-
Critical Hdwy	4.1	-	-	4.68	-	-	7.72	6.5	6.9	7.5	6.5	6.9
Critical Hdwy Stg 1	-	-	-	-	-	-	6.72	5.5	-	6.5	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.72	5.5	-	6.5	5.5	-
Follow-up Hdwy	2.2	-	-	2.49	-	-	3.61	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	1411	-	-	927	-	-	260	283	777	354	281	958
Stage 1	-	-	-	-	-	-	534	574	-	574	583	-
Stage 2	-	-	-	-	-	-	615	580	-	767	568	-
Platoon blocked, %		-	-	-	-	-						
Mov Cap-1 Maneuver	1411	-	-	927	-	-	228	243	777	282	241	958
Mov Cap-2 Maneuver	-	-	-	-	-	-	228	243	-	282	241	-
Stage 1	-	-	-	-	-	-	533	573	-	573	500	-
Stage 2	-	-	-	-	-	-	522	498	-	689	567	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	0			4.1			13.1			20		
HCM LOS							B			C		

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	228	732	1411	-	-	927	-	-	287
HCM Lane V/C Ratio	0.095	0.107	0.001	-	-	0.142	-	-	0.163
HCM Control Delay (s)	22.4	10.5	7.6	-	-	9.5	-	-	20
HCM Lane LOS	C	B	A	-	-	A	-	-	C
HCM 95th %tile Q(veh)	0.3	0.4	0	-	-	0.5	-	-	0.6

Intersection												
Int Delay, s/veh	5.6											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↕		↖	↕		↖	↕			↕	
Traffic Vol, veh/h	9	246	54	141	475	49	94	12	145	26	11	11
Future Vol, veh/h	9	246	54	141	475	49	94	12	145	26	11	11
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	150	-	-	150	-	-	150	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	1	-	-	1	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	82	82	82	82	82	82	82	82	82	82	82	82
Heavy Vehicles, %	0	2	4	0	2	0	5	0	0	0	0	0
Mvmt Flow	11	300	66	172	579	60	115	15	177	32	13	13

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	639	0	0	366	0	0	995	1338	183	1133	1341	320
Stage 1	-	-	-	-	-	-	355	355	-	953	953	-
Stage 2	-	-	-	-	-	-	640	983	-	180	388	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.6	6.5	6.9	7.5	6.5	6.9
Critical Hdwy Stg 1	-	-	-	-	-	-	6.6	5.5	-	6.5	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.6	5.5	-	6.5	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.55	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	955	-	-	1204	-	-	195	154	834	160	154	682
Stage 1	-	-	-	-	-	-	627	633	-	282	340	-
Stage 2	-	-	-	-	-	-	423	329	-	810	612	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	955	-	-	1204	-	-	161	130	834	106	130	682
Mov Cap-2 Maneuver	-	-	-	-	-	-	259	219	-	201	215	-
Stage 1	-	-	-	-	-	-	619	625	-	279	291	-
Stage 2	-	-	-	-	-	-	339	282	-	616	605	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.3			1.8			18.7			24.3		
HCM LOS							C			C		

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	259	687	955	-	-	1204	-	-	244
HCM Lane V/C Ratio	0.443	0.279	0.011	-	-	0.143	-	-	0.24
HCM Control Delay (s)	29.5	12.3	8.8	-	-	8.5	-	-	24.3
HCM Lane LOS	D	B	A	-	-	A	-	-	C
HCM 95th %tile Q(veh)	2.1	1.1	0	-	-	0.5	-	-	0.9

Lanes, Volumes, Timings  
8: Magnolia Drive/Oak Park Blvd & 1st Street (IA 57)

06/23/2020



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	3	496	24	69	267	7	9	7	92	55	2	7
Future Volume (vph)	3	496	24	69	267	7	9	7	92	55	2	7
Ideal Flow (vphp)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150		0	300		0	0		110	0		0
Storage Lanes	1		0	1		0	0		1	0		0
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.993			0.996				0.850		0.985	
Flt Protected	0.950			0.950				0.973			0.959	
Satd. Flow (prot)	1805	3518	0	1805	3523	0	0	1849	1615	0	1795	0
Flt Permitted	0.559			0.268				0.893			0.778	
Satd. Flow (perm)	1062	3518	0	509	3523	0	0	1697	1615	0	1456	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		6			4				107		6	
Link Speed (mph)		45			45			30			30	
Link Distance (ft)		830			768			223			403	
Travel Time (s)		12.6			11.6			5.1			9.2	
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Heavy Vehicles (%)	0%	2%	0%	0%	2%	4%	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	3	577	28	80	310	8	10	8	107	64	2	8
Shared Lane Traffic (%)												
Lane Group Flow (vph)	3	605	0	80	318	0	0	18	107	0	74	0
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)		12			12			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
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA	pm+ov	Perm	NA	
Protected Phases	7	4		3	8			2	3		6	
Permitted Phases	4			8			2		2	6		
Detector Phase	7	4		3	8		2	2	3	6	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Minimum Split (s)	10.0	20.0		10.0	20.0		20.0	20.0	10.0	20.0	20.0	
Total Split (s)	14.0	49.0		20.0	55.0		31.0	31.0	20.0	31.0	31.0	
Total Split (%)	14.0%	49.0%		20.0%	55.0%		31.0%	31.0%	20.0%	31.0%	31.0%	
Maximum Green (s)	8.0	43.0		14.0	49.0		25.0	25.0	14.0	25.0	25.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0	2.0	2.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0			0.0	0.0		0.0	
Total Lost Time (s)	6.0	6.0		6.0	6.0			6.0	6.0		6.0	
Lead/Lag	Lead	Lag		Lead	Lag			Lead				
Lead-Lag Optimize?	Yes	Yes		Yes	Yes			Yes				
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	None		None	None		Max	Max	None	Max	Max	

Lanes, Volumes, Timings  
 8: Magnolia Drive/Oak Park Blvd & 1st Street (IA 57)

06/23/2020

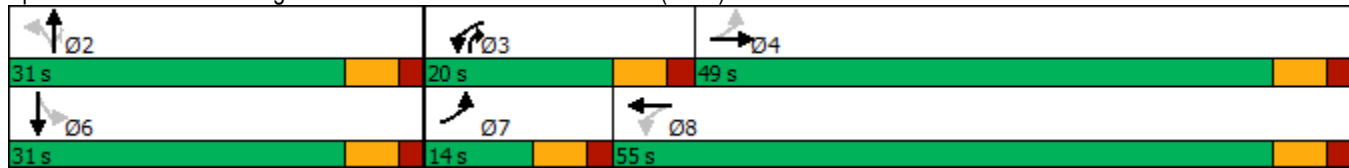


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Act Effct Green (s)	21.3	17.1		26.8	25.3			25.5	38.8		25.5	
Actuated g/C Ratio	0.33	0.26		0.41	0.39			0.39	0.60		0.39	
v/c Ratio	0.01	0.65		0.23	0.23			0.03	0.11		0.13	
Control Delay	10.0	25.3		11.9	13.8			15.9	2.3		15.5	
Queue Delay	0.0	0.0		0.0	0.0			0.0	0.0		0.0	
Total Delay	10.0	25.3		11.9	13.8			15.9	2.3		15.5	
LOS	A	C		B	B			B	A		B	
Approach Delay		25.2			13.4			4.3			15.5	
Approach LOS		C			B			A			B	
Queue Length 50th (ft)	1	116		18	38			5	0		18	
Queue Length 95th (ft)	4	161		37	79			18	19		48	
Internal Link Dist (ft)		750			688			143			323	
Turn Bay Length (ft)	150			300					110			
Base Capacity (vph)	471	2373		501	2707			665	1170		574	
Starvation Cap Reductn	0	0		0	0			0	0		0	
Spillback Cap Reductn	0	0		0	0			0	0		0	
Storage Cap Reductn	0	0		0	0			0	0		0	
Reduced v/c Ratio	0.01	0.25		0.16	0.12			0.03	0.09		0.13	

Intersection Summary

Area Type: Other  
 Cycle Length: 100  
 Actuated Cycle Length: 65.1  
 Natural Cycle: 50  
 Control Type: Actuated-Uncoordinated  
 Maximum v/c Ratio: 0.65  
 Intersection Signal Delay: 18.6  
 Intersection LOS: B  
 Intersection Capacity Utilization 43.5%  
 ICU Level of Service A  
 Analysis Period (min) 15

Splits and Phases: 8: Magnolia Drive/Oak Park Blvd & 1st Street (IA 57)



Lanes, Volumes, Timings  
8: Magnolia Drive/Oak Park Blvd & 1st Street (IA 57)

06/23/2020



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	7	408	56	247	521	45	106	17	147	32	15	7
Future Volume (vph)	7	408	56	247	521	45	106	17	147	32	15	7
Ideal Flow (vphp)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150		0	300		0	0		110	0		0
Storage Lanes	1		0	1		0	0		1	0		0
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.982			0.988				0.850		0.983	
Flt Protected	0.950			0.950				0.959			0.971	
Satd. Flow (prot)	1805	3514	0	1805	3534	0	0	1822	1599	0	1814	0
Flt Permitted	0.434			0.305				0.722			0.819	
Satd. Flow (perm)	825	3514	0	580	3534	0	0	1372	1599	0	1530	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		15			12				150			7
Link Speed (mph)		45			45			30				30
Link Distance (ft)		830			768			223				403
Travel Time (s)		12.6			11.6			5.1				9.2
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
Heavy Vehicles (%)	0%	1%	0%	0%	1%	0%	0%	0%	1%	0%	0%	0%
Adj. Flow (vph)	7	416	57	252	532	46	108	17	150	33	15	7
Shared Lane Traffic (%)												
Lane Group Flow (vph)	7	473	0	252	578	0	0	125	150	0	55	0
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)		12			12			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
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA	pm+ov	Perm	NA	
Protected Phases	7	4		3	8			2	3		6	
Permitted Phases	4			8			2		2	6		
Detector Phase	7	4		3	8		2	2	3	6	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Minimum Split (s)	10.0	20.0		10.0	20.0		20.0	20.0	10.0	20.0	20.0	
Total Split (s)	12.0	34.0		31.0	53.0		35.0	35.0	31.0	35.0	35.0	
Total Split (%)	12.0%	34.0%		31.0%	53.0%		35.0%	35.0%	31.0%	35.0%	35.0%	
Maximum Green (s)	6.0	28.0		25.0	47.0		29.0	29.0	25.0	29.0	29.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0	2.0	2.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0			0.0	0.0		0.0	
Total Lost Time (s)	6.0	6.0		6.0	6.0			6.0	6.0		6.0	
Lead/Lag	Lead	Lag		Lead	Lag				Lead			
Lead-Lag Optimize?	Yes	Yes		Yes	Yes				Yes			
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	None		None	None		Max	Max	None	Max	Max	

Lanes, Volumes, Timings  
 8: Magnolia Drive/Oak Park Blvd & 1st Street (IA 57)

06/23/2020

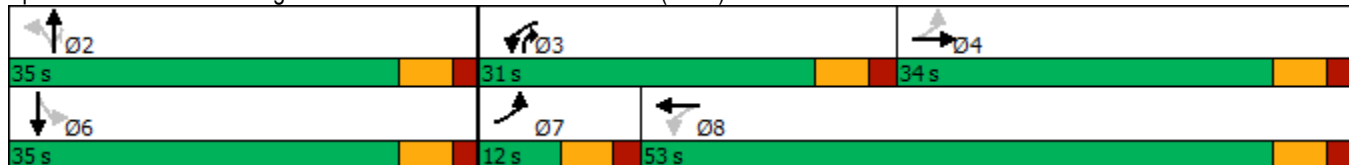


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Act Effct Green (s)	20.7	15.0		33.1	31.0			29.2	47.3		29.2	
Actuated g/C Ratio	0.28	0.20		0.44	0.42			0.39	0.64		0.39	
v/c Ratio	0.02	0.66		0.55	0.39			0.23	0.14		0.09	
Control Delay	12.1	31.4		17.8	16.2			18.5	1.6		15.4	
Queue Delay	0.0	0.0		0.0	0.0			0.0	0.0		0.0	
Total Delay	12.1	31.4		17.8	16.2			18.5	1.6		15.4	
LOS	B	C		B	B			B	A		B	
Approach Delay		31.1			16.7			9.2			15.4	
Approach LOS		C			B			A			B	
Queue Length 50th (ft)	2	102		71	86			37	0		13	
Queue Length 95th (ft)	8	158		117	161			90	21		42	
Internal Link Dist (ft)		750			688			143			323	
Turn Bay Length (ft)	150			300					110			
Base Capacity (vph)	312	1340		672	2251			538	1326		604	
Starvation Cap Reductn	0	0		0	0			0	0		0	
Spillback Cap Reductn	0	0		0	0			0	0		0	
Storage Cap Reductn	0	0		0	0			0	0		0	
Reduced v/c Ratio	0.02	0.35		0.38	0.26			0.23	0.11		0.09	

Intersection Summary

Area Type: Other  
 Cycle Length: 100  
 Actuated Cycle Length: 74.4  
 Natural Cycle: 50  
 Control Type: Actuated-Uncoordinated  
 Maximum v/c Ratio: 0.66  
 Intersection Signal Delay: 19.6  
 Intersection LOS: B  
 Intersection Capacity Utilization 51.4%  
 ICU Level of Service A  
 Analysis Period (min) 15

Splits and Phases: 8: Magnolia Drive/Oak Park Blvd & 1st Street (IA 57)



Intersection												
Int Delay, s/veh	4.6											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	27	1	51	3	0	11	69	78	7	6	64	23
Future Vol, veh/h	27	1	51	3	0	11	69	78	7	6	64	23
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	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	78	78	78	78	78	78	78	78	78	78	78	78
Heavy Vehicles, %	5	0	7	0	0	0	0	3	17	11	2	0
Mvmt Flow	35	1	65	4	0	14	88	100	9	8	82	29

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	401	398	97	427	408	105	111	0	0	109	0	0
Stage 1	113	113	-	281	281	-	-	-	-	-	-	-
Stage 2	288	285	-	146	127	-	-	-	-	-	-	-
Critical Hdwy	7.15	6.5	6.27	7.1	6.5	6.2	4.1	-	-	4.21	-	-
Critical Hdwy Stg 1	6.15	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.15	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.545	4	3.363	3.5	4	3.3	2.2	-	-	2.299	-	-
Pot Cap-1 Maneuver	554	543	946	541	536	955	1492	-	-	1427	-	-
Stage 1	885	806	-	730	682	-	-	-	-	-	-	-
Stage 2	713	679	-	861	795	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	517	506	946	476	499	955	1492	-	-	1427	-	-
Mov Cap-2 Maneuver	517	506	-	476	499	-	-	-	-	-	-	-
Stage 1	829	801	-	684	639	-	-	-	-	-	-	-
Stage 2	658	636	-	795	790	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	10.7		9.7		3.4		0.5	
HCM LOS	B		A					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1492	-	-	731	786	1427	-	-
HCM Lane V/C Ratio	0.059	-	-	0.139	0.023	0.005	-	-
HCM Control Delay (s)	7.6	0	-	10.7	9.7	7.5	0	-
HCM Lane LOS	A	A	-	B	A	A	A	-
HCM 95th %tile Q(veh)	0.2	-	-	0.5	0.1	0	-	-



Intersection												
Int Delay, s/veh	6.6											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	56	12	106	25	15	44	58	174	54	21	177	60
Future Vol, veh/h	56	12	106	25	15	44	58	174	54	21	177	60
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	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	82	82	82	82	82	82	82	82	82	82	82	82
Heavy Vehicles, %	2	0	0	0	0	0	2	1	8	0	0	0
Mvmt Flow	68	15	129	30	18	54	71	212	66	26	216	73

Major/Minor	Minor2		Minor1		Major1			Major2				
Conflicting Flow All	728	725	253	764	728	245	289	0	0	278	0	0
Stage 1	305	305	-	387	387	-	-	-	-	-	-	-
Stage 2	423	420	-	377	341	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.5	6.2	7.1	6.5	6.2	4.12	-	-	4.1	-	-
Critical Hdwy Stg 1	6.12	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4	3.3	3.5	4	3.3	2.218	-	-	2.2	-	-
Pot Cap-1 Maneuver	339	354	791	323	353	799	1273	-	-	1296	-	-
Stage 1	705	666	-	641	613	-	-	-	-	-	-	-
Stage 2	609	593	-	649	642	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	282	322	791	243	322	799	1273	-	-	1296	-	-
Mov Cap-2 Maneuver	282	322	-	243	322	-	-	-	-	-	-	-
Stage 1	658	650	-	598	572	-	-	-	-	-	-	-
Stage 2	513	553	-	518	627	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	18.8		16.6		1.6		0.6	
HCM LOS	C		C					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1273	-	-	470	411	1296	-	-
HCM Lane V/C Ratio	0.056	-	-	0.451	0.249	0.02	-	-
HCM Control Delay (s)	8	0	-	18.8	16.6	7.8	0	-
HCM Lane LOS	A	A	-	C	C	A	A	-
HCM 95th %tile Q(veh)	0.2	-	-	2.3	1	0.1	-	-

Intersection												
Int Delay, s/veh	5.7											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	32	7	0	0	8	33	0	34	0	72	14	35
Future Vol, veh/h	32	7	0	0	8	33	0	34	0	72	14	35
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	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	36	8	0	0	9	37	0	38	0	80	16	39

Major/Minor	Minor2		Minor1		Major1			Major2				
Conflicting Flow All	257	234	36	238	253	38	55	0	0	38	0	0
Stage 1	196	196	-	38	38	-	-	-	-	-	-	-
Stage 2	61	38	-	200	215	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.2	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	700	670	1042	721	654	1040	1563	-	-	1585	-	-
Stage 1	810	742	-	982	867	-	-	-	-	-	-	-
Stage 2	955	867	-	806	729	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	641	635	1042	686	620	1040	1563	-	-	1585	-	-
Mov Cap-2 Maneuver	641	635	-	686	620	-	-	-	-	-	-	-
Stage 1	810	703	-	982	867	-	-	-	-	-	-	-
Stage 2	912	867	-	756	691	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	11	9.1	0	4.4
HCM LOS	B	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1563	-	-	640	919	1585	-	-
HCM Lane V/C Ratio	-	-	-	0.068	0.05	0.05	-	-
HCM Control Delay (s)	0	-	-	11	9.1	7.4	0	-
HCM Lane LOS	A	-	-	B	A	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.2	0.2	0.2	-	-

Intersection												
Int Delay, s/veh	6.4											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	19	4	0	0	7	72	0	10	0	52	15	28
Future Vol, veh/h	19	4	0	0	7	72	0	10	0	52	15	28
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	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	21	4	0	0	8	80	0	11	0	58	17	31

Major/Minor	Minor2		Minor1		Major1			Major2				
Conflicting Flow All	204	160	33	162	175	11	48	0	0	11	0	0
Stage 1	149	149	-	11	11	-	-	-	-	-	-	-
Stage 2	55	11	-	151	164	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.2	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	758	736	1046	808	722	1076	1572	-	-	1621	-	-
Stage 1	858	778	-	1015	890	-	-	-	-	-	-	-
Stage 2	962	890	-	856	766	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	676	709	1046	781	695	1076	1572	-	-	1621	-	-
Mov Cap-2 Maneuver	676	709	-	781	695	-	-	-	-	-	-	-
Stage 1	858	749	-	1015	890	-	-	-	-	-	-	-
Stage 2	883	890	-	819	738	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	10.5		8.8		0		4	
HCM LOS	B		A					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1572	-	-	682	1026	1621	-	-
HCM Lane V/C Ratio	-	-	-	0.037	0.086	0.036	-	-
HCM Control Delay (s)	0	-	-	10.5	8.8	7.3	0	-
HCM Lane LOS	A	-	-	B	A	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.1	0.3	0.1	-	-

Intersection						
Int Delay, s/veh	0.5					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	3	0	34	7	0	14
Future Vol, veh/h	3	0	34	7	0	14
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	3	0	38	8	0	16

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	58	42	0	0	46
Stage 1	42	-	-	-	-
Stage 2	16	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1
Critical Hdwy Stg 1	5.4	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2
Pot Cap-1 Maneuver	954	1034	-	-	1575
Stage 1	986	-	-	-	-
Stage 2	1012	-	-	-	-
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	954	1034	-	-	1575
Mov Cap-2 Maneuver	954	-	-	-	-
Stage 1	986	-	-	-	-
Stage 2	1012	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	8.8	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	954	1575
HCM Lane V/C Ratio	-	-	0.003	-
HCM Control Delay (s)	-	-	8.8	0
HCM Lane LOS	-	-	A	A
HCM 95th %tile Q(veh)	-	-	0	0

Intersection						
Int Delay, s/veh	1.1					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	4	0	10	2	0	15
Future Vol, veh/h	4	0	10	2	0	15
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	4	0	11	2	0	17

Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	29	12	0	0	13	0
Stage 1	12	-	-	-	-	-
Stage 2	17	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	991	1074	-	-	1619	-
Stage 1	1016	-	-	-	-	-
Stage 2	1011	-	-	-	-	-
Platoon blocked, %			-	-		
Mov Cap-1 Maneuver	991	1074	-	-	1619	-
Mov Cap-2 Maneuver	991	-	-	-	-	-
Stage 1	1016	-	-	-	-	-
Stage 2	1011	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	8.6	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	991	1619
HCM Lane V/C Ratio	-	-	0.004	-
HCM Control Delay (s)	-	-	8.6	0
HCM Lane LOS	-	-	A	A
HCM 95th %tile Q(veh)	-	-	0	0

Intersection												
Int Delay, s/veh	5.4											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	53	25	0	5	48	12	0	7	8	12	10	107
Future Vol, veh/h	53	25	0	5	48	12	0	7	8	12	10	107
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	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	59	28	0	6	53	13	0	8	9	13	11	119

Major/Minor	Minor2		Minor1		Major1			Major2				
Conflicting Flow All	143	114	71	124	169	13	130	0	0	17	0	0
Stage 1	97	97	-	13	13	-	-	-	-	-	-	-
Stage 2	46	17	-	111	156	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.2	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	831	780	997	855	728	1073	1468	-	-	1613	-	-
Stage 1	914	819	-	1013	889	-	-	-	-	-	-	-
Stage 2	973	885	-	899	772	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	769	773	997	826	721	1073	1468	-	-	1613	-	-
Mov Cap-2 Maneuver	769	773	-	826	721	-	-	-	-	-	-	-
Stage 1	914	812	-	1013	889	-	-	-	-	-	-	-
Stage 2	903	885	-	860	765	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	10.3		10.1		0		0.7	
HCM LOS	B		B					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1468	-	-	770	776	1613	-	-
HCM Lane V/C Ratio	-	-	-	0.113	0.093	0.008	-	-
HCM Control Delay (s)	0	-	-	10.3	10.1	7.2	0	-
HCM Lane LOS	A	-	-	B	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.4	0.3	0	-	-

Intersection												
Int Delay, s/veh	8.1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	106	42	0	6	35	70	0	15	5	58	8	80
Future Vol, veh/h	106	42	0	6	35	70	0	15	5	58	8	80
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	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	118	47	0	7	39	78	0	17	6	64	9	89

Major/Minor	Minor2		Minor1		Major1			Major2				
Conflicting Flow All	261	205	54	225	246	20	98	0	0	23	0	0
Stage 1	182	182	-	20	20	-	-	-	-	-	-	-
Stage 2	79	23	-	205	226	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.2	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	696	695	1019	735	660	1064	1508	-	-	1605	-	-
Stage 1	824	753	-	1004	883	-	-	-	-	-	-	-
Stage 2	935	880	-	802	721	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	595	665	1019	673	632	1064	1508	-	-	1605	-	-
Mov Cap-2 Maneuver	595	665	-	673	632	-	-	-	-	-	-	-
Stage 1	824	721	-	1004	883	-	-	-	-	-	-	-
Stage 2	828	880	-	718	690	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	13		9.9		0		2.9	
HCM LOS	B		A					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1508	-	-	613	853	1605	-	-
HCM Lane V/C Ratio	-	-	-	0.268	0.145	0.04	-	-
HCM Control Delay (s)	0	-	-	13	9.9	7.3	0	-
HCM Lane LOS	A	-	-	B	A	A	A	-
HCM 95th %tile Q(veh)	0	-	-	1.1	0.5	0.1	-	-

# **TURN LANE ANALYSIS**



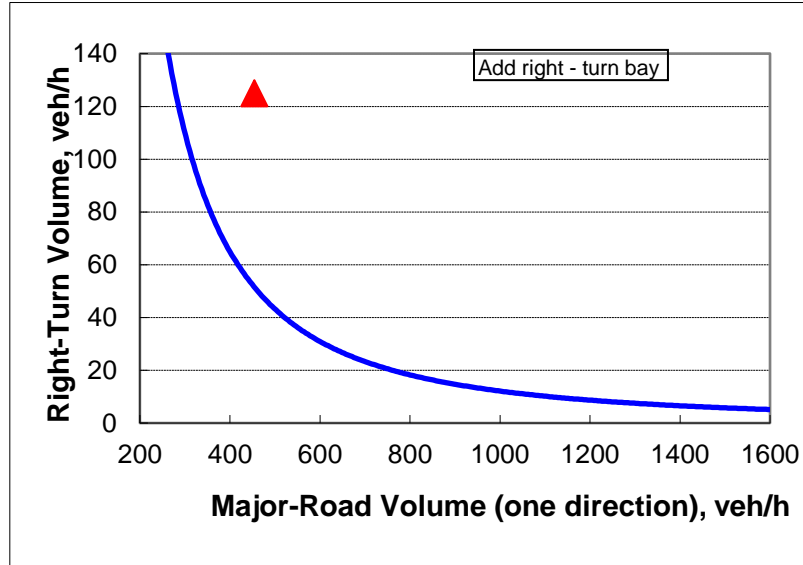
**Figure 2 - 6. Guideline for determining the need for a major-road right-turn bay at a two-way stop-controlled**

INPUT

Roadway geometry:	2-lane roadway
Variable	Value
Major-road speed, mph:	45
Major-road volume (one direction), veh/h:	454
Right-turn volume, veh/h:	125

OUTPUT

Variable	Value
Limiting right-turn volume, veh/h:	52
<b>Guidance for determining the need for a major-road right-turn bay for a 2-lane roadway:</b>	
<b>Add right-turn bay.</b>	



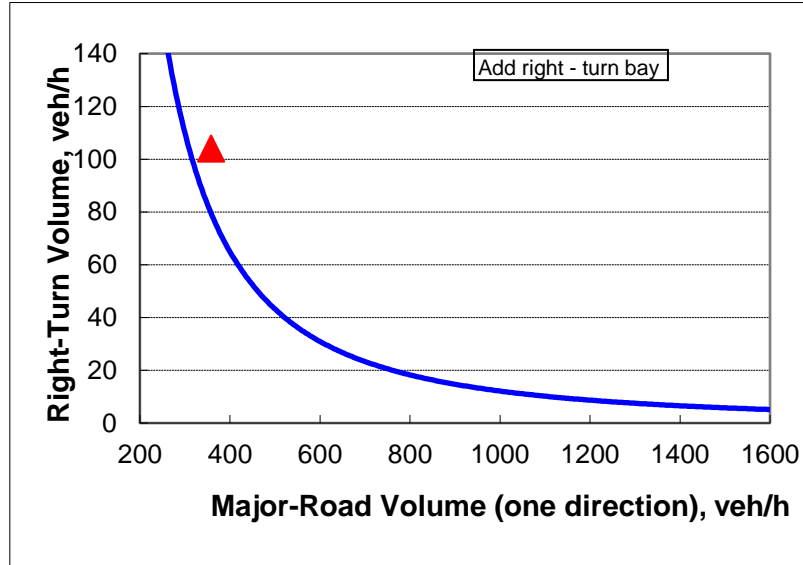
**Figure 2 - 6. Guideline for determining the need for a major-road right-turn bay at a two-way stop-controlled**

INPUT

Roadway geometry:	2-lane roadway
Variable	Value
Major-road speed, mph:	45
Major-road volume (one direction), veh/h:	358
Right-turn volume, veh/h:	104

OUTPUT

Variable	Value
Limiting right-turn volume, veh/h:	80
<b>Guidance for determining the need for a major-road right-turn bay for a 2-lane roadway:</b>	
<b>Add right-turn bay.</b>	



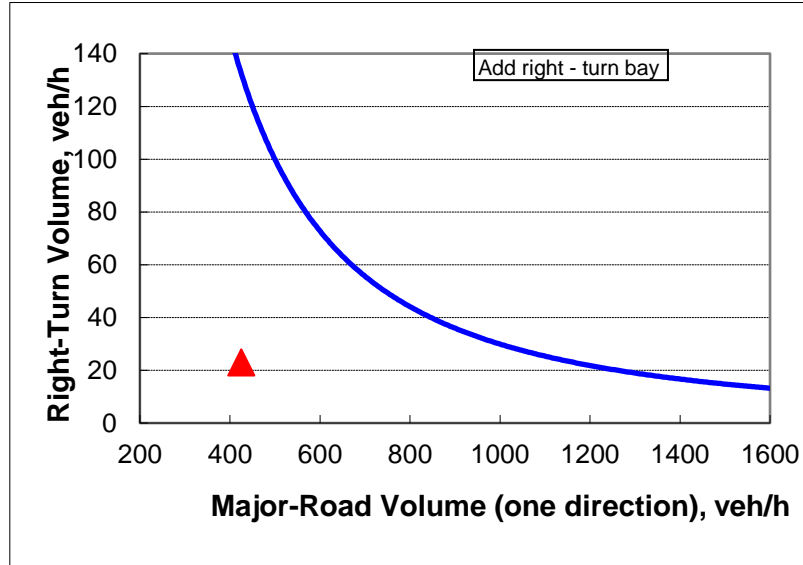
**Figure 2 - 6. Guideline for determining the need for a major-road right-turn bay at a two-way stop-controlled**

INPUT

Roadway geometry:	4-lane roadway
Variable	Value
Major-road speed, mph:	45
Major-road volume (one direction), veh/h:	425
Right-turn volume, veh/h:	23

OUTPUT

Variable	Value
Limiting right-turn volume, veh/h:	133
<b>Guidance for determining the need for a major-road right-turn bay for a 4-lane roadway:</b>	
<b>Do NOT add right-turn bay.</b>	



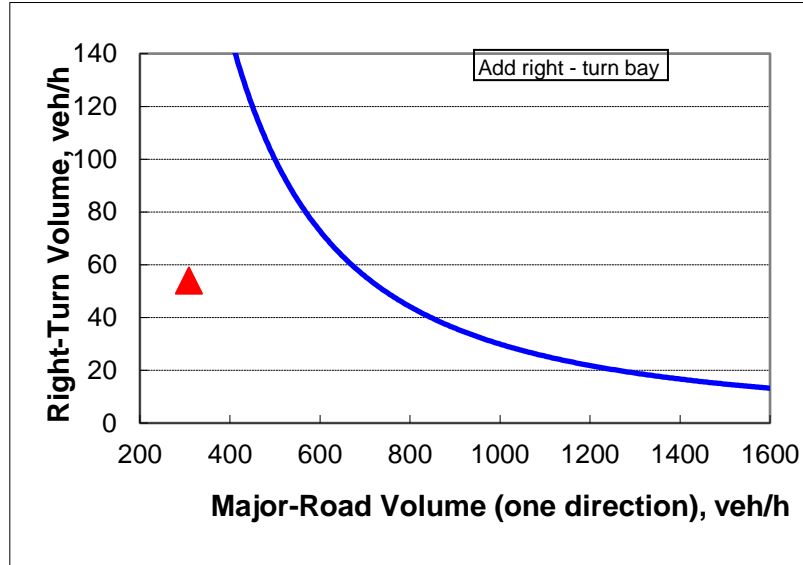
**Figure 2 - 6. Guideline for determining the need for a major-road right-turn bay at a two-way stop-controlled**

INPUT

Roadway geometry:	4-lane roadway
Variable	Value
Major-road speed, mph:	45
Major-road volume (one direction), veh/h:	309
Right-turn volume, veh/h:	54

OUTPUT

Variable	Value
Limiting right-turn volume, veh/h:	231
<b>Guidance for determining the need for a major-road right-turn bay for a 4-lane roadway:</b>	
<b>Do NOT add right-turn bay.</b>	



# T&E Species Habitat Review

**Meadow Ridge – Lake Ridge  
W 1<sup>st</sup> Street & Lake Ridge Drive  
Cedar Falls, Black Hawk County, Iowa**

**September 26, 2023**

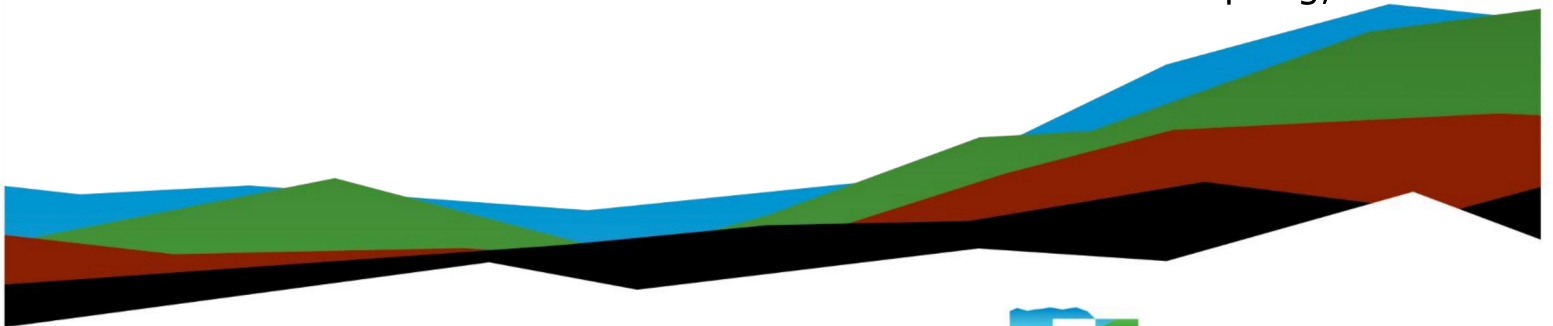
Terracon Project No. 13237080



**Prepared for:**

ME Associates, LLC

Spring, UT



Nationwide  
[Terracon.com](http://Terracon.com)

- Facilities
- Environmental
- Geotechnical
- Material

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**APPENDIX A – EXHIBITS**

Exhibit 1 – Topographic Site Map

Exhibit 2 – Site Diagram

**APPENDIX B – USFWS and IDNR Documentation**

**APPENDIX C – GROUND PHOTOGRAPHS**

**THREATENED & ENDANGERED SPECIES HABITAT REVIEW  
MEADOW RIDGE – LAKE RIDGE  
WEST 1<sup>ST</sup> STREET & LAKE RIDGE DRIVE  
CEDAR FALLS, BLACK HAWK COUNTY, IOWA**

**Terracon Project No. 13237080  
September 26, 2023**

## **1.0 INTRODUCTION**

Terracon Consultants, Inc. (Terracon) was retained by ME Associates, LLC (the client) to perform a Threatened and Endangered (T&E) Species Habitat Review for the Meadow Ridge – Lake Ridge Project hereafter referred to as the subject site. The subject site covers approximately 22-acres and is located in the NE ¼ Section 10, Township 89 North, Range 14 West, Cedar Falls, Black Hawk County, Iowa as depicted on Exhibit 1 in Appendix A.

Terracon understands that ME Associates, LLC plans to construct a multi-family residential development at the subject site.

The purpose of this scope of work was to evaluate the site for possible suitable T&E Species habitat.

### **1.1 Background**

In 1966, Congress passed the Endangered Species Preservation Act (the Act) to protect plant and animal species listed by the United States Fish and Wildlife Service (USFWS). The Act allows listing of native animal species as endangered and provided means for the protection of species so listed. The Departments of Interior, Agriculture, and Defense were to seek to protect listed species and preserve the habitats of such species.

## **2.0 SCOPE OF SERVICES**

Terracon performed the following scope of services:

- Obtained an official Species List (the List) through the USFWS Information for Planning and Consultation (IPaC) system for the project site.
- An Environmental Review through the Iowa Department of Natural Resources (IDNR) Permit and Environmental Review Management Tool (PERMT) was requested through the joint application which was submitted prior to Terracon’s involvement with the project. At the issuance of this report, a response from the IDNR had not been received.

- Reviewed the IDNR T&E species webpage / Iowa Natural Areas Inventory (INAI) to evaluate the potential effect of T&E species for the subject site.
- Habitat review field services.
- Preparation of this report.

## 3.0 T&E SPECIES HABITAT REVIEW

### 3.1 IPaC Report

On September 11, 2023, Terracon obtained a USFWS IPaC system species list (Project Code: 2023-0127306) for the subject site. According to the IPaC report, the following federally listed T&E species are listed in Black Hawk County, Iowa.

#### Threatened & Endangered Species

SPECIES	STATUS	HABITAT <sup>1</sup>
<b>INSECTS</b>		
Monarch Butterfly ( <i>Danaus plexippus</i> )	Candidate	Open fields and meadows with milkweed.
Rusty Patched Bumble Bee ( <i>Bombus affinis</i> )	Endangered	Various habitat including prairies, woodlands, marshes, agricultural landscapes and residential parks and gardens
<b>MAMMALS</b>		
Northern Long-eared Bat ( <i>Myotis septentrionalis</i> )	Threatened	Hibernates in caves and mines – swarming in surrounding wooded areas in autumn. Roosts and forages in upland forest during late spring and summer.
Tricolored Bat ( <i>Permyotis sublavus</i> )	Proposed Endangered	Landscapes that are partly open, with large trees and plentiful woodland edges.



SPECIES	STATUS	HABITAT <sup>1</sup>
<b>Flowering Plants</b>		
Eastern Prairie Fringed Orchid ( <i>Platanthera leucophaea</i> )	Threatened	Wet to mesic prairies and wetland communities including sedge meadow, fen, and march edge

<sup>1</sup>Habitat description comes from the Iowa County Distribution of Federally Threatened, Endangered, Proposed and Candidate Species (Revised October 2015) and the USFWS website ([fws.gov/species](https://www.fws.gov/species))

The IPaC did not identify USFWS mapped critical habitat on the subject site. A copy of the IPaC species list has been included in Appendix B.

### 3.2 IDNR Environmental Review

An Environmental Review through the IDNR PERMT tool was requested through the joint application which was submitted prior to Terracon’s involvement with the project. At the issuance of this report, a response from the IDNR had not been received.

Terracon also reviewed the IDNR INAI interactive webpage<sup>1</sup> for the list of state and federally listed species in Black Hawk County. According to the INAI webpage, there are 72 listed species listed in Black Hawk County, Iowa.

Group	No. of Threatened State Status Species	No. of Endangered State Status Species	No. Special Concern State Status Species	No. of Threatened Federal Status Species	No. of Endangered Federal Status Species
Amphibians	2	1	0	0	0
Birds	1	2	1	0	0
Fish	3	0	0	0	0
Freshwater Mussels	3	1	0	0	0

<sup>1</sup>Posted at:

<https://programs.iowadnr.gov/naturalareasinventory/pages/RepDistinctSpeciesByCounty.aspx?CountyID=7>

Insects	0	0	6	0	0
Mammals	0	2	0	1	0
Plants (Dicots)	9	1	18	1	0
Plants (Monocots)	1	1	9	1	0
Plants (Pteridophytes)	2	0	3	0	0
Reptiles	2	1	2	0	0
Snails	0	0	0	0	0
<b>Totals:</b>	<b>23</b>	<b>9</b>	<b>39</b>	<b>3</b>	<b>0</b>

Please note that some species are classified under both state and federal status' or only listed by one agency. Additionally, species classifications may differ between federal and state. A copy of the INAI list is presented in Appendix B.

## 4.0 HABITAT REVIEW FIELD SERVICES

On September 13, 2023, Terracon completed a site visit for the T&E Species Habitat Review. The habitat on the subject site was observed to consist largely of scrub-shrub land with mature trees following what appeared to be an ephemeral drainage feature that ran from the northwest portion of the subject site to the southeast portion. Based on a review of historical aerial photographs viewed on the Iowa State University (ISU) Global Information System (GIS) webpage, the subject site consisted mostly of agricultural land utilized for row-crop production until circa 1990 when it appears the land was allowed to go fallow. The site has developed into overgrown scrub-shrub land in that time.

The scrub shrub land consisted largely of shrub species such as rough leaf dogwood, willow species, and honey suckle while the ground cover consisted of species such as smooth brome, Canada goldenrod, dogbane, and queen Anne's lace. The wooded area that fringed the drainage feature consisted of species such as willow, black walnut, eastern cottonwood, and boxelder. Terracon observed several trees that may be suitable habitat for the T&E bat species (trees with a trunk diameter at breast height of at least three inches with loose or peeling bark, crevices, knots, etc.); however, the majority of the trees did not appear to be suitable habitat. Terracon estimates that less than 1% of trees onsite would be suitable habitat for the T&E bat species. Therefore, assuming the client will perform tree removal outside the listed bats' summer roosting season, which runs from April 1 to September 31, the project will not likely adversely impact the northern long-eared and tricolored bats.

At the time of the site visit, Terracon observed several small open areas that may be suitable habitat for the monarch butterfly; however, few milkweed plants were observed. Based on

the overgrown scrub shrub nature of the site and few milkweed plants being observed, it does not appear the project will adversely affect the monarch butterfly. Possible suitable habitat for the Rusty Patched Bumble Bee was also observed; however, the Rusty Patched Bumble Bee's suitable habitat is broad ranging and could exist in most environments found in Cedar Falls, Iowa including the subject site and surrounding land. Therefore, it does not appear that development of the site would likely adversely affect the Rusty Patched Bumble Bee. Suitable habitat for the eastern prairie fringed orchid (wet to mesic prairies and wetland communities including sedge meadow, fen, and march edge) was not observed on the subject site; therefore, this species would not likely be affected by the proposed project. Seventy-two species were listed on the INAI database for Black Hawk County. Based on the large number of species listed, possible habitat for some of these species may be present on the subject site; however, during Terracon site visit, these listed species or indications of the species were not observed.

Select photos of the subject site are included in Appendix C. The approximate photo locations can be seen on Exhibit 2 in Appendix A.

## 5.0 FINDINGS AND RECOMMENDATIONS

The USFWS IPaC species list identified the northern long-eared bat (endangered), tricolored bat (proposed endangered), rusty patched bumble bee (endangered), monarch butterfly (candidate), and eastern prairie fringed orchid (threatened) as T&E species that may occur on the subject site. The IPaC species list did not identify critical habitat on or near the subject site.

On September 13, 2023, Terracon performed a site visit and identified trees on the subject site that may be considered suitable habitat for the T&E bat species. Terracon estimates that less than 1% of the trees onsite would be suitable habitat of the listed bat species. Terracon did observe possible suitable habitat for the rusty patched bumble bee. However, based on observations made during Terracon's site visit including the small percentage of trees that would be suitable habitat for the T&E bat species, the fallow overgrown scrub-shrub nature of the site, and not observing many milkweed plants, it does not appear the proposed project will adversely affect the listed T&E species.

Terracon recommends that any planned tree removal be done outside the T&E bat species summer roosting season which runs from April 1 through September 31.

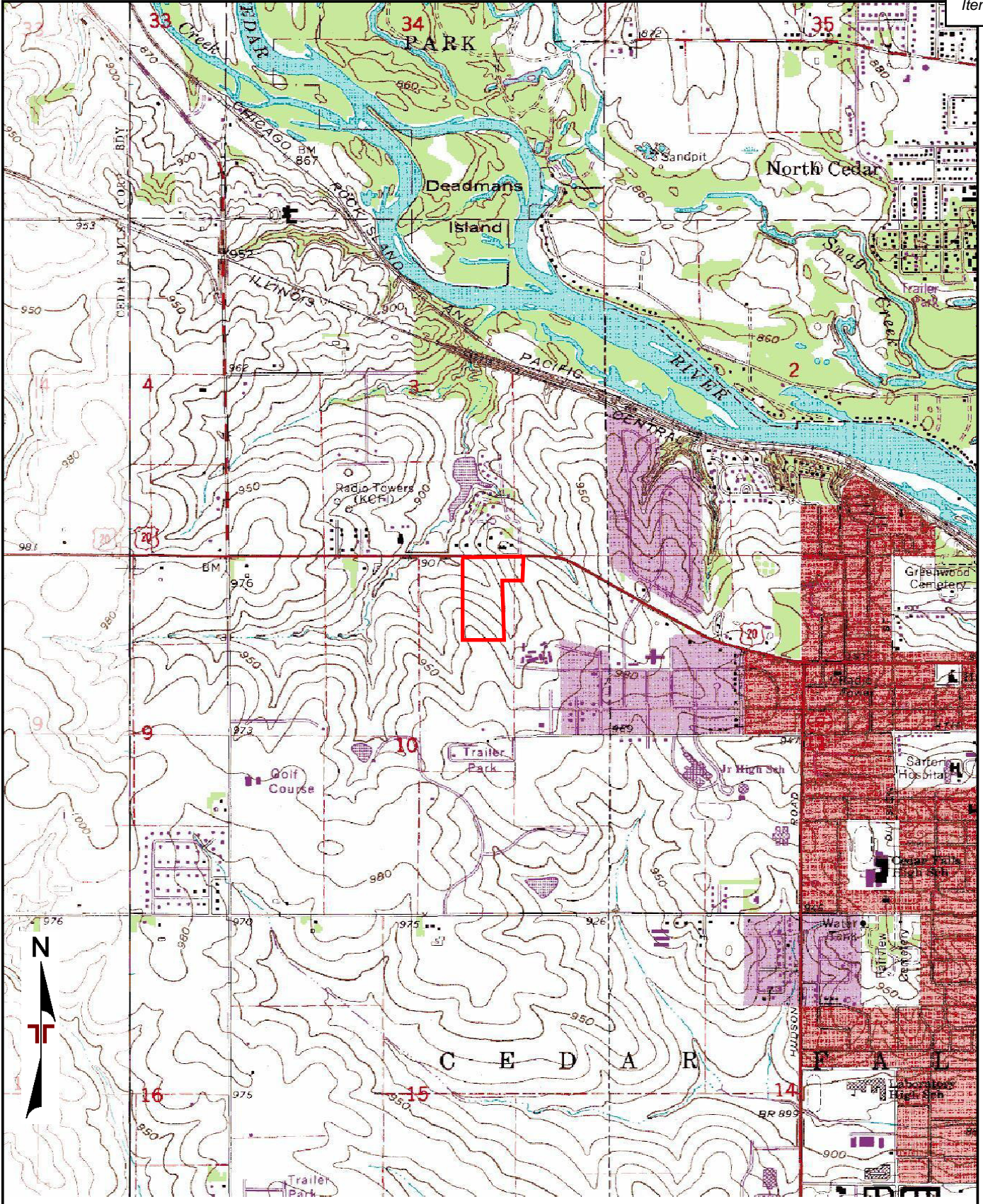
## 6.0 GENERAL COMMENTS

The findings of this T&E Species Habitat Review are based on the project location, project type, and property boundaries provided by the client. The findings and opinions presented are relative to the dates of our site work and should not be relied on to represent conditions at a later date. The opinions included herein are based on information obtained during this T&E Species Habitat Review and our experience. Due to the preliminary attributes of this project, additional regulatory consultation and investigations may be warranted before the project can commence.

This report has been prepared in accordance with generally accepted scientific and engineering evaluation practices. This report is for the exclusive use of the client for the project being discussed. No warranties, either express or implied, are intended or made.

# **APPENDIX A**

## **Exhibits**



TOPOGRAPHIC MAP IMAGE COURTESY OF THE U.S. GEOLOGICAL SURVEY  
 QUADRANGLES INCLUDE: NEW HARTFORD, IA (1/1/1971) and CEDAR FALLS, IA (1/1/1980).

Project Manager:	ACC
Drawn by:	ACC
Checked by:	DCC
Approved by:	ncc
Project No.:	13237080
Scale:	1"=2,000'
File Name:	Exhibits
Date:	9/27/23

**tterracon**

3105 Capital Way, Ste 5  
 Cedar Falls, IA 50613-7030

**TOPOGRAPHIC MAP**

Meadow Ridge - Lake Ridge  
 West 1st Street  
 Cedar Falls, IA

Exhibit	1
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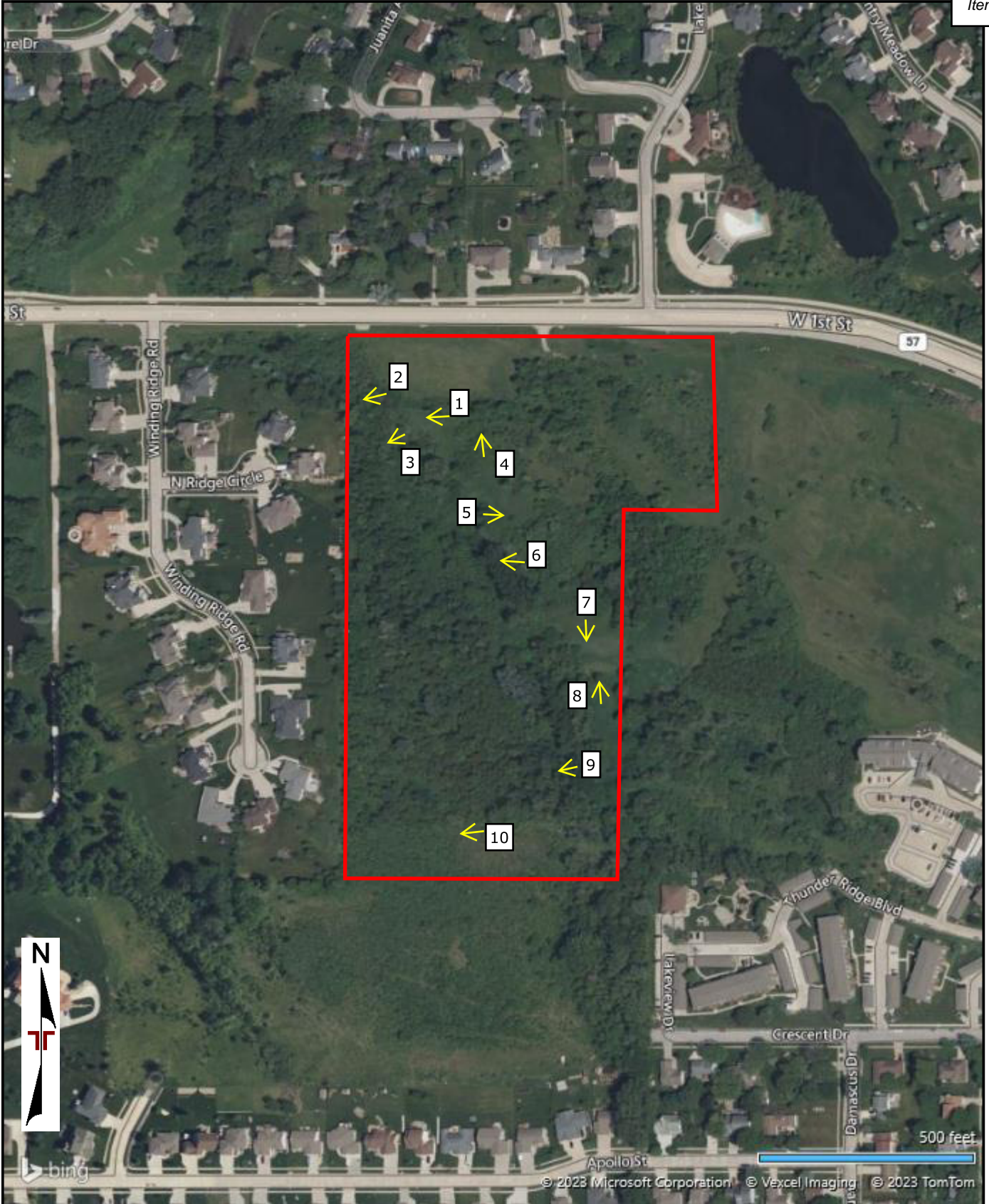


DIAGRAM IS FOR GENERAL LOCATION ONLY, AND IS NOT INTENDED FOR CONSTRUCTION PURPOSES

➔ Approximate Photo Location

AERIAL PHOTOGRAPHY PROVIDED BY MICROSOFT BING MAPS

Project Manager:	ACC
Drawn by:	ACC
Checked by:	DCC
Approved by:	DCC
Project No.:	13237080
Scale:	AS SHOWN
File Name:	Exhibits
Date:	9/27/23

**Terracon**  
 3105 Capital Way, Ste 5  
 Cedar Falls, IA 50613-7030

**SITE DIAGRAM**  
 Meadow Ridge - Lake Ridge  
 West 1st Street  
 Cedar Falls, IA

Exhibit  
**2**

## **APPENDIX B**

### **USFWS and IDNR Documentation**





## United States Department of the Interior



FISH AND WILDLIFE SERVICE  
 Illinois-Iowa Ecological Services Field Office  
 Illinois & Iowa Ecological Services Field Office  
 1511 47th Ave  
 Moline, IL 61265-7022  
 Phone: (309) 757-5800 Fax: (309) 757-5807

In Reply Refer To:  
 Project Code: 2023-0127306  
 Project Name: Meadow Ridge - Lake Ridge

September 11, 2023

Subject: List of threatened and endangered species that may occur in your proposed project location or may be affected by your proposed project

### To Whom It May Concern:

The attached species list identifies federally threatened, endangered, proposed and candidate species that may occur within the boundary of your proposed project or may be affected by your proposed project. The list also includes designated critical habitat, if present, within your proposed project area or affected by your project. This list is provided to you as the initial step of the consultation process required under section 7(c) of the Endangered Species Act, also referred to as Section 7 Consultation.

Under 50 CFR 402.12(e) (the regulations that implement Section 7 of the Endangered Species Act) **the accuracy of this species list should be verified after 90 days**. This verification can be completed formally or informally. You may verify the list by visiting the ECOSPHERE Information for Planning and Consultation (IPaC) website <https://ipac.ecosphere.fws.gov> at regular intervals during project planning and implementation and completing the same process you used to receive the attached list.

### **Section 7 Consultation**

Section 7 of the Endangered Species Act of 1973 requires that actions authorized, funded, or carried out by Federal agencies not jeopardize federally threatened or endangered species or adversely modify designated critical habitat. To fulfill this mandate, Federal agencies (or their designated non-federal representative) must consult with the U.S. Fish and Wildlife Service (Service) if they determine their project "may affect" listed species or designated critical habitat. Under the ESA, it is the responsibility of the Federal action agency or its designated representative to determine if a proposed action may affect endangered, threatened, or proposed species, or designated critical habitat, and if so, to consult with the Service further. Similarly, it is the responsibility of the Federal action agency or project proponent, not the Service to make "no effect" determinations. If you determine that your proposed action will have no effect on threatened or endangered species or their respective designated critical habitat, you do not need to seek concurrence with the Service.

**Note:** For some species or projects, IPaC will present you with *Determination Keys*. You may be able to use one or

more Determination Keys to conclude consultation on your action.

***Technical Assistance for Listed Species***

1. For assistance in determining if suitable habitat for listed, candidate, or proposed species occurs within your project area or if species may be affected by project activities, you can obtain information on the species life history, species status, current range, and other documents by selecting the species from the thumbnails or list view and visiting the species profile page.

**No Effect Determinations for Listed Species**

1. If there are *no* species or designated critical habitats on the Endangered Species portion of the species list: conclude "no species and no critical habitat present" and document your finding in your project records. No consultation under ESA section 7(a)(2) is required if the action would result in no effects to listed species or critical habitat. Maintain a copy of this letter and IPaC official species list for your records.
2. If any species or designated critical habitat are listed as potentially present in the **action area** of the proposed project the project proponents are responsible for determining if the proposed action will have "no effect" on any federally listed species or critical habitat. No effect, with respect to species, means that no individuals of a species will be exposed to any consequence of a federal action or that they will not respond to such exposure.
3. If the species habitat is not present within the action area or current data (surveys) for the species in the action area are negative: conclude "no species habitat or species present" and document your finding in your project records. For example, if the project area is located entirely within a "developed area" (an area that is already graveled/paved or supports structures and the only vegetation is limited to frequently mowed grass or conventional landscaping, is located within an existing maintained facility yard, or is in cultivated cropland conclude no species habitat present. Be careful when assessing actions that affect: 1) rights-of-ways that contains natural or semi-natural vegetation despite periodic mowing or other management; structures that have been known to support listed species (example: bridges), and 2) surface water or groundwater. Several species inhabit rights-of-ways, and you should carefully consider effects to surface water or groundwater, which often extend outside of a project's immediate footprint.
4. Adequacy of Information & Surveys - Agencies may base their determinations on the best evidence that is available or can be developed during consultation. Agencies must give the benefit of any doubt to the species when there are any inadequacies in the information. Inadequacies may include uncertainty in any step of the analysis. To provide adequate information on which to base a determination, it may be appropriate to conduct surveys to determine whether listed species or their habitats are present in the action area. Please contact our office for more information or see the survey guidelines that the Service has made available in IPaC.

**May Effect Determinations for Listed Species**

1. If the species habitat is present within the action area and survey data is unavailable or inconclusive: assume the species is present or plan and implement surveys and interpret results in coordination with our office. If assuming species present or surveys for the species are positive continue with the may affect determination process. May affect, with respect to a species, is the appropriate conclusion when a species might be exposed to a consequence of a federal action and could respond to that exposure. For critical habitat, 'may affect' is the appropriate conclusion if the action area overlaps with mapped areas of critical habitat and an essential physical or biological feature may be exposed to a consequence of a federal action and could change in response to that exposure.
2. Identify stressors or effects to the species and to the essential physical and biological features of critical habitat that overlaps with the action area. Consider all consequences of the action and assess the potential for each life stage of the species that occurs in the action area to be exposed to the stressors. Deconstruct the action into its component parts to be sure that you do not miss any part of the action that could cause effects to the species or physical and biological features of critical habitat. Stressors that affect species' resources may have consequences even if the species is not present when the project is implemented.
3. If no listed or proposed species will be exposed to stressors caused by the action, a 'no effect' determination may be appropriate – be sure to separately assess effects to critical habitat, if any overlaps with the action

area. If you determined that the proposed action or other activities that are caused by the proposed action may affect a species or critical habitat, the next step is to describe the manner in which they will respond or be altered. Specifically, to assess whether the species/critical habitat is "not likely to be adversely affected" or "likely to be adversely affected."

4. Determine how the habitat or the resource will respond to the proposed action (for example, changes in habitat quality, quantity, availability, or distribution), and assess how the species is expected to respond to the effects to its habitat or other resources. Critical habitat analyses focus on how the proposed action will affect the physical and biological features of the critical habitat in the action area. If there will be only beneficial effects or the effects of the action are expected to be insignificant or discountable, conclude "may affect, not likely to adversely affect" and submit your finding and supporting rationale to our office and request concurrence.
5. If you cannot conclude that the effects of the action will be wholly beneficial, insignificant, or discountable, check IPaC for species-specific Section 7 guidance and conservation measures to determine whether there are any measures that may be implemented to avoid or minimize the negative effects. If you modify your proposed action to include conservation measures, assess how inclusion of those measures will likely change the effects of the action. If you cannot conclude that the effects of the action will be wholly beneficial, insignificant, or discountable, contact our office for assistance.
6. Letters with requests for consultation or correspondence about your project should include the Consultation Tracking Number in the header. Electronic submission is preferred.

For additional information on completing Section 7 Consultation including a Glossary of Terms used in the Section 7 Process, information requirements for completing Section 7, and example letters visit the Midwest Region Section 7 Consultations website at: <https://www.fws.gov/office/midwest-region-headquarters/midwest-section-7-technical-assistance>.

You may find more specific information on completing Section 7 on communication towers and transmission lines on the following websites:

- Incidental Take Beneficial Practices: Power Lines - <https://www.fws.gov/story/incidental-take-beneficial-practices-power-lines>
- Recommended Best Practices for Communication Tower Design, Siting, Construction, Operation, Maintenance, and Decommissioning. - <https://www.fws.gov/media/recommended-best-practices-communication-tower-design-siting-construction-operation>

#### Tricolored Bat Update

On September 14, 2022, the Service published a proposal in the Federal Register to list the tricolored bat (*Perimyotis subflavus*) as endangered under the Endangered Species Act (ESA). The Service has up to 12-months from the date the proposal published to make a final determination, either to list the tricolored bat under the Act or to withdraw the proposal. The Service determined the bat faces extinction primarily due to the rangewide impacts of white-nose syndrome (WNS), a deadly fungal disease affecting cave-dwelling bats across North America. Because tricolored bat populations have been greatly reduced due to WNS, surviving bat populations are now more vulnerable to other stressors such as human disturbance and habitat loss. Species proposed for listing are not afforded protection under the ESA; however, as soon as a listing becomes effective (typically 30 days after publication of the final rule in the Federal Register), the prohibitions against jeopardizing its continued existence and "take" will apply. Therefore, if your future or existing project has the potential to adversely affect tricolored bats after the potential new listing goes into effect, we recommend that the effects of the project on tricolored bat and their habitat be analyzed to determine whether authorization under ESA section 7 or 10 is necessary. Projects with an existing section 7 biological opinion may require

reinitiation of consultation, and projects with an existing section 10 incidental take permit may require an amendment to provide uninterrupted authorization for covered activities. Contact our office for assistance.

#### Other Trust Resources and Activities

##### ***Bald and Golden Eagles***

Although no longer protected under the Endangered Species Act, be aware that bald eagles are protected under the Bald and Golden Eagle Protection Act and Migratory Bird Treaty Act, as are golden eagles. Projects affecting these species may require measures to avoid harming eagles or may require a permit. If your project is near an eagle nest or winter roost area, please contact our office for further coordination. For more information on permits and other eagle information visit our website <https://www.fws.gov/library/collections/bald-and-golden-eagle-management>. We appreciate your concern for threatened and endangered species. Please feel free to contact our office with questions or for additional information.

#### Attachment(s):

- Official Species List
- USFWS National Wildlife Refuges and Fish Hatcheries
- Migratory Birds
- Wetlands

## **OFFICIAL SPECIES LIST**

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

#### **Illinois-Iowa Ecological Services Field Office**

Illinois & Iowa Ecological Services Field Office

1511 47th Ave

Moline, IL 61265-7022

(309) 757-5800

## PROJECT SUMMARY

Project Code: 2023-0127306

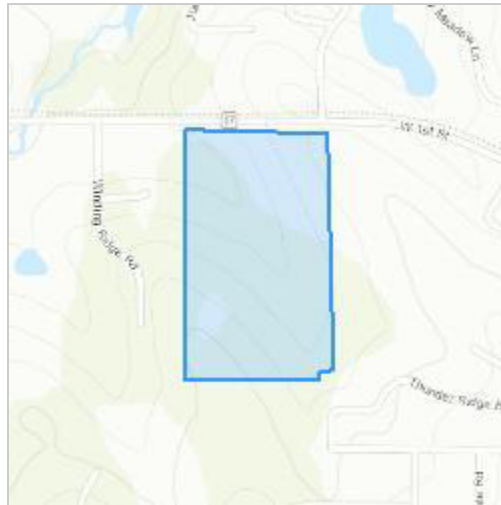
Project Name: Meadow Ridge - Lake Ridge

Project Type: Commercial Development

Project Description: The project site is approximately 22-acres of structurally vacant land. The proposed development will include an apartment complex.

Project Location:

The approximate location of the project can be viewed in Google Maps: <https://www.google.com/maps/@42.540338649999995,-92.48136803275699,14z>



Counties: Black Hawk County, Iowa

## ENDANGERED SPECIES ACT SPECIES

There is a total of 5 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries<sup>1</sup>, as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

1. [NOAA Fisheries](#), also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

### MAMMALS

NAME	STATUS
Northern Long-eared Bat <i>Myotis septentrionalis</i> No critical habitat has been designated for this species. Species profile: <a href="https://ecos.fws.gov/ecp/species/9045">https://ecos.fws.gov/ecp/species/9045</a>	Endangered
Tricolored Bat <i>Perimyotis subflavus</i> No critical habitat has been designated for this species. Species profile: <a href="https://ecos.fws.gov/ecp/species/10515">https://ecos.fws.gov/ecp/species/10515</a>	Proposed Endangered

### INSECTS

NAME	STATUS
Monarch Butterfly <i>Danaus plexippus</i> No critical habitat has been designated for this species. Species profile: <a href="https://ecos.fws.gov/ecp/species/9743">https://ecos.fws.gov/ecp/species/9743</a>	Candidate
Rusty Patched Bumble Bee <i>Bombus affinis</i> No critical habitat has been designated for this species. Species profile: <a href="https://ecos.fws.gov/ecp/species/9383">https://ecos.fws.gov/ecp/species/9383</a>	Endangered

### FLOWERING PLANTS

NAME	STATUS
Eastern Prairie Fringed Orchid <i>Platanthera leucophaea</i> No critical habitat has been designated for this species. Species profile: <a href="https://ecos.fws.gov/ecp/species/601">https://ecos.fws.gov/ecp/species/601</a>	Threatened

## CRITICAL HABITATS

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

YOU ARE STILL REQUIRED TO DETERMINE IF YOUR PROJECT(S) MAY HAVE EFFECTS ON ALL ABOVE LISTED SPECIES.

## USFWS NATIONAL WILDLIFE REFUGE LANDS AND FISH HATCHERIES

Any activity proposed on lands managed by the [National Wildlife Refuge](#) system must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

THERE ARE NO REFUGE LANDS OR FISH HATCHERIES WITHIN YOUR PROJECT AREA.

## MIGRATORY BIRDS

Certain birds are protected under the Migratory Bird Treaty Act<sup>1</sup> and the Bald and Golden Eagle Protection Act<sup>2</sup>.

Any person or organization who plans or conducts activities that may result in impacts to migratory birds, eagles, and their habitats should follow appropriate regulations and consider implementing appropriate conservation measures, as described [below](#).

- 
1. The [Migratory Birds Treaty Act](#) of 1918.
  2. The [Bald and Golden Eagle Protection Act](#) of 1940.
  3. 50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)

**The birds listed below are birds of particular concern either because they occur on the [USFWS Birds of Conservation Concern \(BCC\)](#) list or warrant special attention in your project location.** To learn more about the levels of concern for birds on your list and how this list is generated, see the FAQ [below](#). This is not a list of every bird you may find in this location, nor a guarantee that every bird on this list will be found in your project area. To see exact locations of where birders and the general public have sighted birds in and around your project area, visit the [E-bird data mapping tool](#) (Tip: enter your location, desired date range and a species on your list). For projects that occur off the Atlantic Coast, additional maps and models detailing the relative occurrence and abundance of bird species on your list are available. Links to additional information about Atlantic Coast birds, and other important information about your migratory bird list, including how to properly interpret and use your migratory bird report, can be found [below](#).

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, click on the PROBABILITY OF PRESENCE



SUMMARY at the top of your list to see when these birds are most likely to be present and breeding in your project area.

NAME	BREEDING SEASON
<p><b>Bald Eagle</b> <i>Haliaeetus leucocephalus</i>            This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.</p>	Breeds Oct 15 to Aug 31
<p><b>Black-billed Cuckoo</b> <i>Coccyzus erythrophthalmus</i>            This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.  <a href="https://ecos.fws.gov/ecp/species/9399">https://ecos.fws.gov/ecp/species/9399</a></p>	Breeds May 15 to Oct 10
<p><b>Bobolink</b> <i>Dolichonyx oryzivorus</i>            This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.</p>	Breeds May 20 to Jul 31
<p><b>Chimney Swift</b> <i>Chaetura pelagica</i>            This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.</p>	Breeds Mar 15 to Aug 25
<p><b>Eastern Whip-poor-will</b> <i>Antrostomus vociferus</i>            This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.</p>	Breeds May 1 to Aug 20
<p><b>Lesser Yellowlegs</b> <i>Tringa flavipes</i>            This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.  <a href="https://ecos.fws.gov/ecp/species/9679">https://ecos.fws.gov/ecp/species/9679</a></p>	Breeds elsewhere
<p><b>Prothonotary Warbler</b> <i>Protonotaria citrea</i>            This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.</p>	Breeds Apr 1 to Jul 31
<p><b>Red-headed Woodpecker</b> <i>Melanerpes erythrocephalus</i>            This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.</p>	Breeds May 10 to Sep 10
<p><b>Rusty Blackbird</b> <i>Euphagus carolinus</i>            This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA</p>	Breeds elsewhere
<p><b>Short-billed Dowitcher</b> <i>Limnodromus griseus</i>            This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.  <a href="https://ecos.fws.gov/ecp/species/9480">https://ecos.fws.gov/ecp/species/9480</a></p>	Breeds elsewhere
<p><b>Upland Sandpiper</b> <i>Bartramia longicauda</i>            This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA  <a href="https://ecos.fws.gov/ecp/species/9294">https://ecos.fws.gov/ecp/species/9294</a></p>	Breeds May 1 to Aug 31

NAME	BREEDING SEASON
Wood Thrush <i>Hylocichla mustelina</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds May 10 to Aug 31

## PROBABILITY OF PRESENCE SUMMARY

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read and understand the FAQ "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

### Probability of Presence (■)

Each green bar represents the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during a particular week of the year. (A year is represented as 12 4-week months.) A taller bar indicates a higher probability of species presence. The survey effort (see below) can be used to establish a level of confidence in the presence score. One can have higher confidence in the presence score if the corresponding survey effort is also high.

How is the probability of presence score calculated? The calculation is done in three steps:

1. The probability of presence for each week is calculated as the number of survey events in the week where the species was detected divided by the total number of survey events for that week. For example, if in week 12 there were 20 survey events and the Spotted Towhee was found in 5 of them, the probability of presence of the Spotted Towhee in week 12 is 0.25.
2. To properly present the pattern of presence across the year, the relative probability of presence is calculated. This is the probability of presence divided by the maximum probability of presence across all weeks. For example, imagine the probability of presence in week 20 for the Spotted Towhee is 0.05, and that the probability of presence at week 12 (0.25) is the maximum of any week of the year. The relative probability of presence on week 12 is  $0.25/0.25 = 1$ ; at week 20 it is  $0.05/0.25 = 0.2$ .
3. The relative probability of presence calculated in the previous step undergoes a statistical conversion so that all possible values fall between 0 and 10, inclusive. This is the probability of presence score.

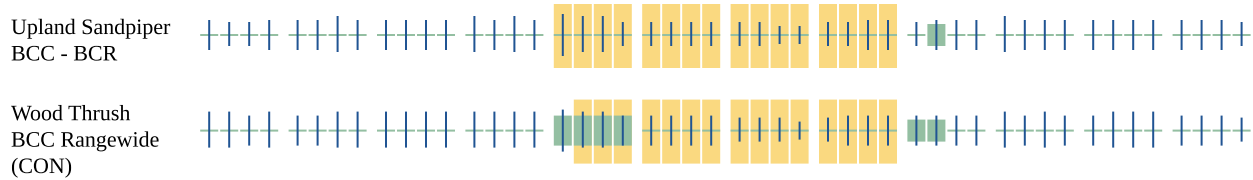
### Breeding Season (■)

Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

### Survey Effort (|)

Vertical black lines superimposed on probability of presence bars indicate the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps. The number of surveys is expressed as a range, for example, 33 to 64 surveys.





Additional information can be found using the following links:

- Birds of Conservation Concern <https://www.fws.gov/program/migratory-birds/species>
- Measures for avoiding and minimizing impacts to birds <https://www.fws.gov/library/collections/avoiding-and-minimizing-incident-take-migratory-birds>
- Nationwide conservation measures for birds <https://www.fws.gov/sites/default/files/documents/nationwide-standard-conservation-measures.pdf>

## MIGRATORY BIRDS FAQ

**Tell me more about conservation measures I can implement to avoid or minimize impacts to migratory birds.**

[Nationwide Conservation Measures](#) describes measures that can help avoid and minimize impacts to all birds at any location year round. Implementation of these measures is particularly important when birds are most likely to occur in the project area. When birds may be breeding in the area, identifying the locations of any active nests and avoiding their destruction is a very helpful impact minimization measure. To see when birds are most likely to occur and be breeding in your project area, view the Probability of Presence Summary. [Additional measures](#) or [permits](#) may be advisable depending on the type of activity you are conducting and the type of infrastructure or bird species present on your project site.

**What does IPaC use to generate the list of migratory birds that potentially occur in my specified location?**

The Migratory Bird Resource List is comprised of USFWS [Birds of Conservation Concern \(BCC\)](#) and other species that may warrant special attention in your project location.

The migratory bird list generated for your project is derived from data provided by the [Avian Knowledge Network \(AKN\)](#). The AKN data is based on a growing collection of [survey, banding, and citizen science datasets](#) and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle ([Eagle Act](#) requirements may apply), or a species that has a particular vulnerability to offshore activities or development.

Again, the Migratory Bird Resource list includes only a subset of birds that may occur in your project area. It is not representative of all birds that may occur in your project area. To get a list of all birds potentially present in your project area, please visit the [Rapid Avian Information Locator \(RAIL\) Tool](#).

### **What does IPaC use to generate the probability of presence graphs for the migratory birds potentially occurring in my specified location?**

The probability of presence graphs associated with your migratory bird list are based on data provided by the [Avian Knowledge Network \(AKN\)](#). This data is derived from a growing collection of [survey, banding, and citizen science datasets](#).

Probability of presence data is continuously being updated as new and better information becomes available. To learn more about how the probability of presence graphs are produced and how to interpret them, go to the Probability of Presence Summary and then click on the "Tell me about these graphs" link.

### **How do I know if a bird is breeding, wintering or migrating in my area?**

To see what part of a particular bird's range your project area falls within (i.e. breeding, wintering, migrating or year-round), you may query your location using the [RAIL Tool](#) and look at the range maps provided for birds in your area at the bottom of the profiles provided for each bird in your results. If a bird on your migratory bird species list has a breeding season associated with it, if that bird does occur in your project area, there may be nests present at some point within the timeframe specified. If "Breeds elsewhere" is indicated, then the bird likely does not breed in your project area.

### **What are the levels of concern for migratory birds?**

Migratory birds delivered through IPaC fall into the following distinct categories of concern:

1. "BCC Rangewide" birds are [Birds of Conservation Concern](#) (BCC) that are of concern throughout their range anywhere within the USA (including Hawaii, the Pacific Islands, Puerto Rico, and the Virgin Islands);
2. "BCC - BCR" birds are BCCs that are of concern only in particular Bird Conservation Regions (BCRs) in the continental USA; and
3. "Non-BCC - Vulnerable" birds are not BCC species in your project area, but appear on your list either because of the [Eagle Act](#) requirements (for eagles) or (for non-eagles) potential susceptibilities in offshore areas from certain types of development or activities (e.g. offshore energy development or longline fishing).

Although it is important to try to avoid and minimize impacts to all birds, efforts should be made, in particular, to avoid and minimize impacts to the birds on this list, especially eagles and BCC species of rangewide concern. For more information on conservation measures you can implement to help avoid and minimize migratory bird impacts and requirements for eagles, please see the FAQs for these topics.

### **Details about birds that are potentially affected by offshore projects**

For additional details about the relative occurrence and abundance of both individual bird species and groups of bird species within your project area off the Atlantic Coast, please visit the [Northeast Ocean Data Portal](#). The Portal also offers data and information about other taxa besides birds that may be helpful to you in your project review. Alternately, you may download the bird model results files underlying the portal maps through the [NOAA NCCOS Integrative Statistical Modeling and Predictive Mapping of Marine Bird Distributions and Abundance on the Atlantic Outer Continental Shelf](#) project webpage.

Bird tracking data can also provide additional details about occurrence and habitat use throughout the year, including migration. Models relying on survey data may not include this information. For additional information on marine bird tracking data, see the [Diving Bird Study](#) and the [nanotag studies](#) or contact [Caleb Spiegel](#) or [Pam Loring](#).

### **What if I have eagles on my list?**

If your project has the potential to disturb or kill eagles, you may need to [obtain a permit](#) to avoid violating the Eagle Act should such impacts occur.

### **Proper Interpretation and Use of Your Migratory Bird Report**

The migratory bird list generated is not a list of all birds in your project area, only a subset of birds of priority concern. To learn more about how your list is generated, and see options for identifying what other birds may be in your project area, please see the FAQ "What does IPaC use to generate the migratory birds potentially occurring in my specified location". Please be aware this report provides the "probability of presence" of birds within the 10 km grid cell(s) that overlap your project; not your exact project footprint. On the graphs provided, please also look carefully at the survey effort (indicated by the black vertical bar) and for the existence of the "no data" indicator (a red horizontal bar). A high survey effort is the key component. If the survey effort is high, then the probability of presence score can be viewed as more dependable. In contrast, a low survey effort bar or no data bar means a lack of data and, therefore, a lack of certainty about presence of the species. This list is not perfect; it is simply a starting point for identifying what birds of concern have the potential to be in your project area, when they might be there, and if they might be breeding (which means nests might be present). The list helps you know what to look for to confirm presence, and helps guide you in knowing when to implement conservation measures to avoid or minimize potential impacts from your project activities, should presence be confirmed. To learn more about conservation measures, visit the FAQ "Tell me about conservation measures I can implement to avoid or minimize impacts to migratory birds" at the bottom of your migratory bird trust resources page.

## **WETLANDS**

Impacts to [NWI wetlands](#) and other aquatic habitats may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal statutes.

For more information please contact the Regulatory Program of the local [U.S. Army Corps of Engineers District](#).

Please note that the NWI data being shown may be out of date. We are currently working to update our NWI data set. We recommend you verify these results with a site visit to determine the actual extent of wetlands on site.

### **FRESHWATER EMERGENT WETLAND**

- [PEM1C](#)

## **IPAC USER CONTACT INFORMATION**

Agency: Terracon Consultants Inc.  
Name: Adam Corcoran  
Address: 600 SW 7th Street, Suite M  
City: Des Moines  
State: IA  
Zip: 50309  
Email: accorcoran@terracon.com  
Phone: 5152443184

## Listed Species In a County

[<< Back To Query Page](#)BLACK HAWK County, IA

<b>Summary by Species Report</b>						
Total Unique Listed Species In This County: 73						
County	Common Name	Scientific Name	Class	State Status	Federal Status	Link To Species Profile
BLACK HAWK	Blue-spotted Salamander	Ambystoma laterale	AMPHIBIANS	E		<a href="#">PDF</a>
BLACK HAWK	Central Newt	Notophthalmus viridescens	AMPHIBIANS	T		<a href="#">PDF</a>
BLACK HAWK	Mudpuppy	Necturus maculosus	AMPHIBIANS	T		<a href="#">PDF</a>
BLACK HAWK	Bald Eagle	Haliaeetus leucocephalus	BIRDS	S		<a href="#">PDF</a>
BLACK HAWK	Barn Owl	Tyto alba	BIRDS	E		<a href="#">PDF</a>
BLACK HAWK	Henslow's Sparrow	Ammodramus henslowii	BIRDS	T		<a href="#">PDF</a>
BLACK HAWK	Red-shouldered Hawk	Buteo lineatus	BIRDS	E		<a href="#">PDF</a>
BLACK HAWK	American Brook Lamprey	Lampetra appendix	FISH	T		<a href="#">PDF</a>
BLACK HAWK	Black Redhorse	Moxostoma duquesnei	FISH	T		<a href="#">PDF</a>
BLACK HAWK	Western Sand Darter	Ammocrypta clara	FISH	T		<a href="#">PDF</a>
BLACK HAWK	Creek Heelsplitter	Lasmigona compressa	FRESHWATER MUSSELS	T		
BLACK HAWK	Creeper	Strophitus undulatus	FRESHWATER MUSSELS	T		
BLACK HAWK	Cylindrical Papershell	Anodontooides ferussacianus	FRESHWATER MUSSELS	T		
BLACK HAWK	Yellow Sandshell	Lampsilis teres	FRESHWATER MUSSELS	E		
BLACK HAWK	Acadian Hairstreak	Satyrium acadicum	INSECTS	S		
BLACK HAWK	Broad-winged Skipper	Poanes viator	INSECTS	S		
BLACK HAWK	Dion Skipper	Euphyes dion	INSECTS	S		
BLACK HAWK	Pipevine Swallowtail	Battus philenor	INSECTS	S		
BLACK HAWK	Purplish Copper	Lycaena helloides	INSECTS	S		
BLACK HAWK	Regal Fritillary	Speyeria idalia	INSECTS	S		
BLACK HAWK	Northern Long-eared Bat	Myotis septentrionalis	MAMMALS		T	
BLACK HAWK	Plains Pocket Mouse	Perognathus flavescens	MAMMALS	E		<a href="#">PDF</a>
BLACK HAWK	Spotted Skunk	Spilogale putorius	MAMMALS	E		<a href="#">PDF</a>
BLACK HAWK	Bent Milk-vetch	Astragalus distortus	PLANTS (DICOTS)	S		<a href="#">PDF</a>
BLACK HAWK	Bog Birch	Betula pumila	PLANTS (DICOTS)	T		
BLACK HAWK	Bog Willow	Salix pedicellaris	PLANTS (DICOTS)	T		<a href="#">PDF</a>



BLACK HAWK	Brittle Prickly Pear	<i>Opuntia fragilis</i>	PLANTS (DICOTS)	T		
BLACK HAWK	Cleft Phlox	<i>Phlox bifida</i>	PLANTS (DICOTS)	S		
BLACK HAWK	Earleaf Foxglove	<i>Tomanthera auriculata</i>	PLANTS (DICOTS)	S		
BLACK HAWK	Flat Top White Aster	<i>Aster pubentior</i>	PLANTS (DICOTS)	S		
BLACK HAWK	Glade Mallow	<i>Napaea dioica</i>	PLANTS (DICOTS)	S		
BLACK HAWK	Hill's Thistle	<i>Cirsium hillii</i>	PLANTS (DICOTS)	S		
BLACK HAWK	Kitten Tails	<i>Besseyia bullii</i>	PLANTS (DICOTS)	T		<a href="#">PDF</a>
BLACK HAWK	Lance-leaved Violet	<i>Viola lanceolata</i>	PLANTS (DICOTS)	S		
BLACK HAWK	Marsh-speedwell	<i>Veronica scutellata</i>	PLANTS (DICOTS)	S		
BLACK HAWK	Narrowleaf Pinweed	<i>Lechea intermedia</i>	PLANTS (DICOTS)	T		
BLACK HAWK	Pearly Everlasting	<i>Anaphalis margaritacea</i>	PLANTS (DICOTS)	S		
BLACK HAWK	Pink Milkwort	<i>Polygala incarnata</i>	PLANTS (DICOTS)	T		
BLACK HAWK	Prairie Bush Clover	<i>Lespedeza leptostachya</i>	PLANTS (DICOTS)	T	T	<a href="#">PDF</a>
BLACK HAWK	Pretty Dodder	<i>Cuscuta indecora</i>	PLANTS (DICOTS)	S		
BLACK HAWK	Ragwort	<i>Senecio pseudoaureus</i>	PLANTS (DICOTS)	S		
BLACK HAWK	Sage Willow	<i>Salix candida</i>	PLANTS (DICOTS)	S		
BLACK HAWK	Sessile-leaf Tick-trefoil	<i>Desmodium sessilifolium</i>	PLANTS (DICOTS)	S		
BLACK HAWK	Silky Prairie Clover	<i>Dalea villosa</i>	PLANTS (DICOTS)	E		
BLACK HAWK	Silver Bladderpod	<i>Lesquerella ludoviciana</i>	PLANTS (DICOTS)	S		
BLACK HAWK	Sweet Indian Plantain	<i>Cacalia suaveolens</i>	PLANTS (DICOTS)	T		
BLACK HAWK	Toothcup	<i>Rotala ramosior</i>	PLANTS (DICOTS)	S		
BLACK HAWK	Valerian	<i>Valeriana edulis</i>	PLANTS (DICOTS)	S		
BLACK HAWK	Violet	<i>Viola macloskeyi</i>	PLANTS (DICOTS)	S		
BLACK HAWK	Water Milfoil	<i>Myriophyllum verticillatum</i>	PLANTS (DICOTS)	S		
BLACK HAWK	Water Shield	<i>Brasenia schreberi</i>	PLANTS (DICOTS)	S		
BLACK HAWK	Wooly Milkweed	<i>Asclepias lanuginosa</i>	PLANTS (DICOTS)	T		
BLACK HAWK	Field Sedge	<i>Carex conoidea</i>	PLANTS (MONOCOTS)	S		
BLACK HAWK	Green's Rush	<i>Juncus greenei</i>	PLANTS (MONOCOTS)	S		
BLACK HAWK	Northern Panic-grass	<i>Dichanthelium boreale</i>	PLANTS (MONOCOTS)	E		
BLACK HAWK	Richardson Sedge	<i>Carex richardsonii</i>	PLANTS (MONOCOTS)	S		
BLACK HAWK	Sedge	<i>Carex cephalantha</i>	PLANTS (MONOCOTS)	S		
BLACK HAWK	Slender Sedge	<i>Carex tenera</i>	PLANTS (MONOCOTS)	S		
BLACK HAWK	Small Green Woodland Orchid	<i>Platanthera clavellata</i>	PLANTS (MONOCOTS)	S		
BLACK HAWK	Small White Lady's Slipper	<i>Cypripedium candidum</i>	PLANTS (MONOCOTS)	S		

BLACK HAWK	Tall Cotton Grass	Eriophorum angustifolium	PLANTS (MONOCOTS)	S		
BLACK HAWK	Vasey's Rush	Juncus vaseyi	PLANTS (MONOCOTS)	S		
BLACK HAWK	Western Prairie Fringed Orchid	Platanthera praeclara	PLANTS (MONOCOTS)	T	T	<a href="#">PDF</a>
BLACK HAWK	Leathery Grape Fern	Botrychium multifidum	PLANTS (PTERIODOPHYTES)	T		
BLACK HAWK	Ledge Spikemoss	Selaginella rupestris	PLANTS (PTERIODOPHYTES)	S		
BLACK HAWK	Little Grape Fern	Botrychium simplex	PLANTS (PTERIODOPHYTES)	T		
BLACK HAWK	Northern Adder's-tongue	Ophioglossum pusillum	PLANTS (PTERIODOPHYTES)	S		
BLACK HAWK	Prairie Moonwort	Botrychium campestre	PLANTS (PTERIODOPHYTES)	S		
BLACK HAWK	Blanding's Turtle	Emydoidea blandingii	REPTILES	T		<a href="#">PDF</a>
BLACK HAWK	Bullsnake	Pituophis catenifer sayi	REPTILES	S		<a href="#">PDF</a>
BLACK HAWK	Ornate Box Turtle	Terrapene ornata	REPTILES	T		<a href="#">PDF</a>
BLACK HAWK	Smooth Green Snake	Liochlorophis vernalis	REPTILES	S		<a href="#">PDF</a>
BLACK HAWK	Wood Turtle	Clemmys insculpta	REPTILES	E		<a href="#">PDF</a>

# APPENDIX C

## Photolog

**Threatened and Endangered Species Habitat Review  
Meadow Ridge – Lake Ridge  
Cedar Falls, Iowa**



**Photo 1:** View of the grassland/scrub-shrub vegetation on the northwest portion of the site.



**Photo 2:** View of a split tree that may be suitable habitat for the T&E bats species. This tree was located near the drainage feature on the northwest portion of the site.

**Threatened and Endangered Species Habitat Review  
Meadow Ridge – Lake Ridge  
Cedar Falls, Iowa**



**Photo 3:** View of the scrub-shrub vegetation closer to the drainage feature on the northwest portion of the site.



**Photo 4:** View of two dead trees that may be suitable habitat for the T&E bat species. These trees were located on the north-central portion of the site.

**Threatened and Endangered Species Habitat Review  
Meadow Ridge – Lake Ridge  
Cedar Falls, Iowa**



**Photo 5:** View of the grassland/scrub-shrub vegetation located on central-north-central portion of the site.



**Photo 6:** View of several eastern cottonwood trees/snags that may be suitable habitat for the T&E bat species. These trees were located on the central portion of the site.

**Threatened and Endangered Species Habitat Review  
Meadow Ridge – Lake Ridge  
Cedar Falls, Iowa**



**Photo 7:** View of the grassland habitat on the southeast portion of the site.



**Photo 8:** View of a dead tree that may be suitable habitat for the T&E bat species. This tree was located on the southeast portion of the site.

**Threatened and Endangered Species Habitat Review  
Meadow Ridge – Lake Ridge  
Cedar Falls, Iowa**



**Photo 9:** View of the scrub-shrub/woodlands on the south-central portion of the site.



**Photo 10:** View of the scrub-shrub vegetation on the southernmost portion of the site.



**Thomas Weintraut**

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**From:** Len Searfoss <jeezman07@icloud.com>  
**Sent:** Tuesday, September 24, 2024 4:28 PM  
**To:** Thomas Weintraut  
**Subject:** [EXTERNAL] New Appt Building Proposal

You don't often get email from jeezman07@icloud.com. [Learn why this is important](#)

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Mr Weintraut

Below is what I would ask you to submit to the City Council as our (my family's) input regarding this proposed apartment build-out.

Ladies and gentlemen of the council, esteemed colleagues, and anyone brave enough to tackle the morning drop-off line at Hansen or Holmes:

I come before you today not merely as a concerned citizen, but as someone who has had the pleasure of reading the Cedar Falls housing assessment (for fun, I assure you) and reviewing the latest proposal regarding the addition of numerous apartments in the area. While I deeply respect the creativity involved in drafting this plan, I must respectfully and humorously suggest—this is not a good idea.

In legal terms, I would argue that this proposal will be Exhibit A in a case of “Let’s Make This Area Completely Unlivable.” The sheer number of cars, children, and general infrastructural chaos would effectively turn this neighborhood into a live-action traffic jam. If you’ve ever experienced the pick-up or drop-off situation at either school, you’ll know that it currently operates on a “Lord of the Flies” traffic model. Adding more vehicles to that equation would be tantamount to public endangerment—or at least an exhibit in the court of common sense. If you personally haven’t experienced the joy of navigating the parking and drop-off lines, I highly recommend it as a sort of civic duty. It’s truly eye-opening. Now imagine adding even more to that delightful chaos. No reasonable person could conclude that cramming more bodies into this area will benefit anyone’s sanity or safety.

Furthermore, the schools—Hansen and Holmes—are already operating at near maximum capacity, both in terms of students and parents’ collective patience. Class sizes are cumbersome, to say the least. Teachers cannot be expected to take on more than they already have. Then, there’s the issue of parking, which is already beyond full, forcing people to park in the green space just to attend events. On top of those concerns, we have food prep, building resources, available space for teaching and events, and so on.

Let’s now turn to the basics of traffic management—or as I like to call it, “Chaos Theory 101.” The streets around this proposed apartment complex are already under strain and simply cannot handle the additional daily traffic. Considering the existing apartment buildings, housing developments, and recent business growth in the area, there is no room for a project of this scale. Without a sudden influx of

taxpayer dollars, it will be us, the citizens, footing the bill to repair the inevitable wear and tear on our roads and intersections. We will also be the ones paying for immediate upgrades to accommodate the increased traffic. Ironically, these roads were expanded not too long ago, and yet they're already overwhelmed by the current growth.

In closing, the list of negative impacts to real estate values, infrastructure, and general livability is as long as the line at school pick-up. So while I appreciate the thought that went into this proposal, I must respectfully suggest we put this plan where it belongs: back in the "needs a lot of work" pile.

Sincerely,  
Len Searfoss

**Thomas Weintraut**

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**From:** Xavier Faucon <FauconXavier@live.com>  
**Sent:** Sunday, September 29, 2024 4:31 PM  
**To:** Thomas Weintraut  
**Subject:** [EXTERNAL] Rezoning Request - Meadow Ridge Development  
**Attachments:** Sep 29 2024 - Xavier and Mariela Faucon.pdf

You don't often get email from fauconxavier@live.com. [Learn why this is important](#)

**CAUTION: This email originated outside the City of Cedar Falls email system.  
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Dear Mr. Weintraut,

As invited in your letters dated September 17 and September 19, 2024, we would like to submit the following comments in regard to the Meadow Ridge Development rezoning request--see attached pdf file. Our comments are repeated below.

Respectfully,

Xavier & Mariela Faucon  
302 Winding Ridge Rd  
Cedar Falls, IA 50613

**Property Values**

Adding a 207-units apartment complex right next to Winding Ridge Estates can only diminish our properties value.

The Fall 2024 edition of 'Currents' includes a reminder that the City of Cedar Falls has adopted regulations on nuisances, and that "one neighbor's enjoyment, safety, and property values should not be diminished by another neighbor." I would like to think the City of Cedar Falls Planning and Zoning office is also taking neighboring safety and property values into consideration when discussing rezoning requests so that they don't have to publish an erratum in an upcoming edition of 'Currents'.

**Wetlands**

The proposed request to rezone the property located east of Winding Ridge Estates from A-1 to R-P includes a location map and plat ("R-P Master Plan") identifying a wetland/stream impact area. It does not appear that any mitigation plan has been proposed or developed.

The very same Fall 2024 edition of ‘Currents’ mentioned above reminds that the City of Cedar Falls has two code enforcement officers whose primary task is to enforce the nuisance identified in Chapter 15 of the City Code. Although there is no mention on how Chapter 20 of the City Code is enforced, Section 20-6(d) says that “No portion of a proposed subdivision or plat shall establish building lots, streets or other facilities wholly or partially in areas that are identified as wetlands or contain characteristics of wetlands as defined herein or as defined by the United States Army Corps of Engineers.” I would hope the Cedar Falls Planning and Zoning office is taking respect of the City Code to its utmost level and will immediately reject any proposed subdivision or plat in areas that are defined as wetlands in the City of Cedar Falls.

**Visual Impact**

The proposed addition of five 33-units and two 21-units apartment complex appears to merely respect the minimum easement distances alongside Winding Ridge Estates. However, it does not clearly convey that the land immediately east of Winding Ridge Estates is, significantly above the Winding Ridge lots, particularly in its southern area where the proposed units are located. Where we reside, at 302 Winding Ridge Rd, the land of the proposed apartments complex is about 10-15 feet above the level of our backyard, and we assume these apartment units will be 3-story tall. No mitigation measure has been undertaken to minimize the visual impact of these apartment literally “towering” the Winding Ridge Estates lots.

In comparison, the nearby Thunder Ridge Blvd. apartment complex is comprised of 3-story buildings, with half-sunken first level. The elevation of the land where these units are located is, if anything, lower than the surrounding residential areas. In addition, a minimum of one street width separates the apartment complex from the surrounding residences.

**School District Impact**

The addition of 207 apartments will result in the addition of 60 to 100 children of school age. I believe Hansen, the Elementary School deserving this area, does not have much, if any, extra capacity available. This is not a new topic in Cedar Falls, and it is part of the reasons that led to the opening of the new Aldrich elementary school.

Where is the (elementary) school rezoning plan designed to accommodate the addition of these 207 apartments?

**Proposed PC-2 Area**

The R-P Master Plan identifies proposed PC-2 (planned commercial) areas east of the proposed R-P site.

We believe it is common knowledge that the Thunder Ridge Mall has been struggling to maintain viable businesses in this area of the City of Cedar Falls. How is adding more commercial or business sites a solution to this problem? Shouldn’t the Planning and Zoning Commission prioritize potential solutions, such as improving the connections of the immediate surrounding residential areas to these businesses instead of “throwing more” valuable land onto the problem?

One solution would be to consider the proposed PC-2 areas for multi-family residential usage instead—in other words, moving the entire proposed apartment complex east, within walking distance of the existing local businesses. We would think having direct walking access to the Fareway Grocery Store and Walgreens

Pharmacy on the east side, and a “green” area on the west side will make this multi-family apartment complex much more attractive to new residents.

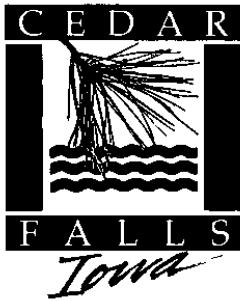
Furthermore, the recent Arabella Apartments complex located at the angle of West 1st Street and Clay Street, and other comparable buildings in several cities in Iowa show how residential and businesses areas can be combined into attractive business & multi-family resident buildings.

### **Lake Ridge Drive street**

The proposed R-P site would be accessed from a new street, Lake Ridge Drive.

As noted above, despite the proximity of available local businesses, such as the Fareway Grocery Store, it is quite surprising that the only way to access those nearby businesses from the new multi-family apartment complex would be for the residents to take their car, merge onto the upcoming (high-speed) traffic of West 1st Street, and drive the few hundred yards separating them from the Thunder Ridge business area. How can this be considered good planning?

Again, moving the entire proposed multi-family apartment complex east would solve this very undesirable consequence of “isolating” the Meadow Ridge residents. Access to the apartment complex could be provided from the existing White Tail Dr. instead of creating a new Lake Ridge Drive street and a potentially dangerous intersection with West 1st Street. Direct walking access to the Thunder Ridge businesses would be provided, and a natural “green” area buffer would be maintained on the west side, benefiting the new multi-family complex as well as the Thunder Ridge Seniors apartment residents.



## DEPARTMENT OF COMMUNITY DEVELOPMENT

City of Cedar Falls  
 220 Clay Street  
 Cedar Falls, Iowa 50613  
 Phone: 319-273-8600  
 Fax: 319-273-8610  
 www.cedarfalls.com

### MEMORANDUM

#### *Planning & Community Services Division*

**TO:** Planning & Zoning Commission  
**FROM:** Karen Howard, AICP, Planning & Community Services Manager  
**DATE:** November 6, 2024  
**SUBJECT:** Renewal of the College Hill Self-Supported Municipal Improvement District (SSMID)

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PETITIONER: College Hill Partnership (Lead Agency)

LOCATION: College Hill Commercial District

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### **Evaluative Report for the Cedar Falls City Council on the Merit and Feasibility of Renewing the College Hill Self-Supported Municipal Improvement District**

#### PROPOSAL

In accordance with Iowa Code Chapter 386, the College Hill Partnership has submitted a petition to the City of Cedar Falls for the renewal of the College Hill Self-Supported Municipal Improvement District (SSMID). The purpose for the creation of the College Hill SSMID is to provide funding to pay the ongoing administrative and support costs for the services and functioning of the College Hill Partnership, which develops and encourages retail businesses by way of promotion and support for existing businesses, area improvements, and for healthy growth and development consistent with the long term goals for the College Hill business district.

Attached is the memo and petition submitted by the College Hill Partnership. The requirement for approval of a SSMID is support by petition from a minimum of 25% of the unique property owners representing 25% of the total valuation of the District. The Partnership submitted signatures from over 45% of the total number of unique property owners, which represent over 45% of the total valuation within the area covered by the SSMID, so their petition meets the threshold for renewal of the SSMID.

The self-imposed tax upon property within the SSMID area will remain the same at \$2.75 per \$1000 of net taxable valuation per year, commencing with the levy for tax collection in the fiscal year beginning July 1, 2025 and continuing to the fiscal year

ending on June 30, 2030. All tax revenue collected from properties subject to the additional tax will be deposited into the College Hill Self-Supported Municipal Improvement District Fund for the operational purposes of the College Hill Partnership as stated above. It should be noted that residential property within the District is not subject to the additional tax.

### BACKGROUND AND ANALYSIS

This memorandum serves as the *Evaluative Report for City Council the Merit and Feasibility of the College Hill Self-Supported Municipal Improvement District*. The following attachments are supporting documentation used in the development of this Evaluative Report:

- A letter from the College Hill Partnership requesting renewal of the SSMID with a summary of the necessary signatures of support received to meet the State requirements for renewal of the SSMID;
- A spreadsheet that includes all 41 commercial properties and the respective owners of those properties that are located within the boundaries of the SSMID and subject to the additional tax. Those deedholders highlighted in the spreadsheet are those who have signed the petition of support. The spreadsheet indicates both the percentage of unique property owners who have signed the petition and the percentage of valuation those properties represent within the SSMID;
- Copies of the signed petitions;
- Map illustrating the location and boundaries of the SSMID.

### STAFF RECOMMENDATION

Staff recommends the following actions be taken by the Planning & Zoning Commission:

1. Approval and endorsement of this *Planning & Zoning Commission Evaluative Report for the City Council on the Merit and Feasibility of the Renewal of the College Hill Self-Supported Municipal Improvement District*; and
2. Recommendation of the Planning & Zoning that City Council proceeds to set public hearing for consideration of the renewal of the College Hill Self-Supported Municipal Improvement District.

### PLANNING & ZONING COMMMISSION ACTIONS

11/06/24 Meeting -



**College Hill Partnership**

2304 College Street  
Po Box 974  
Cedar Falls, Iowa 50613

Phone: 319-273-6882  
collegehillpartnership@gmail.com  
www.collegehillpartnership.org

**2024-2025**

**Board of Directors**

- Kyle Dehmlow, President
- Angela Johnson, Vice President
- Ryan Kriener, Secretary/Treasurer
- Jorge Covarrubias
- Frank Darrah
- Dave Deibler
- Ryan Drewes
- Andy Fuchtman
- Chris Martin
- Andrew Ungs

20, September 2024

**Mayor Danny Laudick**

Members of City Council

220 Clay Street

Cedar Falls, IA 50613

Dear Mayor Laudick and Members of the City Council:

Enclosed, you will find information supporting our request and petition to renew the College Hill SSMID in the College Hill Overlay

The College Hill Partnership was established in April 2008 and was created to continue the revitalization and promotion of the College Hill District beyond the streetscape investment made by the City.

In this Letter you will find the needed signatures of support required to renew the Current Self-Supported Municipal Improvement District in the C-3 Commercial Zone of College Hill Overlay. We have obtained enough signatures (over 45% of the total number of unique property owners), which represent over 45% of the total valuation. In doing so we have reached over the 25% threshold required to submit a petition for renewal.

With this being a self-imposed assessment by the property owners we understand the potential controversy and expectations of this funding moving forward, but also the opportunities that it can provide to College Hill. As a New President and Long Term Property Holder on College Hill I have committed along with the rest of the Board to use these funds to Help Grow our District productively and beneficially to help move College Hill and the City of the Cedar Falls forward.

Thank you for your consideration of this request. We request that you pass this petition along to the Planning and Zoning Commission for their consideration. Please contact us if you have any questions or concerns. We thank all of you for your continued support of the College Hill Partnership and the College Hill Overlay District.

Kindest regards,

**Kyle Dehmlow**

President of College Hill Partnership Board of Directors  
319-415-3554  
kyledehmlow1@gmail.com



Parcel Number	Full Situs	Deed Holder	2023 Assessed Value	2023 Taxable Value
891413301001	2002 COLLEGE ST	EILERS, DWAYNE R	395,040	306,361
891413301007	2024 COLLEGE ST	CV COMMERCIAL LLC	808,300	555,640
891413301008	2022 COLLEGE ST	CV COMMERCIAL LLC	251,900	174,980
891413301011	2018 COLLEGE ST	EILERS, DUANE R	54,200	25,118
891413301012	2016 COLLEGE ST	CV COMMERCIAL LLC	350,980	196,767
891413301015	2004 COLLEGE ST	EILERS, DWAYNE R	131,030	101,616
891413301018	2020 COLLEGE ST	CV COMMERCIAL LLC	334,360	229,844
891413305001	2104 COLLEGE ST	CV PROPERTIES III LLC	193,010	89,446
891413305007	2128 COLLEGE ST	S AND G PAK LLC	395,230	290,222
891413305009	2110 COLLEGE ST	CV PROPERTIES III LLC	261,870	121,358
891413309001	2202 COLLEGE ST	D SQUARED LLC	827,100	695,321
891413309009	2224 COLLEGE ST	UIS LLC	426,820	257,160
891413309010	2222 COLLEGE ST	EILERS, DWAYNE R	178,930	95,552
891413309011	2220 COLLEGE ST	BUHMANN, ADAM N	186,790	102,625
891413309012	2218 COLLEGE ST	SOOD, SURINDERS	241,280	111,816
891413309013	2216 COLLEGE ST	WILKEN PROPERTIES LLC	149,260	69,171
891413309014	2214 COLLEGE ST	CV COMMERCIAL LLC	278,380	185,057
891413309015	2210 COLLEGE ST	CV PROPERTIES LLC	566,410	444,283
891413309016	2208 COLLEGE ST	D SQUARED LLC	276,720	232,632
891413309017	2215 OLIVE ST	U S CELLULAR OPER CO OF WATERLOO	71,070	32,936
891414428012		CV COMMERCIAL LLC	126,110	85,247
891414428013	2125 COLLEGE ST	ZHENG DEVELOPMENT LLC	1,387,760	1,183,498
891414428014		CV COMMERCIAL LLC	166,210	112,355
891414428015	1003 W 22ND ST	CV COMMERCIAL LLC	186,920	86,624
891414428035	2025 COLLEGE ST	GEISLER WAREHOUSE LLC	576,860	453,688
891414428045	1022 W 20TH ST	GEISLER RENTALS LLC	342,660	158,798
891414428065	2019 COLLEGE ST	CONVENIENCE STORE INVESTMENTS	1,061,570	889,927
891414430011	2205 COLLEGE ST	DEIBLER, DAVID O	266,490	174,356
891414430012	2209 COLLEGE ST	MOHAIR PEAR LTD	283,440	189,611
891414430013	2211 COLLEGE ST	EMAAD LLC	233,030	144,241
891414430015	2217 COLLEGE ST	EVELAND, JOHN	184,210	100,304
891414430016	2223 COLLEGE ST	SOUTHGATE PROPERTIES LC	500,650	385,099
891414430017	2225 COLLEGE ST	RODGERS, ROBERT	225,880	104,679
891414430018	2227 COLLEGE ST	TEAM INVESTMENTS LLC	573,110	394,843

891414430019	909 W 23RD ST	TEAM INVESTMENTS LLC	394,360	283,358
891414430020	911 W 23RD ST	TEAM INVESTMENTS LLC	159,010	132,476
891414430021	913 W 23RD ST	TEAM INVESTMENTS LLC	198,630	165,484
891414430023	1001 W 23RD ST	CEDAR CREST INVESTMENTS LC	277,210	169,481
891414430052	2215 COLLEGE ST APT A	CV COMMERCIAL LLC	321,580	258,615
891414430053	2215 COLLEGE ST APT B	CV COMMERCIAL LLC	361,980	291,104
891414430060	917 W 23RD ST APT A	CV COMMERCIAL 2 LLC	539,990	420,506
20 properties of 41 Signed up			\$ 14,746,340.00	10,502,199
			\$ 7,585,190.00	4,717,596
			51%	45%

Petition For Renewal of the  
College Hill Overlay Fund  
Self-Supported Municipal Improvement District ( SSMID)

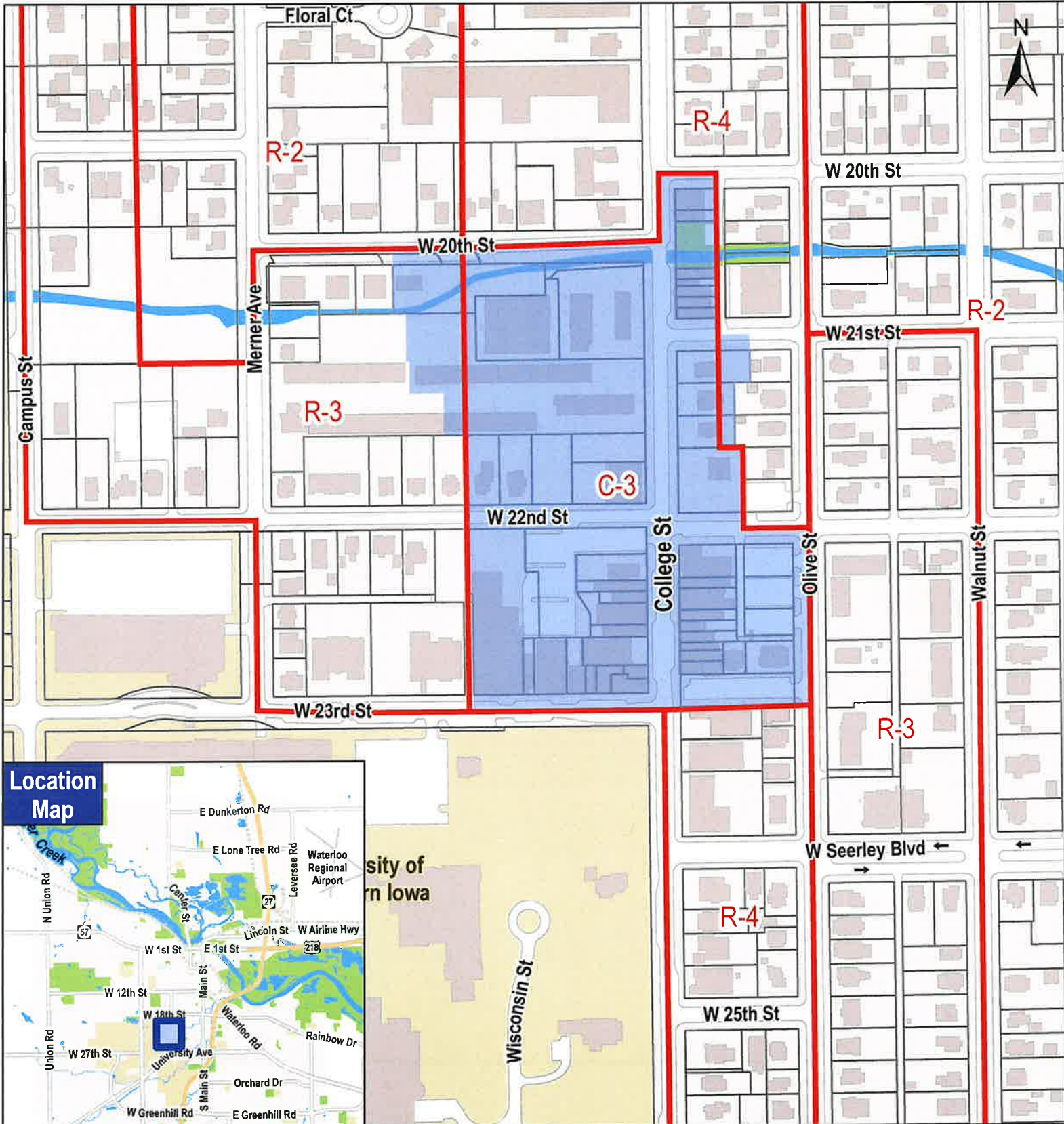
We, the undersigned, endorse renewing the Self-Supported Municipal Improvement District (SSMID) for the College Hill area in Cedar Falls. Said renewal will be established for the period commencing July 1, 2025 and ending June 30,2030. Said district will be taxed at a rate of not to exceed two dollars and seventy-five cents (\$2.75) per thousand dollars (\$1000.00) of taxable valuation of the real property included. Revenues generated from the district shall be used to fund the College Hill Revitalization through the College Hill Neighborhood Association D.B.A. College Hill Partnership. This petition shall be submitted to the City Clerk of the City of Cedar Falls, Iowa request that the district be continued.

Name	Address	Phone
1. Kyle Dehmlaw	2202 College Dt	319-415-3554
2. Kyle Dehmlaw	2208 College Dt	319-415-3554
3. <del>Robert</del> Robert #	2225 COLLEGE ST	319-273-8969
4. HEATH WILKEN	2216 College St (St. A+B)	319.610.3424
5. BARB SCHILF	2209 College St	319-290-3186
6. DAVID DEIBLER	2205 COLLEGE ST.	319 290 8716
7.		
8.		
9.		

- 10. Ryan J. Kruer 2016 College St 319-231-6585
- 11. Ryan J. Kruer 2022 College St ''
- 12. Ryan J. Kruer 2024 College St ''
- 13. Ryan J. Kruer 2020 College St ''
- 14. Ryan J. Kruer 917 W 23rd St ''
- 15. Ryan J. Kruer 2215 College St A ''
- 16. Ryan J. Kruer 2215 College St B ''
- 17. ~~Ryan J. Kruer~~ 2214 College St 319-505-3609
- 18. ~~Ryan J. Kruer~~ 2210 College St
- 19. ~~Ryan J. Kruer~~ 2119 College St
- 20. ~~Ryan J. Kruer~~ 1003 W 22nd St

# College Hill Self Supporting Municipal Improvement District (SSMID) Cedar Falls City Council - 2024

Item 4.



## Location Map



**College Hill SSMID  
Self Supporting Municipal  
Improvement District**

## DIVISION 3. - COLLEGE HILL SELF-SUPPORTED MUNICIPAL IMPROVEMENT DISTRICT

*Footnotes:*

— (12) —

**Editor's note**— Ord. No. 2960, adopted Jan. 20, 2020, repealed the former Div. 3, §§ 2-1085—2-1092, and enacted a new Div. 3 as set out herein. The former Div. 3 pertained to the same subject matter and derived from Code 2017, §§ 2-685—2-692; and Ord. No. 2838, §§ 1—8, adopted March 16, 2015.

## Sec. 2-1085. - Created; purpose.

There is hereby created in the city a self-supported municipal improvement district as defined in chapter 386 of the 2019 Code of Iowa (referred to in this article as "the Act"), the name of which district shall be the "College Hill Self-Supported Municipal Improvement District" (sometimes referred to in this article as the "district"), the purposes of which shall include those set forth in [section 2-1088](#).

(Ord. No. 2960, 1-20-2020)

## Sec. 2-1086. - Boundaries.

- (a) The proposed district includes contiguous property wholly within the boundaries of the City of Cedar Falls, and is comprised only of real property zoned for commercial or industrial uses, and property within any duly designated historic district, specifically excluding property zoned as residential property, unless the residential property is within a duly designated historic district. The proposed boundaries of the district are as follows: (All references to streets and street intersections refer to the center line or center point of the public right-of-way.)
- (b) That part of the Southeast Quarter of Section 14 and the Southwest Quarter of Section 13, Township 89 North, Range 14 West of Fifth P.M. in the City of Cedar Falls, Black Hawk County, Iowa. Beginning at the Southeast (SE) corner "Campus Addition Cedar Falls, Black Hawk County, Iowa", point also being the intersection of East (E) line of said addition and centerline of West Twenty-third Street; thence West along said centerline of West Twenty-third Street, to the East line of the West nine inches (9") of Lot 5, Campus Addition, extended South (S) to said centerline of West Twenty-third Street; thence North (N) along said extended East (E) to point on South (S) line of North 24.75 feet of said Lot 5, point being 57 feet West (W) of East line said Lot 5; thence deflect West to Southwest corner Lot 31 said Campus Addition; thence deflect North along East line of Lot 31 said Campus Addition to Southwest corner of Lot 1 of "Arthur P. Cotton's Addition Cedar Falls, Black Hawk County, Iowa"; thence deflect left to West line of Lot 1 Arthur P. Cotton's Addition; thence deflect North along said West line extended and continuing North along the West line of Lot 28 Arthur P. Cotton's Addition to Northwest corner said Lot 28; thence deflect West, along North line of Lot 27 Arthur P. Cotton's Addition to point 408.2 feet west of Southeast corner of Lot 43 of "Auditor Rainbow's Plat No. 3, Black Hawk County, Iowa"; thence deflecting North 86.2 feet as platted in said Auditor Rainbow's Plat No. 3; thence deflecting West 68.8 feet to point lying in Lot 41, which is 7 feet East of the West line of Lot 16 in "Sunnyside Addition Black Hawk County, Iowa"; thence deflecting North to point on South line Lot 16 Sunnyside Addition, 7 feet West of West line said Lot 16; thence West 7 feet to Southwest corner said lot 16; thence deflect North along West line said Lot 16 to point in said West line Lot 16, 100 feet South of Southerly right-of-way of West Twentieth Street; thence deflect West 25 feet to point in West line Lot 15, said Sunnyside Addition, 100 feet South of Southerly right-of-way of West Twentieth Street; thence deflect North 100 feet to Southerly right-of-way of West Twentieth Street; thence continue North on West line Lot 15 extended to center line of West Twentieth Street; thence deflect East along said centerline to its intersection with the centerline of College Street; thence deflecting North from said intersection North to intersection with the extended center line of West Twentieth Street as established through "Railroad Addition Black Hawk County, Iowa" and a portion of the unplatted Southwest Quarter of Section 13, Township 89 North, Range 14 West of Fifth P.M. in the City of Cedar Falls, Black Hawk County, Iowa lying East of the Easterly right-of-way of College Street; thence East along centerline of said Twentieth Street to point where the West line of Lot 8 of Block 13 Railroad Addition would intersect if extended North; thence deflect to the right along said extended West line of Lot 8 of Block 13 Railroad Addition continuing along West lines of Lots 5, 6, and 7, and the extension South of the West line of said Lot 5 to its intersection with centerline of Twenty-first Street; thence East on said centerline to a point which would intersect with the extension of said line, 82.5 feet West of the East line of Lot 1 of Block 36 Railroad Addition if extended North, point also being the North line said Block 36; thence continue South along said line 66 feet to North line of "Normal Plat Black Hawk County, Iowa"; thence deflect West along said North line Normal Plat to point 116 feet East of West line said Normal Plat (point also being the East right-of-way line of College Street); thence deflect South 132 feet to point on North line of Lot 3 Normal Plat which is 115.18 feet East of West line said Normal Plat (said West line also being the East right-of-way line

College Street); thence deflect East to point 132 feet more or less from West line said Normal Plat; thence deflect South to South line of Normal Plat (point also being North line of Twenty-second Street); thence continue South 33 feet to centerline of said Twenty-second Street; thence deflect East to centerline of Olive Street as laid out in "Normal Addition Black Hawk County, Iowa"; thence deflect South along centerline said Olive Street to point which would intersect the South line of vacated West Twenty-third Street, if extended East to centerline of Olive Street; thence deflect West along South right-of-way line of said Twenty-third Street to West line said Normal Plat (point also being the East right-of-way line of College Street); thence continue West along said extended right-of-way line to East line of Campus Addition; thence deflect South along said East addition line to Southeast corner Campus Addition the point of beginning.

(Ord. No. 2960, 1-20-2020)

Sec. 2-1087. - Findings.

It is found and determined that the above-described property meets the relationship and benefits requirements of chapter 386.3(1)(c) of the Act. Specifically, the district is to be comprised of property related in some manner, including, but not limited to, present or potential use, physical location, condition, relationship to an area, or relationship to present or potential commercial or other activity in an area, so as to be benefited in any manner, including, but not limited to, a benefit from present or potential use of enjoyment of the property, by the condition, development or maintenance of the district or of any improvement or self-liquidating improvement of the district, or be comprised of property the owners of which have a present or potential benefit from the condition, development or maintenance of the district or of any improvement or self-liquidating improvement of the district.

(Ord. No. 2960, 1-20-2020)

Sec. 2-1088. - Funding; purpose.

The purpose for the creation of the district and the imposition of a tax thereunder is to provide funding for the administrative expenses of the district to pay for the services of the College Hill Partnership, which develops and encourages retail businesses by way of promotion, development, growth, and organization, and which shall serve as an operation tax. Administrative expenses include, but are not limited to, administrative personnel salaries, a separate administrative office, planning costs including consultation fees, engineering fees, architectural fees, legal fees, and all other expenses reasonably associated with the administration of the district and the fulfilling of the purposes of the district. Parcels of property which are assessed as residential property for property tax purposes are exempt from the tax levied, except residential properties within a duly designated historic district.

(Ord. No. 2960, 1-20-2020)

Sec. 2-1089. - Tax levies.

- (a) The city is hereby authorized to levy taxes pursuant to section 386.8 of the Act for operations.
- (b) The maximum rate of tax to be imposed upon property in the District for operations shall be \$2.75 per \$1,000.00 of net taxable valuation per year, commencing with the levy for tax collection in the fiscal year beginning July 1, 2020, and continuing through fiscal year ending June 30, 2025. All monies collected pursuant thereto shall be deposited into the College Hill Self Supported Municipal Improvements District Fund, for the purposes outlined herein.

(Ord. No. 2960, 1-20-2020)

Sec. 2-1090. - Copies on file.

The city clerk shall cause a copy of the ordinance codified in this article to be filed in the Office of the Black Hawk County Recorder and in the Office of the Black Hawk County Treasurer.

(Ord. No. 2960, 1-20-2020)