



PLANNING AND ZONING COMMISSION TENTATIVE AGENDA

Wednesday, October 7, 2020
4:00 PM

Originating via Zoom From Story County Administration (900 6th Street) – Nevada, Iowa

SPECIAL NOTICE TO THE PUBLIC:

Due to recommendations to social distance in order to help slow the spread of the COVID-19 virus, the capacity of our meeting room is significantly limited. Therefore, public access to the meeting will be provided via Zoom. Members of the public can participate by using the information at bottom of agenda.

1. CALL TO ORDER; REGULARLY SCHEDULED COMMISSION MEETING
2. ROLL CALL/QUORUM DETERMINED
3. APPROVAL OF AGENDA
4. APPROVAL OF MINUTES

Documents:

[090220 MINUTES.PDF](#)

5. PUBLIC COMMENT

This is the time for members of the public to offer comments concerning matters not scheduled to be heard before the Planning and Zoning Commission.

6. PUBLIC HEARINGS

- 6.I. Discussion And Consideration Of CUP07-20 Cambridge Waste Water Outfall Pipe - Marcus Amman

Documents:

[STAFF REPORT.PDF](#)
[POWERPOINT.PDF](#)
[APPLICATION.PDF](#)
[AERIAL WITH STREAM LOCATION.PDF](#)
[NARRATIVE.PDF](#)

- 6.II. Discussion And Consideration Of REZ03-20 Key Cooperative Rezoning Amelia Schoeneman

Documents:

[STAFF REPORT.PDF](#)
[APPLICATION DOCUMENTS.PDF](#)

7. COMMENTS

Staff
Commission

8. ADJOURNMENT

9. INSTRUCTIONS TO PARTICIPATE IN ZOOM MEETINGS

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pwd=L3B5L2RNUzdsNjBldUtqV2R0UDdaZz09](https://us02web.zoom.us/j/7737180067?pwd=L3B5L2RNUzdsNjBldUtqV2R0UDdaZz09)**

Meeting ID: 773 718 0067

Passcode: 1DR5Wg

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- Audio recordings of all Board meetings will be posted on the [STORY COUNTY WEBSITE](#)
- How to Participate in Meeting Discussions
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- *Zoom video conferencing* – You can access the meeting by either clicking the link found on the agenda, or by opening the Zoom application and entering the meeting ID number on the agenda.
 - Meeting participants will be able to watch and hear the meeting as it takes place.
 - For portions of the meeting where public input is accepted, you will need to press the “unmute” button to speak, provide your name, address and your comments. Can also press the "raise hand button" to request to speak.
- *Zoom phone conferencing* – As an alternative to video conferencing, participants may call in to a phone conference using their touch-tone phone. Several call-in telephone numbers are provided on each meeting agenda. Unless otherwise indicated, the number is a long-distance phone number; charges may apply depending on your telephone provider.
 - Once you have dialed the telephone number provided, you will be

prompted to enter the Meeting ID number (found on the agenda). During the meeting, you will be able to hear the discussion live, but will not be able to see any content.

- For portions of the meeting where public input is accepted, you will need to "unmute" to speak, provide your name, address and your comments. Press *6 on phone to "unmute." Can also press *9 to "raise hand" to request to speak.

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**For further information on these cases, contact the Story County Planning and Development Department at PZWeb@storycounty.com or by phone at (515) 382-7245. Case Files, including exact property locations, may be inspected in the Story County Planning and Development Department located in the Story County Administration Building, 900 6th Street, Nevada, Iowa.

STORY COUNTY PLANNING AND DEVELOPMENT
STORY COUNTY ADMINISTRATION
900 6TH STREET
NEVADA, IOWA 50201-2087
515-382-7245



"Commitment, Vision, Balance"

**MINUTES
STORY COUNTY
PLANNING AND ZONING COMMISSION**

AN AUDIO RECORDING OF THE FULL MEETING MAY BE FOUND IN THE PLANNING AND DEVELOPMENT DEPARTMENT, OR BY VISITING WWW.STORYCOUNTYIOWA.GOV

DATE: September 2, 2020	Cheryl Moss (Zoom)	2020
	PJ McBride (Zoom)	2021
CALL TO ORDER: 4:01 PM	*Kathy Mens, Vice Chair (Zoom)	2022
PLACE: Zoom Meeting Originating	*Wendie Schneider	2023
From Administration Building	Ben Jensen (Zoom)	2020
	*Ray Lee	2023
	Dalton Johnston (Zoom)	2024
	*Absent	

Special Note: Due to recommendations to social distance in order to help slow the spread of the COVID-19 virus, public access to the meeting was provided via Zoom. Members of the public could participate by using the information at the end of the agenda.

STAFF PRESENT: Jerry Moore, Director; Amelia Schoeneman, Planner; Stephanie Jones, Recording Secretary

PUBLIC PRESENT: Rodney Osborne Jr, Michael Roth, Glen Anderson Jr, Ray Ringgenberg, Wayne Ruble

APPROVAL OF AGENDA (MCU)

Motion by McBride, Second by Jensen to approve agenda

APPROVAL OF MINUTES

August 5, 2020

Motion by McBride, Second by Jensen to approve the August 5, 2020 minutes.

Voting Aye: Moss, McBride, Jensen, Johnston

Voting Nay: None

Absent: None

PUBLIC COMMENTS: None

PUBLIC HEARINGS

REZ02-10 B&L Properties, LLC

Amelia Schoeneman presented the Staff Report. The request is for a Story County Zoning Map Amendment request from the C-LI Commercial/Light Industrial District with the condition that “the uses shall be limited to a warehouse for the storing and distribution of seed, research plots with an associated office building and commercial storage” to the C-LI Commercial/Light Industrial District, removing the use restrictions, the property is located at 11261 US Highway 69, Story City, Iowa (parcel number 01-10-200-275). The property will be the location of Maverick, Inc., which refurbishes and sells Ditch Witch trenchers and directional drills, reel trailers, and tile locators. The subject property was zoned to a commercial district with a condition limiting principal permitted uses in 1994. The proposed rezoning is consistent with the C2C plan, which identifies the area as part of Story City’s Urban Expansion Area. The City had no concerns other than ensuring that the outdoor display area of products for sale is kept neat. Staff recommends approval of the request.

MOTION: The Story County Planning and Zoning Commission recommends approval of the proposed Story County Zoning Map Amendment from the C-LI Commercial/Light Industrial District with the condition that “the uses shall be limited to a warehouse for the storing and distribution of seed, research plots with an associated office building and commercial storage” to the C-LI Commercial/Light Industrial District with no use restrictions for the property located at 11261 US Highway 69, Story City, Iowa (parcel number 01-10-200-275) as put forth in case REZ02-20.

Motion: Johnston

Second: McBride

Voting Aye: Johnston, McBride, Moss, Jensen

Voting Nay: None

Absent: Mens, Schneider, Lee

(4-0)

CUP06-20 Nevada Wastewater Treatment Facility

1. Amelia Schoeneman presented the Staff Report. The request is for a conditional use permit for a new Wastewater Treatment Facility and preliminary interceptor sanitary sewer alignment for the City of Nevada, proposed to be located on parcel 11-31-200-305, on the south side of 270th Street and west of West Indian Creek. The new facility will replace the existing facility, located at 457 S 6th Street, Nevada. The existing wastewater treatment facility is approximately 60 years old. It does not have the capacity to support the population growth of the City of Nevada or the expansion of Burke Corporation. The applicant stated that the facility is “not readily amenable to be modified to provide additional effluent disinfection and nutrient removal requirements” and could not meet separation requirements from inhabitable buildings. The proposed facility will provide a higher level of treatment than the existing facility. An interceptor sewer is proposed between the existing Wastewater Treatment Facility and the new location—a lift station and force main are proposed to pump effluent from the existing facility to the proposed facility along Country Road S-14 (620th Avenue). The project will be completed in multiple phases with final completion by November 2023. Planning and Development staff recommend that the

Planning and Zoning Commission recommend approval of the conditional use permit with conditions:

1. A stormwater management plan meeting the requirements in Section 88.05 of the Story County Land Development regulations shall be submitted with the zoning permits for the facility.
2. Upon completion of the property value study, if the consultant finds property values will be negatively impacted, the permit is brought back to the Board of Adjustment for consideration and the applicant presents options to address any negative findings.
3. The applicant shall work with County Conservation on native landscaping to ensure compatibility with the Jennette Heritage Area and to develop a management plan to maintain the site in functional native environmental systems.
4. Planning and Development staff shall inspect all site, building, and other waste water treatment plant improvements during the construction phase of the project.

Cheryl Moss asked staff about the property value study and what would occur if the property value study was not completed until construction had begun. Schoeneman stated that the applicant anticipates the study will be completed by late September or early October. Grading work is proposed to begin in November.

Michael Crow, who owns a lot to the east of the proposed wastewater treatment facility, expressed concerns about the location as he would like to construct a dwelling on his property in the future. Crow also had concerns about the notice, which was mailed August 27, due to mail delays. He received the notice on August 31. Crow asked about the possibility of paving 270th to reduce dust and asked if there was a comparative study between the odor from the existing facility and the proposed facility. He noted he hadn't noticed an odor from the existing facility when he lived in Nevada several decades ago. Schoeneman addressed the question on road paving. The County Engineer reviewed the proposed traffic volumes and had no concerns about the impact on the County road condition. Staff is not aware of any paving plans for 270th Street, the typical daily traffic will be 24 trips—when sludge is being applied annually, there will be 84 trips a day for a three-week period.

Moss asked if dust control had been considered. Schoeneman stated that they had asked the applicant about their dust control plans. Michael Roth, HR Green, spoke on behalf of the City of Nevada as the applicant and noted that if dust control was required during the sludge application period, it would be part of the contract for that work. Roth also noted that the city will be using the same sludge application sites as it does presently and using the same haul routes. Crow asked if the traffic generated by the land application of sludge would be east- or west-bound. Roth indicated that it would mostly be west-bound given the grade and bridge to the east on 270th. Roth indicated that the project was reviewed by the County Engineer and paving the County road isn't a requirement. Roth also answered the question about the odor study. An odor study has not been completed. However, HR Green has done work at the existing facility, and based on their knowledge from that work, there are no known odor complaints. The processes to be used in the proposed facility are not the same at the existing facility and have a very lower odor generation potential. They do not anticipate odor in excess of the existing facility.

Stephanie Jones, Recording Secretary, noted that one member of the public had been trying to

get into the meeting but had called the Board of Adjustment Zoom number instead of the Planning and Zoning Commission number. Amelia Schoeneman, Planner, was working to conference them into the meeting.

Robert Ringgenberg was conferenced into the meeting. His family owns the property to the north of the proposed facility. He stated that he was unable to connect to the Zoom meeting. He asked if the interceptor sewer would be in the road right-of-way. Schoeneman stated it would be, however, northeast of the intersection of S-14 and 270th, the sewer was proposed to cross onto private property. Roth stated that the trunk sewer would begin a half mile south of Highway 30 and continue in the right-of-way of S-14 until a half-mile north of 270th. The trunk sewer will either be on the east or west right-of-way of S-14, as needed to avoid utility conflict. Half of a mile north of 270th Street, the sewer is proposed to be routed to the east through private property for a half-mile. The sewer will then extend south to the proposed facility. The use of private property is needed due to the topography of 270th Street. The grade rises at the intersection and the sewer line would be required to be too deep for maintenance and require a very large open-cut installation. Ringgenberg asked if there would be a manhole every 400 feet when the sewer was not adjacent to a road. Roth stated that because it was a larger sewer, the Iowa DNR would allow up to 800-foot spacing between manholes. Ringgenberg asked if the sewer would run on the property line. Roth confirmed that was the intent. Ringgenberg asked where the dirt would be located when the sewer was being constructed. Roth stated that they would acquire temporary easements with property owners to allow material to be stored on their properties. Ringgenberg asked how wide the easement would be. Roth stated they did not have a width identified for the temporary construction easements. Roth stated that the preliminary layout of the sewer shows it on the west side of S-14 prior to crossing the road on to private property. Ringgenberg stated that the west side had four building sites (dwellings) in the last mile and a half. Roth stated that the dwellings may result in a change in the route. Ringgenberg asked if the public hearing was legal as it was limited to 10 people and Zoom was unavailable. Jerry Moore, Planning and Development Director, stated that conference calls and Zoom had been used for all public meetings and hearings since March as part of the County's response to the COVID-19 pandemic. Further, the public can submit letters, emails, and meet staff outside the building to make a comment. Moore stated he had several phone conversations with Ringgenberg about the City's proposal. Ringgenberg felt that Zoom was unavailable and he had tried to connect numerous times and received a message that the meeting had not started.

Staff clarified that Zoom was available and being used for the public hearing, however, it appeared some callers had called the Board of Adjustment Zoom number instead of the Planning and Zoning Commission number. Further, the limit of 10 people is on the public meeting room in the Story County Administration Building to adhere to social distancing guidelines to limit the spread of COVID-19, not on the number of participants in the Zoom call. The public meeting room was not being used for the meeting and the building is not open to the public due to COVID-19.

MOTION: 2) The Story County Planning and Zoning Commission recommends approval of the Conditional Use Permit for the City of Nevada Wastewater Treatment Facility as put forth in case CUP06-20, with the above conditions, and directs staff to place the case on the Board of Adjustment agenda.

2. A stormwater management plan meeting the requirements in Section 88.05 of the Story County Land Development regulations shall be submitted with the zoning permits for the facility.
3. Upon completion of the property value study, if the consultant finds property values will be negatively impacted, the permit is brought back to the Board of Adjustment for consideration and the applicant presents options to address any negative findings.
4. The applicant shall work with County Conservation on native landscaping to ensure compatibility with the Jennette Heritage Area and to develop a management plan to maintain the site in functional native environmental systems.
5. Planning and Development staff shall inspect all site, building, and other waste water treatment plant improvements during the construction phase of the project.

Motion: McBride

Second: Johnston

Voting Aye: McBride, Johnston, Jensen, Moss

Voting Nay: None

Absent: Mens, Schneider, Lee

(4-0)

COMMENTS

Staff: Jerry thanked the new Commission members for joining us on short notice. Moore stated that prior to the October meeting there will be an orientation provided for the new members, as well as an opportunity for planning and zoning training through the Iowa State University Extension.

COMMISSION: Ben Jensen and Dalton Johnston introduced themselves and provided background information. McBride stated that she would recommend the new commissioners take the ISU Extension Planning and Zoning training.

ADJOURNMENT: 5:32 PM

Approval of Minutes

Title and Date

Staff Report

Story County

Planning and Zoning Commission

Date of Meeting:
October 7, 2020

Case Number CUP07-20

Cambridge Waste Water Outfall Pipe

APPLICANT: Steve Van Dyke/City of Cambridge
225 S Water Street
Cambridge, IA 50046

STAFF PROJECT MANAGER: Marcus Amman, Planner

SUMMARY: The City of Cambridge is proposing the construction of a new waste water outfall pipe from their existing lagoon system. The current outfall pipe does not meet the distance requirements for ammonia and E. Coli mixing measurements. The proposed outfall pipe would allow for the city to meet IDNR ammonia and E. Coli mixing requirements at a distance of 2,000 feet from the closest creek. The proposed pipe will be directionally bored to the new outlet location on the south side of the Heart of Iowa bridge that goes over the South Skunk River on property owned by Story County Conservation. Planning and Development Staff are recommending that the Story County Planning and Zoning Commission approves the Conditional Use Permit with a condition.





Property Information

PROPERTY OWNERS

Story Country
Story County Conservation Board
56269 180th ST
Ames, IA 50010

GENERAL PROPERTY LOCATION

Section: 22 Township: 82 Range: 23 SW SW

SITE ADDRESS

East of Center Street
Cambridge, IA 50046

PARCEL IDENTIFICATION NUMBER(S)

14-22-300-600 28.79-Gross Acres

CURRENT ZONING

A-1, Agricultural District

CURRENT LAND USE

The current land use at the proposed site is agricultural conservation and is part of the Heart of Iowa Trail. The property is mainly surrounded by agricultural uses to the south and east. Directly west of this parcel, is another parcel owned by Story County and is also part of the Heart of Iowa Trail. The parcel to the north contains the Cambridge Waste Water treatment plant that the outfall pipe will transport treated water from to the South Skunk River.

FUTURE LAND USE MAP DESIGNATION

Agricultural Conservation

CITIES WITHIN TWO MILES

Cambridge

Floodplain

Yes, applicant will need a county Floodplain Permit to construct the proposed outfall pipe in the flood plain.

The following items were submitted by the applicant: CUP Application, Site Plan, narrative describing need of the outfall pipe, proposed specifications, and responses to County Staff review comments.

Background

This Conditional Use Permit addresses a proposed new 18" outfall pipe for the City of Cambridge wastewater lagoon system. The City of Cambridge, Iowa operates a continuous discharge aerated lagoon wastewater treatment facility. This system treats sewage from Cambridge, primarily



originating from domestic sources. In addition, the system also treats “Inflow and Infiltration (I&I)”, which is essentially non-sewage water that leaks into the sanitary collection system from leaky pipes, surface drain connections, sump pump connections and other sources. The aerated lagoon type of treatment employed at Cambridge has no issues handling the additional flow from these I&I sources, so this is not considered to a significant problem.

With the aerated lagoon type of treatment system, wastewater is treated over a long period of time in very large earthen lagoons. Aeration is provided by mechanical blowers and a network of diffusers on the bottom of the lagoons. The aeration helps to mix the contents of the lagoons and provides oxygen to the micro-organisms that break down the waste thereby cleaning the water. After treatment, the cleaned effluent is discharged to the South Skunk River via an existing outfall pipe.

The treatment system is located on the east side of town near the South Skunk River. The original wastewater system, including collection system and controlled discharge lagoons, were constructed in the early 1970’s. One of the two original lagoons was converted to a three cell aerated lagoon in 2002. Since that time, the treatment system has performed very well; reliably and consistently meeting the effluent limitations established in the discharge permit issued by Iowa Department of Natural Resources (IDNR), according to the City’s engineering consultant Fox Engineering.

The plant was not designed to meet any specific effluent ammonia limitations. The purpose of this project is to make improvements to the wastewater treatment facilities to enhance their reliability, increase capacity, to adequately treat for Ammonia and E. Coli in order to safely and reliably operate the City of Cambridge’s wastewater system for the next 20 years. Four different options were considered for this project, with the outfall pipe being the most cost effective option for the City of Cambridge. An easement of approximately 6,500 sqft for this project has been granted from Story County Conservation and was recorded on 06/29/2020. The total estimated area that will be disturbed for construction of the outfall sewer is 0.58 acres, which is approximately 2% of the 28.79 parcel area. . The proposal is set to impact 2% of the natural area of the parcel, below the 15% threshold that would require any mitigation per the Story County Land Development Regulation.

Positive environmental effects will be improved treatment of the wastewater from the City of Cambridge, compliance with effluent discharge permit limits, reduced discharge of the pollutants ammonia and E. coli to the receiving stream, and improved water quality in the receiving stream.

The City of Cambridge did not receive a letter that initiated the need for this project. Their existing NPDES stated that there were new requirements that were not in place previously. IDNR issues wastewater dischargers like Cambridge updated NPDES permits approximately every five years. When Cambridge’s permit was renewed in 2014, it included new ammonia limits and disinfection limits that their earlier permits did not have. This new permit initiated the need for this project.

Moving forward, the procedure and schedule for compliance with the IDNR requirements will be:

1. Complete construction of the project.
2. Complete an "in field" stream mixing zone study to document how well the effluent mixes with the river.
3. IDNR reviews and approves the mixing study report.
4. IDNR completes a new Waste Load Allocation (WLA) based on the mixing zone study results. The WLA will identify the ammonia limits needed to protect aquatic life in the river.



5. IDNR issues a new NPDES discharge permit to Cambridge with the new ammonia limits (which are set by the WLA).
6. For the life of the facility, the City is required to test the effluent weekly and report the results to IDNR monthly in order to document compliance with the NPDES permit requirements.

Bulk Standards

The outfall pipe will be directionally bored southeast of the waste water lagoon system. The proposed outfall pipe is unlikely to be seen by anyone not on the South Skunk River. The purpose of this outfall pipe is to allow for the Cambridge waste water treatment facility to meet the DNR requirements for ammonia and E. Coli. The existing outfall pipe does not allow for the proper distance for the treated water to mix with the river due to the location of the existing perennial creek. The distance from the injection of the treated water to where the measurements are taken is 2,000 feet, unless another body of water joins the river. There is a perennial stream within 500 feet of the existing outfall pipe. This does not allow for enough mixing distance to meet the DNR ammonia and E. Coli requirements.

The property is located just southeast of the City of Cambridge limits, adjacent to the parcels that contain the waste water lagoon system. The property on which the proposed outfall pipe is to be constructed is 28.79 gross acres and owned by the Story County Conservation Board. The parcel to the south is in agricultural production and is 21.23 acres. The floodplain encompasses the proposed parcel, the parcel to the south, and the waste water lagoon system.

The proposed outfall pipe is slated to have the design completed in October of 2020. The project would go for public bidding in December of 2020. Construction would be slated to occur between March and December of 2021. The actual construction of the project is slated for four weeks. This timeline allows for the contractor's schedule as well as weather conditions to be taken into account.

Compatibility

The new 18" outfall pipe will be compatible with the development and use of adjacent properties. Because it is in the floodplain, future development of any adjacent areas is extremely unlikely. Wastewater treatment effluent is normally discharged into nearby streams or rivers as proposed with this project, so this is considered to be a normal feature along waterways. Access to the area is very limited to the public, so the improvements are expected to be relatively unnoticed when complete. The new outfall sewer will be buried. For the most part, it will not be noticeable after construction is complete. The only evidence of its existence from ground surface will be the three buried manholes and the outlet headwall structure. The manholes will be four feet inside diameter and constructed of precast concrete per SUDAS standards. Each manhole will have a 26-inch diameter cast iron cover, which is typical for municipal sewer construction. Each cover will be bolted down to prevent removal or blow off during a flood event, and each will be installed with the top flush with ground surface. The small outlet headwall structure will be constructed of cast in place concrete as shown in the drawings.

Transition

The proposed outfall pipe is being directionally bored below ground. No transition is proposed or needed. No buffering is needed.



Traffic

It is anticipated that Cambridge Staff will access the outfall site approximately one time per year on foot (no vehicles) to observe the headwall structure and check for damage or erosion concerns. Access would be via the existing permanent easement. No other access requirements are anticipated. The Heart of Iowa Trail will not be impacted by construction of the project.

Parking

During the construction of the outfall pipe, parking will take place on the subject property using existing access points to the property. No parking or equipment storage will take place in the right of way. No new parking or loading is proposed for this project.

Lighting

There are no signs or lighting is proposed.

Environmental Protection

The project will provide improved conditions from an environmental protection standpoint for safe recreational use of the river, with improved treatment and disinfection of the wastewater. The completed project will have no negative impacts on noise, vibration, dust, smoke, fumes, odor, glare, groundwater pollution or other undesirable, hazardous or nuisance conditions, including weeds. The total estimated area that will be disturbed for construction of the outfall sewer is 0.58 acres, which is approximately 2% of the 28.79 parcel area. Because the total estimated disturbed area for construction of the project is less than one acre, an NPDES General Permit No. 2 for Storm Water Discharge Associated with Industrial Activity or Construction Activities is not required. The Story County erosion control requirements of 88.05 (4) will be followed.

Proposed Outfall Pipe

Throughout construction and after, no significant environmental impacts are expected. This proposed outfall pipe is not anticipated to impact the supply or quality of light or air to the surrounding properties as it will be below grade. The outfall pipe is also not anticipated to impact any property values in the area and will not be seen except for where the pipe meets the river. The proposed site is located in a floodplain.

Analysis

A. **Applicable Regulations:** Chapter 90.04: Standards for Approval

The Planning and Zoning Commission shall review the proposed development for conformance to the following development criteria:

1. **Compatibility.** The proposed buildings or use shall be constructed, arranged and operated so as to be compatible with the character of the zoning district and immediate vicinity, and



not to interfere with the development and use of adjacent property in accordance with the applicable district regulations. The proposed development shall not be unsightly, obnoxious, nor offensive in appearance to abutting or nearby properties.

Applicant Comment: The new 18" outfall pipe will be compatible with the development and use of adjacent properties. Because it is in the floodplain, future development of any adjacent areas is extremely unlikely. Wastewater treatment effluent is normally discharged into nearby streams or rivers as proposed with this project, so this is considered to be a normal feature along waterways. Access to the area is very limited to the public, so the improvements are expected to be relatively unnoticed when complete. The new outfall sewer will be buried. For the most part, it will not be noticeable after construction is complete. The only evidence of its existence from ground surface will be the three buried manholes and the outlet headwall structure. The manholes will be four feet inside diameter and constructed of precast concrete per SUDAS standards. Each manhole will have a 26-inch diameter cast iron cover, which is typical for municipal sewer construction. Each cover will be bolted down to prevent removal or blow off during a flood event, and each will be installed with the top flush with ground surface. The small outlet headwall structure will be constructed of cast in place concrete as shown in the drawings.

Staff Comment: Wastewater treatment facilities are a conditional use in the A-1 District. The requirement for a conditional use permit is based on the provision of Chapter 90 Table 90-1 of the Story County Code of Ordinances. Wastewater treatment facilities do not have supplemental standards. The property on which the proposed structure is to be constructed is 28.79-gross acre parcel owned by the Story County Conservation Board with the existing Heart of Iowa Trail on it. The property is located just outside of the City of Cambridge limits, adjacent to the parcels that contain the waste water lagoon system. The parcel to the south is in agricultural production and is 21.23 acres. The floodplain encompasses the proposed parcel, the parcel to the south, and the waste water lagoon system. The proposed outfall pipe will not be seen unless on the river.

2. **Transition.** The development shall provide for a suitable transition, and if necessary, buffer between the proposed buildings or use and surrounding properties.

Applicant Comment: There are no proposed buildings or surrounding properties that will be impacted by the improvements.

Staff Comment: The proposed outfall pipe is being directionally bored below ground. No transition is proposed or needed. No buffering is needed.

3. **Traffic.** The development shall provide for adequate ingress and egress, with particular attention to vehicular and pedestrian safety and convenience, traffic flow and control, and emergency access.

Applicant Comment: It is anticipated that Cambridge Staff will access the outfall site approximately one time per year on foot (no vehicles) to observe the headwall structure and check for damage or erosion concerns. Access would be via the existing permanent easement. No other access requirements are anticipated. The Heart of Iowa Trail will not be impacted by construction of the project.



Staff Comment: The traffic impact of the proposed structure is expected to be minimal. There is no proposed increase of traffic as a part of this new outfall pipe. The Heart of Iowa Trail is not going to be impacted.

- 4. Parking and Loading.** The development shall provide all off-street parking and loading areas as required by this Ordinance, and adequate service entrances and areas. Appropriate screening shall be provided around parking and service areas to minimize visual impacts, glare from headlights, noise, fumes or other detrimental impacts.

Applicant Comment: There will be no parking or loading requirements associated with this project.

Staff Comment: During the construction of the outfall pipe, parking will take place on the subject property using existing access points to the property. No parking or equipment storage will take place in the right of way. No new parking or loading is proposed for this project.

- 5. Signs and Lighting.** Permitted signage shall be in accordance with the applicable district regulations and shall be compatible with the immediate vicinity. Exterior lighting, if provided, shall be with consideration given to glare, traffic safety and compatibility with property in the immediate vicinity.

Applicant Comment: There are no signs or lighting required or planned for this project.

Staff Comment: There are no signs or lighting is proposed.

- 6. Environmental Protection.** The development shall be planned and operated in such a manner that will safeguard environmental and visual resources. The development shall not generate excessive noise, vibration, dust, smoke, fumes, odor, glare, groundwater pollution or other undesirable, hazardous or nuisance conditions, including weeds.

Applicant Comment: The project will provide improved conditions from an environmental protection standpoint for safe recreational use of the river, with improved treatment and disinfection of the wastewater. The completed project will have no negative impacts on noise, vibration, dust, smoke, fumes, odor, glare, groundwater pollution or other undesirable, hazardous or nuisance conditions, including weeds. The total estimated area that will be disturbed for construction of the outfall sewer is 0.58 acres, which is approximately 2% of the 28.79 parcel area. Because the total estimated disturbed area for construction of the project is less than one acre, an NPDES General Permit No. 2 for Storm Water Discharge Associated with Industrial Activity or Construction Activities is not required. The Story County erosion control requirements of 88.05 (4) will be followed.

Positive environmental effects will be improved treatment of the wastewater from the City of Cambridge, compliance with effluent discharge permit limits, reduced discharge of the pollutants ammonia and E. coli to the receiving stream, and improved water quality in the receiving stream.



Staff Comment: No vibration, dust, smoke, fumes, odor, glare, groundwater pollution or other undesirable, hazardous or nuisance conditions, including weeds, are anticipated. The proposal is set to impact 2% of the natural area of the parcel, below the 15% threshold that would require any mitigation per the Story County Land Development Regulation.

If the Board concludes that all the above development criteria will be met, it must recommend approval of the application unless it concludes that, if completed as proposed, there is a strong probability the development will:

- 1. Not adequately safeguard the health, safety and general welfare of persons residing or working in adjoining or surrounding property.**

Staff Comment: The proposed outfall pipe will be over 150 feet from the north property line, with all other distances being greater. The proposed outfall pipe has a flap gate where the waste water will meet the river to protect from flood waters backing into the system or animals getting into the system. The outfall pipe will allow for the city to meet the IDNR ammonia and E. Coli requirements and continue to operate.

- 2. Impair an adequate supply (including quality) of light and air to surrounding properties.**

Staff Comment: The proposed outfall pipe will be below grade.

- 3. Unduly increase congestion in the roads, or the hazard from fire, flood, or similar dangers.**

Staff Comment: No traffic impacts are expected from this project. No increase to hazards are expected.

- 4. Diminish or impair established property values on adjoining or surrounding property.**

Staff Comment: The Story County Assessor's Office raised no concerns with this item from the review of the requested Conditional Use Permit application. No impacts on property values are anticipated.

- 5. Not be in accord with the intent, purpose and spirit of the Land Development Regulations or County Cornerstone to Capstone (C2C) Plan.**

Staff Comment: The C2C plan is oriented toward preserving the county's rural character and high value agricultural land, protecting environmentally-sensitive areas, and identifying areas for future growth and development. The proposed outfall pipe will help the city be able to meet the IDNR requirements and allow for more waste water to be treated.

B. Burden of Persuasion.



1. **The burden of persuasion as to whether the development, if completed as proposed, will comply with the requirements of this Chapter is at all times on the applicant.**
2. **The burden of presenting evidence to the Board of Adjustment sufficient enough for it to conclude that the application does not comply with the requirements of this Chapter is upon the person or persons recommending such a conclusion, unless the information presented by the applicant warrants such a conclusion.**

Commentary

The following comments are part of the official record of the proposed **City of Cambridge Wastewater Outfall Pipe CUP07-20**. If necessary, conditions of approval may be formulated based off these comments.

Conceptual Review – September 17, 2020

Comments from the Assessor’s Office

No comment

Comments from the Auditor’s Office

No comment

Comments from the Engineer’s Office

No comment

Comments from the Emergency Management’s Office

No comment

Comments from the Interagency Review Team and applicant responses:

Planning and Development

1. For the Conditional Use Permit Application submittal, please provide written responses to each item in Ch. 90.04 Standards of Approval. *Provided*
2. Please confirm that on the proposed outfall pipe is planned to be located in unincorporated Story County. *Yes*
3. Please provide details about what will be treated, the treatment method and process, explain the quality of water discharged, impacts to South Skunk River, and IDNR requirements. *Provided*
4. Explain the high I/I flows identified in the narrative and will any of the proposed work effect this? *Project will not effect I/I*
5. Explain further about the A1, B(WW-2) stream designation and how the “mixing zone” area where the outfall pipe is planned will impact the stream.
 - i. *B(WW-2) - Waters in which flow or other physical characteristics are capable of supporting a resident aquatic community that includes a variety of native nongame fish and invertebrate species. The flow and other physical characteristics limit the maintenance of warm water game fish populations. These waters generally consist of small perennially flowing streams.*
 - ii. *A1 - Waters in which recreational or other uses may result in prolonged and direct contact with the water, involving considerable risk of ingesting water in quantities sufficient to pose a health hazard. Such activities would include, but*



not be limited to, swimming, diving, water skiing, and water contact recreational canoeing.

6. Has annexation of the proposed work area been discussed with the City of Cambridge and Story County Conservation? *No, Story County Conservation is not in support of annexing the parcel into the City of Cambridge.*
7. When would work commence? *March-December 2021*
8. How long will the project take? *4 weeks*
9. Will the Heart of Iowa Trail be impacted during construction? If so is there a proposed detour? *Not being impacted.*
10. A Floodplain Permit will be required for the proposed work. Conditions of the U.S. Army Corps of Engineers and Iowa Department of Natural Resources including providing a No Rise Certificate from an Iowa Licensed Engineer will be required. Understood Also please comply with Chapter 80 Story County Flood Plain Management Program. Specifically Ch 80.12 (3) A. No use shall cause any increase in the one percent annual chance or greater flood level... C. No use shall affect the capacity of conveyance of the channel or floodway of any tributary to the main stream, drainage ditch or any other drainage facility or system. D. Utilities if permitted, shall meet the applicable development standards of the Floodway Fringe District and shall be constructed or aligned to present the minimum possible resistance to flood flows. Ch 80.13 (3) F Waste Water treatment facilities shall be provided with a level of flood protection equal to or greater than three (3) feet above the one percent annual chance or greater flood elevation. The base flood elevation near the proposed outfall pipe is 851'. Will the manhole covers be flush with the grade and water tight seals to protect against inundation of flood water? Flap gate information provided.
11. What is the annual expected maintenance to the outflow pipe? *Once a year*
12. Will you obtain an NPDES permit for the construction or will the proposed project be covered under the existing NPDES permit? Please provide a copy of the permit. Otherwise, Story County has requirements for erosion control for areas less than one acre disturbed found in Chapter 88.05 (4). *New NPDES is not required, will follow county requirements.*
13. The proposed construction area is in the Natural Resource Area. If over 15% of the natural areas are disturbed, mitigation requirements in Chapter 88.05 apply. Please confirm construction of the outflow pipe route will be directional bored in lieu of open trench. *Directional bored, little impact expected to natural resource area*
14. What is the estimated amount of natural areas to be disturbed? *2%*
15. Is there any other improvements to the water treatment plat planned in the next five years? If so what are they? *No improvements are planned.*
16. The CUP application submittal will be reviewed by County staff, the Planning and the Zoning Commission will make a recommendation to the Board of Adjustment at public meetings. The deadline for a CUP submittal for the October 7, 2020 Planning and Zoning Meeting is September 21, 2020. The Board of Adjustment would act on the CUP at their October 21, 2020 meeting.



Public notices were mailed to adjacent property owners within ¼ mile of the proposed site on September 30th, 2020.

Comments from the General Public:

As of the writing of this staff report there were no comments from the public.

Points to Consider for the Conditional Use Permit Request

1. Applicant addressed the need for the proposed outfall pipe. The purpose of the project is to make improvements to the wastewater treatment facilities to enhance their reliability, increase capacity, and to adequately treat for Ammonia and E. Coli in order to safely and reliably operate the City of Cambridge's wastewater system for the next 20 years.
2. The outfall pipe will allow the City of Cambridge to meet IDNR requirements.
3. The outfall pipe will be buried, the only portion that will be visible is where the pipe meets the river.
4. An easement has been granted for construction and maintenance of the outfall pipe by Story County Conservation to the City of Cambridge.
5. There is no traffic anticipated for this project.
6. No impacts to the Heart of Iowa Trail are anticipated.
7. No environmental impacts are expected.

Conditions of Approval

Chapter 90.05: Recommendations on Applications

Staff Recommendation:

Story County Planning and Development Staff Recommends approval of the Conditional Use Permit for the City of Cambridge Wastewater Outfall Pipe CUP07-20 with the following condition:

- **The applicant shall provide ammonia and E. coli mixing study results to the Planning and Development Department after construction and mixing study is completed.**

Alternatives

The Story County Planning and Zoning Commission may consider the following alternatives:

- 1) The Story County-Planning and Zoning Commission approves the Conditional Use Permit for the City of Cambridge Wastewater Outfall Pipe CUP07-20, as submitted.
- 2) **The Story County Planning and Zoning Commission approves the Conditional Use Permit for the City of Cambridge Wastewater Outfall Pipe CUP07-20, with conditions.**
- 3) The Story County Planning and Zoning Commission denies the Conditional Use Permit for the City of Cambridge Wastewater Outfall Pipe CUP07-20.



- 4) The Story County Planning and Zoning Commission remands the Conditional Use Permit for the City of Cambridge Wastewater Outfall Pipe CUP07-20, back to the applicant for further review and/or modifications, and directs staff to place this item on a future Story County Planning and Zoning Commission agenda.



Planning and Zoning Commission

October 7th, 2020

CUP02-90.8 Martin Marietta Wheel Wash Stations

Applicant

City of Cambridge

Steve Van Dyke Fox Engineering

Property Location

East of Center Street

Cambridge, IA 50046

14-22-300-600

Property Owner

Story County Conservation

Districts

A-1 Agriculture

Cambridge Fire

Story County Ambulance

Story County Sheriff

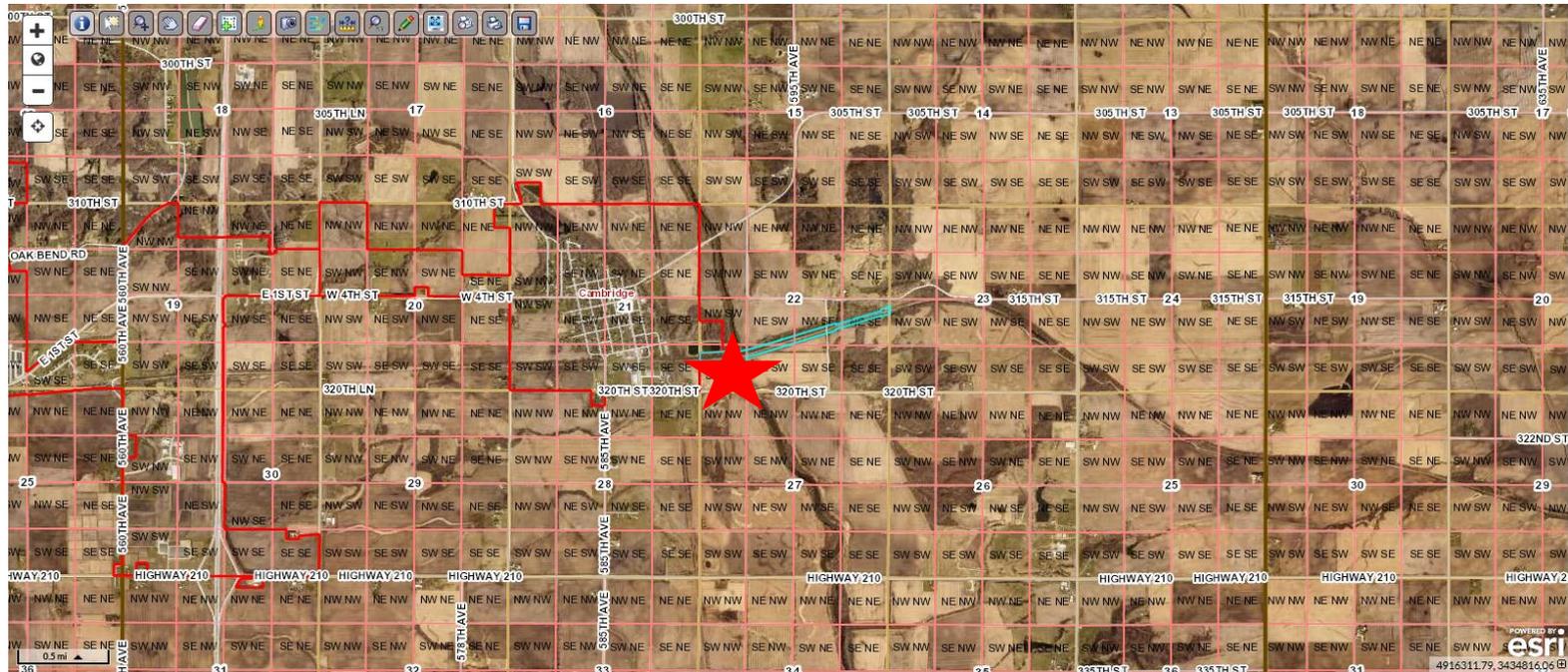
Nature of Request

- **New Conditional Use Permit Application**
- **Request includes:**
 - Proposed treated waste water outfall pipe

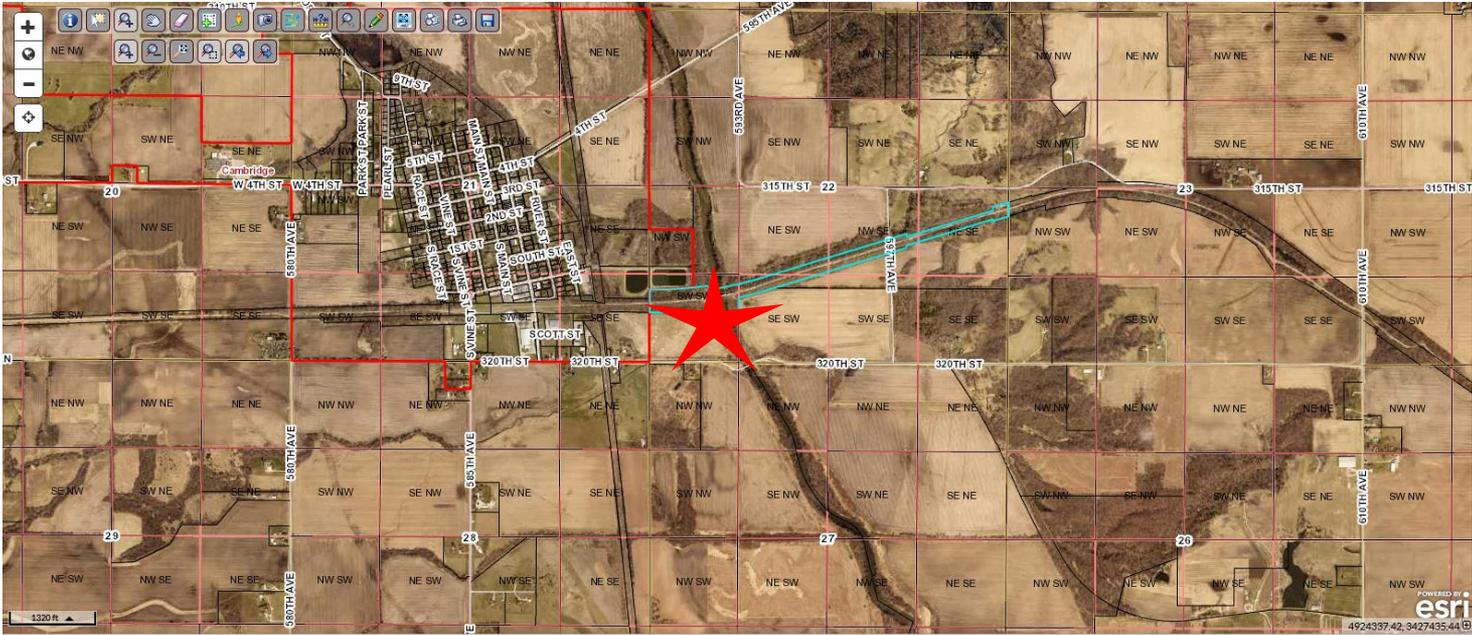
History

The City of Cambridge is proposing the construction of a new waste water outfall pipe from their existing lagoon system. The current outfall pipe does not meet the distance requirements for ammonia and E. Coli mixing measurements. The proposed outfall pipe would allow for the city to meet IDNR ammonia and E. Coli mixing requirements at a distance of 2,000 feet from the closest creek. The proposed pipe will be directionally bored to the new outlet location on the south side of the Heart of Iowa bridge that goes over the South Skunk River on property owned by Story County Conservation. Planning and Development Staff are recommending that the Story County Planning and Zoning Commission approves the Conditional Use Permit with a condition.

Vicinity Map



Proposed Site Location

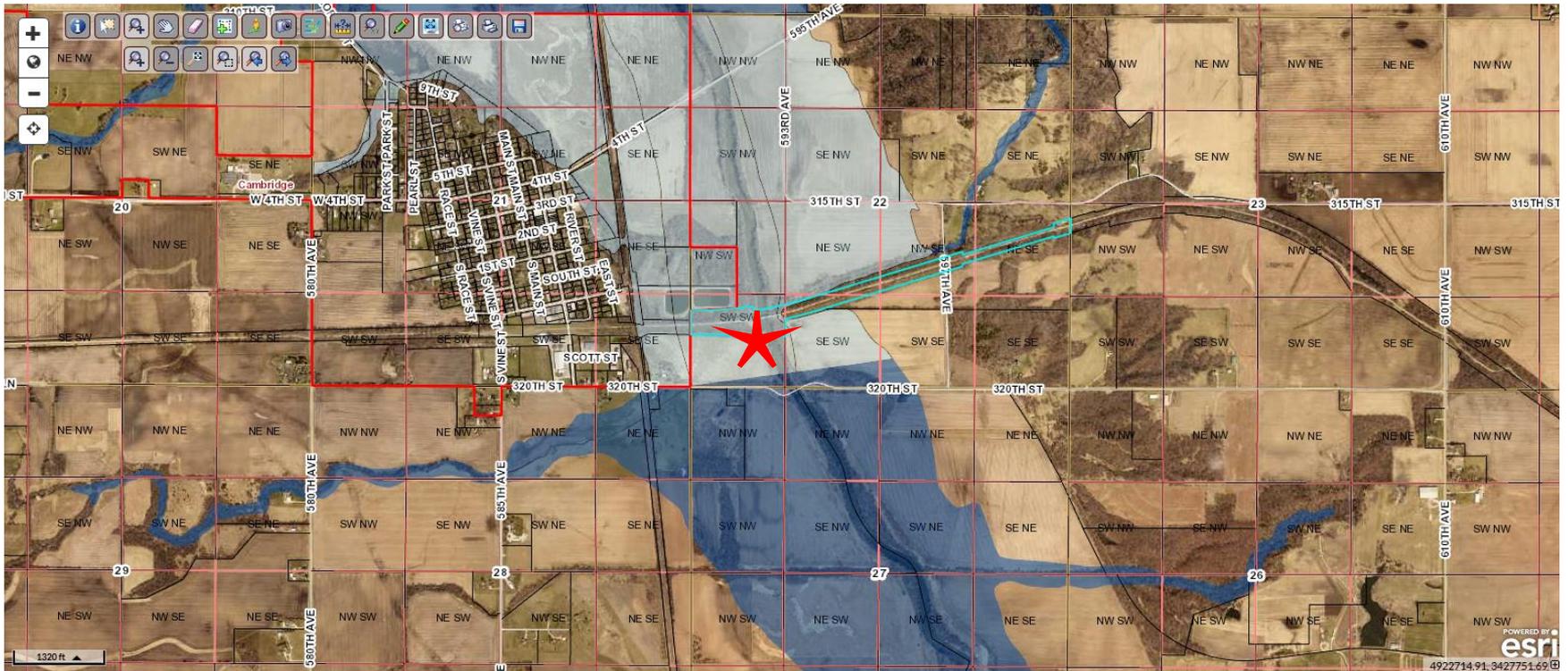


East side of Cambridge
Union Township
Section 22 SWSW

Proposed Site Location



FEMA Flood Plain



Heart of Iowa Trail Facing East



Heart of Iowa Trail Facing North



Heart of Iowa Trail Facing West



Heart of Iowa Trail Facing South



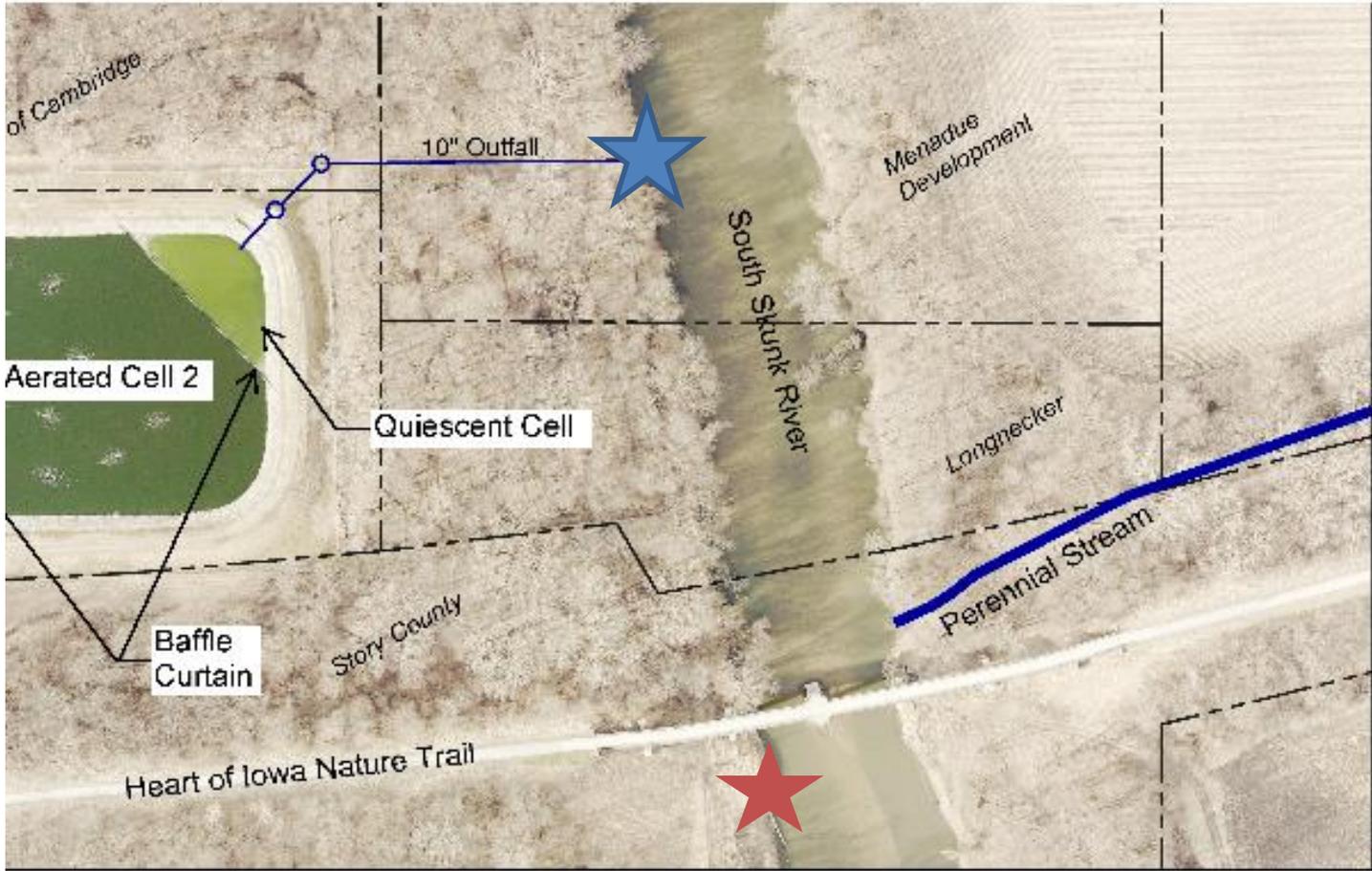
Approximate location of Outfall Pipe facing South



Approximate location of Outfall Pipe facing North



Location of Perennial Stream



Conditional Use Permit

STANDARDS OF APPROVAL



Compatibility

- **The new 18” outfall pipe will be compatible with the development and use of adjacent properties. Because it is in the floodplain, future development of any adjacent areas is extremely unlikely. Wastewater treatment effluent is normally discharged into nearby streams or rivers as proposed with this project, so this is considered to be a normal feature along waterways. Access to the area is very limited to the public, so the improvements are expected to be relatively unnoticed when complete.**
- **The new outfall sewer will be buried. For the most part, it will not be noticeable after construction is complete. The only evidence of its existence from ground surface will be the three buried manholes and the outlet headwall structure**

Transition

- The proposed outfall pipe is being directionally bored below ground. No transition is proposed or needed. No buffering is needed.

Traffic

- **It is anticipated that Cambridge Staff will access the outfall site approximately one time per year on foot (no vehicles) to observe the headwall structure and check for damage or erosion concerns. Access would be via the existing permanent easement. No other access requirements are anticipated. The Heart of Iowa Trail will not be impacted by construction of the project.**

Parking and Loading

- **During the construction of the outfall pipe, parking will take place on the subject property using existing access points to the property. No parking or equipment storage will take place in the right of way. No new parking or loading is proposed for this project.**

Signs and Lighting

- There are no signs or lighting is proposed.

Environmental Protection

- **The project will provide improved conditions from an environmental protection standpoint for safe recreational use of the river, with improved treatment and disinfection of the wastewater. The completed project will have no negative impacts on noise, vibration, dust, smoke, fumes, odor, glare, groundwater pollution or other undesirable, hazardous or nuisance conditions, including weeds. The total estimated area that will be disturbed for construction of the outfall sewer is 0.58 acres, which is approximately 2% of the 28.79 parcel area. Because the total estimated disturbed area for construction of the project is less than one acre, an NPDES General Permit No. 2 for Storm Water Discharge Associated with Industrial Activity or Construction Activities is not required. The Story County erosion control requirements of 88.05 (4) will be followed.**

Analysis

If the Commission concludes that all the above development criteria will be met, it must recommend approval of the application unless it concludes that, if completed as proposed, there is a strong probability the development will:

1. not adequately safeguard the health, safety and general welfare of persons residing or working in adjoining or surrounding property.
2. impair an adequate supply (including quality) of light and air to surrounding properties.
3. unduly increase congestion in the roads, or the hazard from fire, flood, or similar dangers.
4. diminish or impair established property values on adjoining or surrounding property.
5. not be in accord with the intent, purpose and spirit of the Land Development Regulations or County Cornerstone to Capstone (C2C) Plan.

Select Comments from the Interagency Review Team

Concept Review

Planning and Zoning Department:

1. For the Conditional Use Permit Application submittal, please provide written responses to each item in Ch. 90.04 Standards of Approval.
Provided
2. Please confirm that on the proposed outfall pipe is planned to be located in unincorporated Story County. *Yes*
3. Please provide details about what will be treated, the treatment method and process, explain the quality of water discharged, impacts to South Skunk River, and IDNR requirements. *Provided*
4. Explain the high I/I flows identified in the narrative and will any of the proposed work effect this? *Project will not effect I/I*

Select Comments from the Interagency Review Team

Concept Review

Planning and Zoning Department:

5. Explain further about the A1, B(WW-2) stream designation and how the “mixing zone” area where the outfall pipe is planned will impact the stream.
 - i. *B(WW-2) - Waters in which flow or other physical characteristics are capable of supporting a resident aquatic community that includes a variety of native nongame fish and invertebrate species. The flow and other physical characteristics limit the maintenance of warm water game fish populations. These waters generally consist of small perennially flowing streams.*
 - ii. *A1 - Waters in which recreational or other uses may result in prolonged and direct contact with the water, involving considerable risk of ingesting water in quantities sufficient to pose a health hazard. Such activities would include, but not be limited to, swimming, diving, water skiing, and water contact recreational canoeing.*

6. Has annexation of the proposed work area been discussed with the City of Cambridge and Story County Conservation? *No, Story County Conservation is not in support of annexing the parcel into the City of Cambridge.*

Conceptual Review

September 17, 2020

Comments from the Assessor's Office

No comment

Comments from the Auditor's Office

No comment

Comments from the Engineer's Office

No comment

Comments from the Emergency Management's Office

No comment

Public Notice

Public notification letters were mailed to surrounding property owners within a quarter-mile of the site on October 1, 2020, regarding the Conditional Use Permit application.

As of October 6, 2020, no one had provided comments



Points to Consider

- 1. Applicant addressed the need for the proposed outfall pipe. The purpose of the project is to make improvements to the wastewater treatment facilities to enhance their reliability, increase capacity, and to adequately treat for Ammonia and E. Coli in order to safely and reliably operate the City of Cambridge's wastewater system for the next 20 years.**
- 2. The outfall pipe will allow the City of Cambridge to meet IDNR requirements.**
- 3. The outfall pipe will be buried, the only portion that will be visible is where the pipe meets the river.**
- 4. An easement has been granted for construction and maintenance of the outfall pipe by Story County Conservation to the City of Cambridge.**
- 5. There is no traffic anticipated for this project.**
- 6. No impacts to the Heart of Iowa Trail are anticipated.**
- 7. No environmental impacts are expected.**

P & D Recommendation

Planning and Development Staff recommends approval of the Conditional Use Permit for the proposed waste water outfall pipe with a condition based on a site review, comments received, the information provided in this staff report, and material provided by the applicant as put forth in case CUP07-20. The recommended condition is:

- The applicant shall provide ammonia and E. coli mixing study results to the Planning and Development Department after construction and mixing study is completed.

Board of Adjustment Alternatives

The Story County Planning and Zoning Commission may consider the following alternatives:

1. The Story County-Planning and Zoning Commission approves the Conditional Use Permit for the City of Cambridge Wastewater Outfall Pipe CUP07-20, as submitted.
2. **The Story County Planning and Zoning Commission approves the Conditional Use Permit for the City of Cambridge Wastewater Outfall Pipe CUP07-20, with a condition.**
3. The Story County Planning and Zoning Commission denies the Conditional Use Permit for the City of Cambridge Wastewater Outfall Pipe CUP07-20.
4. The Story County Planning and Zoning Commission remands the Conditional Use Permit for the City of Cambridge Wastewater Outfall Pipe CUP07-20, back to the applicant for further review and/or modifications, and directs staff to place this item on a future Story County Planning and Zoning Commission agenda.



CONDITIONAL USE PERMITS



1. Property Owner*
 (Last Name) Story County Conservation Board
 (First Name) _____
 (Address) 56461 180th Street
 (City) Ames (State) IA (Zip) 50010
 (Phone) 515-232-2516 (Email) mcox@storycountyia.gov

2. Applicant (if different than owner)
 (Last Name) City of Cambridge
 (First Name) _____
 (Address) 225 S Water Street
 (City) Cambridge (State) IA (Zip) 50046
 (Phone) 515-220-4541 (Email) cityofcambridge@huxcomm.net

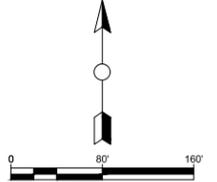
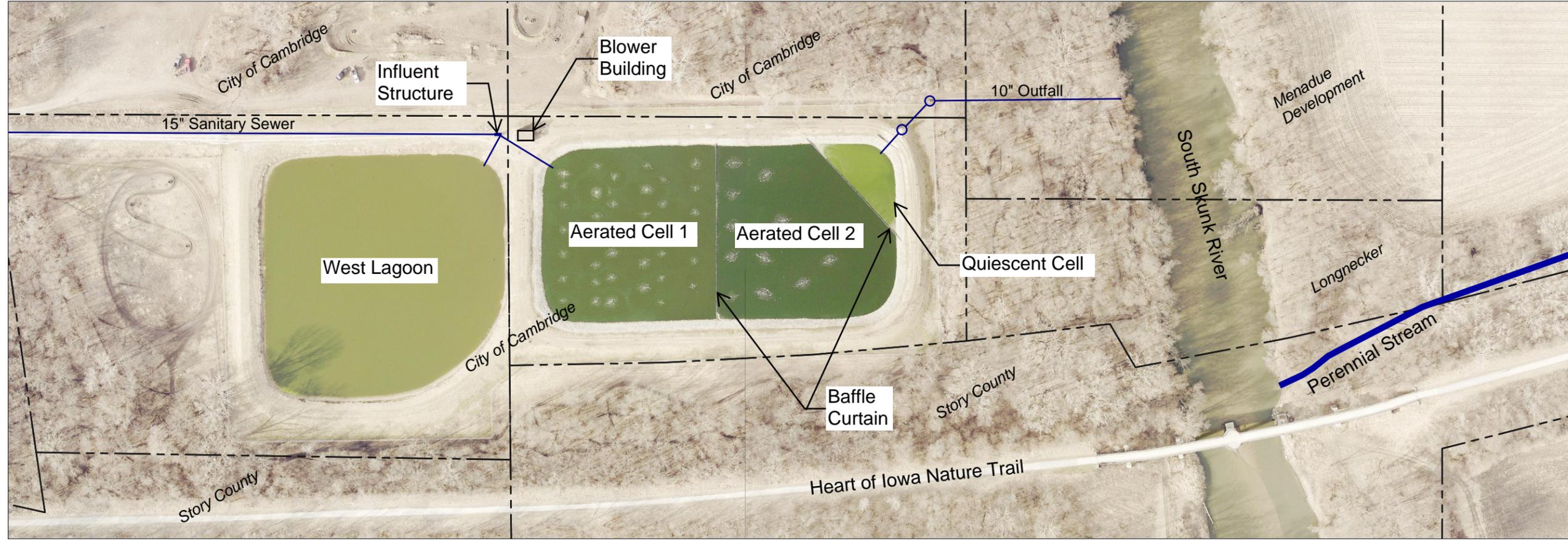
3. Property Address _____ **Parcel ID Number(s)** 14-22-300-600

4. Certification and Signature
 I/we certify that the information and exhibits submitted are true and correct to the best of my knowledge and that in filing this application I am acting with the knowledge, consent and authority of the owners of the property. Pursuant to said authority, I hereby permit County officials to enter upon the property for the purpose of inspection.
 *Acknowledgement of property owner is required and may occur via email or by signature of this application.
 Property Owner Signature [Signature] Date 9/17/20 Applicant Signature [Signature] Date 9/17/20

There are 3 types of CUP Modifications: insignificant, minor, and major. The Director of Planning and Development makes the determination of the type. Insignificant modifications are reviewed by the director. Minor modifications are reviewed by the Board of Adjustment. Major modifications are considered new conditional use applications and follow the same review process as a new conditional use permit application.

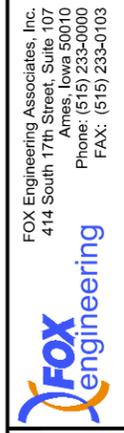
<p><input checked="" type="checkbox"/> <u>New Conditional Use Permit</u></p> <p>Proposed Conditional Use: <u>Public Water Supply and Sewage Treatment Facilities</u></p> <p><u>Submittal Requirements:</u></p> <ul style="list-style-type: none"> <input checked="" type="checkbox"/> Attend conceptual review meeting (prior to submittal of CUP application, see conceptual review application and deadline on Planning and Development website) <input checked="" type="checkbox"/> Filing Fee (required prior to processing): <u>\$275</u> <input checked="" type="checkbox"/> Site development plan <input checked="" type="checkbox"/> Written narrative explaining justification for proposed conditional use permit and conformance to the standards for approval in <u>Section 90.04 of the Story County Code of Ordinances.</u> 	<p><input type="checkbox"/> <u>Conditional Use Permit Modification</u></p> <p>Previous CUP and Number: _____</p> <p><u>Submittal Requirements:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> Filing Fee (required prior to processing) : <u>\$50</u> (If determined to be a minor modification by the Planning and Development Director, the fee amount is \$175.) <input type="checkbox"/> Site development plan <input type="checkbox"/> Written narrative explaining modification of approved conditional use permit and response to the standards for approval in <u>Section 90.04 of the Story County Code of Ordinances.</u>
<div style="border: 1px solid black; padding: 5px; display: inline-block;"> Receipt No. <u>570364</u> Receipt Amount <u>\$275</u> </div>	

DRAWING FILENAME
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 FoxGra\Scale AERIAL.ctb
 LAYER MNGR NAME
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DATE	REVISION	BY	DATE
		DESIGNED: SAV	01/18
		DRAWN: SRS	01/18
		CHECKED:	
		LAST UPDATE: 01/02/18	

FOX Engineering Associates, Inc.
 414 South 17th Street, Suite 107
 Ames, Iowa 50010
 Phone: (515) 233-0000
 FAX: (515) 233-0103



SITE
 CAMBRIDGE WASTEWATER TREATMENT PLANT
 CAMBRIDGE, IA

PROJECT NO.
 2473-14A
 SHEET
3.2

DATE: September 17, 2020

TO: Story County Planning and Development

RE: Wastewater Treatment Improvements
Cambridge, Iowa
FOX PN 2473-14A

COMMENTS:

The City of Cambridge, Iowa operates a continuous discharge aerated lagoon wastewater treatment facility. This system treats sewage from Cambridge, primarily originating from domestic sources. In addition, the system also treats “Inflow and Infiltration (I&I)”, which is essentially non-sewage water that leaks into the sanitary collection system from leaky pipes, surface drain connections, sump pump connections and other sources. The aerated lagoon type of treatment employed at Cambridge has no issues handling the additional flow from these I&I sources, so this is not considered to a significant problem.

With the aerated lagoon type of treatment system, wastewater is treated over a long period of time in very large earthen lagoons. Aeration is provided by mechanical blowers and a network of diffusers on the bottom of the lagoons. The aeration helps to mix the contents of the lagoons and provides oxygen to the micro-organisms that break down the waste (BOD, TSS and ammonia described later), thereby cleaning the water. After treatment, the cleaned effluent is discharged to the South Skunk River via an existing outfall pipe.

The treatment system is located on the east side of town near the South Skunk River. The original wastewater system, including collection system and controlled discharge lagoons, were constructed in the early 1970's. One of the two original lagoons was converted to a three cell aerated lagoon in 2002. Since that time, the treatment system has performed very well; reliably and consistently meeting the effluent limitations established in the discharge permit issued by Iowa Department of Natural Resources (IDNR).

The IDNR classifies rivers and streams that receive treated wastewater from municipal wastewater treatment facilities based upon specific “designated uses”. These designated uses are determined based on field investigations and other information. After IDNR proposes the designated uses for each individual stream, the EPA must approve of them before they are formally put into place. The South Skunk River at Cambridge is designated as Class B(WW-2) and A1, and descriptions of these two designated uses are summarized below:

- Warm water - Type 2 (Class “B(WW-2)”). Waters in which flow or other physical characteristics are capable of supporting a resident aquatic community that includes a variety of native nongame fish and invertebrate species. The flow and other physical characteristics limit the maintenance of warm water game fish populations. These waters generally consist of small perennially flowing streams.

-
- Primary contact recreational use (Class “A1”). Waters in which recreational or other uses may result in prolonged and direct contact with the water, involving considerable risk of ingesting water in quantities sufficient to pose a health hazard. Such activities would include, but not be limited to, swimming, diving, water skiing, and water contact recreational canoeing.

Each designated use has specific water quality requirements associated with it. The IDNR uses the water quality standards in their calculations for determining the limits for effluent parameters for the treatment system. These limits are then enacted in the treatment facility’s National Pollution Discharge Elimination (NPDES) permit, which is issued by IDNR. With the proposed project completed, the following NPDES effluent permit limits are expected to apply to the Cambridge wastewater facility:

- Biochemical Oxygen Demand (BOD): The BOD test is a widely recognized procedure used to evaluate the organic strength of wastewater. It is also widely used to evaluate the efficiency of various treatment processes and to estimate the effects of pollution on receiving streams. This test is a measure of the quantity of dissolved oxygen required by bacteria to decompose organic materials in wastewater over a specified time period and at a specified temperature.

BOD test results are usually reported in milligrams per liter (mg/l) of oxygen consumed at the end of a five-day test period that is conducted at a constant temperature of 20 degrees C. These results are referred to as the 5-day BOD (BOD5).

The BOD5 of raw (untreated) wastewater from domestic sources will normally range from approximately 150 mg/l to 250 mg/l. Industrial discharges can cause higher or lower results. Excessive infiltration/inflow can cause lower results.

The effluent limits for BOD for the Cambridge treatment facility will be 40 mg/L (average over seven days) and 25 mg/L (average over a month).

- Total Suspended Solids (TSS): The undissolved substances in wastewater that can be retained on a laboratory filter are referred to as TSS. It is a major parameter in evaluating wastewater strength and in determining efficiency of treatment processes. It is also used to estimate effects of pollution on receiving streams. Suspended solids test results are reported in terms of milligrams per liter.

The effluent limits for TSS for the Cambridge treatment facility will be 120 mg/L (average over seven days) and 80 mg/L (average over a month).

- Ammonia: Ammonia is a gas that is very soluble in water and is the form of nitrogen most responsible for toxicity effects in aquatic life. Ammonia toxicity increases with higher temperatures and higher pH values. As a result, effluent ammonia standards vary throughout the year.

The toxic impacts of ammonia are mainly based on concentration: more dilute concentrations would have lower toxic effects. IDNR has specific rules that they use to determine what concentrations of ammonia are safe to discharge. Under these rules, the effluent ammonia concentration is not required to meet the water quality standards right out of the pipe. Instead, they allow for the beneficial impact of dilution as the effluent is mixed with the stream. This

mixing occurs in a section of the stream referred to as the “Mixing Zone”, which is typically 2,000 feet long. There are conditions which can shorten the allowed length of the Mixing Zone, such as the confluence of a perennial stream with the river (as is the case for Cambridge - see below for more details).

Anticipated ammonia limits for Cambridge are summarized in the following table. Actual ammonia levels discharged are expected to range between 1 mg/L (summer) and 15 mg/L (winter):

Anticipated Ammonia Limitations

Month	Average Month Limit, mg/L	Peak Day Limit, mg/L
January	99.5	99.5
February	58.3	58.3
March	17.2	17.2
April	21.6	21.6
May	34.4	34.4
June	33.4	33.4
July	142.3	142.3
August	108.0	108.0
September	82.5	82.5
October	49.9	49.9
November	32.3	32.3
December	112.8	112.8

- **Escherichia Coli (E. coli) Bacteria:** Coliform bacteria are organisms that grow in huge numbers in the intestines of all warm blooded animals, including humans. Their presence may be indicative of the presence of disease causing pathogens.

Coliform bacteria are measured as the “most probable number” of colonies per 100 mL sample (#/100 mL). The measure of coliform bacteria in the final effluent is a means for determining effectiveness of disinfection facilities. E. Coli is a type of coliform bacteria that is tested to determine compliance with disinfection requirements.

The effluent limits for E. Coli for the Cambridge treatment facility will be 126 #/100 mL. Disinfection is only required from March 15 through October 15, as recreational use of the river would not be expected during cold weather periods.

- **pH:** pH is a term used to express the intensity of the acid or alkaline condition of a sample. The pH scale is usually represented as ranging from 0 to 14, with pH 7 representing absolute neutrality.

The effluent limits for pH for the Cambridge treatment facility will be 6.2 to 9.0

Cambridge's current NPDES discharge permit was renewed by IDNR in May 2014. The renewed permit includes new, relatively low, ammonia limits that the existing facility cannot meet. Several alternatives were considered for addressing this situation. Initially, the City planned to install a new diffuser across the South Skunk River. The river diffuser would efficiently mix the treatment plant effluent with the entire river flow, thereby rapidly diluting the ammonia concentration. By changing the discharge in this way, IDNR would increase the ammonia limits to a level that the facility could easily meet, thereby avoiding the excessive cost of treatment upgrades.

With a height of about 1.7 feet, the river diffuser would act similarly to a low head dam. As a result, a flood study was required to document no impact on flood levels. As part of this effort, several agencies were contacted for review and comment. These included US Fish and Wildlife, IDNR Fisheries, and the IDNR River Program. IDNR Fisheries expressed concern that fish would not be able to pass the diffuser during low river flows. IDNR River Program indicated that they have been working to remove low head dams on the South Skunk River to improve recreation and safety conditions. Various options were explored for mitigating these concerns, but ultimately it was found to be difficult to address the concerns while also achieving the effluent dispersion purpose of the diffuser.

A second alternative was considered to avoid the need for a river diffuser. This alternative consists of moving the discharge point further south. The existing outfall pipe discharges just upstream of the confluence of the South Skunk River and a perennial stream. Due to the rules IDNR uses when calculating ammonia limits, this drastically shortens the length of the river that can be counted towards diluting the plant effluent (mixing zone). By moving the discharge location just downstream of the perennial stream, the mixing zone would be allowed to be set at 2,000 feet long, which is the normal standard value. When taking this into account, IDNR would increase the ammonia limits to a level that the facility can meet.

Ultimately, it was decided to move forward with relocating the outfall sewer. IDNR and the City of Cambridge agreed that this would be the best alternative for meeting discharge requirements while not impacting the safe recreational use of the river or fish movement.

Because it is slated to receive State Revolving Loan (SRF) funding, the project has gone through an extensive environmental review process. The results of this effort are summarized in the attached Environmental Information Document. The report concluded that the project would have "no significant impact".

The outfall sewer will be constructed using excavated trench methods. It will be completely buried except at the discharge point. A concrete headwall will be installed at the discharge point to protect the pipe from flood damage, and a flap gate will be installed to serve as an animal guard and prevent backflow from the river.

The outfall sewer will be constructed on land owned by the Story County Conservation Board. The parcel is located in unincorporated Story County just outside city limits. There have been no discussions or consideration of potentially annexing the parcel into the City of Cambridge. The City and Conservation Board entered into an easement agreement to allow construction of the outfall. This easement was recorded with Story County on May 29, 2020.

In addition to the outfall relocation, the project will include construction of a new ultraviolet light disinfection system. Cambridge's wastewater is currently not disinfected, so this improvement will improve safety for recreational use of the river. In addition, baffle curtains will be installed in the lagoons to further improve treatment efficiency and effluent quality.

The following addresses the criteria listed in 90.04 1.:

A. Compatibility:

- The new outfall sewer will be compatible with the development and use of adjacent properties. Because it is in the floodplain, future development of any adjacent areas is extremely unlikely. Wastewater treatment effluent is normally discharged into nearby streams or rivers as proposed with this project, so this is considered to be a normal feature along waterways. Access to the area is very limited to the public, so the improvements are expected to be relatively unnoticed when complete.
- The new outfall sewer will be buried. For the most part, it will not be noticeable after construction is complete. The only evidence of its existence from ground surface will be the three buried manholes and the outlet headwall structure.
- The manholes will be four feet inside diameter and constructed of precast concrete per SUDAS standards. Each manhole will have a 26-inch diameter cast iron cover, which is typical for municipal sewer construction. Each cover will be bolted down to prevent removal or blow off during a flood event, and each will be installed with the top flush with ground surface.
- The small outlet headwall structure will be constructed of cast in place concrete as shown in the Drawings. A very similar structure to what is proposed is shown in the following picture:



- B. Transition: There are no proposed buildings or surrounding properties that will be impacted by the improvements.

-
- C. Traffic: It is anticipated that Cambridge Staff will access the outfall site approximately one time per year on foot (no vehicles) to observe the headwall structure and check for damage or erosion concerns. Access would be via the existing permanent easement. No other access requirements are anticipated. The Heart of Iowa Trail will not be impacted by construction of the project.
- D. Parking and Loading: There will be no parking or loading requirements associated with this project.
- E. Signs and Lighting: There are no signs or lighting required or planned for this project.
- F. Environmental Protection:
- The project will provide improved conditions from an environmental protection standpoint for safe recreational use of the river, with improved treatment and disinfection of the wastewater.
 - The completed project will have no negative impacts on noise, vibration, dust, smoke, fumes, odor, glare, groundwater pollution or other undesirable, hazardous or nuisance conditions, including weeds.
 - The total estimated area that will be disturbed for construction of the outfall sewer is 0.58 acres, which is approximately 2% of the 28.79 parcel area.
 - Because the total estimated disturbed area for construction of the project is less than one acre, an *NPDES General Permit No. 2 for Storm Water Discharge Associated with Industrial Activity or Construction Activities* is not required. The Story County erosion control requirements of 88.05 (4) will be followed.

The anticipated schedule for the project is summarized below:

Complete Design	October 2020
Public Bidding	December 2020
Construction	March 2021 - December 2021

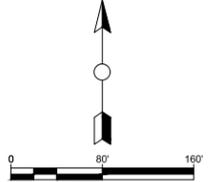
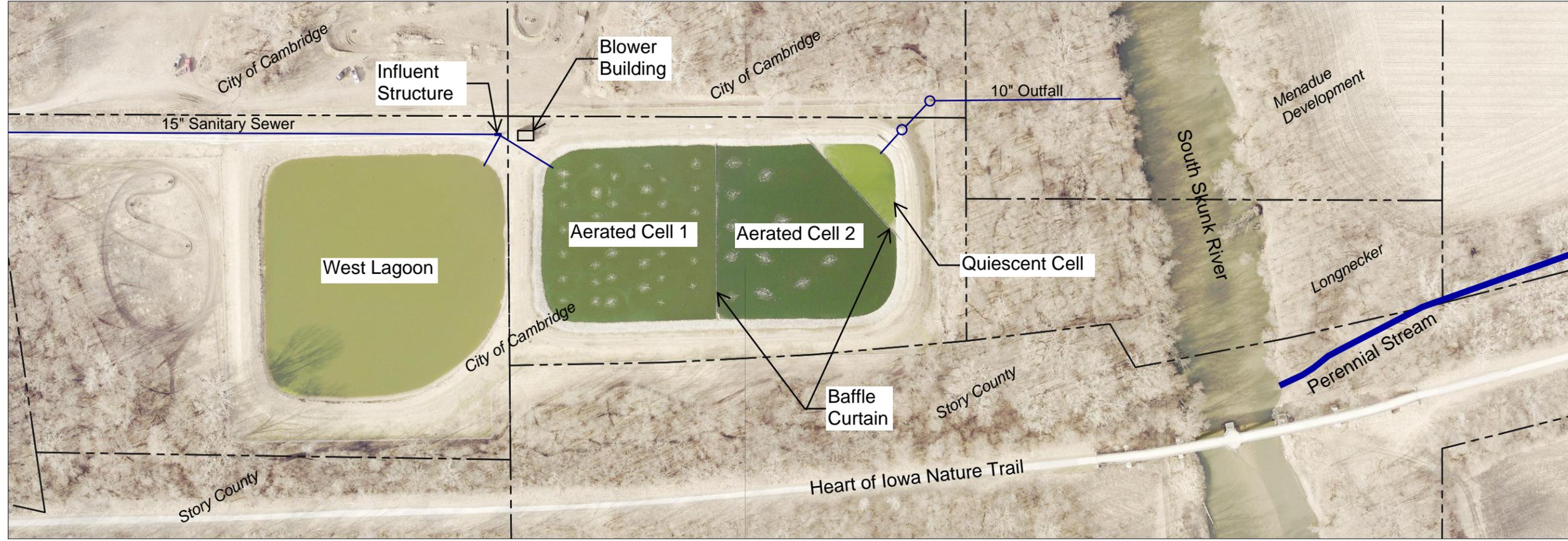
The actual amount of time required for construction of the outfall sewer is estimated at four weeks. The timing of construction during the period listed above will depend on weather and the contractor's desired schedule for the project as a whole.

No other improvements to the Cambridge Wastewater Treatment Facility are anticipated over the next five years.



Steve Van Dyke, P.E.

DRAWING FILENAME
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 PLOT STYLE TABLE
 FoxGra\Scale AERIAL.ctb
 LAYER MNGR NAME
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DATE	REVISION	BY	DATE
		DESIGNED: SAV	01/18
		DRAWN: SRS	01/18
		CHECKED:	
		LAST UPDATE: 01/02/18	

FOX Engineering Associates, Inc.
 414 South 17th Street, Suite 107
 Ames, Iowa 50010
 Phone: (515) 233-0000
 FAX: (515) 233-0103

FOX Engineering

SITE
 CAMBRIDGE WASTEWATER TREATMENT PLANT
 CAMBRIDGE, IA

PROJECT NO.
 2473-14A
 SHEET
3.2

CONDITIONAL USE PERMITS



<p>1. Property Owner*</p> <p>(Last Name) <u>Story County Conservation Board</u></p> <p>(First Name) _____</p> <p>(Address) <u>56461 180th Street</u></p> <p>(City) <u>Ames</u> (State) <u>IA</u> (Zip) <u>50010</u></p> <p>(Phone) <u>515-232-2516</u> (Email) <u>mcox@storycountyia.gov</u></p>	<p>2. Applicant (if different than owner)</p> <p>(Last Name) <u>City of Cambridge</u></p> <p>(First Name) _____</p> <p>(Address) <u>225 S Water Street</u></p> <p>(City) <u>Cambridge</u> (State) <u>IA</u> (Zip) <u>50046</u></p> <p>(Phone) <u>515-220-4541</u> (Email) <u>cityofcambridge@huxcomm.net</u></p>
---	---

3. Property Address _____	Parcel ID Number(s) <u>14-22-300-600</u>
----------------------------------	---

4. Certification and Signature

I/we certify that the information and exhibits submitted are true and correct to the best of my knowledge and that in filing this application I am acting with the knowledge, consent and authority of the owners of the property. Pursuant to said authority, I hereby permit County officials to enter upon the property for the purpose of inspection.

*Acknowledgement of property owner is required and may occur via email or by signature of this application.

Property Owner Signature [Signature] Date 9/17/20 Applicant Signature [Signature] Date 9/17/20

There are 3 types of CUP Modifications: insignificant, minor, and major. The Director of Planning and Development makes the determination of the type. Insignificant modifications are reviewed by the director. Minor modifications are reviewed by the Board of Adjustment. Major modifications are considered new conditional use applications and follow the same review process as a new conditional use permit application.

<p><input checked="" type="checkbox"/> <u>New Conditional Use Permit</u></p> <p>Proposed Conditional Use: <u>Public Water Supply and Sewage Treatment Facilities</u></p> <p><u>Submittal Requirements:</u></p> <ul style="list-style-type: none"> <input checked="" type="checkbox"/> Attend conceptual review meeting (prior to submittal of CUP application, see conceptual review application and deadline on Planning and Development website) <input checked="" type="checkbox"/> Filing Fee (<u>required prior to processing</u>): <u>\$275</u> <input checked="" type="checkbox"/> Site development plan <input checked="" type="checkbox"/> Written narrative explaining justification for proposed conditional use permit and conformance to the standards for approval in <u>Section 90.04 of the Story County Code of Ordinances.</u> 	<p><input type="checkbox"/> <u>Conditional Use Permit Modification</u></p> <p>Previous CUP and Number: _____</p> <p><u>Submittal Requirements:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> Filing Fee (<u>required prior to processing</u>): <u>\$50</u> (If determined to be a minor modification by the Planning and Development Director, the fee amount is \$175.) <input type="checkbox"/> Site development plan <input type="checkbox"/> Written narrative explaining modification of approved conditional use permit and response to the standards for approval in <u>Section 90.04 of the Story County Code of Ordinances.</u>
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Receipt No. 570364

Receipt Amount \$275

CAMBRIDGE WASTEWATER IMPROVEMENTS

CAMBRIDGE, IA

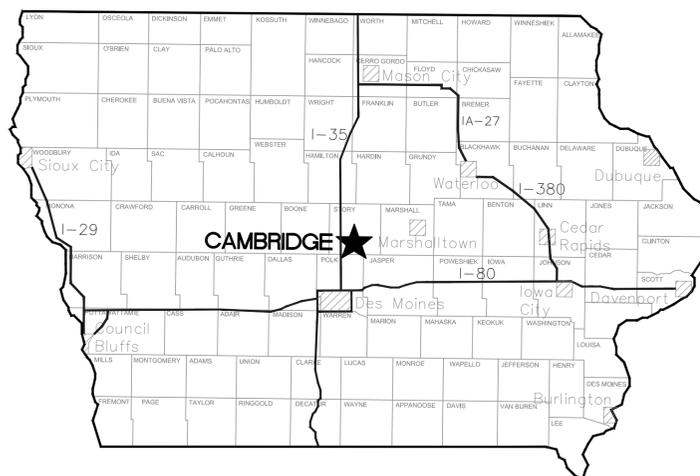
2020

LOCATION MAP

NOT TO SCALE



INDEX OF SHEETS	
No.	Description
G.1	COVER SHEET/ LOCATION MAP/LEGEND
P.1	DETAILS
P.2	OUT FALL PLAN AND PROFILE



GENERAL NOTE: ALL UTILITIES ARE ONLY GENERALLY LOCATED. CONTRACTOR IS RESPONSIBLE FOR LOCATING AND EXPOSING ALL UTILITIES THAT MAY INTERFERE WITH CONSTRUCTION BEFORE CONSTRUCTION BEGINS.

ENGINEER:
FOX ENGINEERING
 414 SOUTH 17TH STREET, SUITE 107
 AMES, IOWA 50010
 PHONE: 515-233-0000
 FAX: 515-233-0103



I hereby certify that this engineering document was prepared by me or under my direct personal supervision and that I am a duly licensed Professional Engineer under the laws of the State of Iowa.

STEVEN A. VAN DYKE, P.E.
 License number 16044

DATE: _____
 My license renewal date is December 31, 2021.
 Pages or sheets covered by this seal: _____

CIVIL LEGEND		
EXISTING	LINEWORK	PROPOSED
[Symbol]	[Symbol]	BUILDING
[Symbol]	[Symbol]	CONCRETE PAVING
[Symbol]	[Symbol]	ASPHALT PAVING
[Symbol]	[Symbol]	SIDEWALK
[Symbol]	[Symbol]	PROPERTY LINE
[Symbol]	[Symbol]	EASEMENT
[Symbol]	[Symbol]	BUILDING SETBACK LINE
[Symbol]	[Symbol]	FENCE -BARBED WIRE
[Symbol]	[Symbol]	FENCE -CHAIN LINK
[Symbol]	[Symbol]	FENCE -VINYL
[Symbol]	[Symbol]	FENCE -WOOD
[Symbol]	[Symbol]	FENCE -SILT
[Symbol]	[Symbol]	WATER MAIN
[Symbol]	[Symbol]	STORM SEWER / CULVERT
[Symbol]	[Symbol]	STORM SEWER SUBDRAIN
[Symbol]	[Symbol]	SANITARY SEWER
[Symbol]	[Symbol]	FORCE MAIN
[Symbol]	[Symbol]	ELECTRIC -OVERHEAD
[Symbol]	[Symbol]	ELECTRIC -UNDERGROUND
[Symbol]	[Symbol]	TELEPHONE -OVERHEAD
[Symbol]	[Symbol]	TELEPHONE -UNDERGROUND
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[Symbol]	[Symbol]	NATURAL GAS
[Symbol]	[Symbol]	TREE LINE
[Symbol]	[Symbol]	CROP LINE
[Symbol]	[Symbol]	RAIL ROAD TRACK
[Symbol]	[Symbol]	GROUND SURFACE CONTOURS
[Symbol]	[Symbol]	LIMITS OF CONSTRUCTION

SYMBOLS			
EXISTING	PROPOSED	EXISTING	PROPOSED
[Symbol]	[Symbol]	BOLLARD	STORM SEWER INTAKE, SW-501/ 502
[Symbol]	[Symbol]	BUSH	STORM SEWER INTAKE, SW-503/ 504
[Symbol]	[Symbol]	CABLE TV PEDESTAL	STORM SEWER INTAKE, SW-505
[Symbol]	[Symbol]	CONTROL/ TRAVERSE POINT	STORM SEWER INTAKE, SW-506
[Symbol]	[Symbol]	CURB STOP	STORM SEWER INTAKE, SW-507/ 508
[Symbol]	[Symbol]	ELECTRICAL PEDESTAL	STORM SEWER INTAKE, SW-509/ 510
[Symbol]	[Symbol]	ELECTRICAL MANHOLE	STORM SEWER INTAKE, SW-511
[Symbol]	[Symbol]	ELECTRICAL TRANSFORMER	STORM SEWER INTAKE, SW-512/ BEEHIVE
[Symbol]	[Symbol]	FIBER OPTIC PEDESTAL	STORM SEWER INTAKE, SW-513
[Symbol]	[Symbol]	GAS METER	STORM SEWER, FLARED END SECTION
[Symbol]	[Symbol]	GAS VALVE	STORM SEWER MANHOLE
[Symbol]	[Symbol]	FIRE HYDRANT	STORM SEWER SUBDRAIN CLEANOUT
[Symbol]	[Symbol]	JUNCTION BOX	TELEPHONE MANHOLE
[Symbol]	[Symbol]	LIGHT POLE	TELEPHONE PEDESTAL
[Symbol]	[Symbol]	MAIL BOX	TRAFFIC POLE
[Symbol]	[Symbol]	MANHOLE (UNKNOWN)	WATER MANHOLE
[Symbol]	[Symbol]	PROPERTY CORNER -FOUND	WATER METER
[Symbol]	[Symbol]	POWER POLE	WATER VALVE
[Symbol]	[Symbol]	RIGHT OF WAY RAIL	WITNESS POST
[Symbol]	[Symbol]	SANITARY CLEANOUT	YARD HYDRANT
[Symbol]	[Symbol]	SANITARY MANHOLE	
[Symbol]	[Symbol]	SECTION CORNER -FOUND	
[Symbol]	[Symbol]	SIGN	
[Symbol]	[Symbol]	STUMP	
[Symbol]	[Symbol]	TREE -DECIDUOUS	
[Symbol]	[Symbol]	TREE -EVERGREEN	

ABBREVIATIONS		
FG - FORM GRADE (GUTTER)	FL - FLOWLINE	BOP - BEGINNING OF PROJECT
TOC - TOP OF CURB	INV - INVERT	EOP - END OF PROJECT
TOW - TOP OF WALK	PL - PROPERTY LINE	PC - POINT OF CURVATURE
FFE - FINISH FLOOR ELEVATION	ROW - RIGHT OF WAY	PT - POINT OF TANGENCY
TOB - TOP OF BANK	PUE - PUBLIC UTILITY EASEMENT	PI - POINT OF INTERSECTION
TOE - TOE OF SLOPE	CL - CENTER LINE	

CAMBRIDGE WASTEWATER IMPROVEMENTS

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 LAYER MGR NAME: G-1

REVISION	DATE	BY	DATE

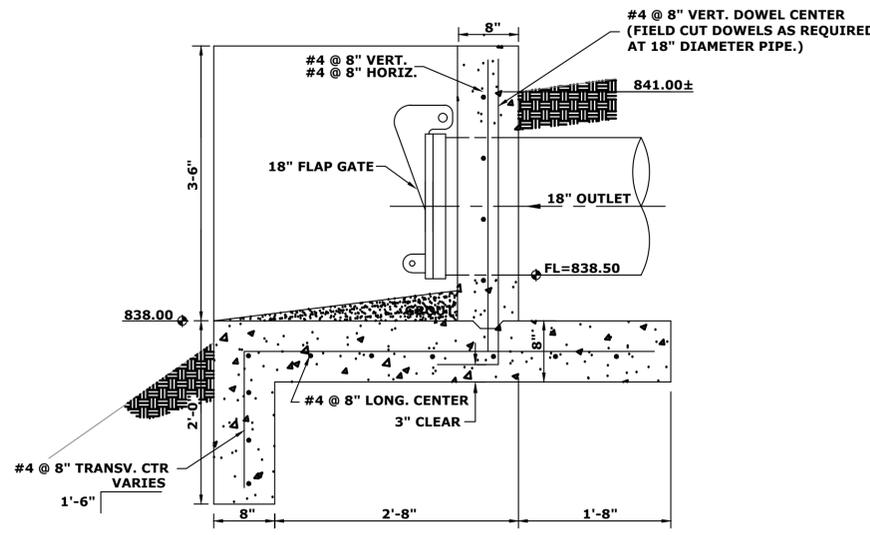
DESIGNED	DRAWN	CHECKED	DATE

FOX Engineering Associates, Inc.
 414 South 17th Street, Suite 107
 Ames, Iowa 50010
 Phone: 515-233-0000
 Fax: 515-233-0103

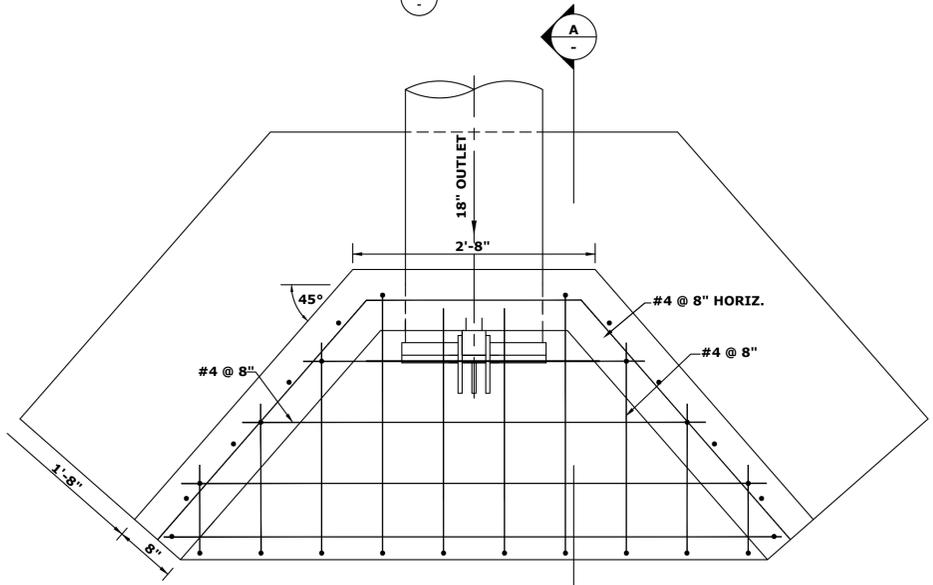
COVER SHEET
 CAMBRIDGE WASTEWATER IMPROVEMENTS
 CAMBRIDGE, IA
 2020

PROJECT NO.
 2473-14A
 SHEET
 G.1

DRAWING FILE NAME
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 PLOT STYLE TABLE
 FoxGrayScale.ctb
 LAYER MNGR NAME
 P1



A SECTION



PLAN VIEW

1 OUTLET HEADWALL DETAIL
 1" = 1'-0" NORTH

DATE	BY	DATE
	DESIGNED: ELT	01/20
	DRAWN: ELT	01/20
	CHECKED:	
	LAST UPDATE:	02/07/20

REVISION	DATE

FOX Engineering Associates, Inc.
 414 South 17th Street, Suite 107
 Ames, Iowa 50010
 Phone: (515) 233-0000
 FAX: (515) 233-0103

DETAILS
 WASTEWATER IMPROVEMENTS
 CAMBRIDGE, IA
 2020

PROJECT NO.
 2473-14A
 SHEET
P1

Details for the flap gate we will use are attached. This information was from an earlier project, but the same size, specifications and design will apply. The gate will be designed for 20 feet of water pressure from the river.

ENGINEERING STANDARDS**Whipps, Inc.**

370 South Athol Rd, Athol MA 01331

DATE
07/16/18DRAWN BY
KSS.O. NUMBER
27439**STAINLESS STEEL FLAP GATES**DRAWING NUMBER
A-274-392REV
A

WELDING TO AWS D1.6

FLAP

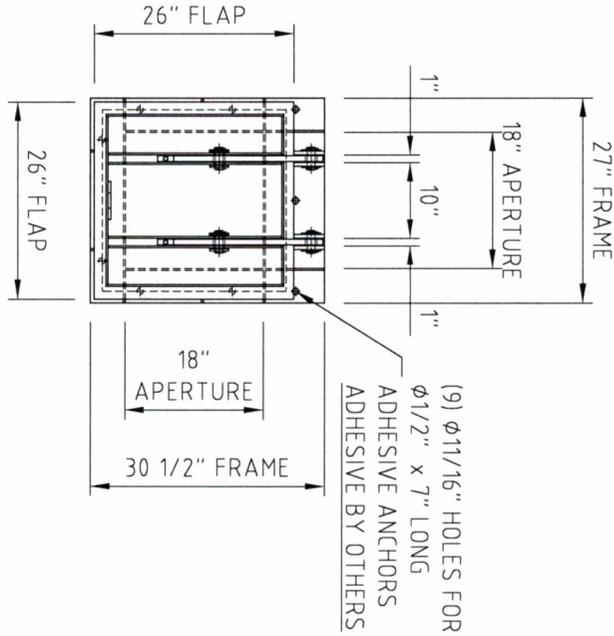
- MIN THICKNESS 1/4" ALL PARTS
- MAX BENDING STRESS 15,000 PSI
- MAX BENDING DEFLECTION < 1/360 OF SPAN OR 1/16 INCH WHICH EVER IS LESS

FRAME

- MIN THICKNESS 1/4" ALL S.S. PARTS

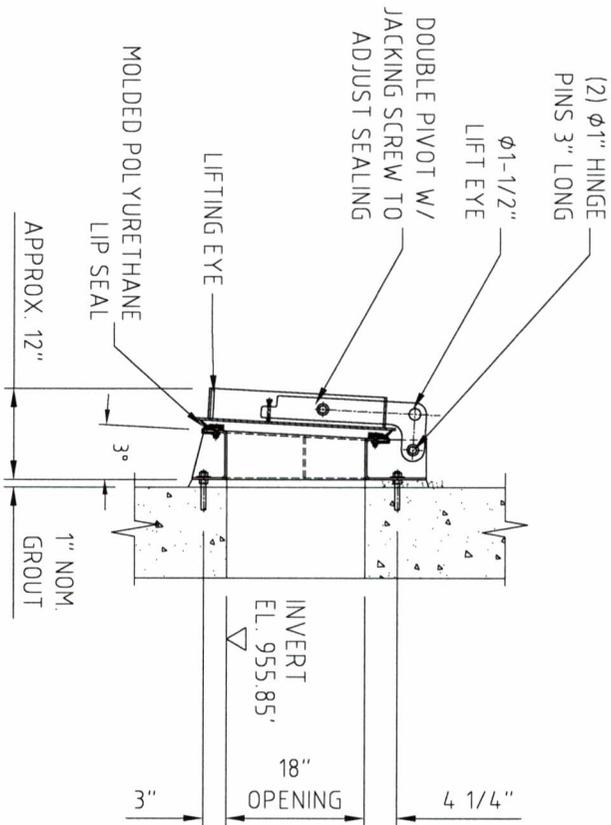
MATERIAL STANDARDS

FLAP	ASTM A240 TYPE 304L STAINLESS STEEL
FLAP STIFFENERS	ASTM A240 TYPE 304L STAINLESS STEEL
FRAME	ASTM A240 TYPE 304L STAINLESS STEEL
HINGE ARMS	ASTM A240 TYPE 304 STAINLESS STEEL
1" DIA. HINGE PINS	ASTM A276 TYPE 304 STAINLESS STEEL
HINGE BUSHINGS	ASTM D4020 UHMWPE
GATE FRAME SEAL	MOLDED POLYURETHANE
GATE FASTENERS	ASTM A276 TYPE 304 STAINLESS STEEL
GATE ANCHORS	ASTM A276 TYPE 316 STAINLESS STEEL

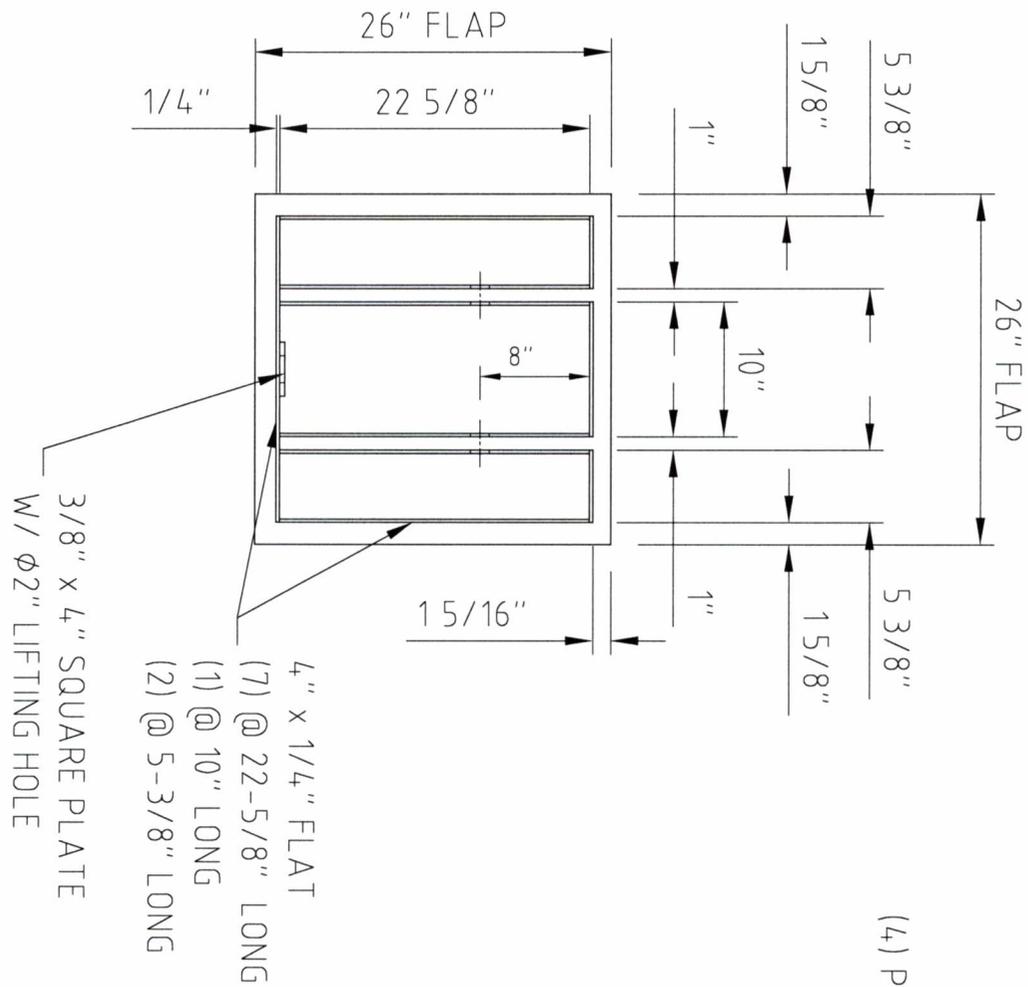


FOR FLAP DETAIL SEE: BC-452-2062-S2
 FOR FRAME DETAIL SEE: BC-452-2062-S3
 FOR HINGE ARM DETAIL SEE: BC-452-2062-S4

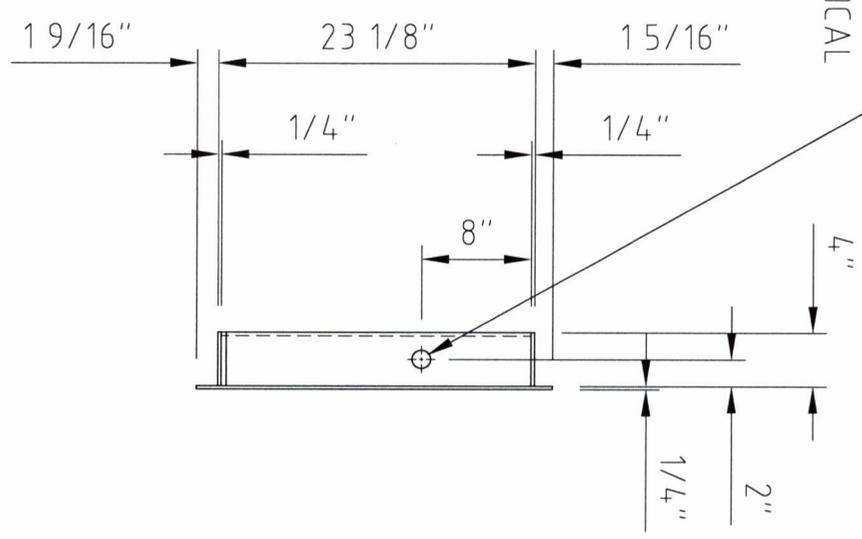
ALL FRAME SECTIONS 1/4" THICK TYPICAL
 OUTER FLAP STIFFENERS: 4" x 1/4" FLAT TYPICAL
 VERTICAL FLAP STIFFENERS: 4" x 1/4" FLAT TYPICAL
 HORIZONTAL FLAP STIFFENERS: 4" x 1/4" FLAT TYPICAL



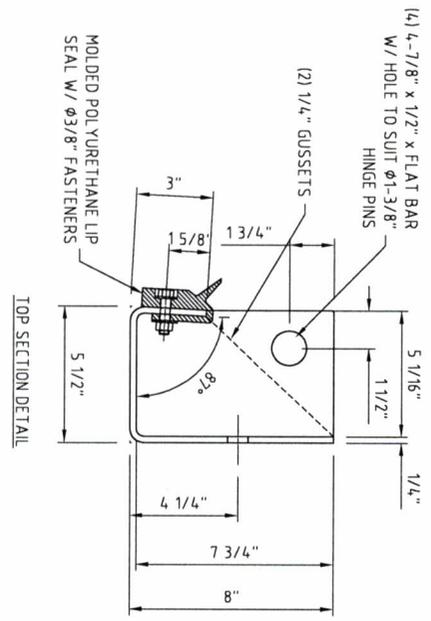
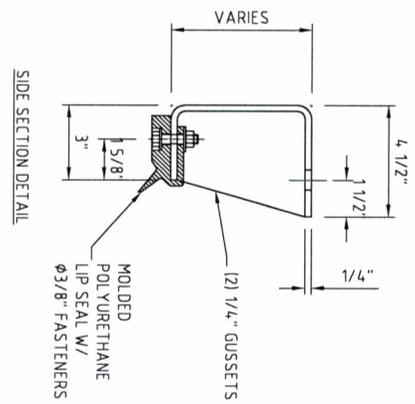
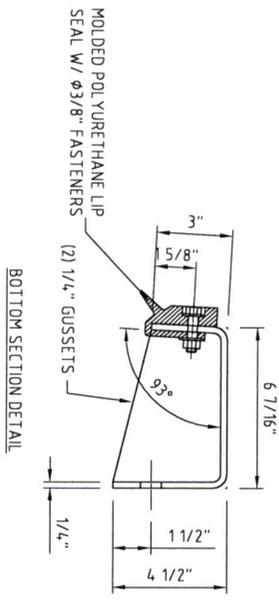
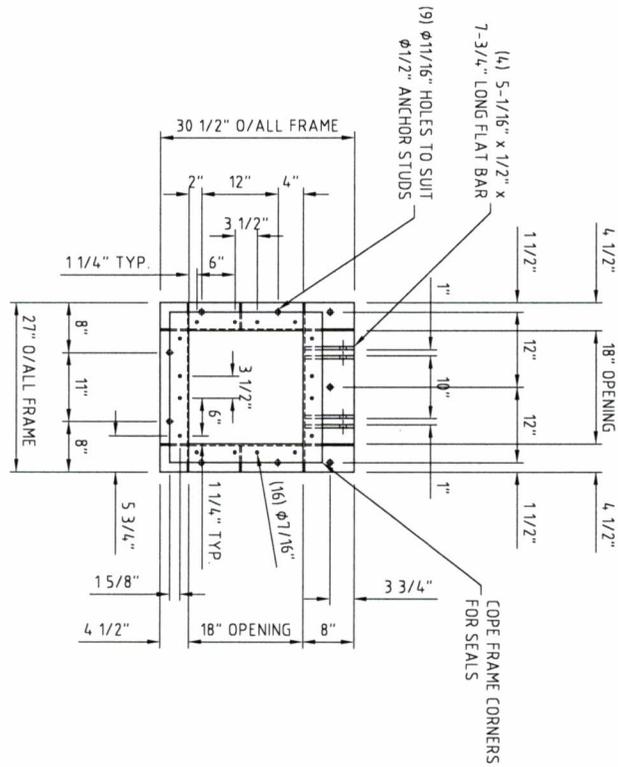
Title SERIES 452 FLAP GATE INSTALL 18" x 18"		Quantity: 1	Scale: 1:25	DO NOT SCALE THIS DRAWING Work to Dimensions Linear Dimensions are Inches					
Project GILBERT, IA		Tag No's:	Item No.: L5	Seating	Unseating	Requested Concrete Opening Tolerances Height & Width $\pm 1/4"$ Squareness $\pm 3/8$ Diagonal		A	Original Issue
Location CELL #1 CONTROL STRUCTURE		Design Head	20'	0'		THIRD ANGLE PROJECTION		Rev.	Rev. Record
Dwg. No. BC-452-2062	S.O. No. 27439	Leakage Rate GPM/ft of seal	0.1	-		Whipps, Inc.		Date	Eng. Chk.
						370 SOUTH ATHOL RD. ATHOL, MA 01351		07/16/18	KS



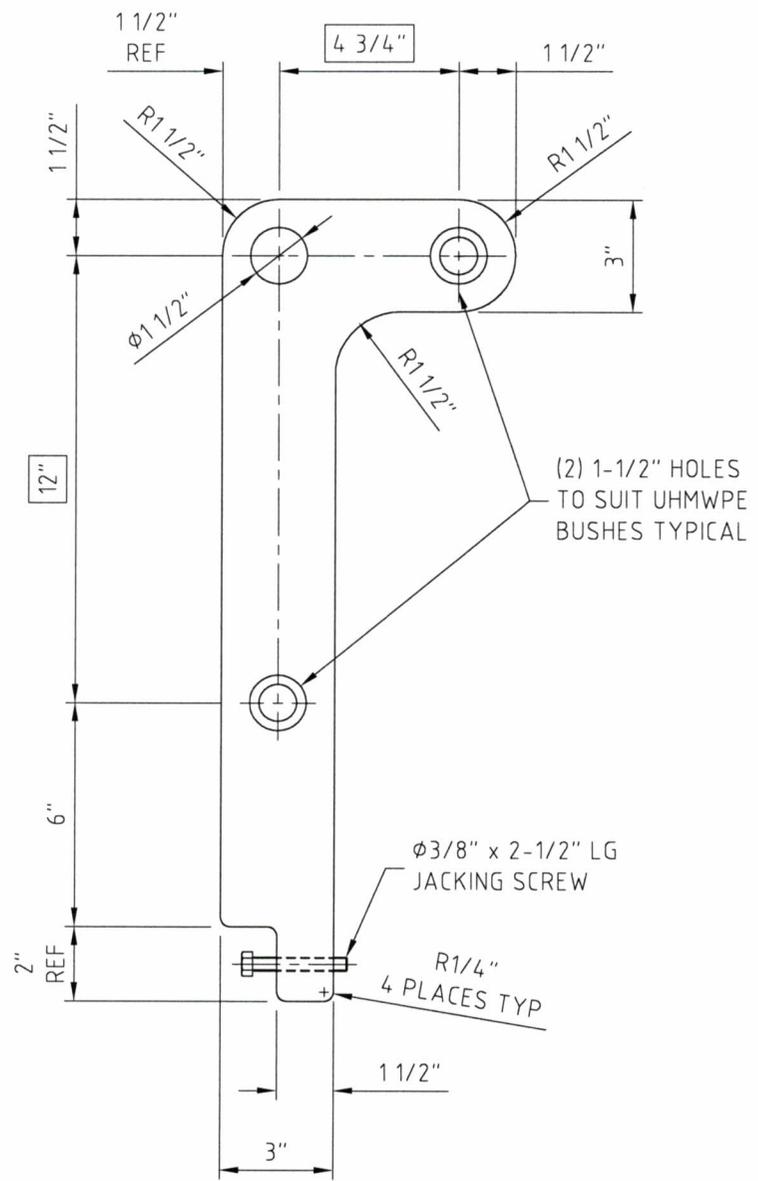
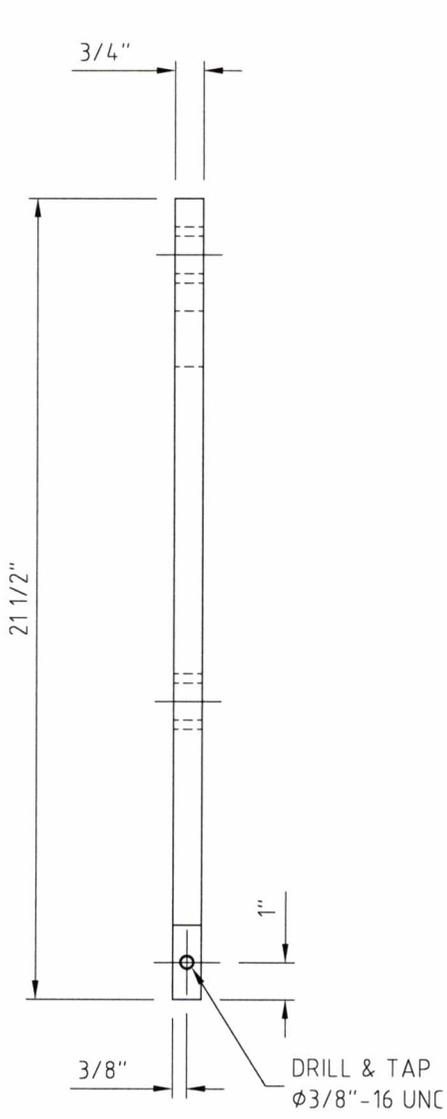
HOLES TO SUIT
 Ø1" LIFTING PIN
 (4) PLACES TYPICAL



Title 18" x 18" SERIES 452 FLAP DETAIL	Quantity: 1	Scale: 1:20	DO NOT SCALE THIS DRAWING Work to Dimensions Linear Dimensions are in Inches Requested Concrete Opening Tolerances Height & Width ±1/4" Squareness ±3/8 Diagonal			
	Material: STAINLESS STEEL 304L			A Original Issue Rev. Rev. Record	07/16/18 Date	KS Eng. Chk.
Dwg No. BC-452-2062-S2 S.O. No. 27439			THIRD ANGLE PROJECTION	Whipps, Inc. 370 SOUTH ATHOL RD ATHOL, MA 01331		



Title 20" x 20" SERIES 452 FRAME DETAIL	Quantity: 1	Scale: 1:20	DO NOT SCALE THIS DRAWING Work to Dimensions Linear Dimensions are in inches			
			Requested Concrete Opening Tolerances Height & Width $\pm 1/4$ " Squariness $\pm 3/8$ Diagonal		A Original Issue 07/16/18 KS Rev. Rev. Record Date Eng. Chk.	
Material: STAINLESS STEEL 304L			THIRD ANGLE PROJECTION			
Dwg No BC-452-2062-S3 S.D. No. 27439			Whipps, Inc. 370 SOUTH ATHOL RD ATHOL, MA 01331			



Title		DO NOT SCALE THIS DRAWING Work to Dimensions Linear Dimensions are Inches					
SERIES 452 FLAP GATE HINGE ARM DETAIL		Scale: 1:5		A	Original Issue	07/16/18	KS
Material STAINLESS STEEL 304L		THIRD ANGLE PROJECTION		Rev.	Rev. Record	Date	Eng. Chk.
Drg No. BC-452-2062-S4		S.O. No. 27439		Whipps, inc.		370 SOUTH ATHOL RD. ATHOL, MA 01331	

ADHESIVE ANCHOR RECOMMENDATIONS

ADHESIVE SUPPLIED BY INSTALLER TO BE:

- **HILTI HIT RE500 EPOXY ADHESIVE**
- **ITW RAMSET / REDHEAD EPCON CERAMIC 6 EPOXY ADHESIVE**
- **OR APPROVED EQUAL**

Whipps Inc. Supplies the Threaded Rod, Nuts & Washers required for installation.

Unless otherwise noted, the embedment depth required for each size anchor will be

Anchor Diameter	Embedment Depth
1/2"	4-1/2"
5/8"	6"
3/4"	7"
7/8"	8"
1"	9"

Staff Report

Story County
Planning and Zoning Commission

Date of Meeting:
October 7, 2020

Case Number REZ03-20

Story County Zoning Map Amendment request from the A-1 Agricultural District to the A-2 Agribusiness District and a Story County Cornerstone to Capstone (C2C) Comprehensive Plan Future Land Use Map Amendment Request from the Agricultural Conservation Area to the Commercial-Industrial Area. If the zoning map amendment is approved, Key Cooperative will establish a new grain elevator on the property, including grain bins, scales, and a control room. The existing Zearing grain elevator was destroyed by the August 10, 2020, derecho and Key Cooperative determined it was not feasible to rebuild on the site. The subject property is the Northeast Quarter of the Northwest Quarter of Section 22 of Lincoln Township (parcel 04-22-100-200). The proposed rezoning and C2C Plan amendment are only for the north 825 feet of the subject property (approximately 25 acres). The applicant will apply separately for a commercial site plan, to be approved by the Story County Board of Supervisors, and a traffic impact analysis, stormwater management plan, and erosion control plan will be required as part of the site planning process. Planning and Development Staff recommend the Planning and Zoning Commission recommend approval of the request to the Board of Supervisors.



APPLICANT:

Boyd Brodie
Key Cooperative
13585 620th Avenue
Roland, Iowa

PROPERTY OWNER:

Raymond W & Tamara K Eley
14167 720th Avenue
Zearing, IA, 50278

STAFF PROJECT MANAGER:

Amelia Schoeneman, Planner



PROPERTY INFORMATION

GENERAL PROPERTY LOCATION

On the south side of E-18/130th, a quarter-mile east of Zearing
Northeast of the Northwest Quarter of Section 22 of Lincoln Township

LEGAL DESCRIPTION OF THE PARCEL

The north 825 feet of the Northeast Quarter of the Northwest Quarter of Section 22 of Lincoln Township

PARCEL IDENTIFICATION NUMBER

Parcel number 04-22-100-200

REZONING AREA SIZE

25 acres

CURRENT ZONING

A-1 Agricultural

A-1 AGRICULTURAL DISTRICT STATEMENT OF INTENT

“The A-1 District is intended and designed to accommodate land uses compatible with agriculture and to protect agricultural land from encroachment of urban land uses. The Cornerstone to Capstone (C2C) Comprehensive Plan designates priority agricultural land as Agricultural Conservation Areas. These areas are intended to preserve rural character by limiting the development of most new non-farm dwellings to large lots. In some instances, the A-1 District permits non-farm residential development on smaller lots in furtherance of the Cornerstone to Capstone (C2C) Comprehensive Plan goals and objectives.” Agricultural crop and livestock production is a principal permitted use.

A-2 AGRIBUSINESS DISTRICT STATEMENT OF INTENT

“The A-2 District is intended and designed to provide for those activities strongly interrelated with agricultural uses and must therefore be located in agricultural areas. It may be necessary to locate such uses on land scoring 267-300 points based on the Land Evaluation and Site Assessment (LESA) System, although this shall be avoided where possible. It is also intended that, to the degree possible, all A-2 Districts shall be entirely surrounded by the A-1 District.” In addition to agriculture, veterinary clinics, anhydrous ammonia and liquid propane storage, fertilizer sales, feed sales, seed sales, and grain elevators are principal permitted uses.

FUTURE LAND USE MAP DESIGNATION

The Story County Cornerstone to Capstone (C2C) Comprehensive Plan currently designates this property as Agricultural Conservation Area on the Future Land Use Map.

CITIES WITHIN TWO MILES

Zearing

SERVICE DISTRICTS

Iowa Regional Utility Association, Interstate Power and Light, Zearing Fire, Story County Ambulance

BACKGROUND

HISTORY AND CURRENT LAND USE

The rezoning is requested to allow a new grain elevator on the subject property including grain bins, scales, and a control room. The subject property is a 38.79 net-acre parcel on the south side of 130th/E-18 and is approximately one-quarter mile east of the City of Zearing. 130th is a paved County Road. The 2015 annual average daily traffic count is 380.

The property is currently in agricultural production and contains a grain dryer bin and corn crib in the northwestern portion of the parcel. There is an existing access in the northwest corner. Key Cooperative proposes to survey and purchase the north 825 feet of the property (25 acres) for the purpose of constructing a new grain elevator. This is the proposed rezoning and C2C Plan amendment area. The remainder of the parcel will remain in agricultural production. The site has a Land Evaluation and Site Assessment score of 267. Two points are added (with a multiplier of two) if there is a grain elevator within six miles of a property. These points were not subtracted from the score. The proposed grain elevator will be replacing the existing grain elevator inside the City of Zearing.

The existing Zearing grain elevator was demolished by the August 10, 2020, derecho. General Manager Boyd Brodie prepared a [YouTube video](#) for members on the damage the cooperative experienced at its various locations. The video is embedded below. A brief discussion of the damage at the Zearing facility occurs at the 8 minute and 22-second mark.





Key Cooperative determined that rebuilding at the existing Zearing location was not optimal. They had outgrown the existing site, which was built in a vacated railroad right-of-way and is approximately seven acres. The traffic generated and other aspects of the operation impacted the community. The existing location is on South Center Street in Zearing. It is located south of the downtown area. Center Street is the main north-south street inside the City of Zearing. It connects 130th Street on the north side of Zearing and 140th Street to the south. It also collects residential traffic entering and exiting the city. There are residential areas both to the north of the existing location and to the south that, while not adjacent, are likely impacted by the traffic generated by the cooperative. The applicant indicates that the existing site received in total 1,750 semi loads annually. Of these loads, 750 are shipped out during harvest from Labor Day and Thanksgiving each fall. The remaining 1,000 loads are shipped out during the other nine months of the year. The most recent annual average daily traffic map (2007) that included traffic counts for Center Street shows 580 average annual daily trips on Center Street north of Minerva Creek and south of Garfield. The 2007 counts also show 470 average annual daily trips on Center Street between 130th Street and Garfield Street.

PROPOSED USE

If the zoning map amendment is approved, Key Cooperative plans to establish a grain elevator on the property. A concept plan for the grain elevator shows a grain pile area, ten-grain bins, and a control room.

A new access is proposed east of the existing access. The existing access may need to be removed to meet the 300-foot separation requirement between accesses—this will be determined as part of the review of the access permit by the County Engineer's Office. The applicant indicated that sight distance and accessibility for trucks entering and exiting the property was a major consideration in their site selection. Sites with a quarter-mile of visibility in either direction and on the crest of a hill are preferred. The property to the west, under common ownership with the subject property and adjacent to the City of Zearing, did not meet this criterion. Three other sites adjacent to the city were also considered but were not for sale/would have required a property swap. Key Cooperative researched 11 potential locations for the new grain elevator. According to the applicant,

The primary criteria for potential sites was to provide superior visibility for the ingress and egress of loaded grain semis and tractors and wagons to address traffic safety concerns. It is important to note that all sites meeting this primary criteria would have predictably high LESA scores due to the CSR's of flat elevated soils associated with the general area. Key's other criteria included; proximity to current members and customers, paved road access, utility infrastructure, suitable dimensions, availability for purchase, along with anticipated development costs and feasibilities.

The site design will route incoming traffic east to the inbound scale. Traffic will then curve back to the west to drop-off loads and be weighed on the outbound scale. The applicant indicates that the majority (85%) of traffic that currently uses the existing grain elevator in Zearing already comes from the east along 130th. Again, 1,750 semi loads are received each year at the existing site. There are 750 outbound loads from Labor Day through Thanksgiving. The remaining 1,000 outbound loads are spread throughout the rest of the year.

Ideally, Key Cooperative would like to have the grain elevator on-line by Labor Day of 2021 as the current grain elevator is not functional. For the current harvest, they will have two 5,000 bushel



overheads of storage available of the one million bushel storage that was previously available. The next closest available Key Cooperative grain elevator is eight miles (St. Anthony) to nine miles (Roland) away and likely not large enough to support the additional loads from the Zearing cooperative members. These elevators are also the closest elevators to the Zearing area.

If the rezoning is approved, Key Cooperative will apply for a grading permit so that they are able to create the necessary construction entrances this fall. A site plan will be required to be submitted prior to construction of the facility. The site plan will be routed to County Departments and be required to be approved by the Board of Supervisors. With the submittal of the site plan, a traffic impact analysis (and possible study), stormwater management plan, NPDES permit for erosion control, and proposed screening, parking, loading, and landscaping plans will be required. Signs and lighting will also be reviewed for conformance with the Story County Land Development Regulations.

C2C PLAN

The City of Zearing has designated an Urban Expansion Area north of the city limits, which includes Dakin's Lake. The City of Zearing did not designate the subject property as an Urban Expansion Area.

The subject property is currently designated Agricultural Conservation Area on the C2C Comprehensive Plan Future Land Use Map. The proposed amendment to the Future Land Use Map is to change the north 825 feet to the Commercial-Industrial Area designation to allow the grain elevator to be located on the site.

The Commercial-Industrial Area designation supports the long term planning objective of accommodating future demand for types of commercial and industrial growth that may be best located in a rural setting outside of an urbanized area.

SITE AND SURROUNDING AREA

The property is located approximately one quarter-mile east of the City of Zearing. All adjacent properties are in agricultural production with the exception of a parcel to the north. To the north is a property that contains a single-family dwelling and several steel utility buildings. The applicant indicated that they have contacted the property owner of the dwelling. The concept drawing shows that the dwelling will be located west of the first row of grain bins on the subject property and approximately 400 feet northwest of the outbound scale. All adjacent properties are zoned A-1 Agricultural.

Over a quarter-mile to the east is the intersection of 720th and 130th Street. There are two dwellings to the west of the intersection.

Despite the proximity to the City of Zearing, 89% of the land within one mile of the subject property is in agricultural production.

ANALYSIS

REZONING STANDARDS OF APPROVAL



According to Section 92.06(2) of the *Story County, Iowa Code of Ordinances*, applicable standards for approval include:

1. The proposed rezoning shall conform to the Story County Development Plan (C2C).

Applicant Comment: The rezoning area conforms to the C2C Comprehensive Plan. Specifically referenced to Chapter 5: Land Use Plan, Chapter 6: Economic Prosperity, and Chapter 7: Transportation.

Staff Comment: The C2C Plan Zoning Compatibility Matrix indicates that the A-2 District is compatible with the Agricultural Conservation Area and the Commercial-Industrial Area Future Land Use Designations. The property is currently designated as Agricultural Conservation Area by the C2C Plan. However, it is typical to request a C2C Plan Amendment to Commercial-Industrial for an agribusiness use as it is more consistent with the proposed use. The C2C Plan characterizes the Commercial-Industrial Area designation as supporting “the long term planning objective of accommodating future demand for types of commercial and industrial growth that may be best located in a rural setting outside of an urbanized area.” Agribusiness uses fit well within the intent of this designation. For example, Key Cooperative is seeking this location as they have found it will be more appropriate outside of the City of Zearing given traffic and other impacts. It will also be more accessible and safer for their customers who farm in the area. The principles for the Commercial-Industrial Area are further discussed in the section below on the standards for a C2C Future Land Use Map Amendment.

2. The proposed rezoning shall conform to the Statement of Intent for the proposed district and district requirements.

The statement of intent for the A-2 district is:

The A-2 District is intended and designed to provide for those activities strongly interrelated with agricultural uses and must therefore be located in agricultural areas. It may be necessary to locate such uses on land scoring 267-300 points based on the Land Evaluation and Site Assessment (LESA) System, although this shall be avoided where possible. It is also intended that, to the degree possible, all A-2 Districts shall be entirely surrounded by the A-1 District.

Applicant Comment: The proposed rezoning area conforms to the Statement of Intent for the proposed district and district requirements. Specifically referenced to Section 86.05, A-2 Agribusiness District (1.Statement of Intent), and (2. I. Grain elevators) of the Story County Code of Ordinances.

Staff Comment: The proposed use of the subject property is explicitly listed as a principal permitted use in the A-2 Agribusiness District, and considered, following the statement of intent, to be “strongly interrelated agricultural uses.”

The LESA score for this property is 267 and above the 267-300 point threshold. Points could be subtracted given that having a grain elevator within six miles is a factor in the LESA score (adds four total points). Staff did not take away these points in the scoring process. The proposed grain elevator will replace the existing elevator.



Further, for traffic safety and accessibility by grain trucks, a site on the crest of a hill with greater visibility was preferred. The applicant indicates that this location likely leads to better soils and a higher LESA score.

Regarding the statement of intent's goal to have A-2 Agribusiness zoned properties surrounded by A-1 Agricultural zoning, this property is surrounded by the A-1 Agricultural District on all sides. The balance of the parcel will remain in the A-1 Agricultural District and in agricultural production.

3. The proposed rezoning shall be compatible with surrounding land uses and development patterns.

Applicant Comment: The proposed rezoning area is compatible with the surrounding land uses and development patterns. Specifically referenced to Section 86.05 A-2 Agribusiness District (1. Statement of Intent, It is also intended that, to the degree possible, all A-2 Districts shall be entirely surrounded by the A-1 District.) of the Story County Code of Ordinances.

Staff Comment: Approximately 89% of the land within one mile of the subject property is used for agriculture. All adjacent land is in agricultural production and there is one adjacent dwelling. The applicant indicated that they have contacted the property owner of the dwelling.

The A-2 District statement of intent encourages properties zoned A-2 Agribusiness to be surrounded by properties zoned A-1 Agricultural due to the interrelatedness of the uses. In the case of a grain elevator, being surrounded by A-1 zoning enhances customer access to the site and improves safety, which will allow farmers to bring in loads and loads to be shipped out more efficiently. Many of the nearby farmers are likely member-owners of the cooperative.

The property is also a quarter-mile east of the City of Zearing. Zearing has designated an Urban Expansion Area on the north side of the city. The subject property is not located in the Urban Expansion Area. While not adjacent to the city, it is not so far removed that growth could not occur in the area. This location balances the needs of the grain elevator to be in a rural location and limits the impact on the rural character of the area. As it will continue to provide the Zearing area with a grain elevator, there will likely continue to be economic benefits to the city and area.

4. The proposed rezoning shall protect environmental resources. Rezoning of parcels containing more than fifty (50) percent of the gross acreage as lands identified with areas designated Natural Resource Areas on the Story County Development Plan (C2C) shall not be approved unless such requested action results in a district designation more restrictive than the current designation, the R-C Residential Conservation Design (Overlay) District is applied to the property, or conditions protecting the identified areas are attached to the rezoning request. (Ordinance No. 184)



Applicant Comment: The proposed rezoning area complies with this requirement. Specifically referenced to C2C Comprehensive Plan, Appendix D: Map 26, Existing Land Use Map, currently designated as Agricultural and Map 28, Future Land Use Map, currently designated as Agricultural Conservation Area. We are requesting a designation change to be compatible with the proposed development of the site.

Staff Comment: Not Applicable—no natural resources are present on the property. Any activities that would require a zoning permit will be required to meet environmental protection provisions for stormwater and erosion control in the Land Development Regulations General Site Planning Standards Chapter 88.

5. In areas where the petition to rezone requests a change from A-1 District or A-2 District to another district, lands scoring 267 or above for total LESA score, as determined by a Land Evaluation Site Assessment (LESA) as adopted for Story County, shall not be approved. (Ordinance No. 208)

Applicant Comment: The proposed rezoning area is not subject to this requirement as we are only requesting a change from A-1 to A-2.

Staff Comment: The LESA score for this property is 267 and above the 267-300 point threshold. Points could be subtracted given that having a grain elevator within six miles is a factor in the LESA score (adds four total points). Staff did not take away these points in the scoring process. The proposed grain elevator will replace the existing elevator.

Another factor in the LESA score is adjacent zoning. As all adjacent properties are zoned A-1 Agricultural and in production, no points were subtracted. Again, surrounding A-2 Agribusiness zoned properties with A-1 Agricultural District zoned properties is encouraged by the Story County Land Development Regulations due to the interrelatedness of the uses. In the case of a grain elevator, this location provides greater access and efficiency.

Further, for traffic safety, a site on the crest of a hill with greater visibility was preferred. The applicant indicates that this likely leads to better soils and a higher LESA score.

C2C Future Land Use Map Amendment Standards

a. The extent to which the change would be consistent with the comprehensive plan goals and policies.

Staff Comment: *Applicable goals of the C2C Comprehensive Plan include:*

Agricultural Resources Goals

AR1: Protect agricultural practices in areas with prime soils and viable agricultural interests.

AR2: Minimize conflicts between agricultural and non-agricultural land uses.

AR3: Preserve farmland and the rural landscape as a viable foundation for a strong and growing agricultural economy.

Cultural Resources Goals



CR1: New development in the unincorporated areas of Story County respects and enhances the area's rural character.

Land Use Goals:

LU Goal 3: Consider the availability and capacity of local services and infrastructure when determining future land uses.

LU Goal 6: Continue to protect and preserve Story County's agricultural resources for current and future generations.

Commercial and Industrial Areas Principles:

Principle 2: Support new commercial and industrial development within incorporated areas and areas where infrastructure exists and extensions are logical.

Principle 3: Where appropriate, support expansion of existing and/or new industrial or commercial development when it can be demonstrated that agricultural and natural resources can be preserved and protected.

Principle 4: Provide adequate buffers to agricultural uses with new development to minimize conflicts.

Principle 5: Review design and development standards to ensure that conflicts between proposed development and agricultural and natural resources are minimized. Design new development to maintain the open character of rural areas and to protect and maintain agricultural uses and sensitive environmental features.

Principle 7: Encourage proposed development to take access off existing paved roads unless it can be demonstrated that Minimum Levels of Service requirements may be met or development can mitigate impacts.

While productive agricultural land is being taken out of production for the use, it will directly benefit area farmers and likely provide a safer and more efficient harvest. The grain elevator will enhance the productivity of the area's agricultural economy. Key Cooperative has outgrown the current site and the existing elevator was destroyed by the August 10, 2020, derecho. Key Cooperative investigated 11 potential sites, all of which were productive agricultural land given the need to be in the Zearing area, the size requirements of the site, and the visibility requirements for truck traffic. Without the approval of the rezoning, a new grain elevator would not be available in the area for the 2021 harvest. There is limited ability to collect grain from this year's harvest at the Zearing elevator and limited capacity at other nearby Key Cooperative elevators.

A setback of 50 feet will be required from adjacent properties, providing buffers from surrounding agricultural uses. The property is also located on a paved road—130th Street. The applicant indicates that the majority (85%) of traffic that currently uses the existing grain elevator in Zearing already comes from the east along 130th. Again, 1,750 semi loads are received and shipped out annually. The 2015 AADT counts for 130th were 380.

b. Evidence demonstrating the reason(s) why the plan should be changed, including but not limited to whether new information has become available since the comprehensive plan was adopted that supports reexamination of the plan, or that existing or proposed development offer new opportunities or constraints that were not previously considered.



Staff Comment: Typically, parcels are designated in the C2C Plan Future Land Use Map based on their tax classification. The property is classified as agricultural for tax purposes. When the C2C Plan Future Land Use Map was created, staff did not likely speak to Key Cooperative about their future needs for new sites. Further, the need for a new site was catalyzed by the August 10, 2020, derecho. The damaged elevator leaves a significant void in the agricultural services available to Zearing-area farmers.

c. Whether or not the change is needed to allow reasonable development of the site.

Staff Comment: The site is currently productive agricultural land. The need for the rezoning goes beyond the need for reasonable development of the site and is needed to allow the continued development and productivity of agriculture in the Zearing area. Without the approval of the rezoning, a new grain elevator would not be available in the area for the 2021 harvest. There is limited ability to collect grain from this year's harvest at the Zearing elevator and limited capacity at other nearby Key Cooperative elevators. The damaged elevator leaves a significant void in the agricultural services available to Zearing-area farmers.

d. The relationship of the proposed amendment to the supply and demand for the particular land uses within the county and immediate vicinity of the site.

Staff Comment: The nearest grain elevators are Key Cooperative elevators eight to nine miles away from the existing location. If an elevator is not located within six miles of a property, it decreases the LESA score, which measures agricultural value. Without a new grain elevator in the Zearing area, there will be no elevator within a reasonable distance.

There are no available A-2 Agribusiness zoned properties in Lincoln Township. There is one A-2 Agribusiness zoned property to the west approximately two miles that is the location of an agricultural equipment dealer. Of the other adjacent townships, there are several A-2 zoned properties in Fernald in Richland Township.

e. A demonstration that the proposed amendment has merit beyond the interests of the applicant.

Staff Comment: A grain elevator is required for area farmers to have a successful harvest. The damaged elevator leaves a significant void in the agricultural services available to Zearing-area farmers. Without the approval of the rezoning, a new grain elevator would not be available within a reasonable distance. For the current harvest, they will have two 5,000 bushel overheads available of the one million bushel storage that was previously available at the existing Zearing grain elevator. The next closest available Key Cooperative grain elevator is eight miles (St. Anthony) to nine miles (Roland) away and likely not large enough to support the additional loads from the Zearing cooperative members.

f. The possible impacts of the amendment on all specific elements of the comprehensive plan as may be applicable, including but not limited to:

- 1. Goals, Objectives and strategies as related to the following from C2C Plan; Agricultural Resources, Community Facilities and Services, Communications and Public**



Safety, Emergency Preparedness, Cultural Resources, Infrastructure and Utilities, and Intergovernmental Coordination. Staff Comment: See analysis for the extent to which the change would be consistent with the comprehensive plan goals and policies in section a.

2. Conservation of Natural Resources and Recreation. Staff Comment: No impact anticipated.

3. Land Use. Staff Comment: See analysis for the extent to which the change would be consistent with the comprehensive plan goals and policies in section a.

4. Economic Prosperity. Staff Comment: The amendment supports the continuation of a business in Story County that directly benefits the County’s agricultural operations, an important part of the County’s economy. The elevator will fill a void in the agricultural economy around the Zearing area.

5. Transportation. Staff Comment: The proposed designation amendment will likely have an impact on the traffic on 130th. A traffic impact analysis will be required as part of the site planning process. The applicant indicates that the majority (85%) of traffic that currently uses the existing grain elevator in Zearing already comes from the east along 130th. Again, 1,750 semi loads are received and 750 loads are outbound from Labor Day through Thanksgiving. The remaining 1,000 outbound loads are spread throughout the rest of the year. Currently, the 2015 AADT counts for 130th were 380.

g. Consideration of the fiscal impact of the proposed amendment to Story County.

Staff Comment: None. 130th is a paved road and impacts will be assessed through a traffic impact analysis required as part of the site planning review process.

COMMENTS

The following comments are part of the official record of the proposed **Story County Zoning Map Amendment, Case No. REZ03-20**. If necessary, conditions of approval may be formulated based off these comments.

Comments from the Conceptual Review Team

A conceptual Review meeting was held for the proposed rezoning and minor subdivision on September 17, 2020. The complete submittal was also routed for Interagency Review. The following comments were not already addressed in this report.

Environmental Health: Contact our office for well or septic permits if necessary.

County Engineer’s Office: Contact our office for a permit if any new driveways are proposed.

County Assessor’s Office: 1) The parcel would be assessed as a Commercial Grain Handling Facility. Land and improvements will be assessed at market value. 2) After the classification is changed from agricultural to commercial, the Co-Op will qualify for the Business Property Tax Credit (BPTC). This is a one time sign up. Must be re-signed if sold OR the name of the business is changed.

County Emergency Management Agency: Do you know if they plan to move the anhydrous ammonia storage from the south side of town to this site? It will decrease the risk to the community but we need to also take into consideration any waterways in the area if there would be run off from a release. *We are not planning to move any other operations to the site at this time. We are only*



planning on the grain facility. We did secure a large enough site to accommodate our agronomy activities including anhydrous ammonia in the future, but currently have no plans to do so.

Planning and Development: A site plan and zoning permit application showing proposed improvements and compliance with [Chapter 88](#), General Site Planning Standards, is required to be submitted if the rezoning is approved. The Board of Supervisors will take action to approve the site plan. Selected standards include:

1. Chapter 88.05 Environmental and Natural Resource Standards: A stormwater management plan prepared by a professional engineer that includes volume, rate, and water quality controls is required for development that disturbs over one acre of area. The State of Iowa requires an NPDES permit for erosion control if an area over one acre will be disturbed—disturbed areas under one acre are under Story County’s erosion control requirements.
2. 88.10 Screening: Material and equipment storage, truck parking, refuse collection areas, and mechanical equipment are required to be screened.
3. Chapter 88.08 Parking and Circulation Standards:
 - i. A maximum of one parking space for every 1,000 square feet is permitted for warehouse uses. A maximum of one space for every 200 square feet is permitted for office uses.
 - ii. In any district in connection with every building or part thereof hereafter erected having a gross floor area of 6,000 square feet or more, which is to be occupied by manufacturing, storage, warehouse, goods display, retail store, wholesale store, market, hotel, hospital, or other uses similarly requiring the receipt or distribution by vehicles of material or merchandise, there shall be provided and maintained on the same lot with such building at least one off-street loading space, plus one additional such loading space for each 20,000 square feet or major fraction thereof of gross floor area so used in excess of 10,000 square feet.
 - iii. Each loading stall shall not be less than 12 feet in width and 40 feet length.
 - iv. Parking stall and aisle width requirements in Table 88-4 apply.
4. Chapter 88.09 Site Lighting: lighting over 1,800 lumens must be shielded.
5. Chapter 88.11 Landscaping:
 - i. One tree per every five parking spaces is required to be planted.
 - ii. An area equivalent to 20% of any impervious surfaces added is required to be landscaped.
6. 50-foot setbacks are required.

A sign permit will be required for any new signage on the property. See [Chapter 89.02](#).

Comments from Cities within Two Miles

The submittal was routed to the City of Zearing on September 25, 2020. No written comments were received. Staff also contacted the City Clerk, Karen Davis, on the phone. Ms. Davis communicated that Key Cooperative had also notified them and they had no comments. Ms. Davis did ask for information on the annexation process from staff and indicated, however, that the city would defer to the County’s review.



Comments from the General Public

A rezoning sign was placed on the property on September 25, 2020.

Notice letters were sent to property owners within a ¼ mile of the proposed rezoning on September 29, 2020, and legal notice was published in the Ames Tribune, Nevada Journal, and Tri-County Times on October 1, 2020.

No comments were received prior to the writing of this report.

POINTS TO CONSIDER

1. Key Cooperative has outgrown the current Zearing site inside of the city and the existing elevator was destroyed by the August 10, 2020, derecho.
2. The proposed location enhances customer access to the site and improves safety, which will allow farmers to bring in loads and loads to be shipped out more efficiently.
3. The proposed site is surrounded by A-1 Agricultural zoning, meeting the statement of intent for the A-2 Agribusiness District. The balance of the parcel will remain in the A-1 Agricultural District and in agricultural production.
4. The C2C Plan characterizes the Commercial-Industrial Area designation as supporting “the long term planning objective of accommodating future demand for types of commercial and industrial growth that may be best located in a rural setting outside of an urbanized area.”
5. The property is a quarter-mile east of the City of Zearing. The proposed location ensures that the Zearing will continue to have a grain elevator, an essential part of the agricultural economy.
6. The property is also located on a paved road—130th Street. The applicant indicates that the majority (85%) of traffic that currently uses the existing grain elevator in Zearing already comes from the east along 130th.
7. A site plan will be required to be submitted prior to construction of the facility and approved by the Board of Supervisors. With the submittal of the site plan, a traffic impact analysis (and possible study), stormwater management plan, NPDES permit for erosion control, and proposed screening, parking, loading, and landscaping plans will be required. Signs and lighting will also be reviewed for conformance with the Story County Land Development Regulations.

ALTERNATIVES

Planning and Development Staff recommends approval of the rezoning request (alternative one). The Story County Planning and Zoning Commission may consider the following alternatives for the rezoning request:

- 1. The Story County Planning and Zoning Commission recommends approval of the**



proposed Story County Zoning Map Amendment from the A-1 Agricultural District to the A-2 Agribusiness District for the north 825 feet of the Northeast Quarter of the Northwest Quarter of Section 22 of Lincoln Township as put forth in case REZ03-20.

2. The Story County Planning and Zoning Commission recommends approval of the proposed Story County Zoning Map Amendment from the A-1 Agricultural District to the A-2 Agribusiness District for the north 825 feet of the Northeast Quarter of the Northwest Quarter of Section 22 of Lincoln Township as put forth in case REZ03-20, with conditions.
3. The Story County Planning and Zoning Commission recommends denial of the proposed Story County Zoning Map Amendment from the A-1 Agricultural District to the A-2 Agribusiness District for the north 825 feet of the Northeast Quarter of the Northwest Quarter of Section 22 of Lincoln Township as put forth in case REZ03-20.
4. The Story County Planning and Zoning Commission remands the proposed Story County Zoning Map Amendment from the A-1 Agricultural District to the A-2 Agribusiness District for the north 825 feet of the Northeast Quarter of the Northwest Quarter of Section 22 of Lincoln Township as put forth in case REZ03-20 back to the applicant and/or staff for additional information, and directs staff to place the second consideration on the November 4, 2020, Story County Planning and Zoning Commission Agenda.



1. Property Owner*

(Last Name) Eley
 (First Name) Raymond & Tamara
 (Address) 14167 720th Ave.
 (City) Zearing (State) IA (Zip) 50278
 (Phone) 515-460-3198 (Email) rteley@netins.net

2. Applicant (if different than owner)

(Last Name) Brodie
 (First Name) Boyd
 (Address) 13585 620th Ave
 (City) Roland (State) IA (Zip) 50236
 (Phone) 515-291-1677 (Email) boyd.brodie@keycoop.com

3. Property Address SECTION:22 TOWNSHIP:85 RANGE:21 NE NW

Parcel ID Number(s) 0422100200

4. Certification and Signature

I/we certify that the information and exhibits submitted are true and correct to the best of my knowledge and that in filing this application I am acting with the knowledge, consent and authority of the owners of the property. Pursuant to said authority, I hereby permit County officials to enter upon the property for the purpose of inspection.

*Acknowledgement of property owner is required and may occur via email or by signature of this application.

Property Owner Signature [Signature] Date 9/12/2020 Applicant Signature [Signature] Date 9/15/2020

Code of Ordinances (Text)

Amended Section(s): _____

Submittal Requirements:

- Attend conceptual review meeting**
- Filing Fee (required prior to processing): \$325
- Proposed text language showing red-lines & strikeouts of the proposed changes
- Written narrative explaining justification for proposed amendment and conformance to the standards for approval outlined in Section 92.07 of the Story County Code of Ordinances

Official Zoning Map (Rezoning)***

Current District: A-1
 Proposed District: A-2

Submittal Requirements:

- Attend conceptual review meeting**
- Filing Fee (required prior to processing): \$350
- Legal description of area to be amended (submit as Word document)
- Written narrative explaining justification for proposed amendment and response to the standards for approval outlined in Section 92.06(2) of the Story County Code of Ordinances
- All submittal requirements as outlined in Section 92.06(3) of the Story County Code of Ordinances

Cornerstone to Capstone Plan***

Current Designation: _____
 Proposed Designation: _____

Submittal Requirements:

- Attend conceptual review meeting**
- Filing Fee (required prior to processing): \$350
- Legal description of area to be amended (submit as Word document)
- Written narrative explaining existing and proposed plan designations, as well as justification for amendment

RECEIVED

SEP 18 2020

**Prior to submittal of a Text, Zoning, or C2C Plan Amendment application, see conceptual review application and deadline on Planning and Development website.

***If applying for Zoning and C2C Plan Amendments, only 1 filing fee is required.

Receipt No. STORY CO. PLANNING & DEVELOPMENT
 Receipt Amount _____

5703e3
325

Legal Description of the area to be amended

The North 825' of: The Northeast Quarter of the Northwest Quarter (NE1/4 NW1/4) of Section Twenty-two (22), Township Eighty-five (85) North, Range Twenty-one (21) West of the 5th P.M., Story County, IA

Note: The Parcel would be 25 acres more or less, a more accurate legal description will be determined by Survey.

Key Cooperative 13585 620th Ave. Roland, IA (the applicant) is requesting the designated property be rezoned from A-1 to A-2 for the purpose of constructing a grain elevator suitable to service area agricultural producers well into the future. We are also requesting a C2C Plan designation change from Agricultural Conservation Area to a Commercial/Industrial Area.

On August 10th, 2020, Key Cooperative's grain facilities at our Zearing location were completely demolished by the Derecho storm. The Zearing facility serves hundreds of agricultural producers and member owners of the cooperative who reside in the immediate area. The board of directors who represent the members of Key Cooperative have determined it is in the best interests of the local residents of Zearing, the area's rural community and the producers serviced by this facility to relocate it to a more suitable location.

The Zearing grain facility has gradually out-grown its current location. Migrating the activities of this commercial grain elevator to a strategically designed site outside of town will reduce congestion, traffic, noise, and improve safety for the community, while providing necessary opportunity for additional economic growth and development.

Key Cooperative researched a total of 11 alternative sites for relocation. The primary criteria for potential sites was to provide superior visibility for the ingress and egress of loaded grain semis and tractors and wagons to address traffic safety concerns. It is important to note that all sites meeting this primary criteria would have predictably high LESA scores due to the CSR's of flat elevated soils associated with the general area. Key's other criteria included; proximity to current members and customers, paved road access, utility infrastructure, suitable dimensions, availability for purchase, along with anticipated development costs and feasibilities.

The designated property is currently unharvested corn that was seriously damaged by the storm. The field has not been released by insurance adjusters which adds difficulty for survey and site plan development which is currently in process. The remainder of the parcel and adjacent parcels will continue to be farmed. Additionally, the areas of the proposed site that won't be immediately developed will continue to be farmed by the owners of the adjacent parcels.

Traffic impacts to and from the site should be comparable to the original location's traffic as approximately 85% of the inbound grain flows from the same direction of the proposed site location. The current demolished Zearing site received approximately 1750 semi loads and shipped out approximately 750 semi loads during harvest which typically occurs between Labor Day and Thanksgiving each fall. The other 1000 outbound loads are evenly spread out between Thanksgiving and Labor Day.

Initial priorities are to develop and construct a working commercial grain elevator by Labor Day 2021 to serve the cropping and marketing needs of Zearing area members and producers. The nearest elevators that could also serve this area are located 9 to 15 miles away and do not have the storage or receiving capacity to feasibly service the area's farming community. This is an extremely challenging timeframe to accomplish functional completion of this project. We intend to proceed with initial site grading for the purpose of establishing driveway access and suitable roadways on the site to facilitate construction as weather conditions allow. We are hoping to secure necessary permitting to accomplish these preliminary tasks concurrently while meeting rezoning and development requirements of Story County with respect to the scope and intent of the C2C Comprehensive Plan and compliance with Chapter 88, General Site Planning Standards, including State and local permits and development requirements.

Responses for conceptual review and rezoning applications are listed below.

92.06 AMENDING THE OFFICIAL ZONING MAP (REZONINGS).

This section defines the process, application requirements, and standards for approval for amendments to the Official Zoning Map.

(Ordinance No. 252)

2. Standards for Approval. All petitions to rezone shall satisfy the following standards for such requested action to be approved:

- A. The proposed rezoning shall conform to the Cornerstone to Capstone (C2C) Comprehensive Plan.

The rezoning area conforms to the C2C Comprehensive Plan. Specifically referenced to Chapter 5: Land Use Plan, Chapter 6: Economic Prosperity, and Chapter 7: Transportation.

(Ordinance No. 252)

- B. The proposed rezoning shall conform to the Statement of Intent for the proposed district and district requirements.

The proposed rezoning area conforms to the Statement of Intent for the proposed district and district requirements. Specifically referenced to Section 86.05, A-2 Agribusiness District (1. Statement of Intent), and (2. I. Grain elevators) of the Story County Code of Ordinances.

- C. The proposed rezoning shall be compatible with surrounding land uses and development patterns.

The proposed rezoning area is compatible with the surrounding land uses and development patterns. Specifically referenced to Section 86.05 A-2 Agribusiness District (1. Statement of Intent, It is also intended that, to the degree possible, all A-2 Districts shall be entirely surrounded by the A-1 District.) of the Story County Code of Ordinances.

- D. The proposed rezoning shall protect environmental resources. Rezoning of parcels containing more than 50 percent of the gross acreage as lands identified with areas designated natural resource areas on the Cornerstone to Capstone (C2C) Comprehensive Plan shall not be approved unless such requested action results in a district designation more restrictive than the current designation, the R-C Residential Conservation Design (Overlay) District is applied to the property, or conditions protecting the identified areas are attached to the rezoning request.

The proposed rezoning area complies with this requirement. Specifically referenced to C2C Comprehensive Plan, Appendix D: Map 26, Existing Land Use Map, currently designated as Agricultural and Map 28, Future Land Use Map, currently designated as Agricultural Conservation Area. We are requesting a designation change to be compatible with the proposed development of the site.

(Ordinance No. 184)

- E. In areas where the petition to rezone requests a change from A-1 District or A-2 District to another district, lands scoring 267 or above for total LESA score, as determined by a Land Evaluation Site Assessment (LESA) as adopted for Story County, shall not be approved.

The proposed rezoning area is not subject to this requirement as we are only requesting a change from A-1 to A-2.

Legend

E18

New Driveway

Inbound Scale

Control Room

Outbound Scale

Grain Bin

Grain Pile

