ATTACHMENT B

JOINT CITY | COUNTY LAND USE STUDY



City of Council Bluffs, Iowa

Pottawattamie County, Iowa

BOLTON & MENK

hgm ASSOCIATES INC.

SBFRIEDMAN

ACKNOWLEDGMENTS

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INTRODUCTION & BACKGROUND

1

INTRODUCTION OF PROCESS

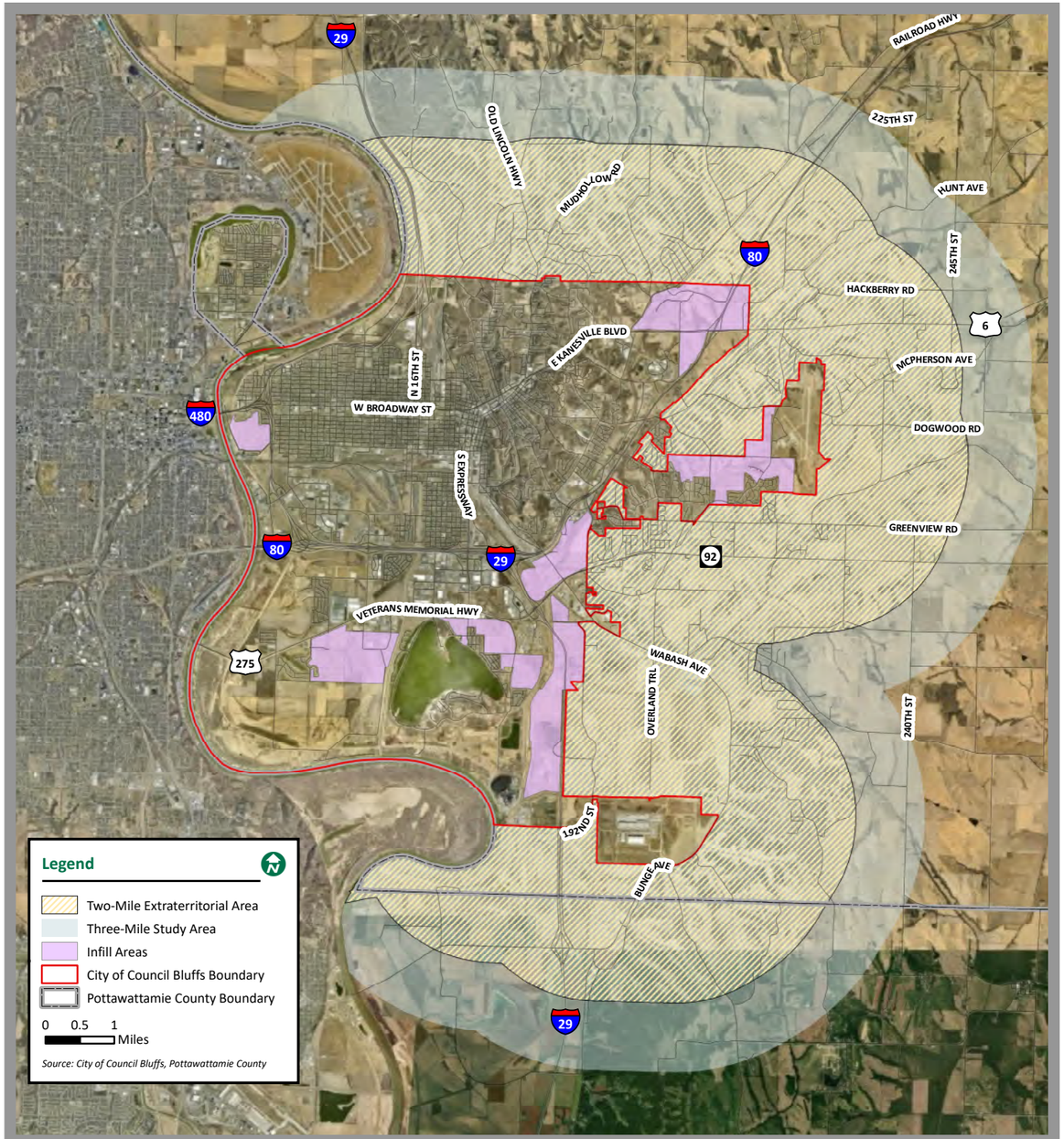
The project represents a joint land use study between the City of Council Bluffs and Pottawattamie County. The study and planning process is intended to identify appropriate and desirable land uses while taking into consideration the ability to serve areas with infrastructure, an appropriate roadway network, and natural development constraints.

It is acknowledged that State of Iowa Code Chapter 414.23 provides that a City may extend its zoning authority by two miles beyond its limits into the unincorporated area (i.e., two-mile extraterritorial area) except in counties where a Zoning Ordinance exists. The City of Council Bluffs and Pottawattamie County entered into an agreement in accordance with State of Iowa Code Chapter 28E: Joint Exercise of Governmental Powers. The adopted 28E agreement acknowledges the need to plan collectively for the development of the two-mile extraterritorial area. Since Pottawattamie County has an adopted Zoning Ordinance, the current agreement between the City and the County does not impact zoning decisions. For planning purposes, this study evaluates a three-mile area around the perimeter of the corporate limits of the City of Council Bluffs (i.e., three-mile study area). The study also considers development opportunities for properties located within eight identified infill areas in the corporate limits of the City of Council Bluffs (additional information about each infill area can be found in Chapter 3: Council Bluffs Infill Areas).

A well-thought-out plan for land use and development helps to ensure projects will not occur in a haphazard way. The resulting land use study includes recommendations for policy and regulatory changes (where appropriate) to facilitate the implementation of the findings of the study.

The challenge in identifying an appropriate land use plan in the study area was creating a balance between the desired typologies of land use(s) that result in an increased tax base and the potential for providing high-quality jobs at an intensity that can be adequately serviced without creating negative externalities to the surrounding development(s). This balance can be achieved by encouraging development in areas that have greater access to services that can sustain a higher density while protecting the value of less intense uses in the area where appropriate. The recommended land use plan must be sustainable—not only in an environmental way, but financially to fit the needs of the community.

The study evaluated existing land uses, current zoning maps, and the future land use plans as most recently identified in the Pottawattamie County Comprehensive Plan, The Bluffs Tomorrow: 2030 Plan, and other land use studies within the area. The final plan includes a future land use map, policy guidance, and recommendations for implementation.



STUDY AREA MAP

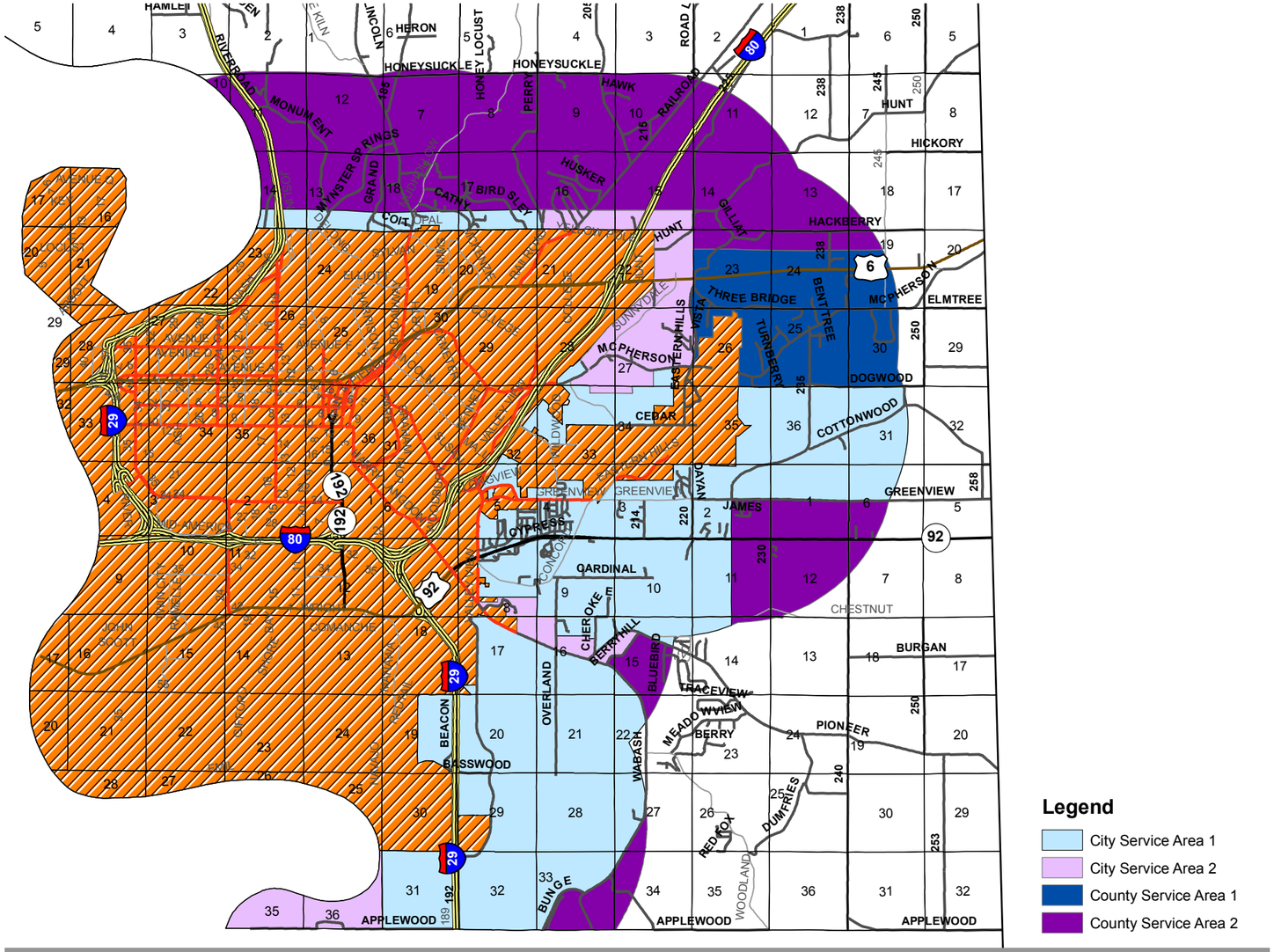
SOURCE: CITY OF COUNCIL BLUFFS, 2020

PROJECT BACKGROUND

The City of Council Bluffs and Pottawattamie County first adopted the "Two-Mile Limit Area Policy Agreement" in 1995. The current agreement was adopted in June/July 2002 and has been amended on subsequent dates to update the agreement boundaries as well as make changes to the requirements of the identified service areas.

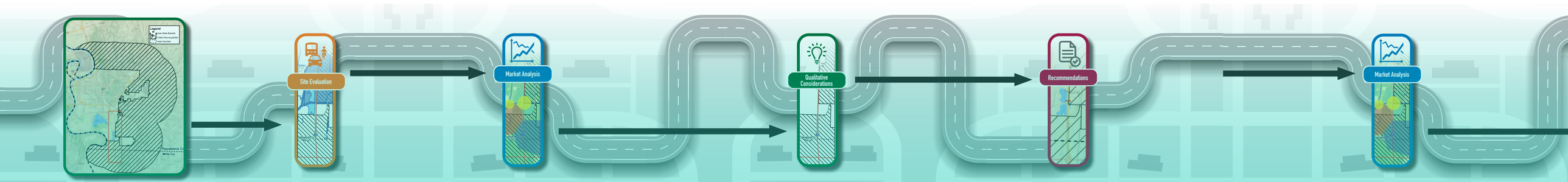
The current agreement identifies and categorizes the two-mile extraterritorial area located within the study area into four categories: City Service Area I, City Service Area II, County Service Area I, and County Service Area II. Each service area identifies the allowable land uses and administrative subdivision policies required in each area.

The current agreement focuses primarily on the availability of services to the geographic area and the subdivision policy of each, relying significantly on the City's ability to annex areas within City Service Area I.



SERVICE AREA MAP: 2010

SOURCE: TWO-MILE LIMIT AREA POLICY AGREEMENT BY OTHERS



STUDY APPROACH AND PROCESS

This study process was led by a steering committee made up of staff and elected officials of the City of Council Bluffs, Pottawattamie County, and stakeholders involved in the regional development of the area.

A series of criteria were used to evaluate the development potential of the land in the study area. The priority of each criterion was determined in conversation with City and County staff. The process was not intended to focus only on quantifiable data calculations. The physical attributes of the land were analyzed using available spatial GIS data and augmented with fiscal information and other qualitative factors. The process has been categorized into a series of considerations as described below:

1. The first component of the analytical process was an evaluation of the actual land in the study area. The land evaluation included physical attributes such as slope conditions, soils type and suitability, floodplain and local waterways, drainage patterns, access to utilities and the existing transportation network.
    - A general assessment of infrastructure capacity, availability and need for improvements and/or extensions was considered.
    - A roadway and transportation infrastructure assessment was conducted based on information from a variety of sources, including the City of Council Bluffs, Pottawattamie County, Iowa Department of Transportation, and the Omaha-Council Bluffs Metropolitan Area Planning Agency.
2. The second component of analysis was a historic review of development patterns to better understand the development potential in the three-mile study area. Market factors were considered, including the recent pace of development, proximity to existing developments, and infrastructure accessibility.
3. The third component of the analysis was the qualitative considerations. This category of evaluation took into consideration many local factors that cannot be categorized directly into a numeric format like fiscal analysis or the cost of services, but rather factors like the overall quality of place for residents and employees. Specifically, the compatibility of existing uses, natural resources, and the overall desire for development in certain areas.

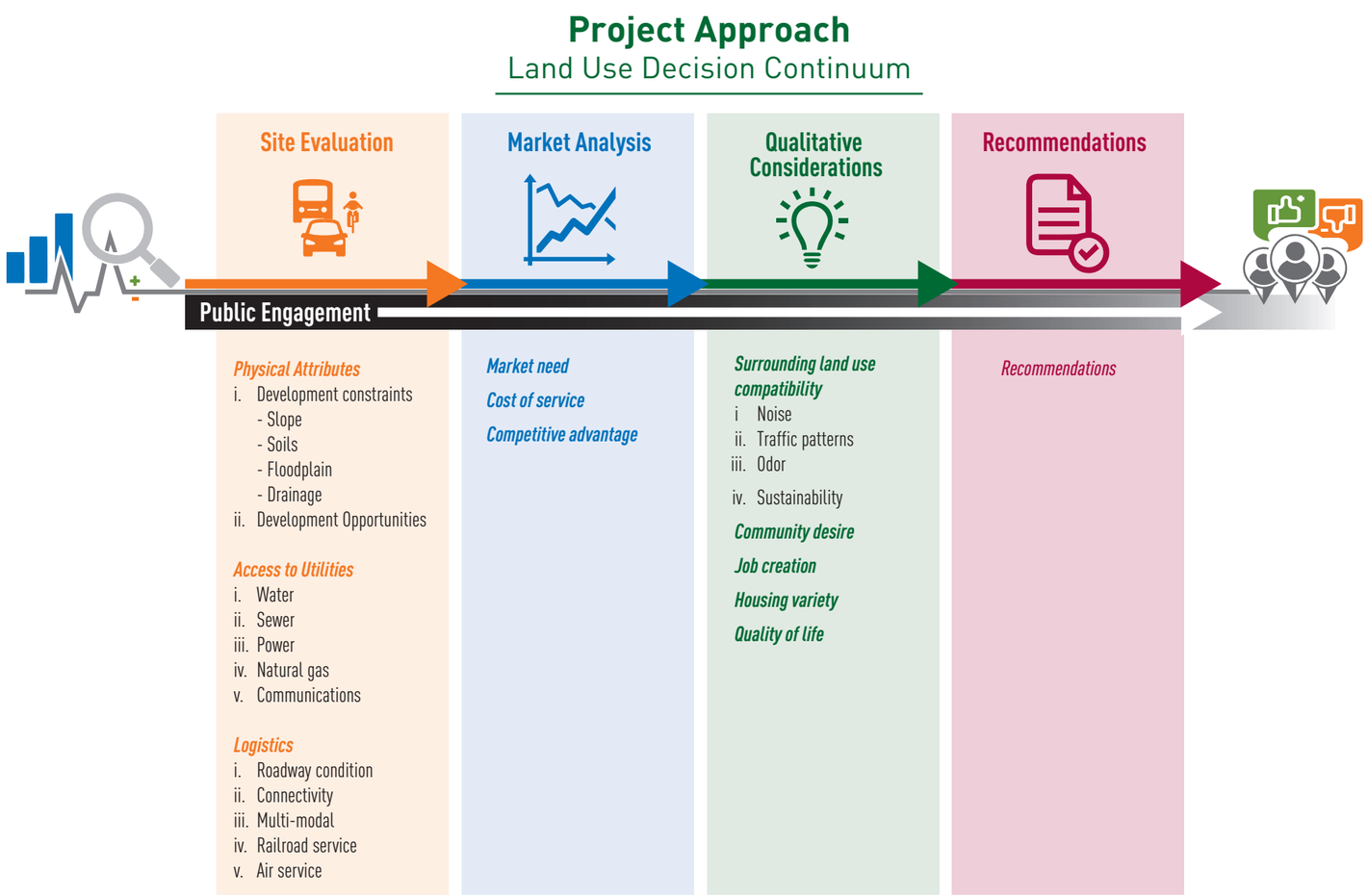
Steering Committee

A steering committee was utilized to discuss the study findings and data throughout the process. The steering committee met six times over the course of the project as follows:

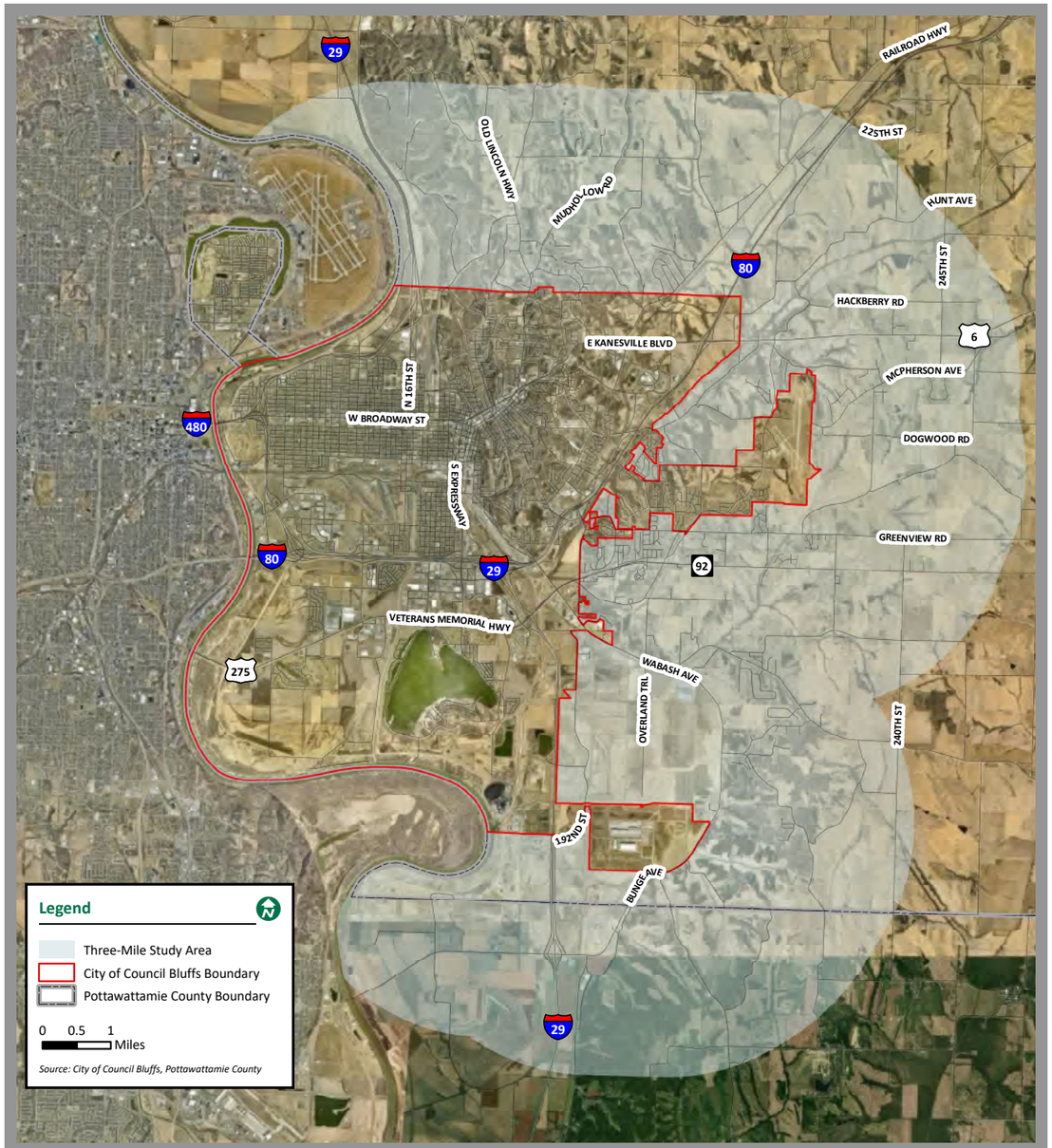
DATE	GENERAL SUBJECT
3/27/2020	Project Kick-Off and Approach
7/1/2020	Data Update - Existing Infrastructure, Transportation, and Funding Strategy
7/9/2020	Funding Strategy - Prioritizing Evaluation of Infrastructure Extension
8/26/2020	3-Mile Study Analysis - Future Land Use, Constrained and Probable
10/28/2020	3-Mile Study and Sub-Area Land Use discussion
10/29/2020	3-Mile Study Policy framework discussion

Recommendation

The result of the study is intended to provide the necessary tools for the City of Council Bluffs and Pottawattamie County to update the existing intergovernmental agreement between the jurisdictions as it relates to properties located within the two-mile extraterritorial area around the City and guidance to amend their respective comprehensive plans and subdivision and zoning ordinances. A future land use map and the policy framework that will serve as the basis of the update to the 28E agreement between the City and County are included in Chapter 6: Proposed Land Use Recommendations.



2 THREE-MILE STUDY AREA



THREE-MILE STUDY AREA MAP

INTRODUCTION OF THREE-MILE STUDY AREA

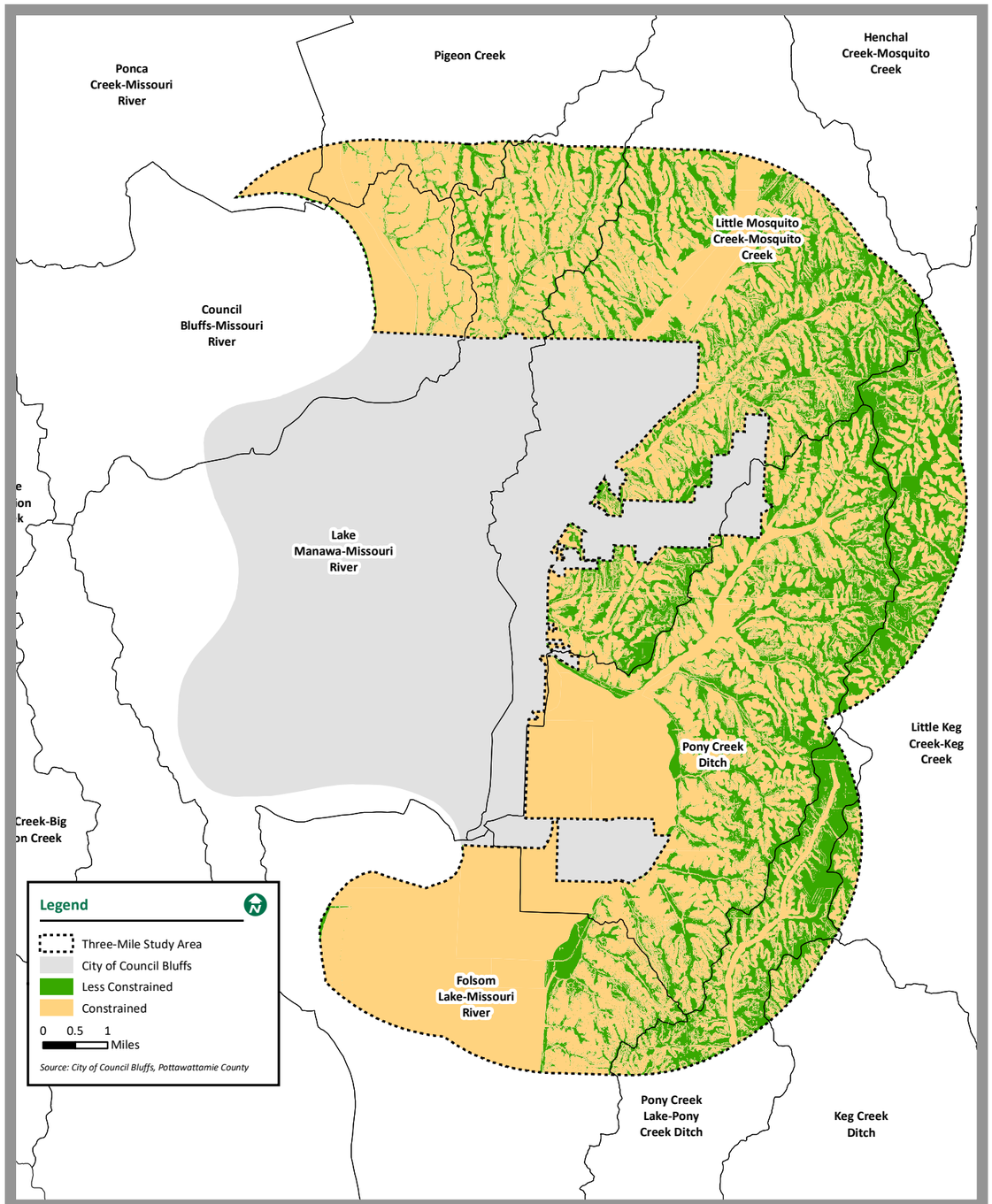
As stated in Chapter 1: Introduction & Background, the City and the County entered into a 28E agreement that governs the two-mile area beyond the corporate limits of the City of Council Bluffs (i.e., two-mile extraterritorial area). For planning purposes, however, this study evaluates the three-mile area around the perimeter of the corporate limits of the City (i.e., three-mile study area). The three-mile study area includes 54,417 acres of land and could be generalized as follows:

The area on the north side of the current City boundary can be characterized by steep slopes and floodplains that follow the existing creeks, including Indian Creek. Much of the land is in agricultural use or developed acreages. The area has limited access to potable water distribution systems and sanitary sewer service. There are limited opportunities for significant concentration of development, except for the area immediately adjacent to Old Lincoln Highway. Acreage development can be found along Mudhollow Road/County Highway L29, Mynster Springs Road, and Cathy Lane.

The area on the northeast side of the current City boundary can be characterized by steep slopes, Mosquito Creek, and Interstate 80. The area has limited access to potable water distribution systems and sanitary sewer service, although in most cases it is in much closer proximity and may yield specific areas that can be developed with utility extensions from existing service mains. The area has limited potential for concentrated development along Railroad Highway. Acreage development has occurred along Perry Road, Birdsley Road, and Jennings Lane.

The area located on the east side of the current City boundary can be characterized by steep slopes, a variety of existing development and challenges to storm drainage relative to Pony Creek. Development patterns in the area can be characterized by acreage development on individual treatment systems and potable water distribution systems. This area has been developed into destinations and neighborhoods such as: the Council Bluffs Municipal Airport (inside City limits), the Bent Tree Golf Course and surrounding residential area, and many county subdivisions along Longview Loop, Greenview Road, State Orchard Road, Concord Loop, and Highway 92. This area also includes commercial uses along the Highway 92 corridor.

The area located on the south side of the current City boundary can be characterized as flat with challenges to local stormwater management. The area is generally in agricultural use and includes industrial development along the Interstate 29 corridor, including Southwest Iowa Renewable Energy (SIRE), Bunge Grain Elevator, Vander Haag's, and a data center (inside City limits). The area is serviced by a potable water system and limited access to sanitary sewer service. A portion of the study area extends into Mills County, including the intersection of Interstate 29/Highway 370.



DEVELOPABLE LAND ANALYSIS MAP

GEOLOGICAL AND ENVIRONMENTAL CONSTRAINTS

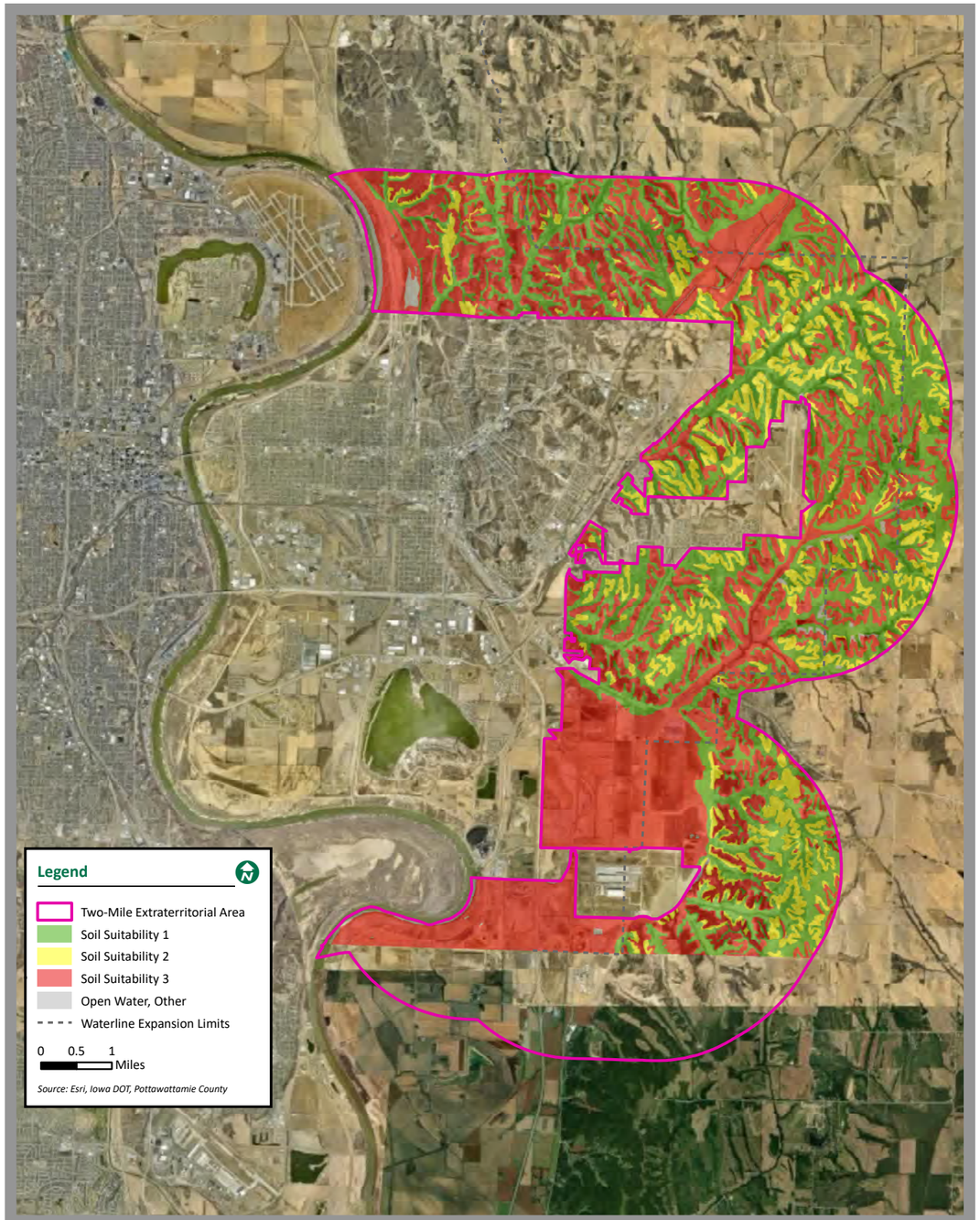
The three-mile study area was evaluated for overall development potential utilizing characteristics of the land. Properties in the study area that had an occurrence of one or more of the following factors are represented as 'Constrained':

1. Slopes greater than 12%;
2. Poor soil suitability according to the United States Geological Survey soils inventory (soil suitability is categorized as shown on Page 14);
3. Open surface water; and
4. The existence of floodplains and floodways according to the most recently adopted Flood Insurance Rate Maps (FIRMs).

Properties that did not include one of the previously listed factors are identified as 'Less Constrained'. A table which provides the acreage of 'Constrained' and 'Less Constrained' properties in the study area organized by Hydrologic Unit Code (HUC) 12 watershed is included in Figure 11 of the Appendix. The map to the left shows the study area with the overall analysis criteria applied.

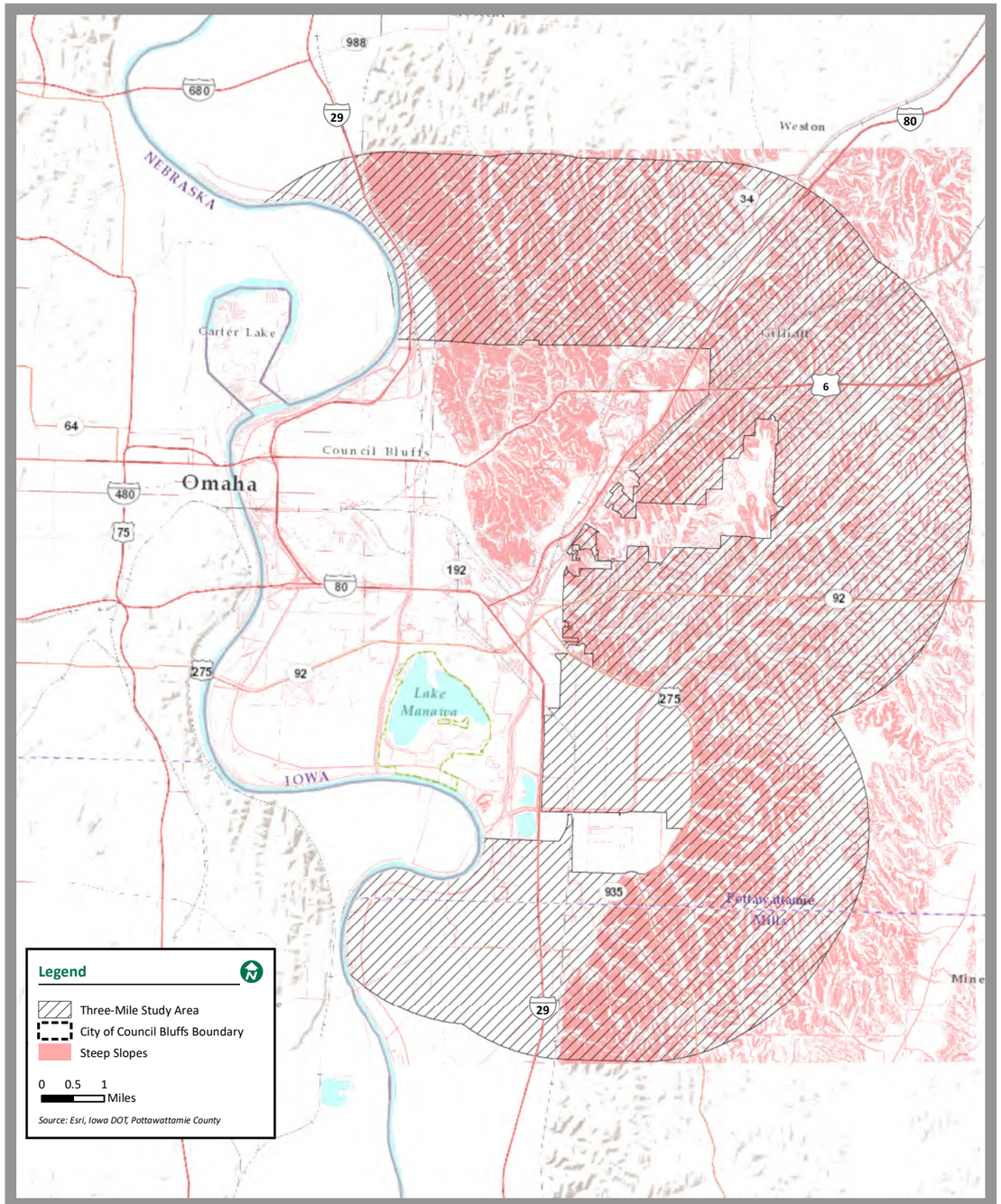
It is recognized that many parcels might individually face development constraints based on the criteria stated above. However, individual parcels that contain a significant amount of land or larger collections of parcels may have potential for development at varying densities. For example, a large parcel of land may have been identified with more than one type of land use, or a portion of the parcel may have poor soils, but the parcel in its entirety did not. In situations where multiple parcels of land with existing constraints are combined for development purposes, development may still be possible if the constraints do not apply to all areas of the combined premises.

The acreages of the areas identified as 'Constrained' and 'Less Constrained' (for development) were further evaluated by removing parcels two acres in area or less representing existing large lot development, and by considering the land that could be served by sanitary sewer. View the next pages for the following maps: soil suitability map, steep slope area map, flood zone map, sanitary service area map, and storm sewer area map.



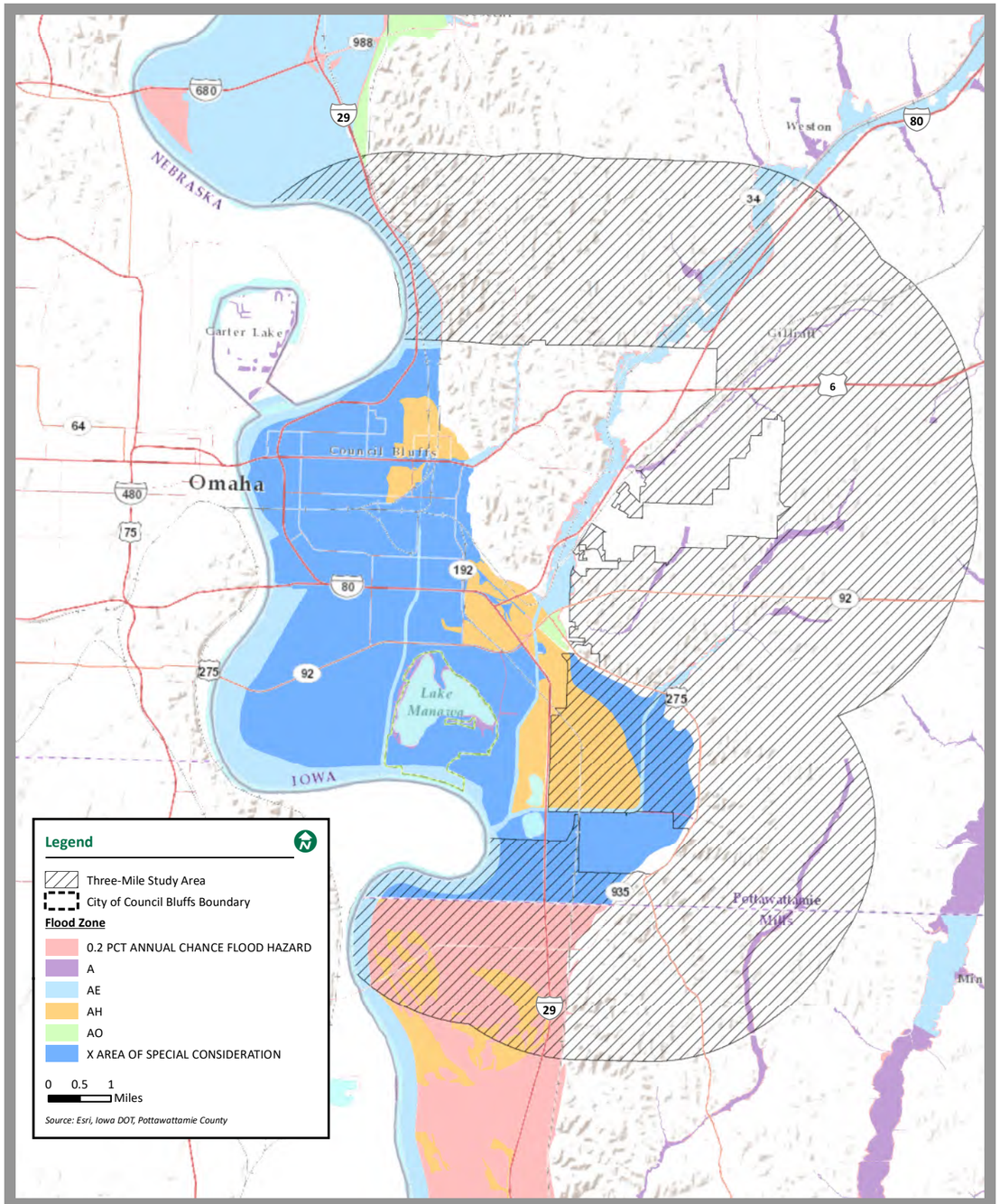
SOIL SUITABILITY MAP

Soil Suitability 1 is considered the most suitable for development; Soil Suitability 3 is considered the least suitable for development.



STEEP SLOPES AREA MAP

Steep slopes are those greater than 12%



FLOOD ZONE MAP

SOURCE: FLOOD INSURANCE RATE MAPS, FEMA

INFRASTRUCTURE

The infrastructure within the study area is summarized below:

Sanitary Sewer

The City of Council Bluffs is served by a wastewater treatment plant on the Missouri River. The City has invested in the existing plant to keep up with current requirements and regulations. The plant has adequate capacity to meet current needs. Plant capacity must be evaluated periodically as growth in the community occurs and as water and sewer use changes. In general, the entire study area is not serviced by a wastewater collection system.

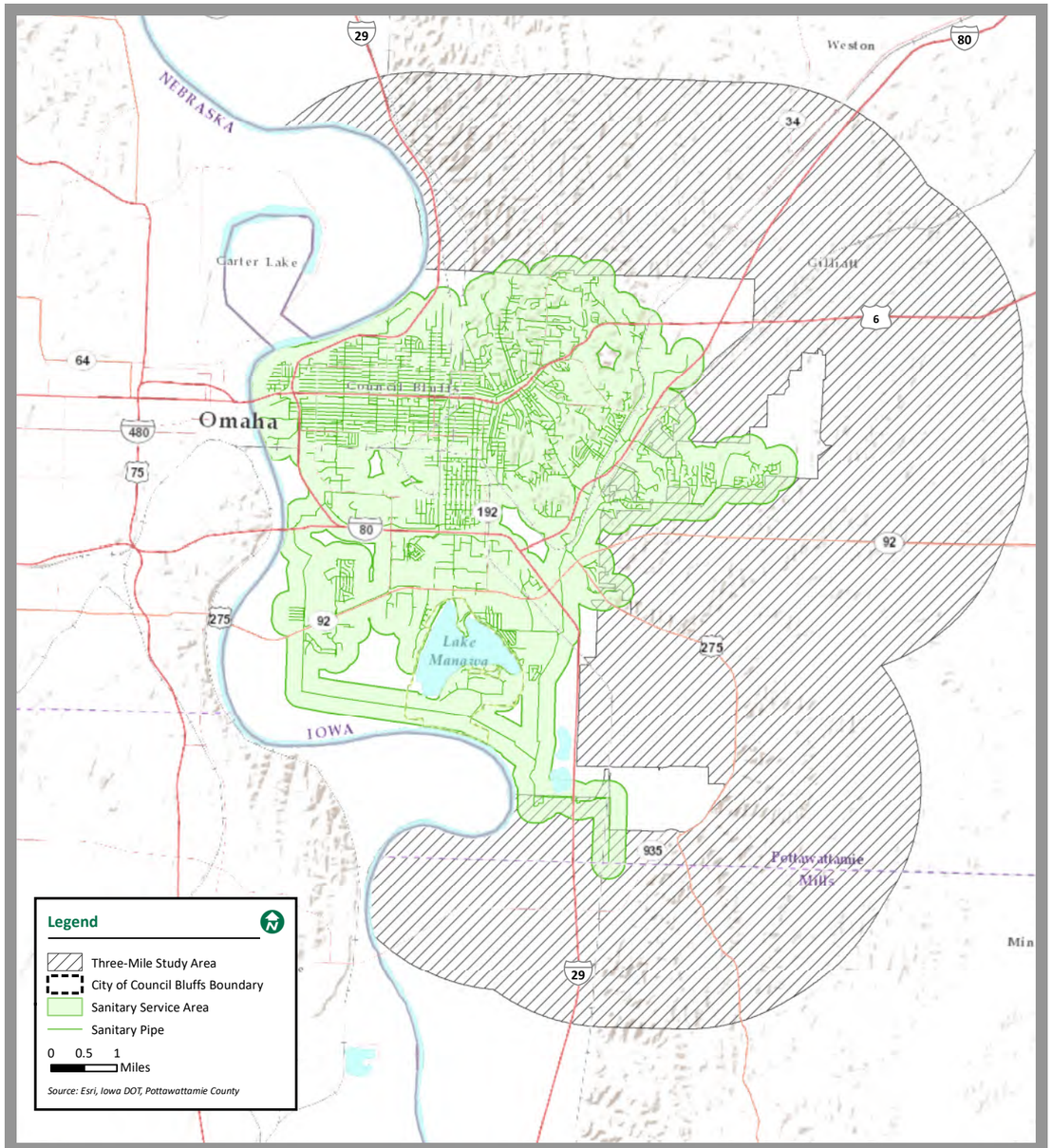
The western portion of the City has developed on the Missouri River floodplain and is extremely flat. In order to provide sanitary sewer service to this portion of the community, the system is comprised of many pump stations that either lift sanitary sewage for gravity flow or pump sanitary sewage in pressure force mains to the treatment plant.

The eastern portion of the City has developed in the Loess Hills. In order to provide sanitary sewer service to this portion of the community, gravity trunk sewers generally follow the low area of the drainage basin and are pumped through pump stations and force mains when gravity flow cannot be achieved.

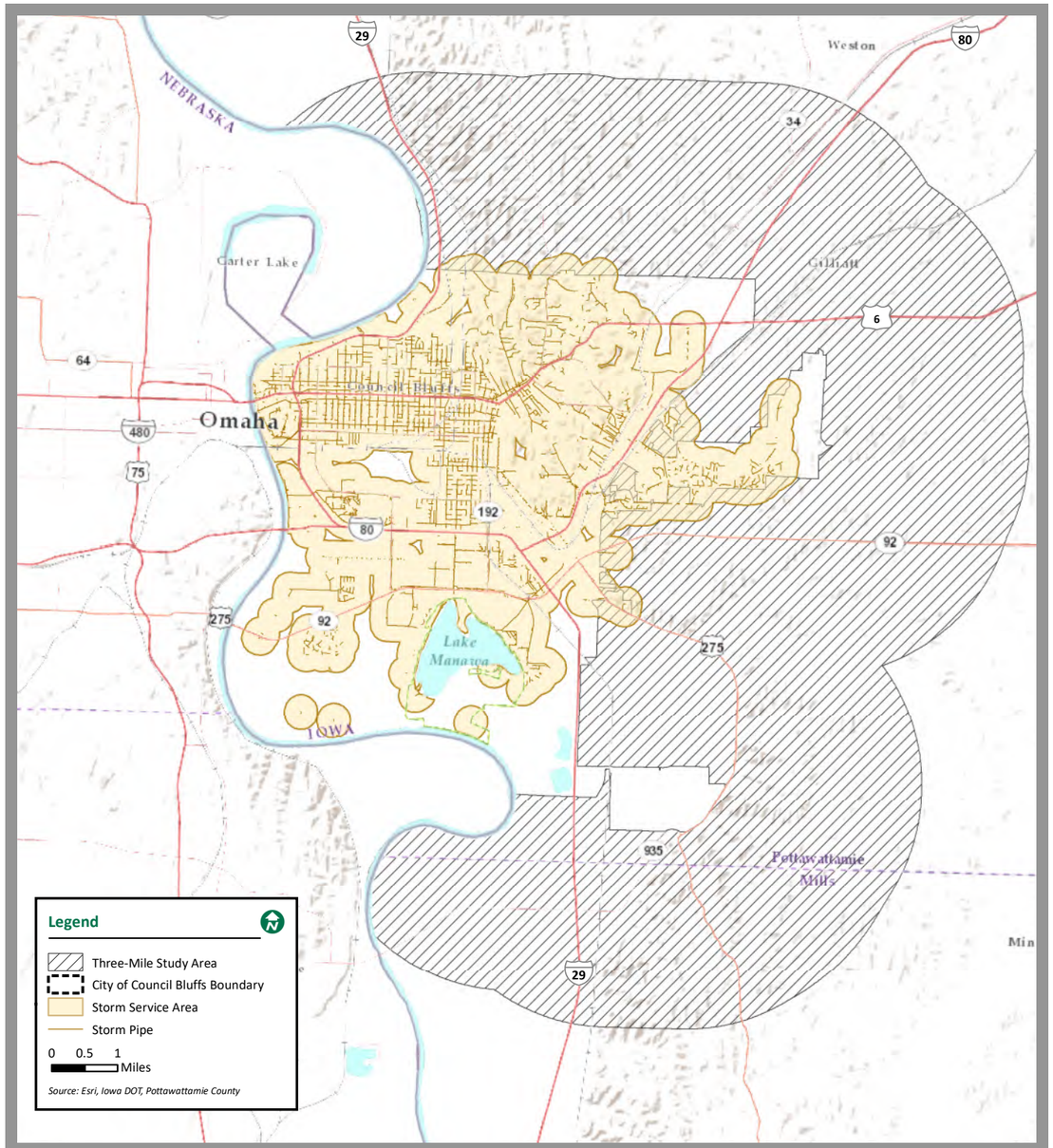
As part of this study, a new trunk line following Pony Creek from Mosquito Creek to Greenview Road was considered. Conceptual sizing and layout were completed and are shown in the overall plan. An Engineer's Conceptual Opinion of Probable Cost was prepared and is also shown in Figures 5, 6, and 7 of the Appendix. Total cost to construct this trunk line is estimated to be approximately $31 million, exclusive of right-of-way and easement costs. This estimate does not include the cost to increase capacity of the current treatment plant or the construction of a new treatment plant. Construction of a trunk sewer up the Pony Creek drainage basin would provide gravity sewer service capacity to the South 192nd Street and Highway 92 expansion areas, which are further discussed in the Potential Expansion Areas section of this chapter. Neither of these expansion areas is readily serviceable with the City's existing sanitary sewer system.

It is estimated that an additional $61 million would be needed to extend sanitary service to the other drainage basins in the study area. An Engineer's Conceptual Opinion of Probable Cost is shown in Figure 8 of the Appendix.

The study area is not served by a wastewater collection system.



SANITARY SERVICE AREA MAP



STORM SERVICE AREA MAP

Storm Sewer

The storm sewer system in the western portion of the City generally flows by gravity to the Missouri River during normal river flow conditions. When the river elevation is high, storm water that normally flows in gravity pipes through the levee must be pumped over the levee. This creates capacity restrictions that are difficult and costly to overcome. Development will require limiting the runoff to predevelopment flow levels so that the existing storm sewer network and downstream sites are not negatively impacted by development. This is generally accomplished with stormwater detention, which can require significant investment and land consumption needs. Storm sewers on the eastern portion of the City generally follow the existing topography and the volume of storm water must be reduced so that downstream property owners are not negatively impacted. The three-mile study area is not serviced by a collected storm sewer system.

Council Bluffs Water Works

The water supply system in the City of Council Bluffs is run by Council Bluffs Water Works, which operates as an independent utility company separate from the City of Council Bluffs. Council Bluffs Water Works has invested in capacity and distribution system improvements throughout the years to keep up with current and projected future growth needs. Water service is generally more available to sites for development than sanitary sewer service because water is distributed in a pressurized pipe system that is not dependent on gravity for distribution. As future development occurs and is planned, careful coordination with Council Bluffs Water Works is necessary to ensure that site water supply needs can be met without adversely affecting the existing distribution network. The Council Bluffs Water Works service territory ends at the County line.

Rural Water

Water service in the study area that is located beyond the Council Bluffs Water Works service area is provided by Rural Water, operated by Regional Water Inc., in Avoca, Iowa. Generally, Regional Water is not able to supply the quantity of water required for fire protection for dense commercial and industrial development. Coordination with Regional Water needs to occur for potential development that is outside the Council Bluffs Water Works service area.

Utility Providers

Electricity

The electric service provider in the study area is Mid-American Energy. Mid-American Energy has a plant south of the City that produces electricity, which generally has adequate capacity to meet future development needs. Potential large electricity users in the study area should consult the provider on the needed distribution improvements.

Gas

The gas service provider in the study area is Black Hills Energy. Black Hills has invested significantly in the past several years to increase the capacity and redundancy of its distribution network. They generally have adequate capacity to support development and can improve their distribution network as required to meet future needs.

Communications

There are several private communication providers in the study area, including Lumen Technologies, Cox Communications, and others. There is generally adequate capacity and location of these networks to meet the needs of future development.

POTENTIAL EXPANSION AREAS

This section identifies five geographic areas considered for development and potential extension of sanitary service:

Area 1: Southlands

Area 2: South 192nd Street

Area 3: Highway 92

Area 4: Highway 6/I-80

Area 5: Old Lincoln Highway

The potential expansion areas are shown in yellow on the map to the right. The areas were identified based on the following criteria: whether it is located within the Pony Creek, Mosquito Creek, or Indian Creek drainage basins; whether it included a significant amount of undeveloped land; and its proximity to an arterial roadway of the transportation network. Areas 1 and 2 are located within the Pony Creek drainage basin, Area 3 is located within the Mosquito Creek drainage basin, and Area 5 is located in the Indian Creek drainage basin. Area 4 is split between the Pony Creek and Mosquito Creek drainage basins.

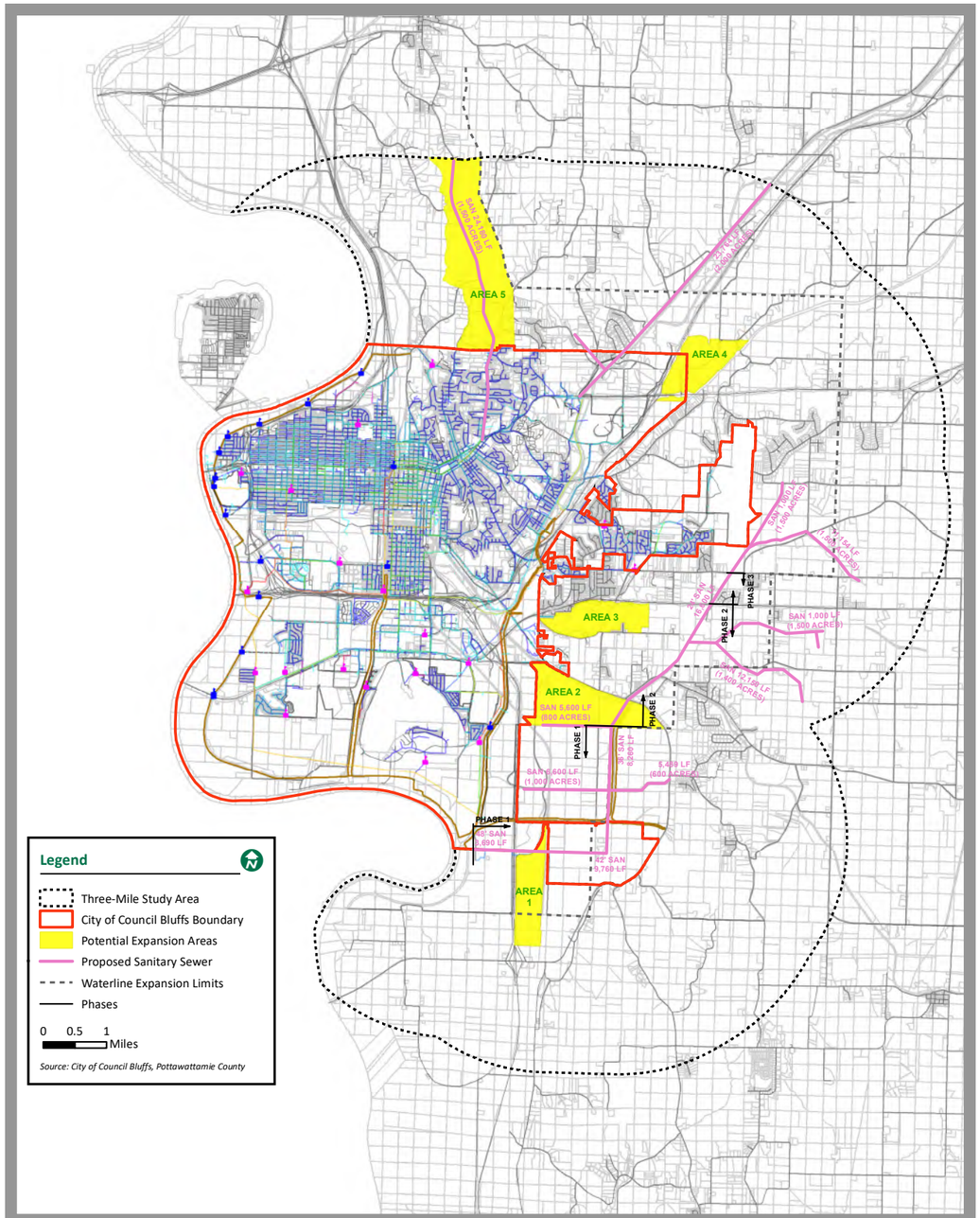
The study identified three potential phases of sanitary sewer extension. The establishment of a new sanitary sewer trunk line to make land available for development also requires the expansion of the current treatment capacity. Treatment facility expansion and modification was not studied as part of this project. Further analysis of sewer capacity and expansion will need to be conducted in a future study.

Area 1: Southlands

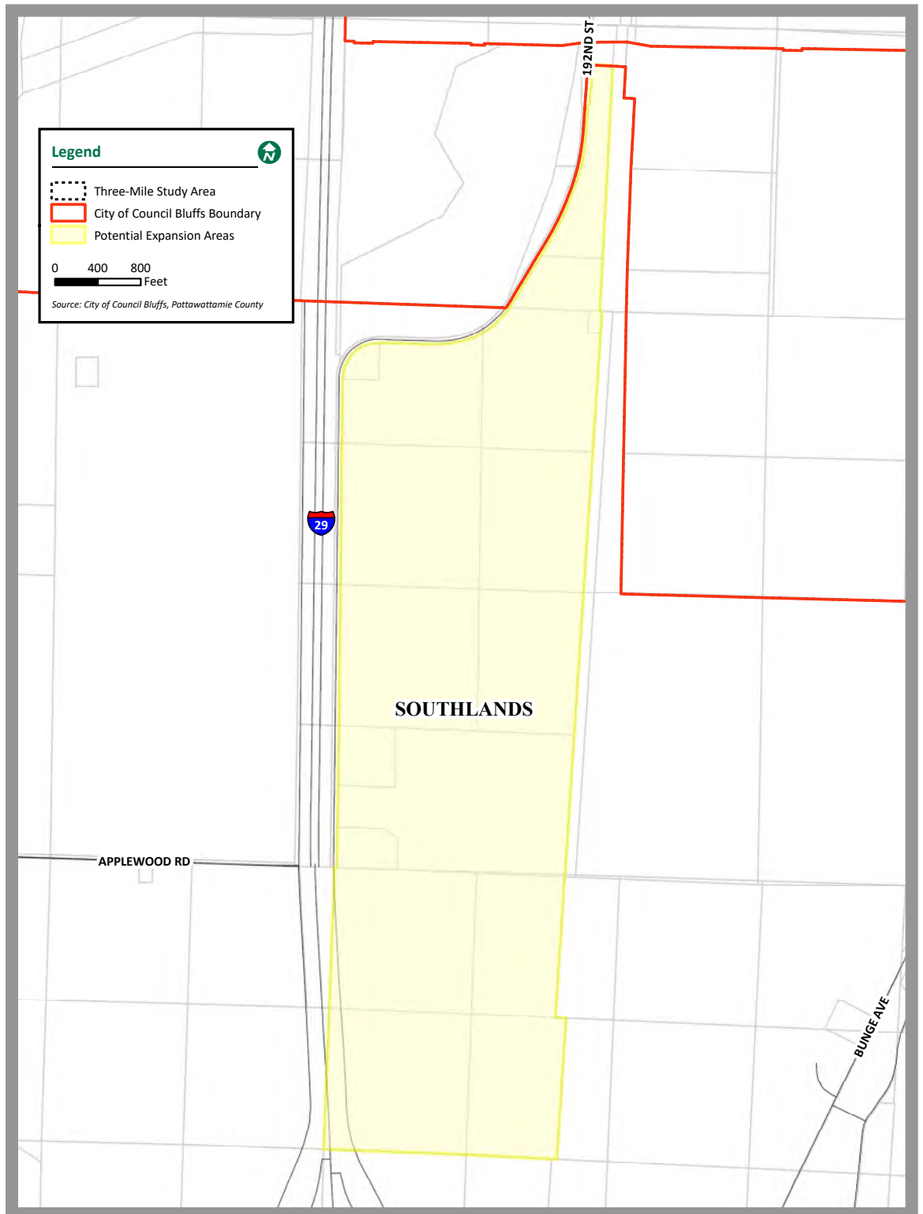
The Southlands area has the potential to be served with sanitary sewer service by a planned new pump station located near the Southwest Iowa Law Enforcement Training Center on South 192nd Street. This pump station is being planned to serve existing private users in the area, but the capacity could be increased to meet the needs of private development in the area. Gravity sewer is planned to be constructed in South 192nd Street from the pump station to the north that could serve the north half of the area. A trunk line to the south into Mills County is not currently planned, but the pump station is located and sized so that a gravity flow sewer line could be constructed to the Interstate 29 interchange, which could serve the south portion of the area.

Area 2: South 192nd Street

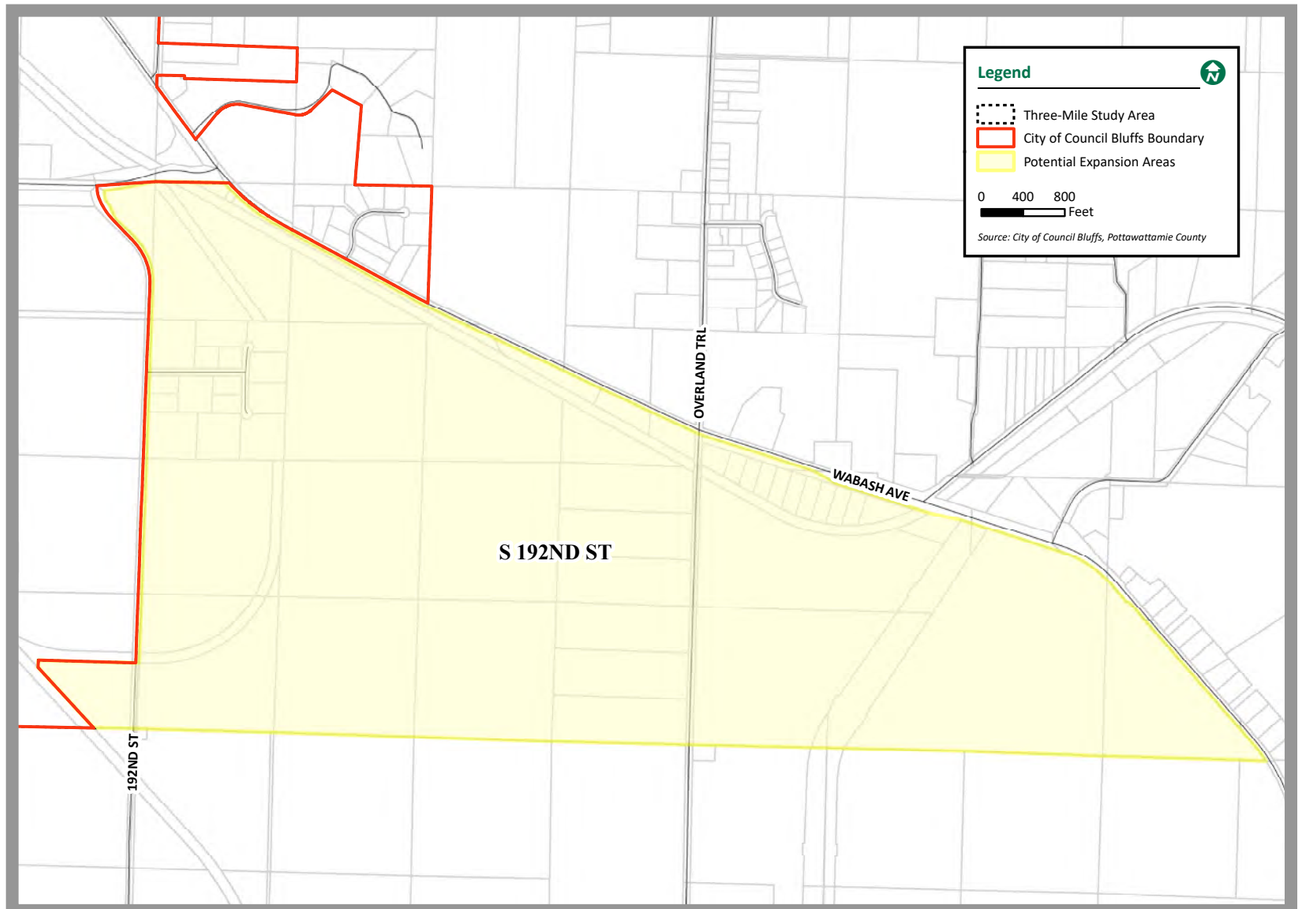
The South 192nd Street area does not have access to sanitary sewer service. The existing development uses septic systems for their sanitary sewer needs. The closest sanitary sewer is the 48-inch trunk line that runs to the treatment plant on the west side of Mosquito Creek. The area could be served by a new trunk line following the alignment of Pony Creek; however, this line would ideally be sized to handle future upstream flows, which makes the costs very high. Cost estimates were prepared for a trunk sanitary sewer extension to serve this area. Over four miles of large diameter sewer would be required, which is estimated to cost around $24 million to get to the south portion of the area. Additional on-site sewer would be needed to get to the trunk line which would be located adjacent to Pony Creek.



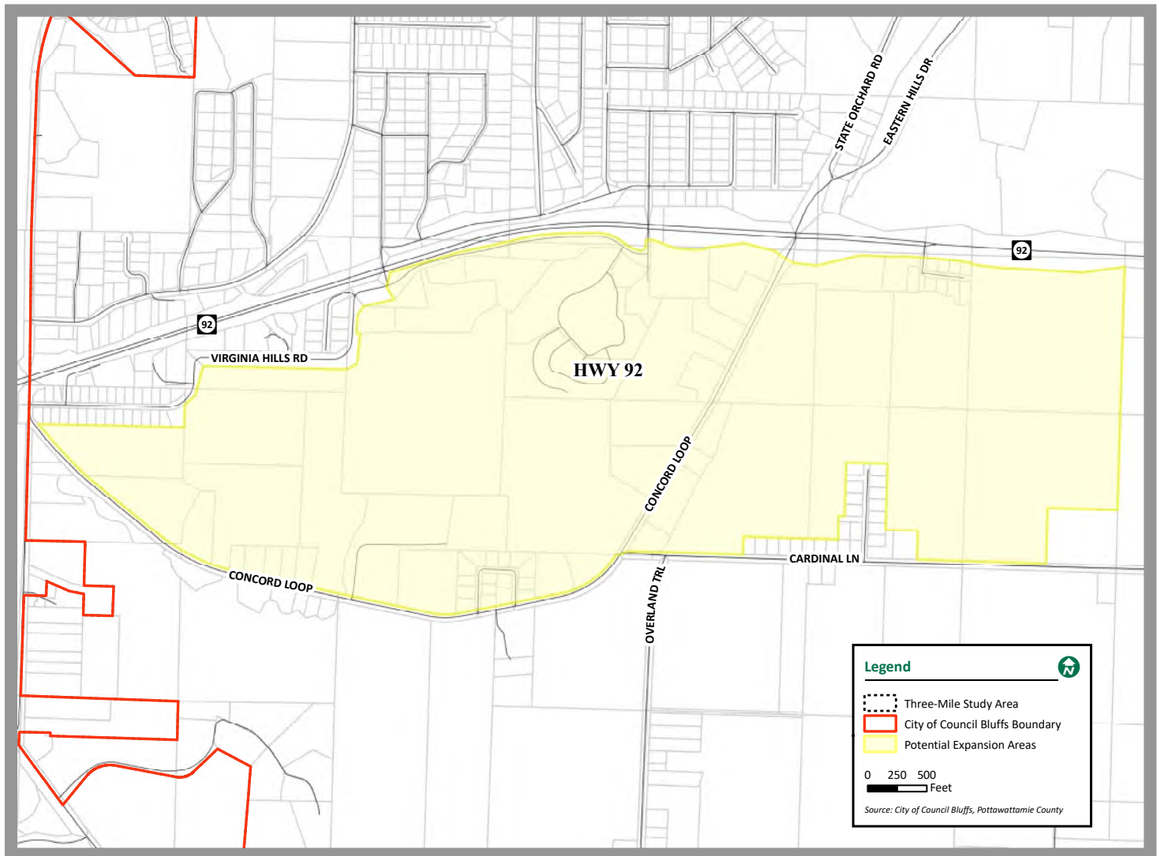
POTENTIAL EXPANSION AREAS MAP



SOUTHLANDS EXPANSION AREA MAP



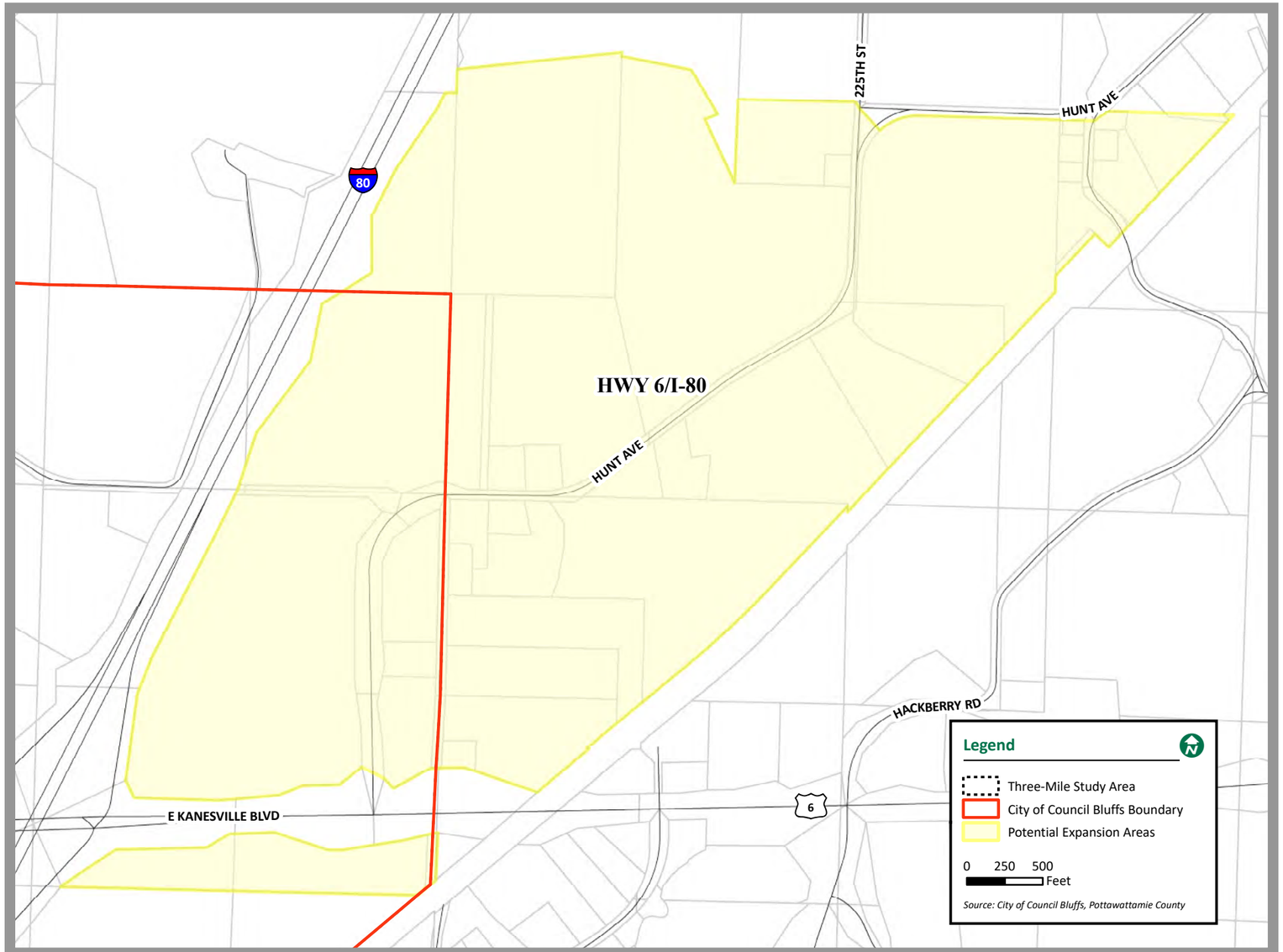
SOUTH 192ND STREET EXPANSION AREA MAP



HIGHWAY 92 EXPANSION AREA MAP

Area 3: Highway 92

The Highway 92 area is not served by existing sanitary sewer. The surrounding residential properties use private on-site septic systems. The area is in Mosquito Creek drainage basin. There is sanitary sewer on the east side of Mosquito Creek at Harry Langdon Boulevard. One way to service this area would be to connect to this sewer and run a new trunk line up Highway 92 right-of-way to get to the area.



HIGHWAY 6/INTERSTATE 80 EXPANSION AREA MAP

Area 4: Highway 6/Interstate 80

The area east of Interstate 80 is not served by sanitary sewer. The area south of Highway 6 is in the Pony Creek drainage basin while the area north of Highway 6 is split with the west portion in the Mosquito Creek basin and the east portion in the Pony Creek basin. The closest sanitary sewer to this area is on the west side of Mosquito Creek in Kanesville Boulevard (Highway 6) right-of-way. A new pump station and force main would be required to extend sanitary sewer service to this area. It is estimated that approximately 15,000 feet of 12-inch force main would be needed to extend sanitary sewer to the low point of this area at 225th Street and Hunt Avenue. Based on the expected cost of the Southlands sanitary sewer pump station, it is estimated that a pump station big enough to serve the entire area with industrial flows would cost between $4.5 million to $5.5 million, depending on the specifics of the development in the area. The 12-inch force main is expected to cost an additional $3 million.

Area 5: Old Lincoln Highway

The Old Lincoln Highway area does not have sanitary sewer service. Existing residential development in the area utilizes private septic systems. It is anticipated that future residential development in the area will also utilize private septic systems.

Additional Infrastructure Considerations in Potential Expansion Areas

Storm Sewer

There is no existing storm sewer infrastructure in any of the potential expansion areas. Site development will require stormwater detention to meet runoff requirements. Shallow groundwater elevations will limit the depth that is available for stormwater detention.

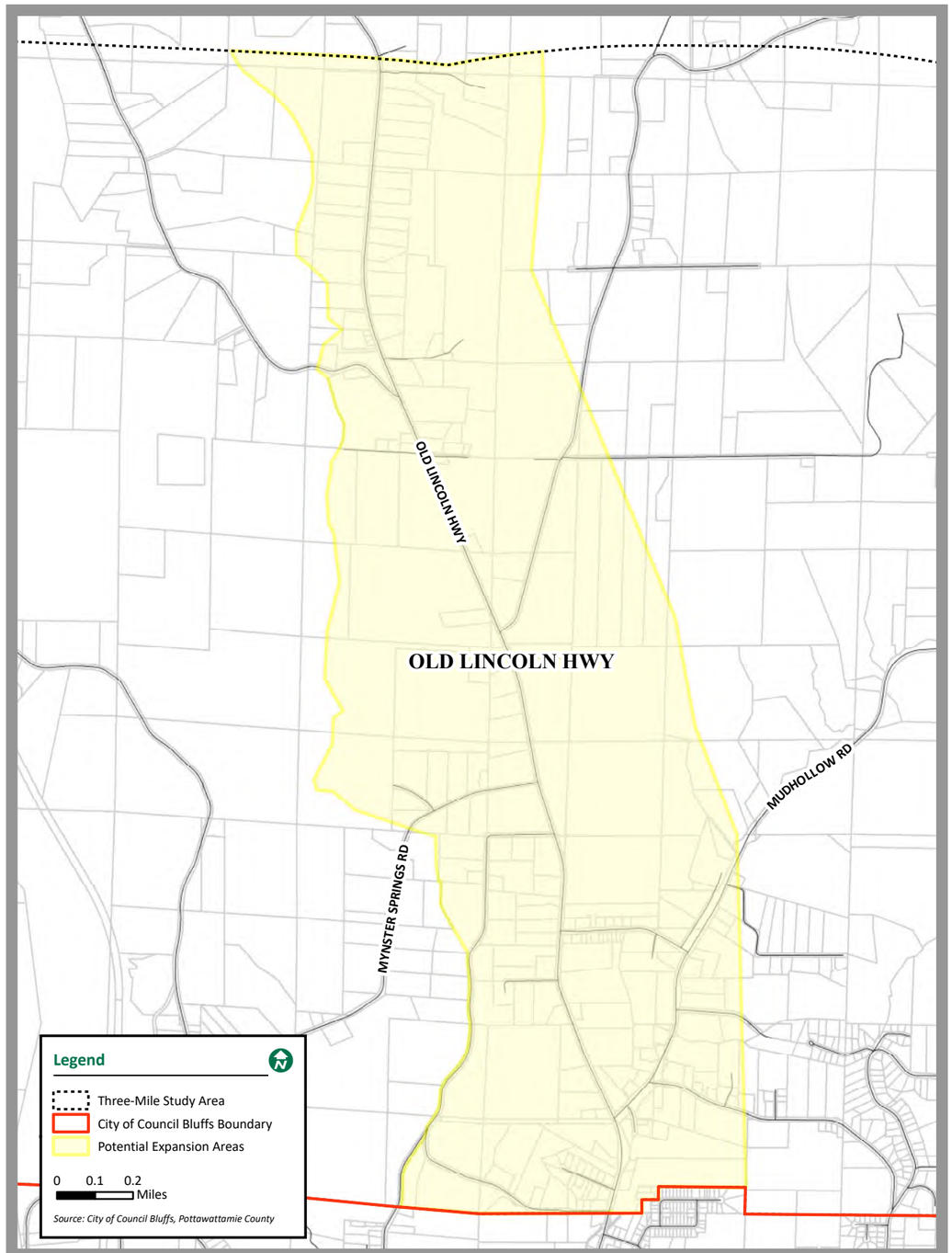
Water Service

Areas 1 (except for the portion in Mills County), 2, 3 and 4 are located within the Council Bluffs Water Works service territory. Specific water service needs for the development of these areas must be coordinated with Council Bluffs Water Works.

There is rural water in Area 5 that connects to the Council Bluffs Water Works distribution system in Old Lincoln Highway. Development that occurs in this expansion area can be served by Rural Water, but service or main extensions will be required to connect into the existing main.

Utility Providers

Gas, power, and communication services are available in all potential expansion areas. Specific needs for site development will need to be coordinated with each private utility company.



OLD LINCOLN HIGHWAY EXPANSION AREA MAP

COUNCIL BLUFFS INFILL AREAS 3

INTRODUCTION OF INFILL AREAS

Chapter 3 identifies eight infill areas that are located within the City of Council Bluffs. The identified infill areas are discussed on the following pages and are labeled as follows:

Area 1: East Manawa Drive

Area 2: Council Bluffs Country Club

Area 3: South 192nd Street

Area 4: Highway 92

Area 5: Veterans Memorial Highway

Area 6: Eastern Hills Drive

Area 7: Highway 6

Area 8: Dodge Park Golf Course

Each infill area was analyzed based on the characteristics of the property, proximity to and/or location on the transportation network, and the proximity to and/or availability of infrastructure. The evaluation results in future land use recommendations for each infill area. The transportation evaluation for each area can be found in Chapter 4: Transportation and Traffic.

Future Land Use

Land use categories were identified to reflect existing terminology used by the City.

1. Residential:

   Generally intended for land that supports the construction of housing. For the purpose of this study, all typologies of residential units are consolidated into one category. It is assumed that the characteristics and constraints of the land as well as availability of infrastructure and access to the transportation network will be the primary determinants of the form and density of the housing units. Residential typologies can include detached single-family units, attached single family units, and multiple dwelling unit buildings.

2. Commercial:

   Generally intended for providing consumer goods and services for the area. Fully serviced with sanitary sewer collection and potable water distribution systems and located on paved roadways with adequate capacity for traffic.

3. Industrial:

   Generally intended for uses conducting manufacturing and/or assembly or logistical services. Fully serviced with sanitary sewer collection and potable water distribution systems and located on paved roadways with adequate capacity for traffic.

4. Agricultural:

   Generally intended for land that is in production of agricultural commodities, livestock and/or are not likely suitable for the efficient extension of services to support more intensive land uses.

Infrastructure

Sanitary and Storm Sewer

Sanitary and storm sewer considerations for each infill area are discussed later in this chapter.

Council Bluffs Water Works

The entire City of Council Bluffs is within the Council Bluffs Water Works service territory. Specific water service needs for the development of each infill area must be coordinated with Council Bluffs Water Works.

Utility Providers

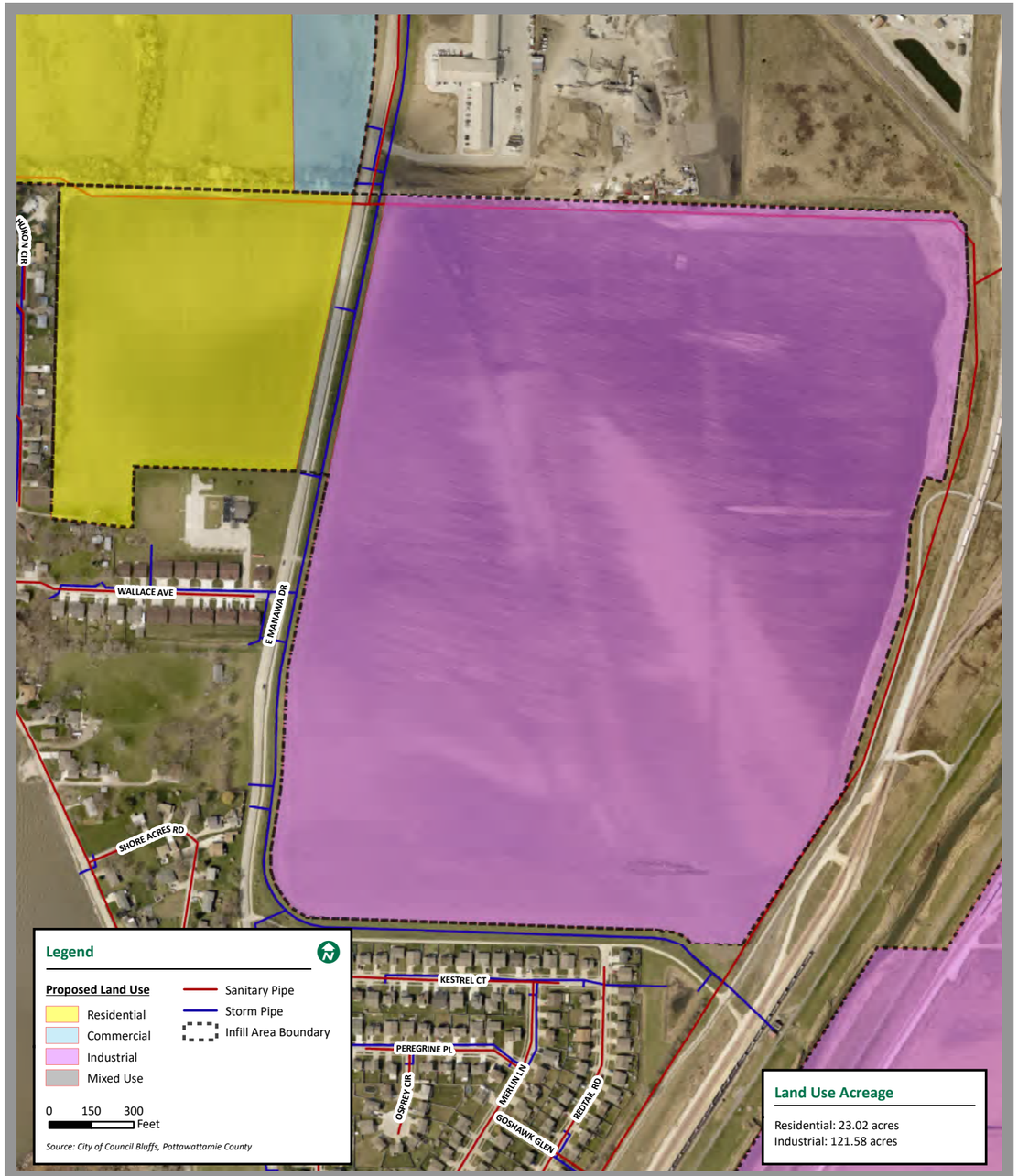
Gas, power, and communication services are available in all eight infill areas. Specific needs for site development will need to be coordinated with each of private utility company.

EAST MANAWA DRIVE

The East Manawa Drive infill area is bounded by the Lateral 5 Drainage-way/bike trail on the east, East Manawa Drive on the west, Eagle Trail Subdivision on the south, and industrial development on the north. The area is located within a transitional area between heavy industrial uses, including concrete recycling and a storage tank farm on the north, and a single-family residential neighborhood on the south. East Manawa Drive was installed to connect the Mid-American power plant to Veterans Memorial Highway. The roadway was partially funded with Reinvest In our Sound Economy (RISE) funds. The area is currently undeveloped.

Future Land Use

The compatibility of surrounding land uses is a priority consideration in this location. Industrial is recommended on the east side of East Manawa Drive. The portion of the infill area located on the west side of East Manawa Drive is recommended for residential development. Buffering and screening through design will be required between the residential and industrial uses.

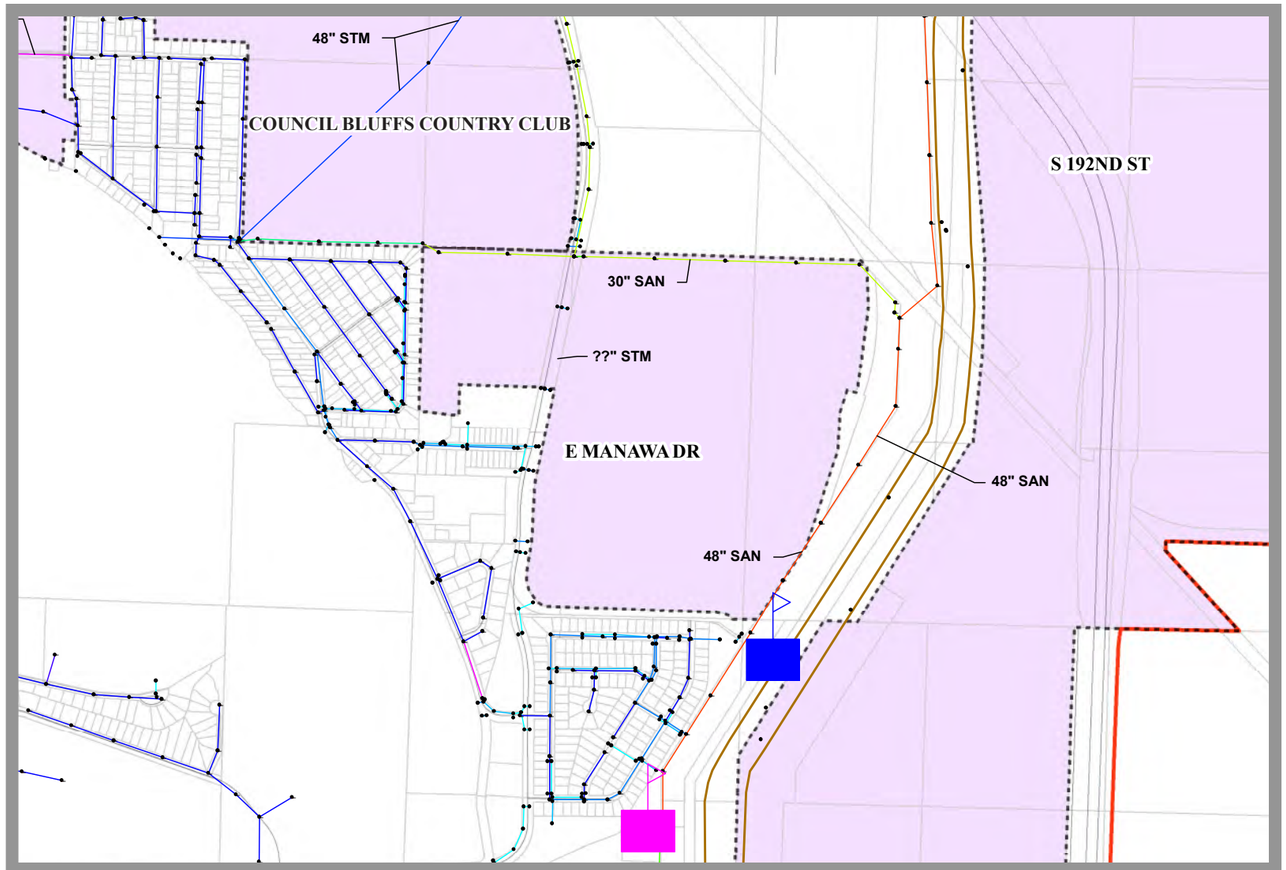


EAST MANAWA DRIVE INFILL AREA MAP

Infrastructure

There is a 30-inch sanitary sewer on the north side of this area and a 48-inch sanitary sewer on the east side of the site. On-site sanitary sewer extension would be needed to connect to these trunk lines.

This area is adjacent to Lateral 5 on the west side of the site. Lateral 5 is an open channel that connects to a pump station at the southeast corner of the site, where it flows into Mosquito Creek. Lateral 5 has limited capacity so additional storm sewer improvements would most likely be needed to support development at this site. That could include additional stormwater detention and storm sewer through the levee with a gate, and possibly even a pump station depending on the specifics of the site development.



EAST MANAWA DRIVE INFILL AREA - INFRASTRUCTURE MAP

SANITARY - PUMP STATION

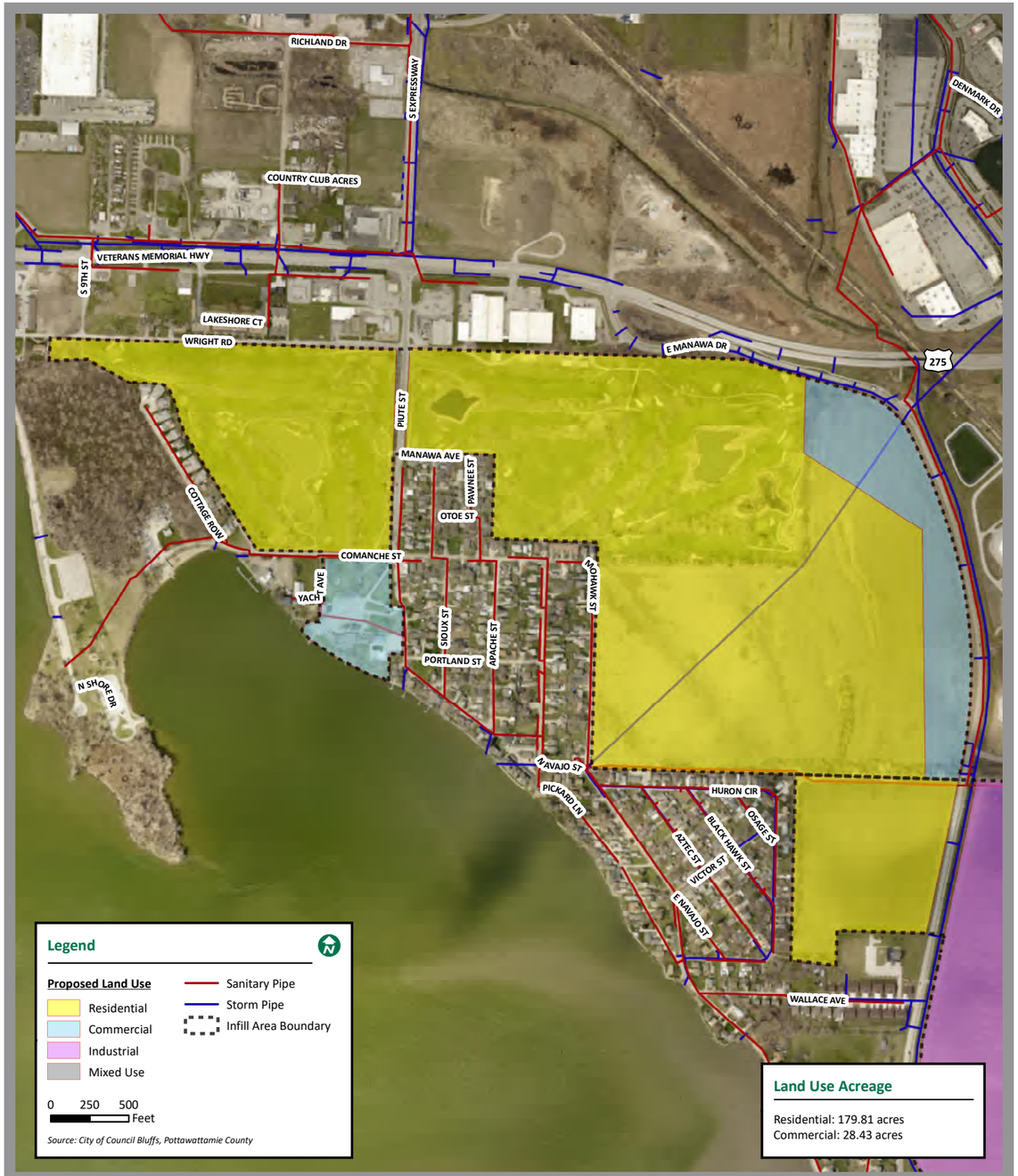
STORM - PUMP STATION

COUNCIL BLUFFS COUNTRY CLUB

The Council Bluffs Country Club infill area includes the Council Bluffs Country Club, which is adjacent to Lake Manawa, the golf course, located on both sides of Piute Street, and undeveloped land owned by the City of Council Bluffs lying to the east and south of the golf course. The area operates as a membership-based golf club.

Future Land Use

The golf course and the majority of undeveloped land owned by the City are identified as residential. The land that immediately abuts East Manawa Drive and the Council Bluffs Country Club property are identified as commercial. The residential component of the infill area can be developed at a higher density and still be compatible with surrounding areas as it is bordered on the north and south by commercial uses. The commercial component of the infill area should include uses that are compatible with the existing neighborhood or serve recreational users on the lake.

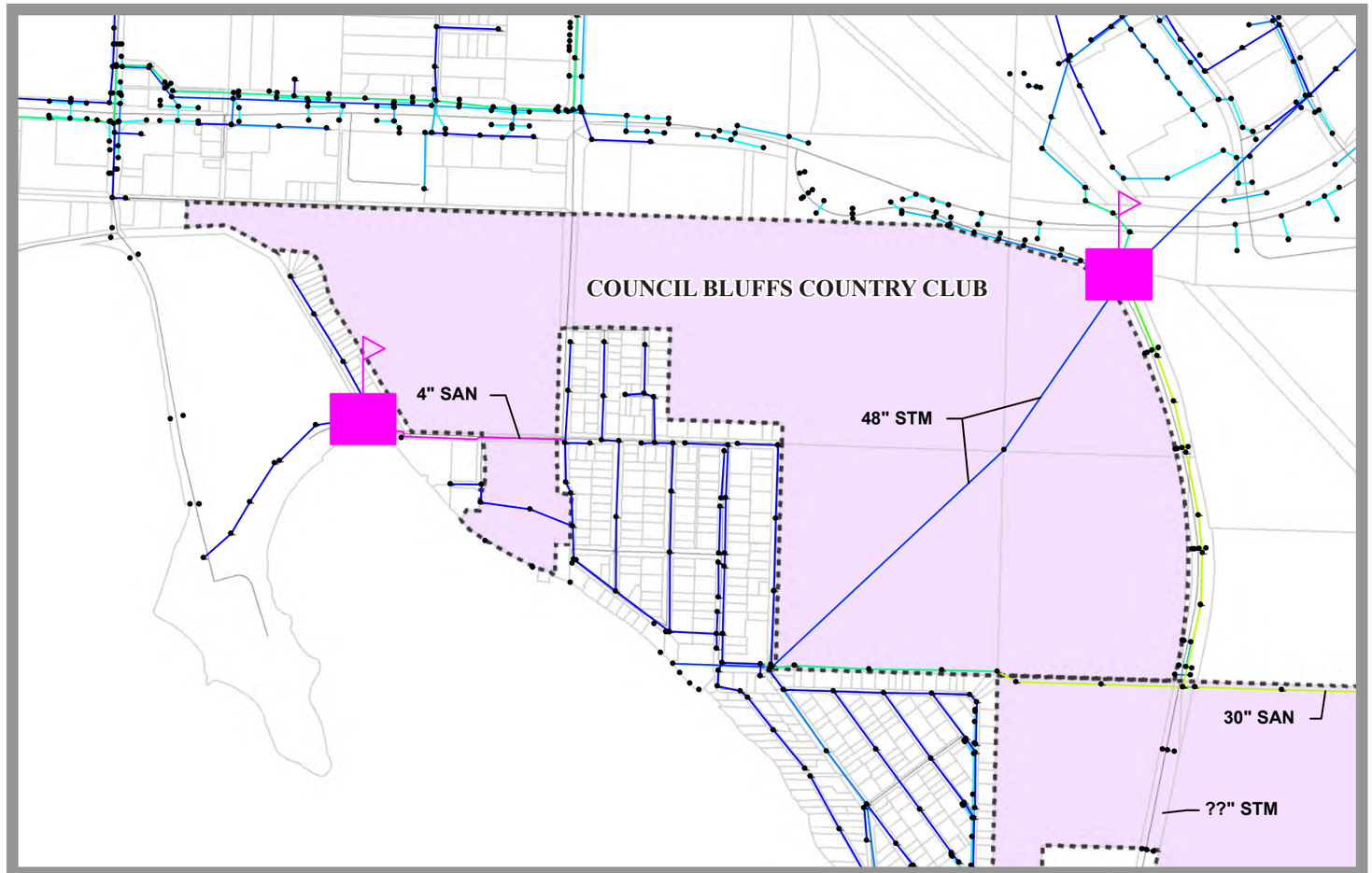


COUNCIL BLUFFS COUNTRY CLUB INFILL AREA MAP

Infrastructure

There is a four-inch sanitary sewer line on the north side of Comanche Street, north of the Country Club facility, which could serve commercial development near Lake Manawa. There is no sanitary sewer service in the golf course. Sewer would have to be extended to the site from the north where there is service in Veterans Memorial Highway.

Storm sewer is also limited in this area. For instance, stormwater on the golf course currently flows into several ponds. If the impervious area were to increase with development in the golf course, significant stormwater infrastructure improvements would be required. On the undeveloped parcels of land owned by the City, stormwater either flows into existing drains in East Manawa Drive or is absorbed into the soil via ground infiltration. Development of the Council Bluffs Country Club and the undeveloped land owned by the City will require an analysis of existing stormwater infrastructure and on-site retention of stormwater.



COUNCIL BLUFFS COUNTRY CLUB INFILL AREA - INFRASTRUCTURE MAP

SANITARY - PUMP STATION

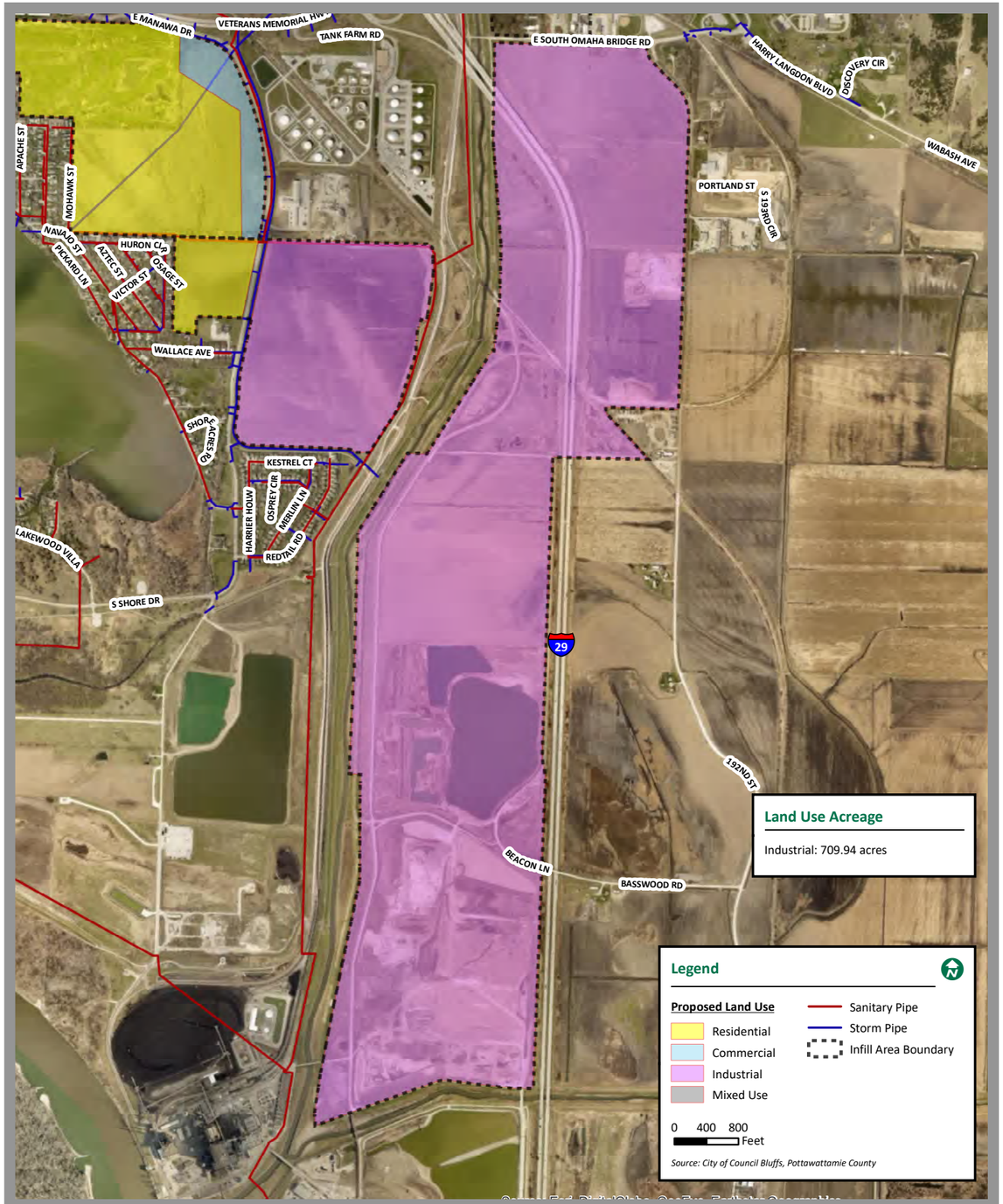
STORM - PUMP STATION

SOUTH 192ND STREET

The South 192nd Street infill area includes the land between the Lateral 5 Drainage-way and Interstate 29, extending from East South Omaha Bridge Road on the north to the Mid-American Energy Power Plant on the south.

Future Land Use

The entire area is identified to develop with industrial uses. Extension(s) of sewer as well as upgrades to the transportation network are necessary. Surrounding uses in the vicinity include agricultural/undeveloped and industrial. This infill area would be suitable for more intensive industrial uses as it is located between railroad tracks, the Lateral 5 Drainage-way and Interstate 29, but would have to be protected from flood events by a certified levee. In the case of no man-made flood protection, the area is best suited for open space and agricultural uses that would minimize the value of property damage following a flood event.



SOUTH 192ND STREET INFILL AREA MAP

Infrastructure

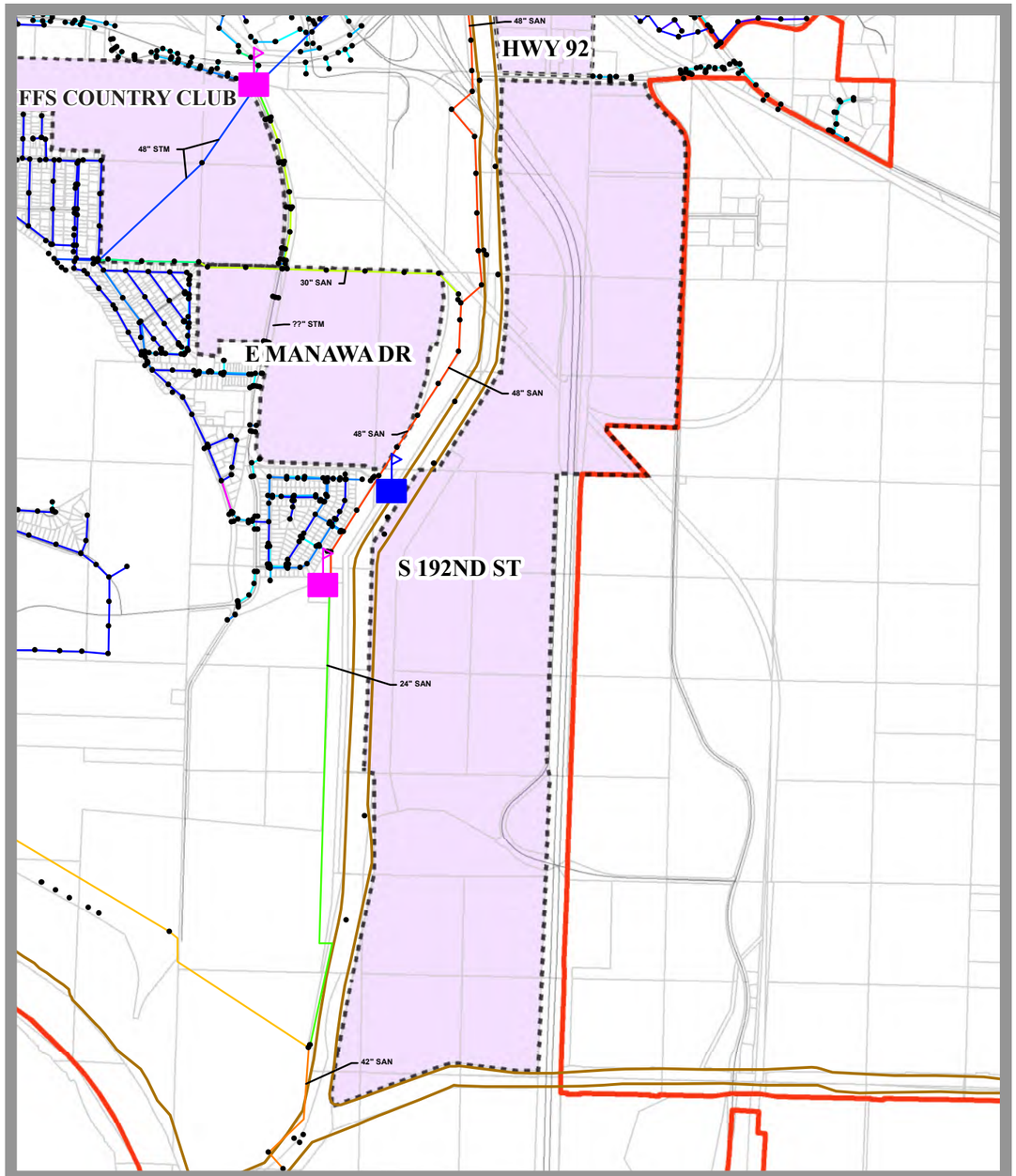
Sanitary sewer is located on the west side of Mosquito Creek, which is the nearest stormwater outlet to this infill area.

A new sanitary sewer pump station is planned at the current location of the firearm shooting range. A new gravity sanitary sewer is planned in South 192nd Street. A new force main is planned to the existing sanitary sewer treatment plant.

It would be possible to serve the South 192nd Street infill area with a new Pony Creek sanitary trunk sewer line on the west side of Mosquito Creek. Additional information about the proposed sanitary sewer line up the Pony Creek drainage basin can be found in Chapter 2: Three-Mile Study Area.

A significant portion of this infill area is located within a special flood hazard area and is protected by the M & P levee. The levee system periodically undergoes a certification program. If the elevation of the levee is found to be deficient and the levee cannot be certified to provide protection from flooding, then participation in the National Flood Insurance Program (NFIP) may not be possible.

Federally insured lenders are obligated to require flood insurance for loans that secure property located in special flood hazard areas. Securing conventional financing will be extremely difficult for properties and/or projects that are not eligible for flood insurance.



SOUTH 192ND STREET INFILL AREA - INFRASTRUCTURE MAP

SANITARY - PUMP STATION

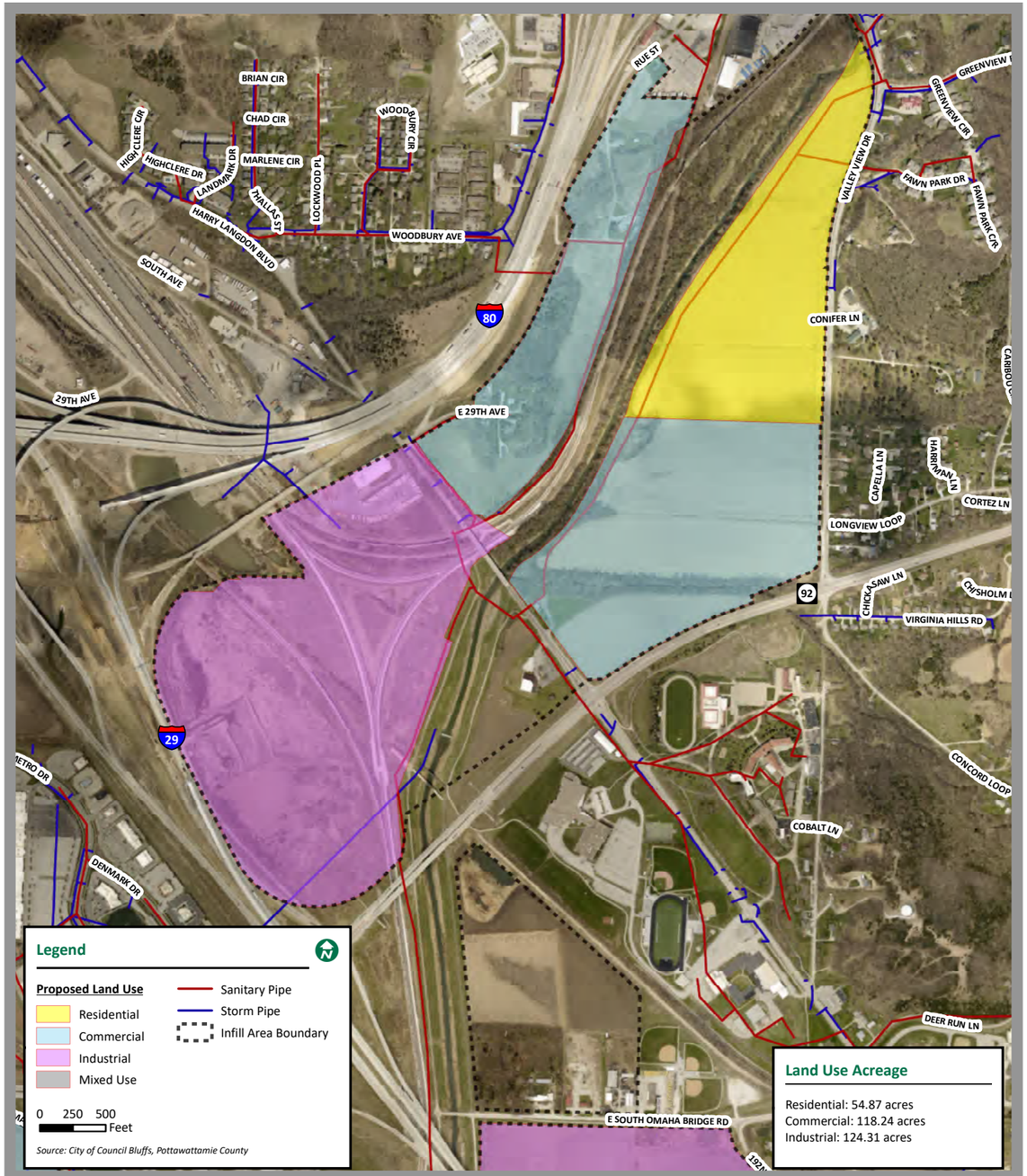
STORM - PUMP STATION

HIGHWAY 92

The Highway 92 infill area includes the land between Interstate 80/Interstate 29 and Valley View Drive. Much of the area is located within the mapped floodplain or has significant access issues relative to the interstate system. The portions of land not in designated special flood hazard areas are known locally in context of nearby developments to have a seasonally high-water table and dewatering is often necessary. The area is primarily undeveloped. A portion of the Iowa Interstate Railroad inter-modal facility is located in this area. Additionally, a few residential uses are located between Interstate 80 and Mosquito Creek, accessed by an extension of East 29th Avenue.

Future Land Use

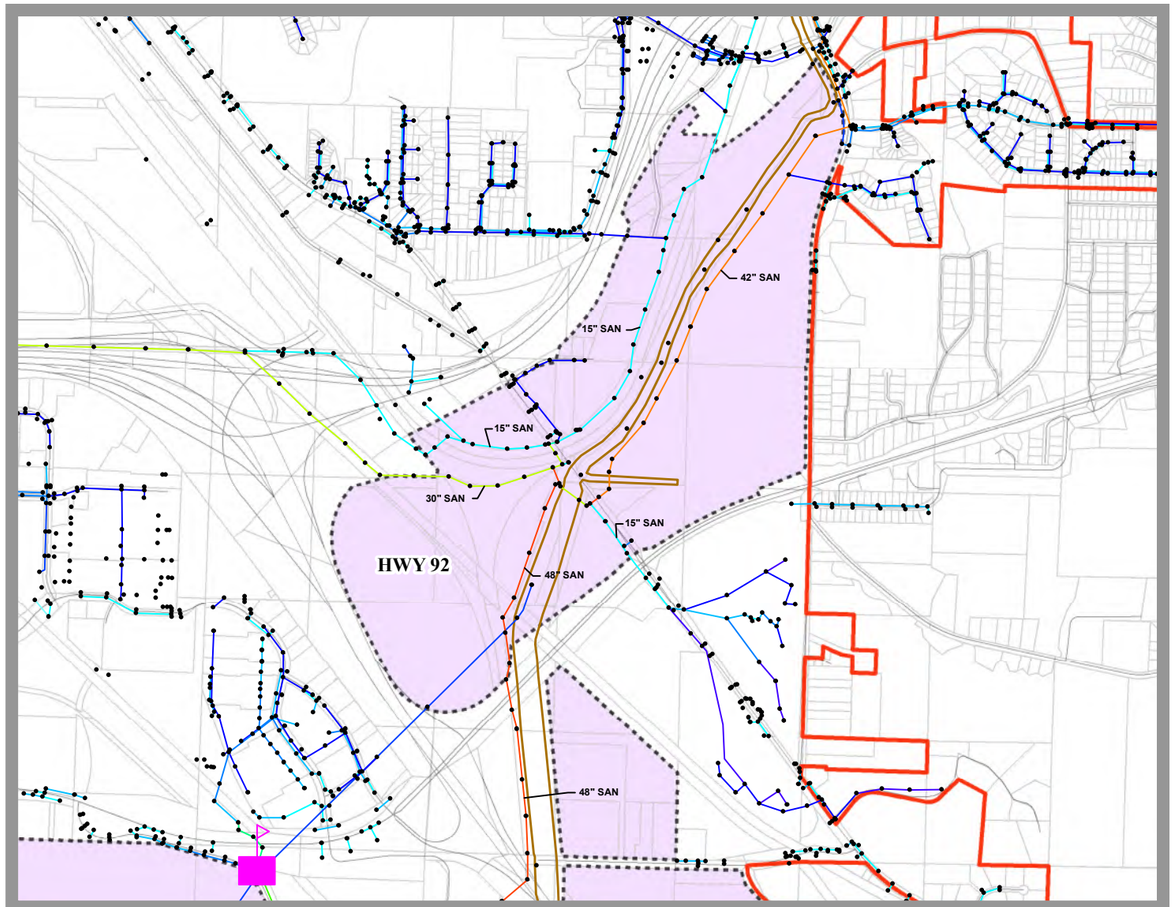
The far west portion of the area is identified for industrial use, although development and access are challenging in the area. The property located on the west side of Mosquito Creek is identified as commercial. This designation is based on the ability to address floodplain development concerns and provide suitable access. The area on the east side of the creek lying north of Highway 92 is identified as commercial and transitions to residential on the westerly side of Valley View Drive.



HIGHWAY 92 INFILL AREA MAP

Infrastructure

This area has a 42-inch sanitary sewer trunk line running through it on the east side of Mosquito Creek, which could be accessed to handle sanitary sewer flows from new development. Storm sewers could be constructed to support development and could outlet into Mosquito Creek. On-site stormwater detention will be required.



HIGHWAY 92 INFILL AREA - INFRASTRUCTURE MAP

SANITARY - PUMP STATION

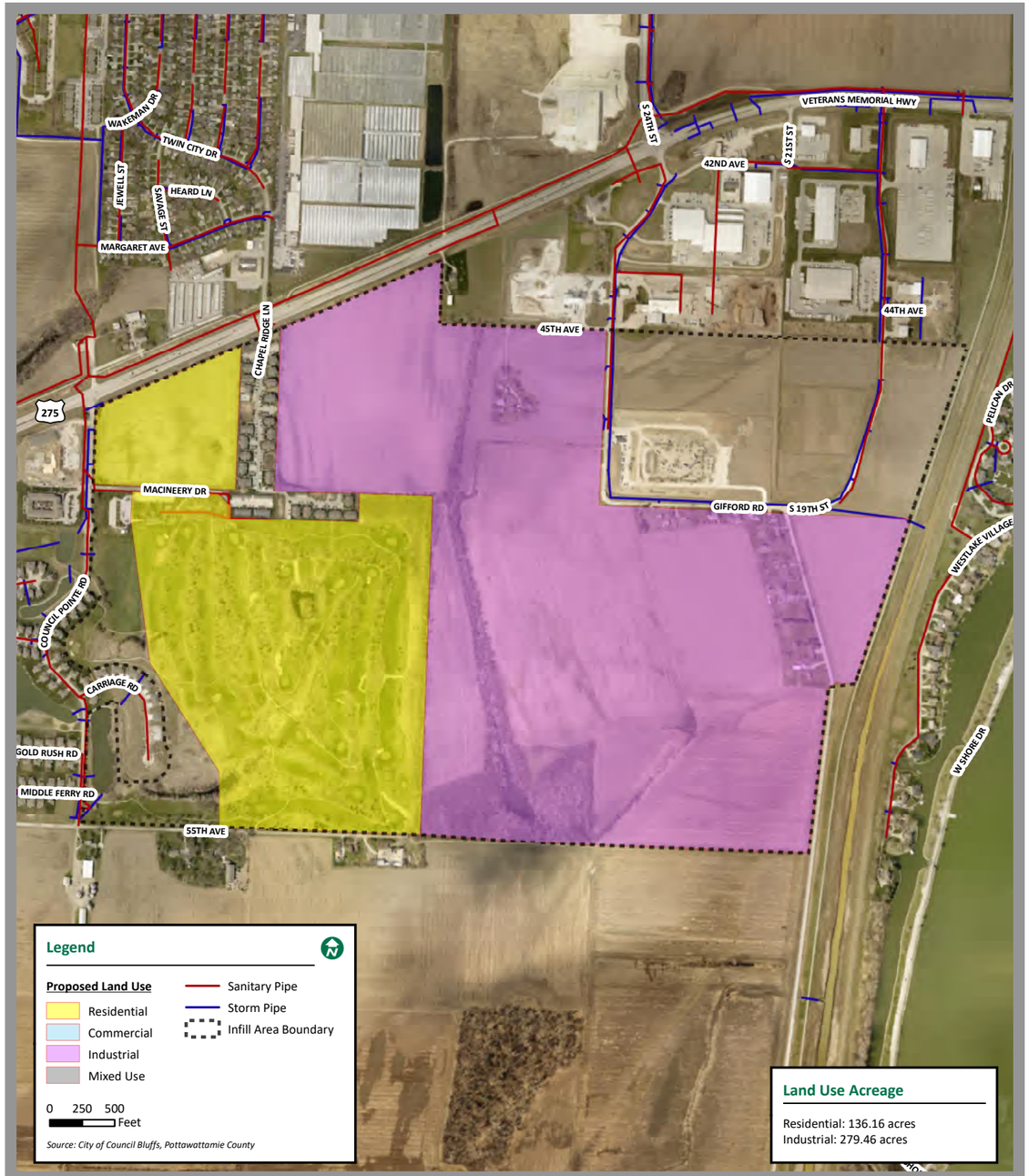
STORM - PUMP STATION

VETERANS MEMORIAL HIGHWAY

The Veterans Memorial Highway infill area includes land south and west of South Pointe Industrial Park, the far east side of the Fox Run Golf Course, and the frontage of Veterans Memorial Highway located on either side of Chapel Ridge Apartments.

Future Land Use

The area surrounding the existing industrial development is identified to continue as a similar type and scale of industrial development. The frontage of Veterans Memorial Highway lying east of Chapel Ridge Apartments is identified as industrial, and the frontage of Veterans Memorial Highway lying west of Chapel Ridge Apartments and the golf course are identified as residential. The proposed land use typologies are intended to be compatible with existing and planned developments in this area. Careful buffering of land use types will be necessary to ensure on-going compatibility in the area.



VETERANS MEMORIAL HIGHWAY INFILL AREA MAP

Infrastructure

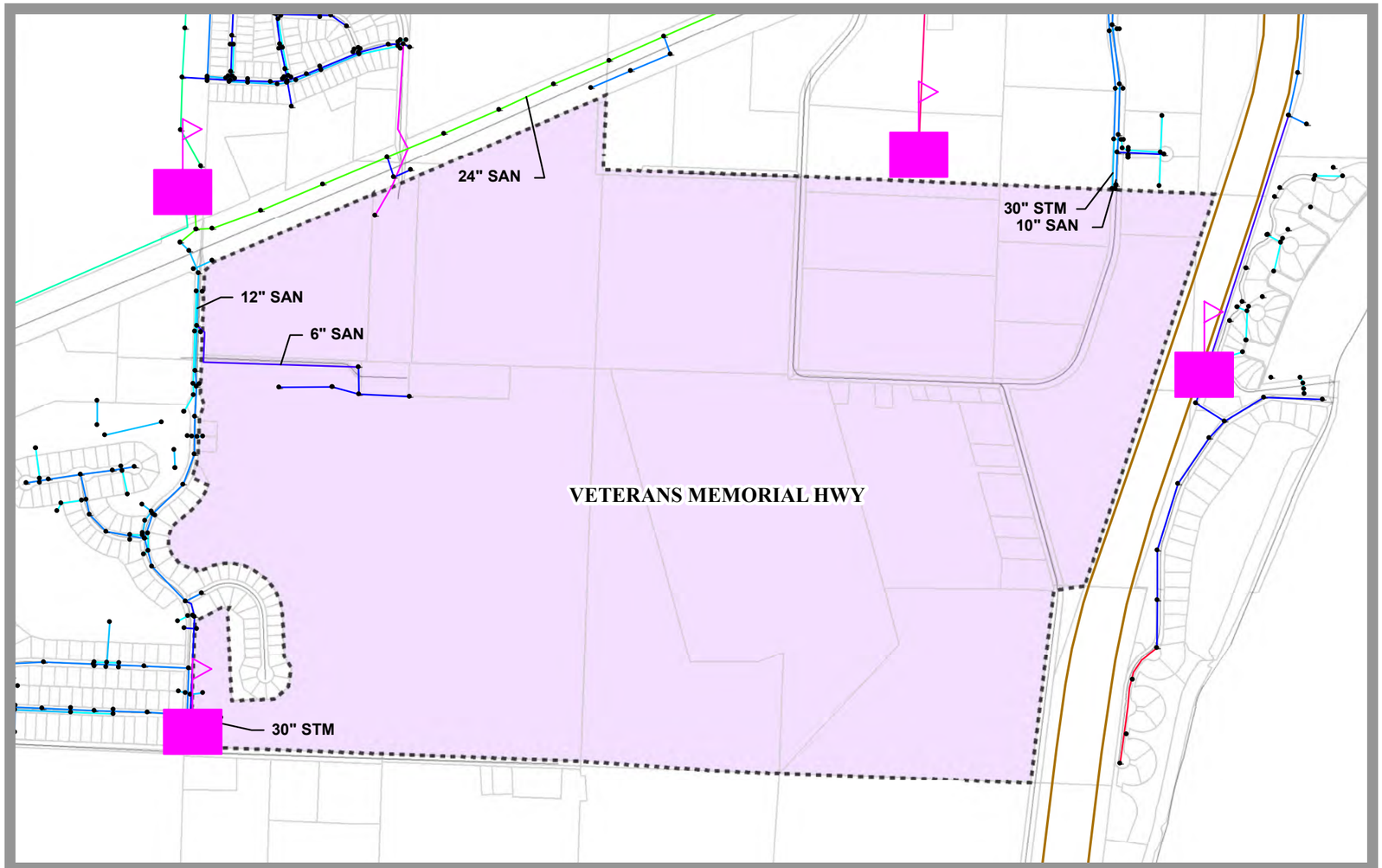
The area is generally served by sanitary sewer but would require extensions with development. Storm drainage in the area now relies on part of the pond capacity at Fox Run and will need to be evaluated if there is an increase in impervious surface.

Recent investments by the City have extended sanitary sewer service to the Gifford Road area. There is sanitary sewer in Gifford Road and in South 19th Street that can be connected for development that occurs in the Gifford Road area. There is a 24-inch sanitary sewer on the north side of Veterans Memorial Highway and there is a 12-inch sanitary sewer line in Council Pointe Road.

There is a sanitary sewer pump station at Council Pointe Road and 35th Avenue that pumps sewage from the Fox Run neighborhood to the main in Veterans Memorial Highway.

This pump station would likely need improvements to increase capacity if the golf course area were to be developed.

Storm sewer has also been recently constructed in the Gifford Road area. There is an existing 60-inch storm sewer in Gifford Road that connects to Indian Creek with a gate structure at the levee. When flows into the Missouri River and Indian Creek are high, this gate is closed, and stormwater does not flow away from the site. For this reason, this area has increased stormwater detention requirements so there is adequate storage when the storm gates are closed. Stormwater in the golf course on the west half of the site currently flows to the existing ponds that are amenities for the residential neighborhood to the west. These ponds do not have adequate stormwater storage capacity to support additional development. If the impervious area were to increase with development in the golf course area, significant stormwater infrastructure improvements would be required.



VETERANS MEMORIAL HIGHWAY INFILL AREA - INFRASTRUCTURE MAP

SANITARY - PUMP STATION

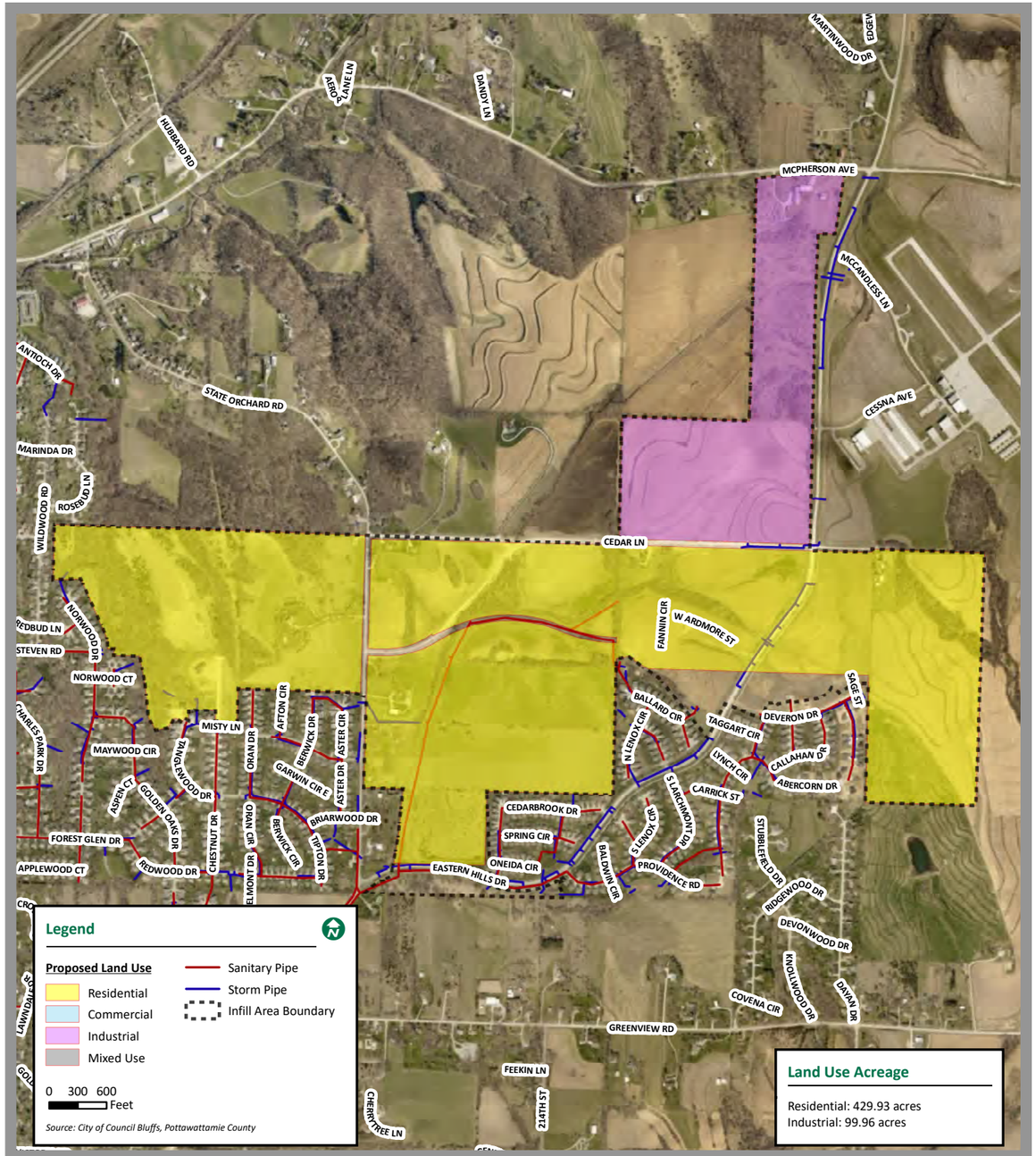
STORM - PUMP STATION

EASTERN HILLS DRIVE

The Eastern Hills Drive infill area extends from the intersection of Eastern Hills Drive/McPherson Avenue on the north to the intersection of Eastern Hills Drive/State Orchard Road on the south, and from Wildwood Subdivision on the west to undeveloped land lying east of Hills of Cedar Creek. The land included in this infill area is not developed and is in agricultural use, with the exception of a few residential acreages. The area is immediately adjacent to other neighborhoods developed in the city at a single-family density. The land in the northwest portion can be characterized with steep slopes and a deep ravine with less significant slopes and a more rolling terrain moving east in the area. This location is immediately adjacent to the Council Bluffs Municipal Airport. Each parcel in this infill area has some level of constraint, which limits the amount of developable land. Development should avoid steep slopes and minimize grading and erosion where possible.

Future Land Use

Eighty percent of this area is identified for residential development. The areas between Cedar Lane and Stevens Road (to be extended) are identified as residential along with the land south of the airport. The area located on the west side of Eastern Hills Drive across from the airport is identified as industrial.

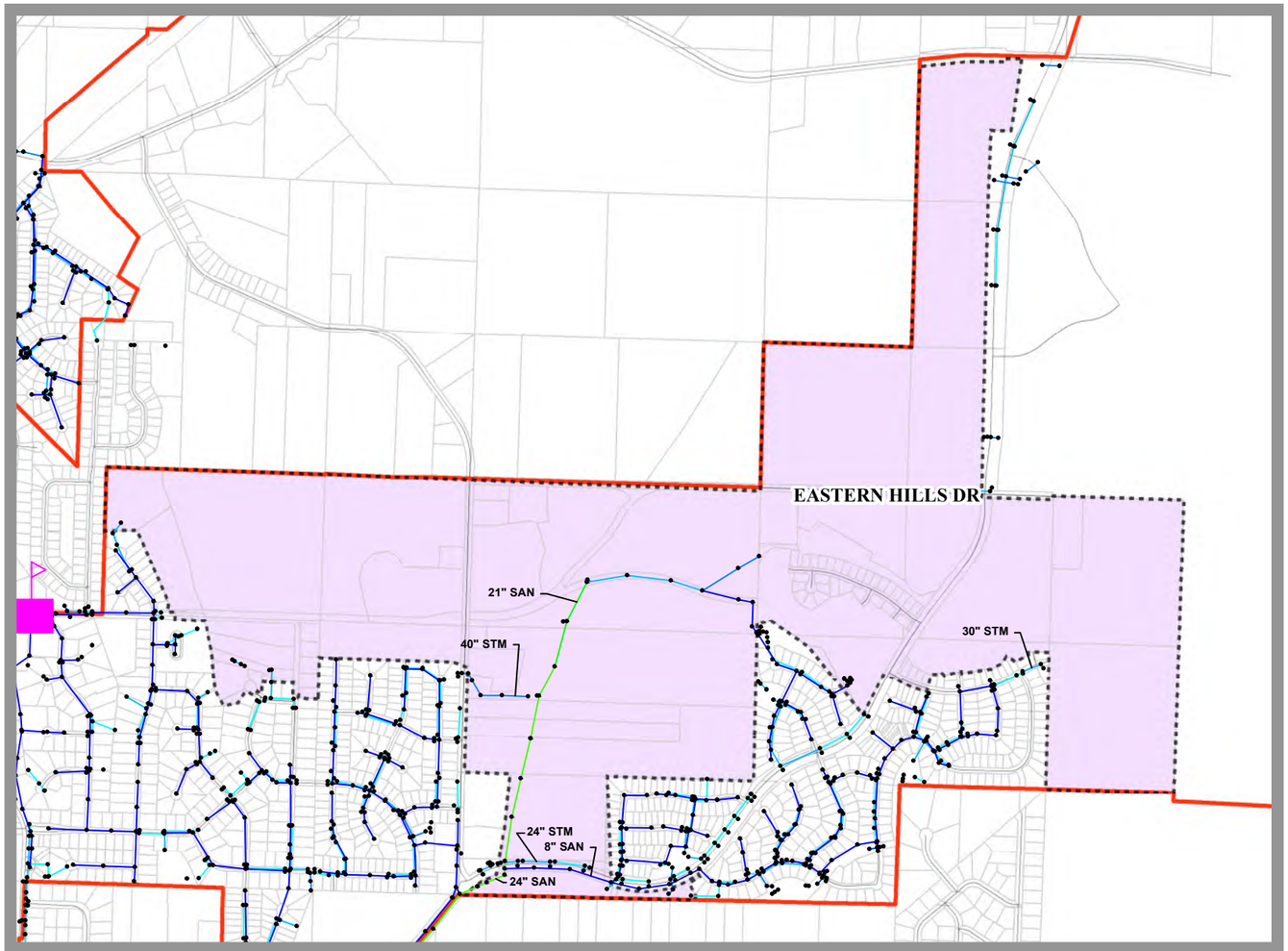


EASTERN HILLS DRIVE INFILL AREA MAP

Infrastructure

There is an existing 21-inch sanitary sewer trunk line that has been extended to Cedar Lane that is intended to provide sewer service to this area. This line can be extended up the drainage basin as needed to support development.

There is storm sewer on the east side of this area in the recently constructed Eastern Hills Drive right-of-way. The area is in the upper reaches of a tributary of Mosquito Creek. On-site storm sewer and stormwater detention can be constructed to meet development needs.



EASTERN HILLS DRIVE INFILL AREA - INFRASTRUCTURE MAP

SANITARY - PUMP STATION

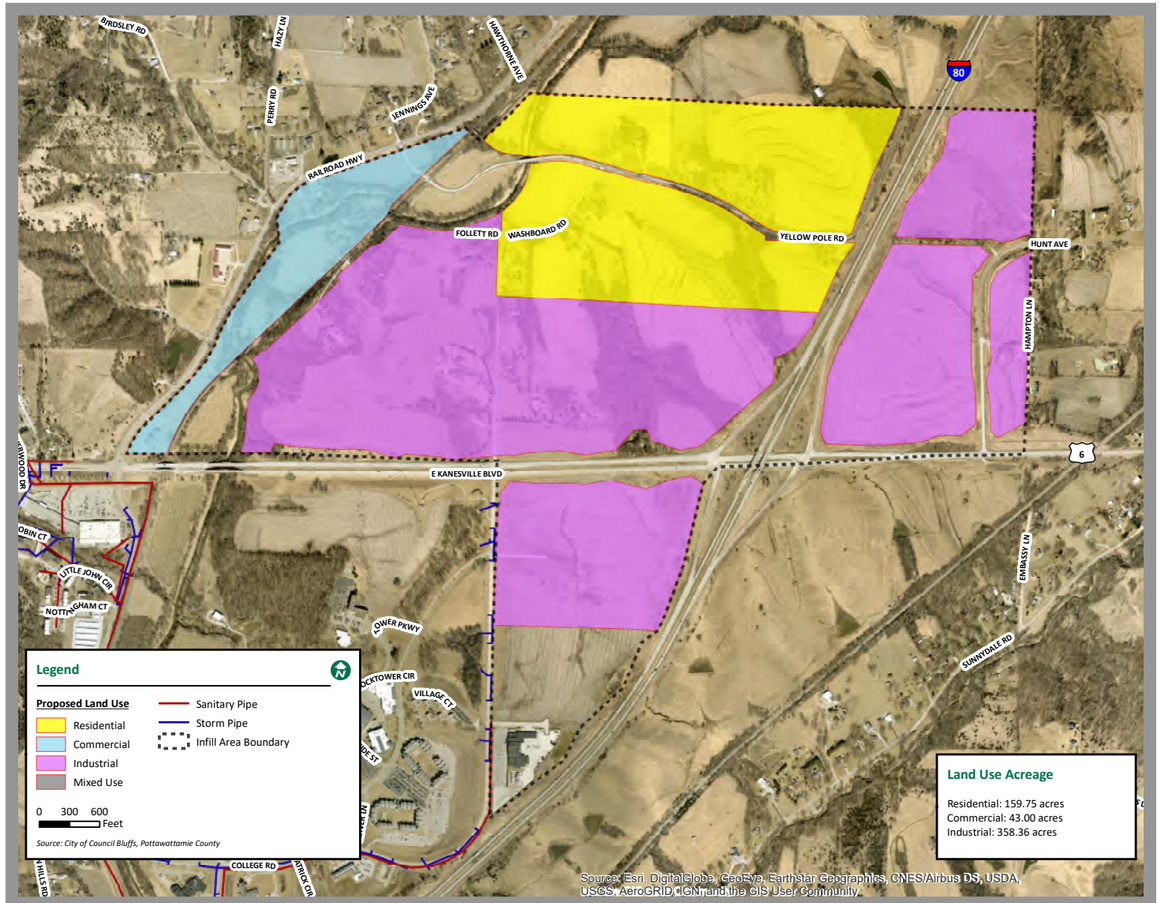
STORM - PUMP STATION

HIGHWAY 6

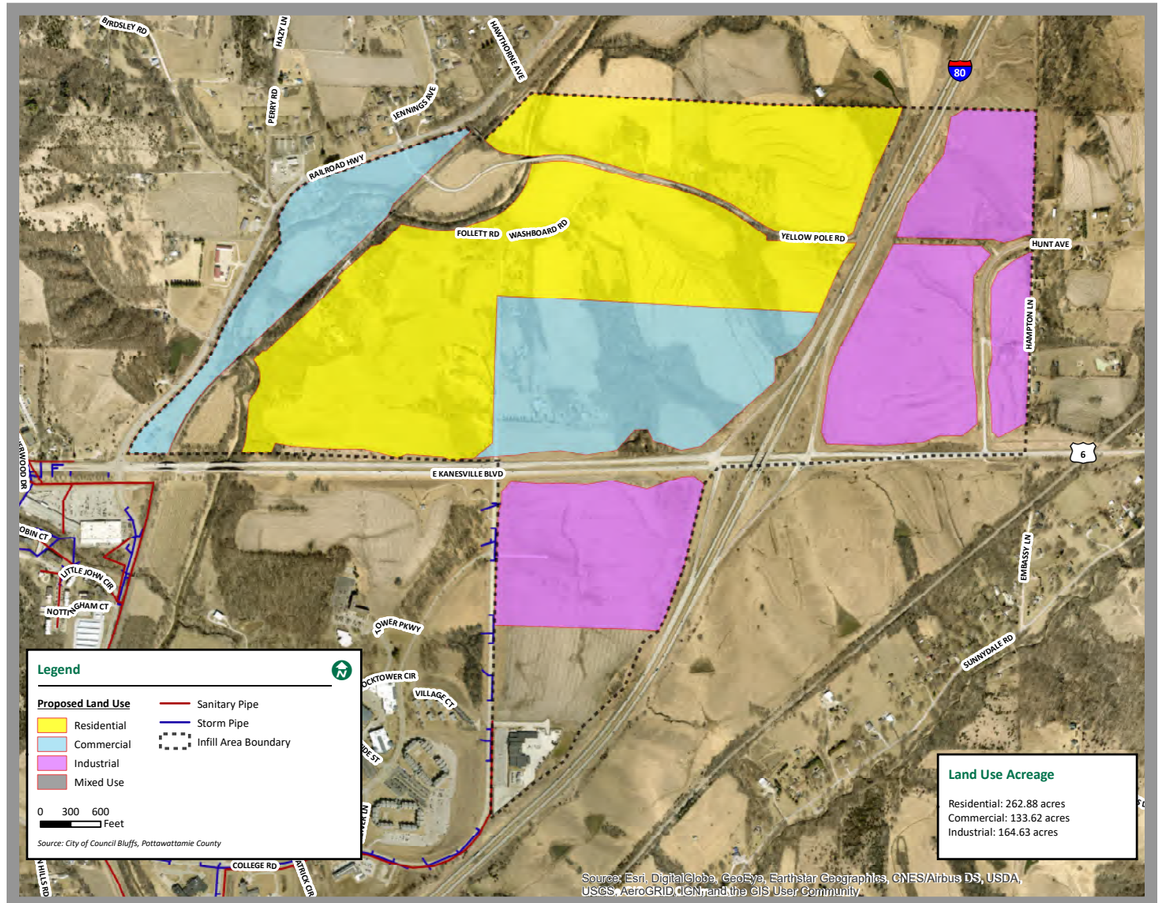
The Highway 6 infill area is primarily located north of Highway 6 and east of Railroad Highway, and includes properties on both sides of Yellow Pole Road and Interstate 80, as well as the southwest corner of the intersection of Highway 6/Interstate 80. The land in this infill area can be characterized as steep slopes and floodplains associated with Mosquito Creek. Much of the land in the study area is in agricultural use or has been developed with large residential estates.

Future Land Use

Two unique land use scenarios have been identified for this area:



HIGHWAY 6 INFILL AREA MAP (SCENARIO #1)



HIGHWAY 6 INFILL AREA MAP (SCENARIO #2)

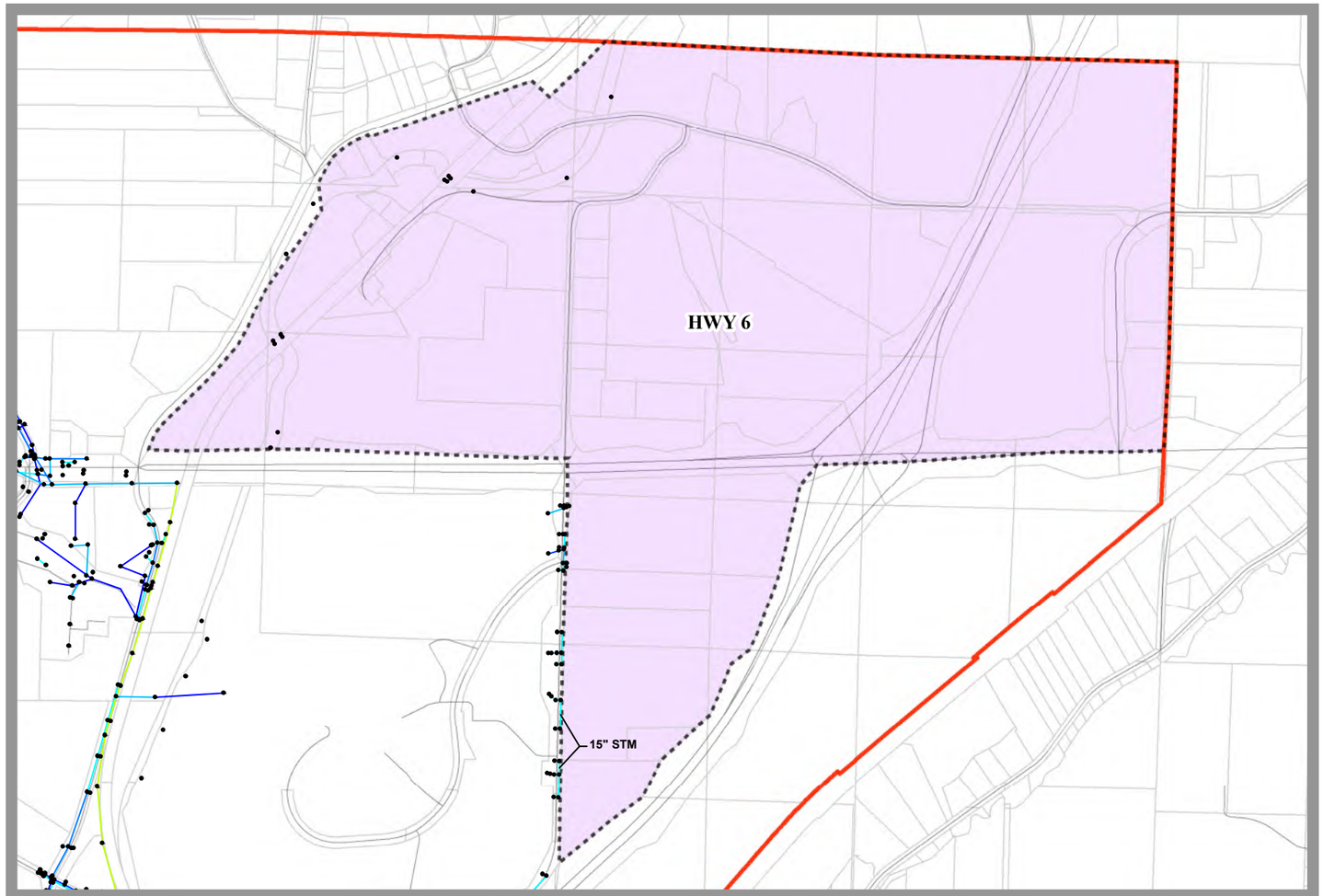
Scenario One: This scenario includes commercial uses on the west side of Mosquito Creek, residential adjacent on both sides of Yellow Pole Road, and industrial uses on the remaining land area. The land directly adjacent to Highway 6 would be suitable for industrial development due to its proximity to the Interstate 80/Highway 6 interchange, provided sanitary sewer infrastructure is available.

Scenario Two: This scenario includes commercial uses on the west side of Mosquito Creek and at the northwest corner of the Interstate 80/Highway 6 interchange. Residential development is identified on both sides of Yellow Pole Road and between Washboard Road and Mosquito Creek. Industrial use is identified on the portions of the infill area south of Highway 6 and east of Interstate 80.

Infrastructure

The south portion of the infill area currently has sanitary sewer service, which flows south in College Road right-of-way. The portion of the infill area north of Highway 6 does not have sanitary sewer service. The closest sanitary sewer to this area is on the west side of Mosquito Creek in Kanesville Boulevard (Highway 6) right-of-way. A new pump station and force main would be required to extend sanitary sewer service to this area. This area is adjacent to Mosquito Creek on the west side.

Storm sewer and on-site stormwater detention that flows to Mosquito Creek could be constructed to support development in this infill area.



HIGHWAY 6 INFILL AREA - INFRASTRUCTURE MAP

SANITARY - PUMP STATION

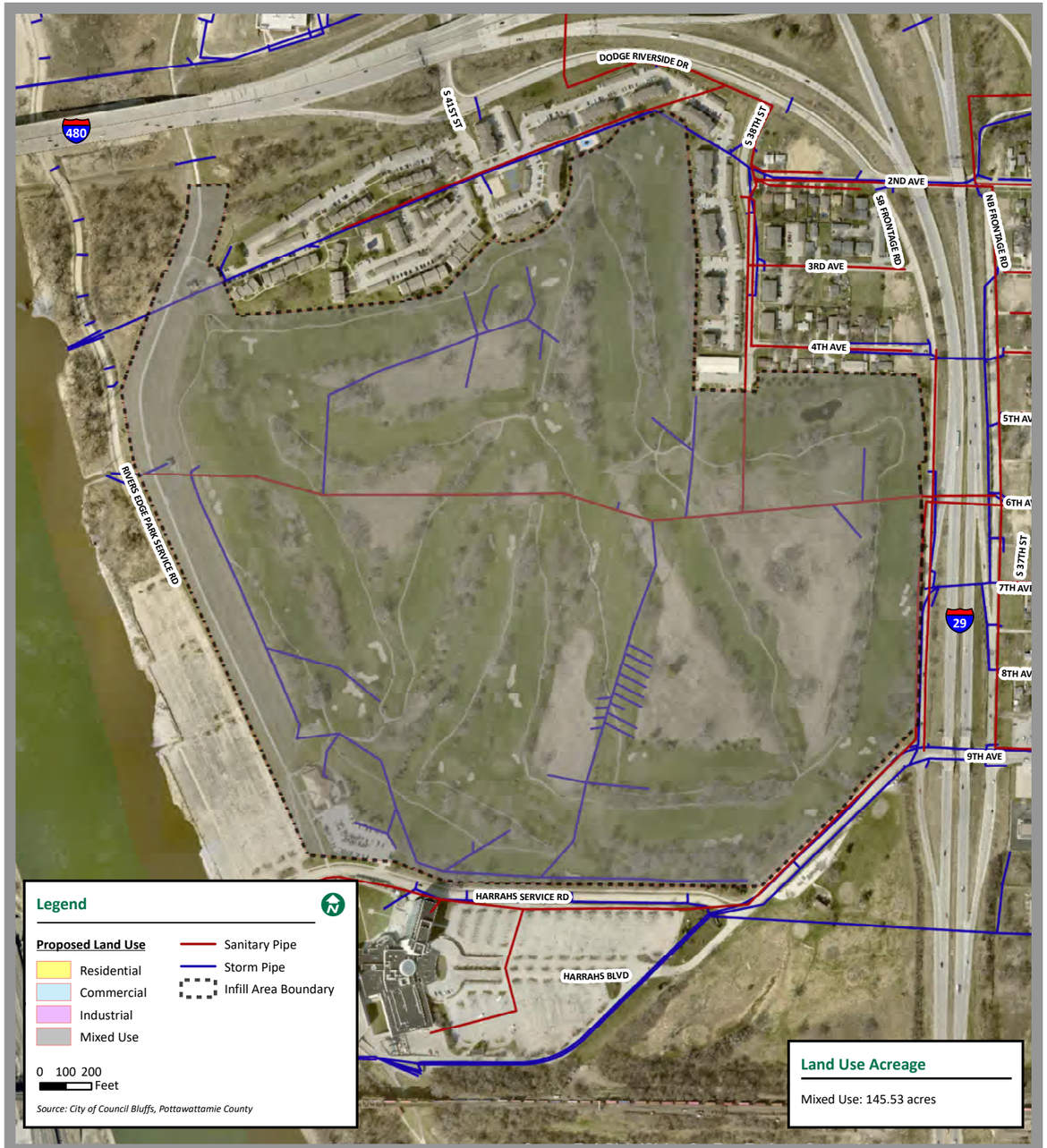
STORM - PUMP STATION

DODGE PARK GOLF COURSE

Dodge Park Golf Course is a publicly owned and operated golf course located east of the Missouri River, west of Interstate 29, and south of Interstate 480.

Future Land Use

The Dodge Park Golf Course is highly visible from Interstate 480 and located near the riverfront and the larger metropolitan area, which makes this infill area suitable for mixed-use development. The appropriate mix of uses is subject to further study and the development of a master plan, which would be influenced by the expansion of Omaha's streetcar system into Council Bluffs through this infill area. The overall density of the area can be increased with the introduction of multi-modal transportation options.

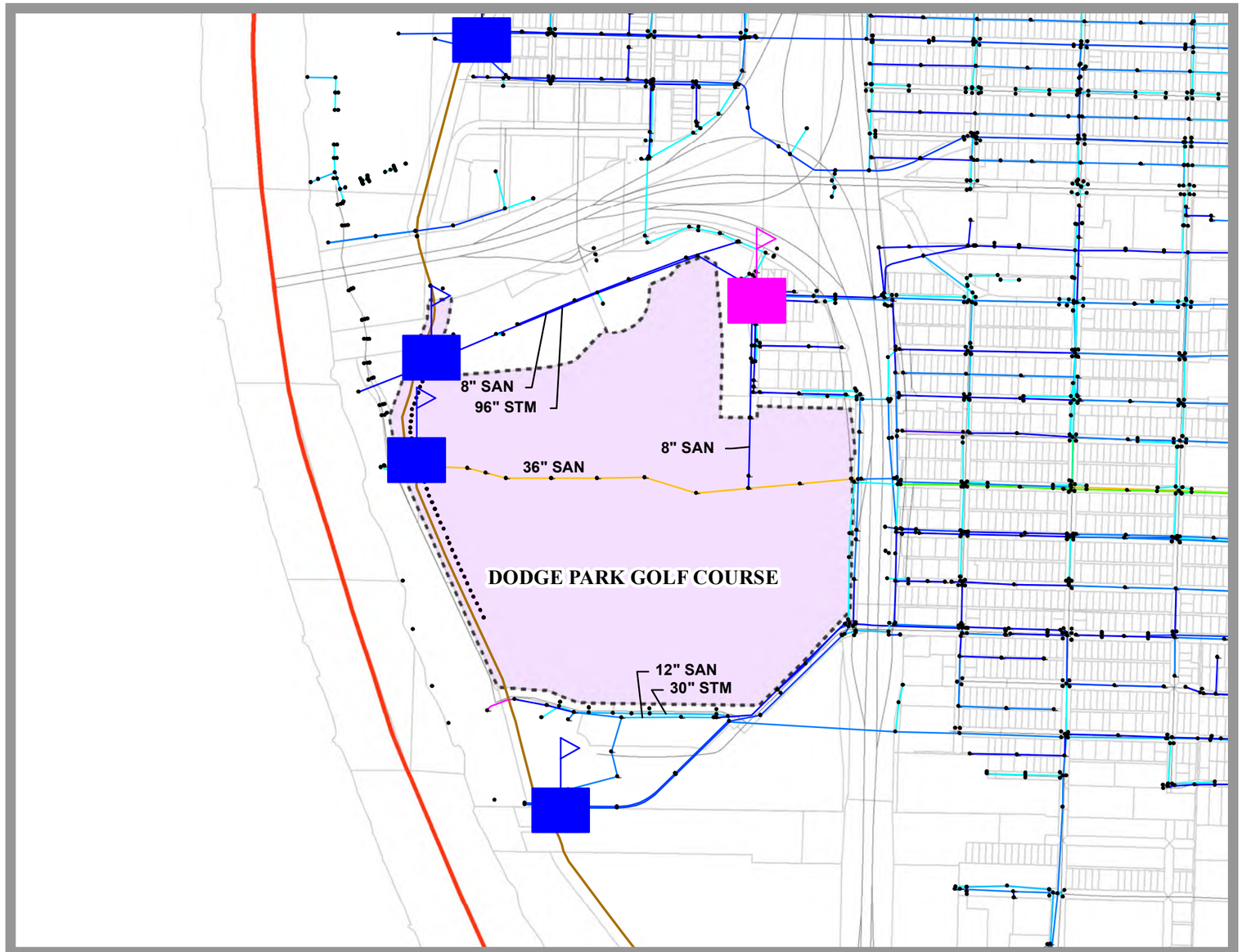


DODGE PARK GOLF COURSE INFILL AREA MAP

Infrastructure

There is an existing eight-inch sanitary sewer in South 38th Street right-of-way, and a sanitary sewer pump station at South 38th Street and 2nd Avenue. This pump station could be utilized for sanitary sewer flows in the golf course area; however, capacity improvements would likely be required depending on the flows produced by new development. There is also a 12-inch sanitary sewer on the south end of the site.

The area is protected by the Missouri River Levee. Storm sewer is available and there are two pump stations located on the west side of the golf course that can discharge into the Missouri River when river conditions are high. The overall amount of impervious cover on the current golf course is low. Development of the site for more intensive uses will significantly increase the amount of impervious cover. The existing pump stations are currently undersized based on modern design standards and could not accommodate additional volumes. As a result, an additional pump station would be needed for any development that occurs in this infill area.



DODGE PARK GOLF COURSE INFILL AREA - INFRASTRUCTURE MAP

SANITARY - PUMP STATION

STORM - PUMP STATION

TRANSPORTATION & TRAFFIC 4

TRANSPORTATION AND TRAFFIC

Understanding the transportation network and traffic conditions of the study area is critical to understanding future land uses. An assessment of existing transportation, traffic conditions, and connectivity was conducted. Information for the roadway and transportation infrastructure assessment was gathered from the City of Council Bluffs, Pottawattamie County, Iowa Department of Transportation (IDOT), and the Omaha-Council Bluffs Metropolitan Area Planning Agency (MAPA).

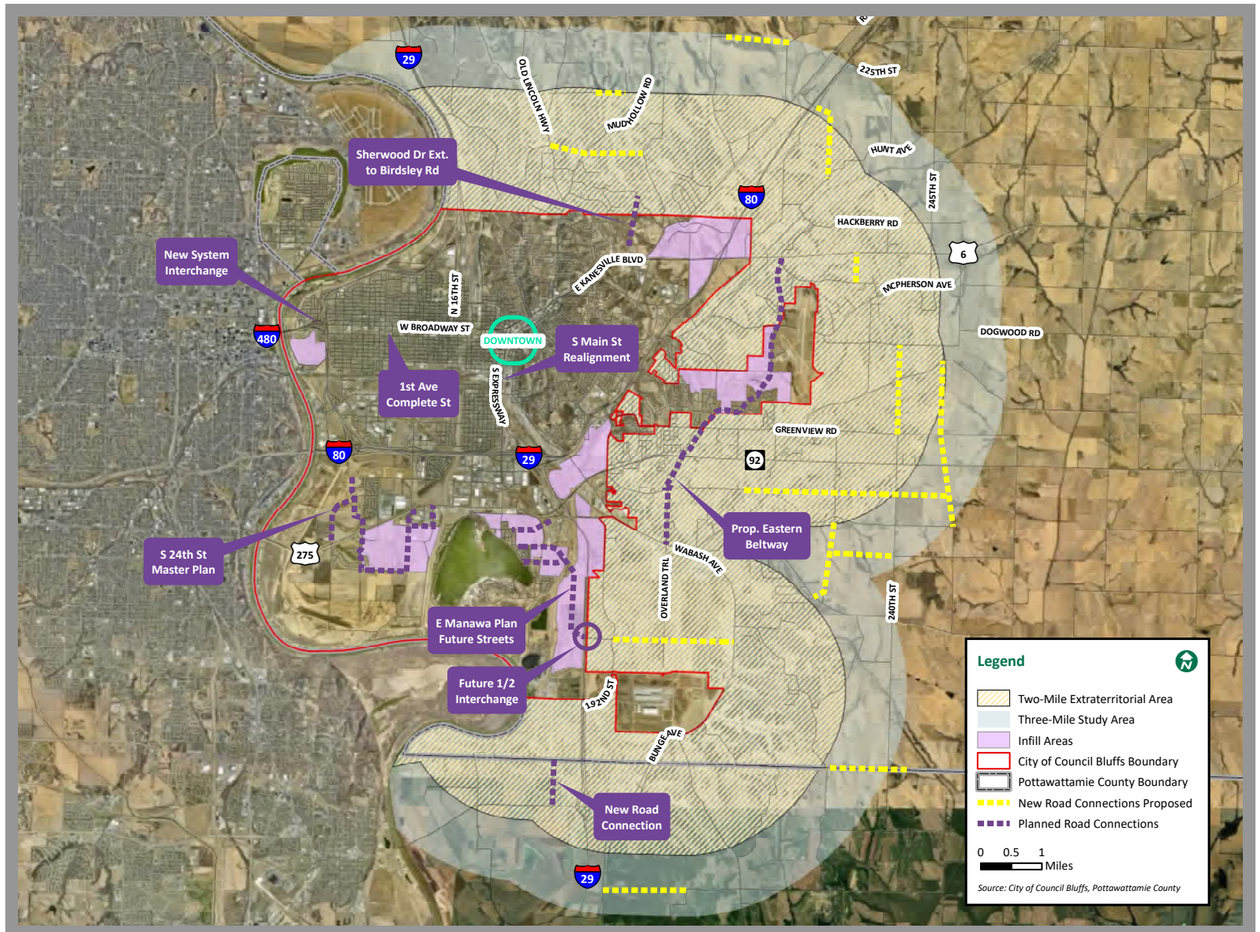
Existing safety and capacity issues were identified to determine the needs of the infill areas identified in Chapter 3: Council Bluffs Infill Areas and the potential expansion areas identified in Chapter 2: Three-Mile Study Area. A general assessment of road conditions and the need for road improvements and/or extensions was also conducted. While the exact specifications of improvements will be finalized as new developments are proposed, the assessment/analysis provides an overall sense of the changes to transportation infrastructure that are needed to support growth.

Roadway Connectivity/Condition

Proposed changes and additions to the existing roadway network for the infill and expansion areas were reviewed using the Amended South 24th Street Master Plan, East Manawa Plan, Loess Hills Preservation Plan, Riverfront Master Plan, Council Bluffs Downtown Plan, and the Bluffs Tomorrow 2030 Plan. The roadway network in the three-mile study area was examined for gaps in the existing system that should be connected as the potential expansion areas develop. The recommendations for new connections are based on a goal to provide a grid system with major connections no more than one mile apart, if possible. The topography, railroads, and waterways add to the complexity of developing a traditional grid system in much of the three-mile study area. Proposed transportation changes from previous plans and potential new connections are shown on the map to the right.

IDOT reports pavement conditions by using a Pavement Condition Index (PCI). PCI is a metric developed by IDOT that accounts for pavement ride quality and the amount of cracking, faulting, and rutting of the surface. IDOT uses three categories (good, fair and poor) to track and communicate the overall condition of the pavement. Since 2013, IDOT has expanded pavement data collection efforts to all paved roads in Iowa. Data is shared free of charge with counties, cities, and planning agencies through the Iowa Pavement Management Plan (IPMP) and is available for their use.

PCI thresholds differ by roadway type, as shown in Table T1. Each roadway is rated 0-100 representing the condition of the roadway pavement (0 worst; 100 best). The PCI rating can be used as a tool by communities to identify pavement improvement needs. A map showing 2018 PCI data for the study area is provided in Figure 2 of the Appendix. The map identifies each roadway segment by those roads that are above or below the fair condition threshold.



ROADWAY CONNECTION INITIAL REVIEW

SOURCE: CITY OF COUNCIL BLUFFS

Many of the local and collector roadways in the western portion of the City are in poor condition, according to 2018 PCI data. Several major arterial roadways in both the western and eastern portions of the City are listed in fair or good condition.

Some of the major connector roadways through the three-mile study area are constructed with gravel. As the study area develops, the connectors will be more heavily traveled and have greater significance to the area transportation system. Roads in poor condition should be considered for pavement upgrades, with those roads providing connection to the interstates (Interstate 80 and Interstate 29), Highways 6 and 92, or into downtown Council Bluffs having the highest priority for upgrades.

Table T1 – 2018 IDOT PCI Thresholds

Category	PCI Thresholds		
	Interstate	NHS (Non-Interstate)	Non-NHS
Good	76-100	71-100	71-100
Fair	51-75	46-70	41-70
Poor	0-50	0-45	0-40

Volume/Capacity Ratio

A volume to capacity (v/C) ratio measures the amount of traffic on a given roadway relative to the amount of traffic the roadway was designed to accommodate. A roadway with a v/C ratio of 1.0 is considered at capacity. Local roadways in the three-mile study area have sufficient capacity, with all having a v/C < 0.60. Higher level roadways that provide connections from the western half to the eastern half of Council Bluffs (Broadway, Highway 6, Highway 92, and Veterans Memorial Highway), also have capacity, with the highest v/C ratio being 0.62.

The Council Bluffs Interstate System (CBIS) was originally constructed in the 1960s. Although routine maintenance projects were completed, significant changes have not been made since its original construction. The CBIS Improvement Program is a major effort that will result in a modernization and reconstruction of the interstate highway system in the Omaha-Council Bluffs Metropolitan Area. According to IDOT's project website, this multi-phase construction project to improve Interstate 29 and Interstate 80 through the City started construction in 2013 and is anticipated to be completed by the end of 2024. The CBIS map below provides an overview of the program project locations. Even with the re-design on the interstate system, it is still important that drivers have the choice to use a local system to navigate around the City from the three-mile study area. If drivers use the local system to navigate around the City from this outlying area, there appears to be ample capacity to handle additional demand based on the existing daily v/C ratios calculated.

Many of the proposed local transportation improvements laid out in previous planning documents are still valid and needed. Some of these transportation system pieces have been constructed; however, the remaining connections should be completed as areas develop. The Eastern Hills Drive/Eastern Beltway is key to providing connectivity in an area of the City that has challenges with freeway access, which can limit development opportunities.

Highway 6 and Highway 92 are good for east-west circulation and existing daily v/C ratios show that they have adequate capacity to handle additional traffic. The changes with the interstate re-design will improve through traffic flow on Interstate 80 and local access on Interstate 29. It is important for the City to invest in enhancing their local system for circulation, such as with the Eastern Beltway, so that the interstates do not have to be relied on for 'in-town' circulation.

The road system in the three-mile study area has challenges with topography, waterways, and railroad corridors, but overall, there is still good connectivity. Several of the major arterial roadways in the study area are in fair or good condition, according to the PCI.

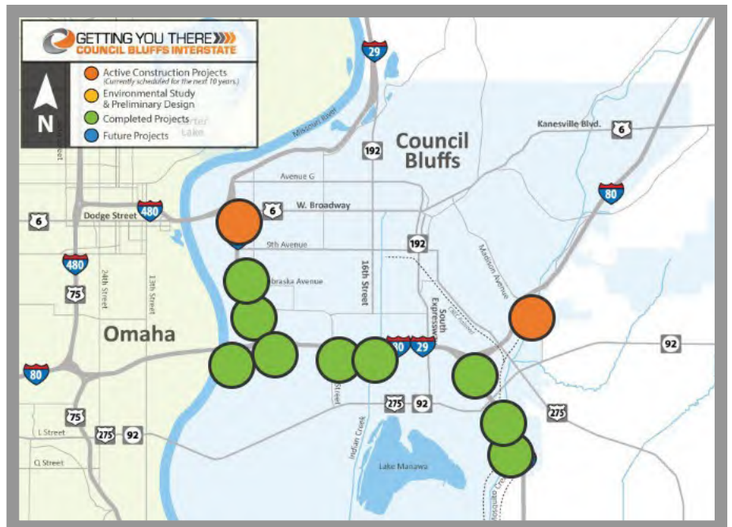
Interstate Capacity

The v/C analysis conducted for this study indicates that the interstates in this area experience higher v/C ratios indicative of congestion related issues. The CBIS typically carries 20,000-75,000 vehicles; 11-25% of those are trucks. By 2030, traffic on Interstate 80 between the Interstate 29 interchanges is expected to increase by more than 120,000 vehicles a day. This increase in traffic, coupled with an outdated design standard, is driving system improvements.

The CBIS re-design physically separates through traffic on Interstate 80 from local traffic on Interstate 29 destined for Council Bluffs, creating Interstate 80 express lanes and Interstate 29/Interstate 80 local lanes. This is accomplished by constructing four separate roadways (two roadways for traffic in each direction). Each roadway is separated by a concrete median barrier. Benefits of this re-design include:

1. Redundancy to allow traffic to keep moving in both directions, even if lanes are blocked because of a crash or maintenance;
2. Improving roadway safety by reducing the number of crashes caused by merging traffic between tightly spaced interchanges;
3. Easing congestion, especially during peak or rush hours by separating through traffic on Interstate 80 from local traffic destined for Council Bluffs; and
4. Better accommodating projected traffic growth and planned development in the area.

With these improvements, it is anticipated that existing v/C ratios on the Interstate 80 and Interstate 29 system in the city will improve or maintain even as the area grows. The largest benefits of the interstate re-design will be safety and incident management, especially during peak or rush hours.



CBIS IMPROVEMENT PROGRAM PROJECTS

CAPACITY CALCULATIONS

Average Daily Traffic (ADT) volumes available from the IDOT Traffic Flow Map and the RAMS GIS layer were used to determine existing v/C ratios. The latest ADT data available is for the year 2016.

The v/C ratio was used to quantify the potential deficiencies or capacity issues in the existing transportation system in both the infill and expansion areas. Level of service (LOS) ratios for traffic are used for generalized planning. When using a LOS ratio, traffic volumes are compared to the estimated current facility capacity. The LOS ratio for urban streets is separated into six levels and assigned a letter from A to F.

The capacity used in the v/C calculation was taken from Exhibit 16-16 of the Highway Capacity Manual (HCM), 6th Edition. v/C (LOS) E was determined as meeting capacity for the roadway. The corresponding daily service volume for LOS E, (i.e., current facility capacity) was taken from HCM Exhibit 16-16 with the assumption that K=0.10 and D = 0.55, as shown in Table T2.

The daily service volume is the approximate maximum two-way ADT volume that can be accommodated by an urban street at a given LOS for two posted speed limits under very specific assumptions of signal timing, signal spacing, access point spacing, and access point volumes.

Table T3 presents the v/C values that correspond to specific level of service rankings. v/C ratios were calculated for the roadway segments throughout the city using the HCM capacity value with the volume and number of lanes for the roadway segments from RAMS GIS data.

A map showing the results of this analysis was prepared using the different v/C ratio levels shown in Table T3, and is included in Figure 1 of the Appendix. The resulting v/C ratios for each segment were colored accordingly. Those road segments shown in gray are operating at LOS A or better. The map shows local roadways have ample capacity, based on daily traffic volumes, to handle new traffic generated as areas develop. The interstates, which carry upwards of 80,000 vehicles combined per day, have challenges and experience some level of congestion throughout many parts of the day.

Table T2 – HCM Exhibit 16-16: Daily Service Volumes (Capacity)

Exhibit 16-16
Generalized Daily Service Volumes for Urban Street Facilities

K-Factor	D-Factor	Daily Service Volume by Lanes, LOS, and Speed (1,000 veh/day)											
		Two-Lane Streets				Four-Lane Streets				Six-Lane Streets			
		LOS B	LOS C	LOS D	LOS E	LOS B	LOS C	LOS D	LOS E	LOS B	LOS C	LOS D	LOS E
Posted Speed = 30 mi/h													
0.09	0.55	NA	1.7	11.8	17.8	NA	2.2	24.7	35.8	NA	2.6	38.7	54.0
	0.60	NA	1.6	10.8	16.4	NA	2.0	22.7	32.8	NA	2.4	35.6	49.5
0.10	0.55	NA	1.6	10.7	16.1	NA	2.0	22.3	32.2	NA	2.4	34.9	48.6
	0.60	NA	1.4	9.8	14.7	NA	1.8	20.4	29.5	NA	2.2	32.0	44.5
0.11	0.55	NA	1.4	9.7	14.6	NA	1.8	20.3	29.3	NA	2.1	31.7	44.1
	0.60	NA	1.3	8.9	13.4	NA	1.7	18.6	26.9	NA	2.0	29.1	40.5
Posted Speed = 45 mi/h													
0.09	0.55	NA	7.7	15.9	18.3	NA	16.5	33.6	36.8	NA	25.4	51.7	55.3
	0.60	NA	7.1	14.5	16.8	NA	15.1	30.8	33.7	NA	23.4	47.4	50.7
0.10	0.55	NA	7.0	14.3	16.5	NA	14.9	30.2	33.1	NA	23.0	46.5	49.7
	0.60	NA	6.4	13.1	15.1	NA	13.6	27.7	30.3	NA	21.0	42.7	45.6
0.11	0.55	NA	6.3	13.0	15.0	NA	13.5	27.5	30.1	NA	20.9	42.3	45.2
	0.60	NA	5.8	11.9	13.8	NA	12.4	25.2	27.6	NA	19.1	38.8	41.5

Notes: NA = not applicable; LOS cannot be achieved with the stated assumptions.
General assumptions include no roundabouts or all-way stop-controlled intersections along the facility; coordinated, semiactuated traffic signals; Arrival Type 4; 120-s cycle time; protected left-turn phases; 0.45 weighted average *g/C* ratio; exclusive left-turn lanes with adequate queue storage provided at traffic signals; no exclusive right-turn lanes provided; no restrictive median; 2-mi facility length; 10% of traffic turns left and 10% turns right at each traffic signal; peak hour factor = 0.92; and base saturation flow rate = 1,900 pc/h/ln.

Table T3 – Level of Service Rankings

Level of Service	Description	Volume-to-Capacity Ratio
A	Highest driver comfort; free flowing	< 0.60
B	High degree of driver comfort; little delay	0.60 – 0.70
C	Acceptable level of driver comfort; some delay	0.70 – 0.80
D	Some driver frustration; moderate delay	0.80 – 0.90
E	High level of driver frustration; high levels of delay	0.90 – 1.00
F	Highest level of driver frustration; excessive delays	> 1.00

V/C ratio = Volume (ADT) / Capacity

CRASH ANALYSIS

A five-year crash history of the roadways adjacent to the eight infill areas identified in Chapter 3: Council Bluffs Infill Sites was completed using crash data available through the IDOT Crash Mapping Analysis Tool for January 1, 2015, through December 31, 2019. High crash maps were prepared for the intersections surrounding the infill sites.

Using the high crash maps, the intersections with the highest number of crashes in the area adjacent to the infill sites were selected for analysis. The crash rate was calculated for these intersections to determine whether the calculated intersection crash rate was higher than the IDOT statewide average for intersections of a similar type. ADT volumes available from the IDOT Traffic Flow Map and the IDOT Roadway Asset Management System (RAMS) GIS layer were used in this calculation.

An overall summary of crash numbers and crash rates is included in Table T4. Maps showing the high crash locations for each infill site are provided later in this section.

There are eleven intersections with collision rates higher than the statewide average. For these eleven intersections, the crash severity was further examined and is shown in Table T5. The crashes of the 11 sections range in seriousness of damage, injury, and fatalities. The percentages of injury and death during crashes throughout these 11 sections is 22.5%.

The highest injury locations near or within the infill areas were:

1. Highway 92/Harry Langdon Boulevard (34% of crashes resulted in injuries)
2. Broadway/South 35th Street (33% of crashes resulted in injuries)
3. Veterans Memorial Highway/Piute Street (45% of crashes resulted in injuries)
4. Veterans Memorial Highway/South 24th Street (41% of crashes resulted in injuries)

Table T4 – Overall Intersection Crash Summary by Crash Rate

Intersection		Number of Collisions	Collision Rate (MEV)	IDOT Statewide Average (MEV)
E-W Street	**N-S Street**			
Site 1 - Dodge Park Golf Course				
Broadway	S. 35th	63	1.38	0.9
Harrahs Blvd/9th Ave	I-29 NB	23	1.16	0.9
Harrahs Blvd/9th Ave	I-29 SB	16	0.98	0.9
9th Ave	S. 35th St	14	0.56	0.8
Site 2 - Veteran's Memorial Hwy-Gifford Rd				
Veterans Memorial Hwy	Twin City Dr	13	0.57	0.9
Veterans Memorial Hwy	S 24th St	46	1.35	0.9
Site 3 - Lakeshore Golf Course				
Veterans Memorial Hwy	11th St	12	0.37	0.9
Veterans Memorial Hwy	Piute St	48	1.47	0.9
Site 4 - Manawa Drive/Southlands				
Hwy 275/Hwy 92 NB ramps	I-29	30	0.55	1.0
Hwy 275/Hwy 92 SB ramps	I-29	33	0.60	1.0
Veterans Memorial Hwy	Tank Farm Rd	27	1.02	0.9
Site 5 - Hwy 92				
Hwy 92	Harry Langdon Blvd	70	1.48	0.9
I-80 EB ramps	Madison Ave	18	0.51	0.9
I-80 WB ramps	Madison Ave	17	0.45	0.9
Rue St	Madison Ave	13	0.94	0.8
Woodbury Ave	Madison Ave	30	1.23	0.8
Site 6 - Eastern Hills				
State Orchard	Eastern Hills Dr	4	1.45	0.8
Site 7 - Hwy 6				
Kanesville Blvd	I-80 WB Ramps	9	0.51	0.9
Kanesville Blvd	I-80 EB Ramps	18	1.09	0.9
Kanesville Blvd	College Rd	10	0.60	0.8
Kanesville Blvd	Railroad Ave	19	0.79	0.8
Kanesville Blvd	Sherwood Dr	12	0.53	0.8
		* Calculated MEV is larger than average MEV		

Table T5 – Crash Severity for Intersections Higher Than Statewide Average (2015-2019)

Crash Severity							
Intersection		Fatal	Suspected Serious Injury	Suspected Minor Injury	Possible/ Unknown Injury	Property Damage Only	Number of Collisions
E-W Street	**N-S Street**						
Site 1 - Dodge Park Golf Course							
Broadway	S. 35th	1	1	3	16	42	63
Harrahs Blvd/9th Ave	I-29 NB	0	0	1	2	20	23
Harrahs Blvd/9th Ave	I-29 SB	0	1	1	6	8	16
Site 2 - Veteran's Memorial Hwy-Gifford Rd							
Veterans Memorial Hwy	S 24th St	0	1	5	13	27	46
Site 3 - Lakeshore Golf Course							
Veterans Memorial Hwy	Piute St	0	1	9	12	26	48
Site 4 - Manawa Drive/Southlands							
Veterans Memorial Hwy	Tank Farm Rd	0	0	1	6	20	27
Site 5 - Hwy 92							
Hwy 92	Harry Langdon Blvd	0	0	6	18	46	70
Rue St	Madison Ave	0	0	1	2	10	13
Woodbury Ave	Madison Ave	0	0	1	8	21	30
Site 6 - Eastern Hills							
State Orchard	Eastern Hills Dr	0	0	0	1	3	4
Site 7 - Hwy 6							
Kanesville Blvd	I-80 EB Ramps	0	0	2	1	15	18

Information regarding fatal/suspected serious injury crashes at the highest injury locations is provided below:

1. At the intersection of Broadway/South 35th Street, a fatal pedestrian-vehicle crash occurred when a westbound vehicle hit a pedestrian crossing the east leg at night.
2. At the intersection of Broadway/South 35th Street, a suspected serious injury crash occurred when a westbound and northbound vehicle collided in a broadside crash.
3. At the intersection of Veterans Memorial Highway/South 24th Street, a suspected serious injury crash occurred when an eastbound motorcyclist lost control in a single vehicle crash.
4. At the intersection of Veterans Memorial Highway/Piute Street, a suspected serious injury crash occurred when an eastbound left turning vehicle turned in front of a westbound through vehicle causing an angle crash.

Table T6 – Crash Types for Intersections Higher Than Statewide Average (2015-2019)

Crash Type												
Intersection		Non-Collision	Head-on	Rear-End	Angle	Broadside	Sideswipe, Same Direction	Sideswipe, Opposite Direction	Rear to Rear	Rear to side	Other	Total
E-W Street	**N-S Street**											
Site 1 - Dodge Park Golf Course												
Broadway	S. 35th	5	3	**24**	**11**	**11**	7	0	0	1	1	63
Harrahs Blvd/9th Ave	I-29 NB	3	0	**5**	1	**10**	**3**	1	0	0	0	23
Harrahs Blvd/9th Ave	I-29 SB	3	0	**2**	1	**8**	**2**	0	0	0	0	16
Site 2 - Veteran's Memorial Hwy-Gifford Rd												
Veterans Memorial Hwy	S 24th St	6	1	**13**	**11**	**11**	3	0	0	0	1	46
Site 3 - Lakeshore Golf Course												
Veterans Memorial Hwy	Piute St	0	7	**13**	**10**	**16**	1	1	0	0	0	48
Site 4 - Manawa Drive/Southlands												
Veterans Memorial Hwy	Tank Farm Rd	1	1	**15**	**3**	**6**	1	0	0	0	0	27
Site 5 - Hwy 92												
Hwy 92	Harry Langdon Blvd	4	3	**30**	**16**	**13**	3	1	0	0	0	70
Rue St	Madison Ave	1	1	**2**	0	**4**	**4**	1	0	0	0	13
Woodbury Ave	Madison Ave	0	1	**12**	**6**	4	**5**	1	0	0	1	30
Site 6 - Eastern Hills												
State Orchard	Eastern Hills Dr	**3**	0	0	0	**1**	0	0	0	0	0	4
Site 7 - Hwy 6												
Kanesville Blvd	I-80 EB Ramps	0	0	**5**	1	**9**	2	0	0	0	1	18

Crashes by type are shown in Table T6. The highest occurring crash types are highlighted for each intersection. Many of the crashes were rear-end, angle, and broadside which are typical of signalized intersections in urban areas.

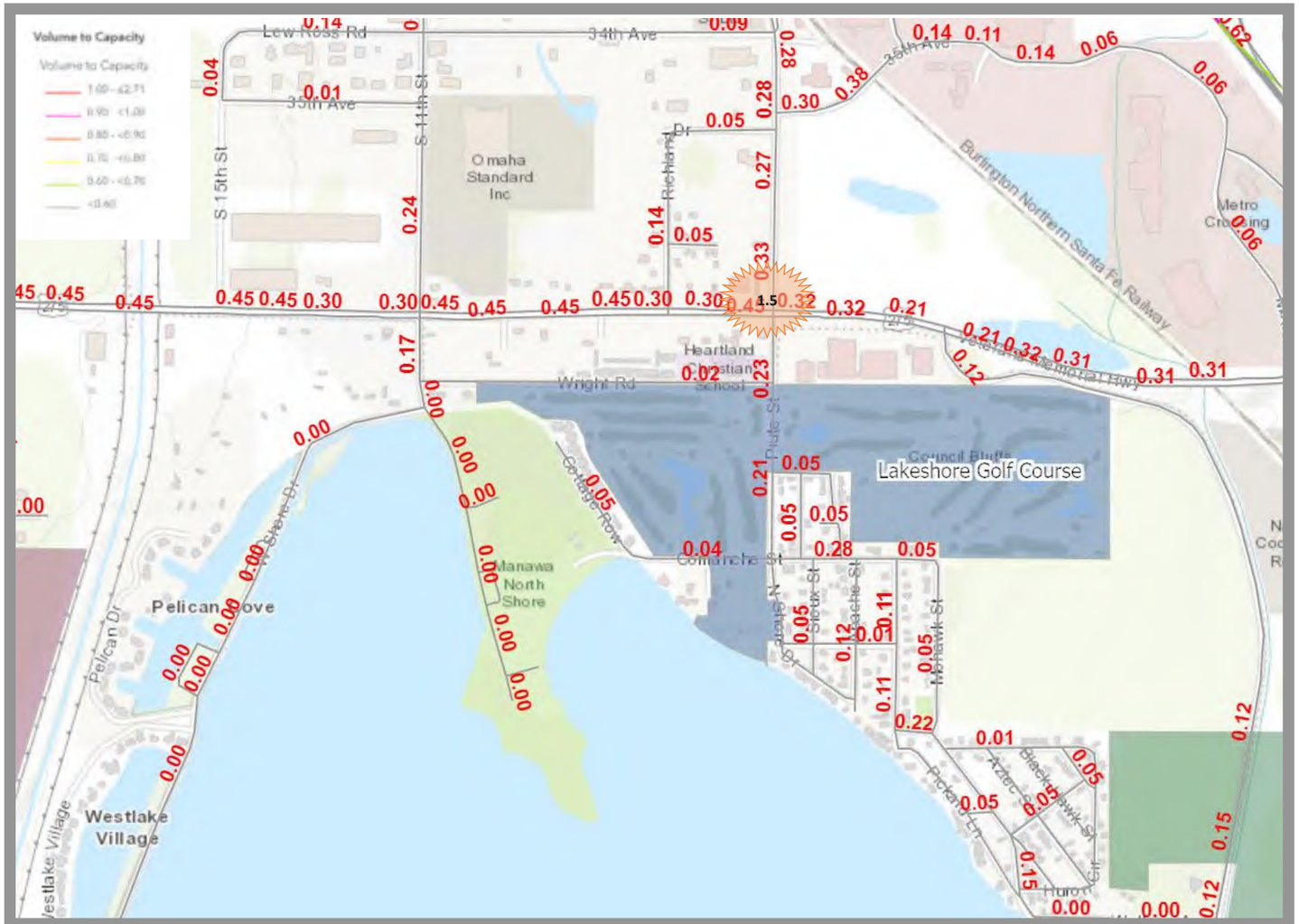
Crash types were reviewed to see if there were any distinguishable crash trends occurring and potential mitigations that could be recommended to mitigate the re-occurring crash issue. Table T6 shows the trends noted during the review and proposed mitigations.

Table T7 – Crash Trends and Mitigations for Intersections Higher than Statewide Average

Intersection		Trends	Potential Mitigation
E-W Street	**N-S Street**		
Infill Area 1 – East Manawa Drive/Infill Area 3 – South 192nd Street			
Veterans Memorial Hwy	Tank Farm Rd	9 eastbound rear-ends 5 broadside crashes involved a NB or SB vehicle and a WB vehicle	1. Crest of RR bridge limits visibility of signal for EB traffic 2. Consider adding signal ahead warning sign or active flashers system for EB traffic, west of the overpass 3. Split phase signal to provide more opportunity for NB traffic to make their maneuver as SB is so heavy
Infill Area 2 – Lakeshore Golf Course			
Veterans Memorial Hwy	Piute St	8 angle crashes involved EB/WB vehicles	1. Restripe for positive offset to improve visibility for E/W permitted left turns
Infill Area 4 – Highway 92			
Hwy 92	Harry Langdon Blvd	Over half of the rear-ends were on Hwy 92 10 angle crashes involved NB/SB vehicles 4 NB/WB broadside crashes all injury related	1. Crest from interstate bridge could impact sight distance for EB vehicles, but SSD is adequate 2. Protected only lefts NB/SB and lights on all legs as of June 2019 will help mitigate
Rue St	Madison Ave	Half of the sideswipes involved SB vehicles	1. Add double yellow to delineate lanes and direction on north leg
Woodbury Ave	Madison Ave	5 rear-ends involved EB vehicles, 2 of those were injury related	1. This intersection is 250' from I-80 WB ramps signal; add side mount for EB vehicles at Woodbury Ave so it does not get confused with side mount signal for EB traffic at the I-80 WB ramps signal
Infill Area 5 – Veterans Memorial Highway			
Veterans Memorial Hwy	S 24th St	10 angle crashes involved EB/WB vehicles 8 broadside crashes occurred with NB LT/WB TH	1. Restripe for positive offset to improve visibility for E/W permitted left turns 2. Add NB left turn arrow to help large trucks exit south leg
Infill Area 6 – Eastern Hills Drive			
State Orchard Rd	Eastern Hills Dr	3 fixed object crashes all occurred SB	1. Add lighting on N leg 2. Add curve warning signage on State Orchard Rd for NB & SB traffic in advance of Eastern Hills Dr
Infill Area 7 – Highway 6			
Kanesville Blvd	I-80 EB ramps	9 broadside crashes occurred between a NB vehicle and an EB vehicle 4 rear-ends involved EB vehicles	1. Signal added in 2018?
Infill Area 8 – Dodge Park Golf Course			
West Broadway	S 35th St	15 rear-end crashes occurred on West Broadway 7 broadside crashes involved NB or SB and EB vehicle 2 fatalities were pedestrian, one E leg, one N leg	1. Intersection recently streetscaped and upgraded to add lighting, ped facilities, side mount signal heads, left turn arrows; these should mitigate the crash trends here
Harrahs Blvd/9th Ave	I-29 NB	6 broadside crashes involved a NB/WB vehicle 4 broadside crashes involved a NB/EB vehicle	1. Limited visibility of overhead signal due to underpass 2. Add side mount for EB traffic on SE corner
Harrahs Blvd/9th Ave	I-29 SB	Main cause was running traffic signal and running off the road	1. Limited visibility of overhead signal due to underpass 2. Consider side mount for EB traffic on NE corner due to curve in road on approach 3. Upgrade ped heads to count down timers as activity increases in this area

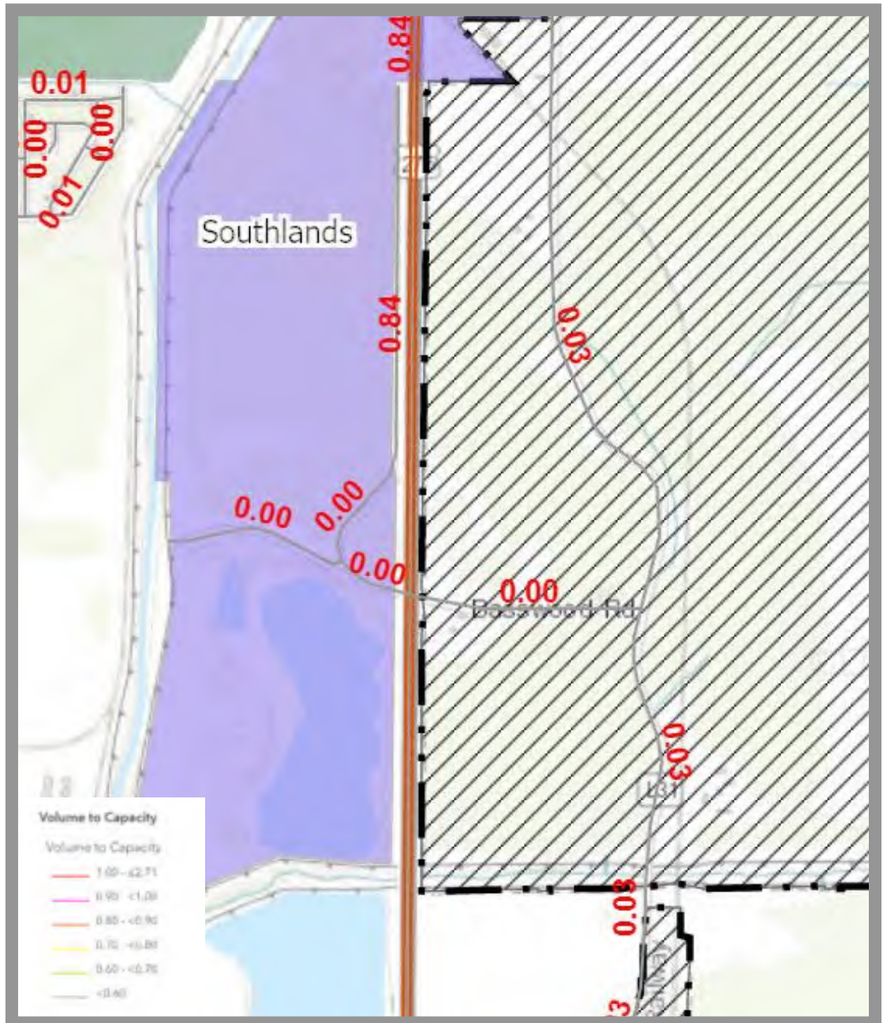
HIGH CRASH MAPS

(Refer to Chapter 3 for Additional Information on Infill Areas)



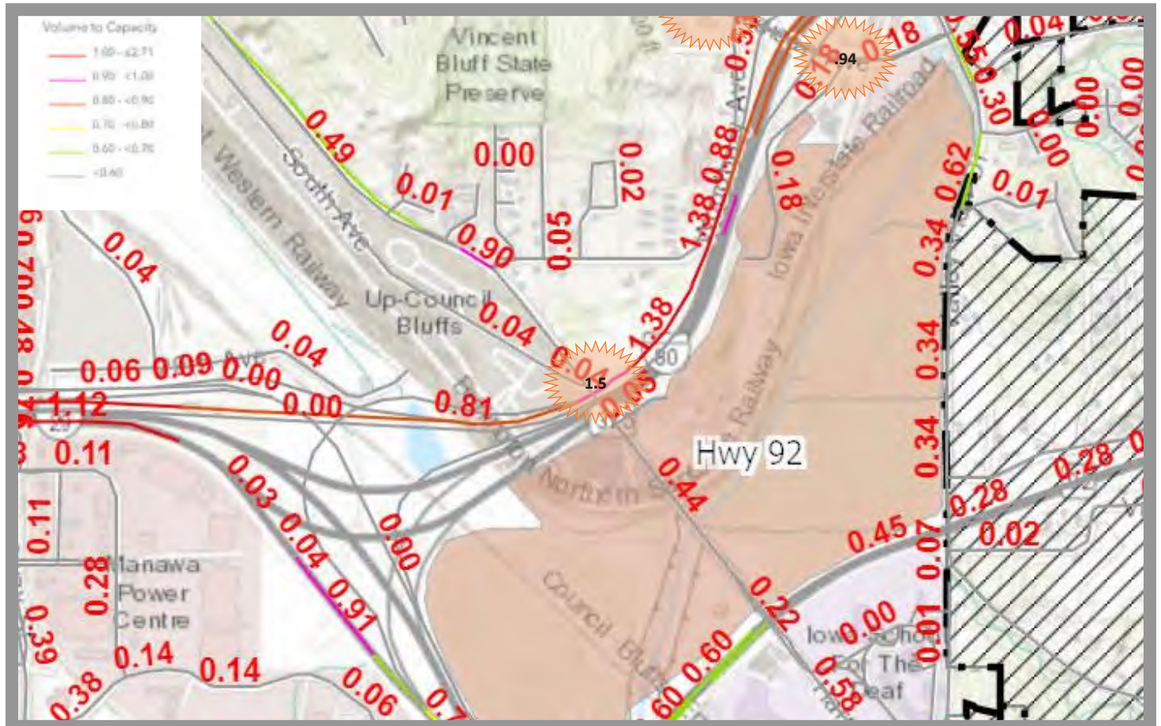
EAST MANAWA DRIVE & CB COUNTRY CLUB INFILL AREAS - HIGH CRASH MAP

High Crash Locations and Daily Volume/Capacity Ration for Streets and Surrouding Infill Sites



SOUTH 192ND STREET INFILL AREA - HIGH CRASH MAP

High Crash Locations and Daily Volume/Capacity Ration for Streets and Surrouding Infill Sites



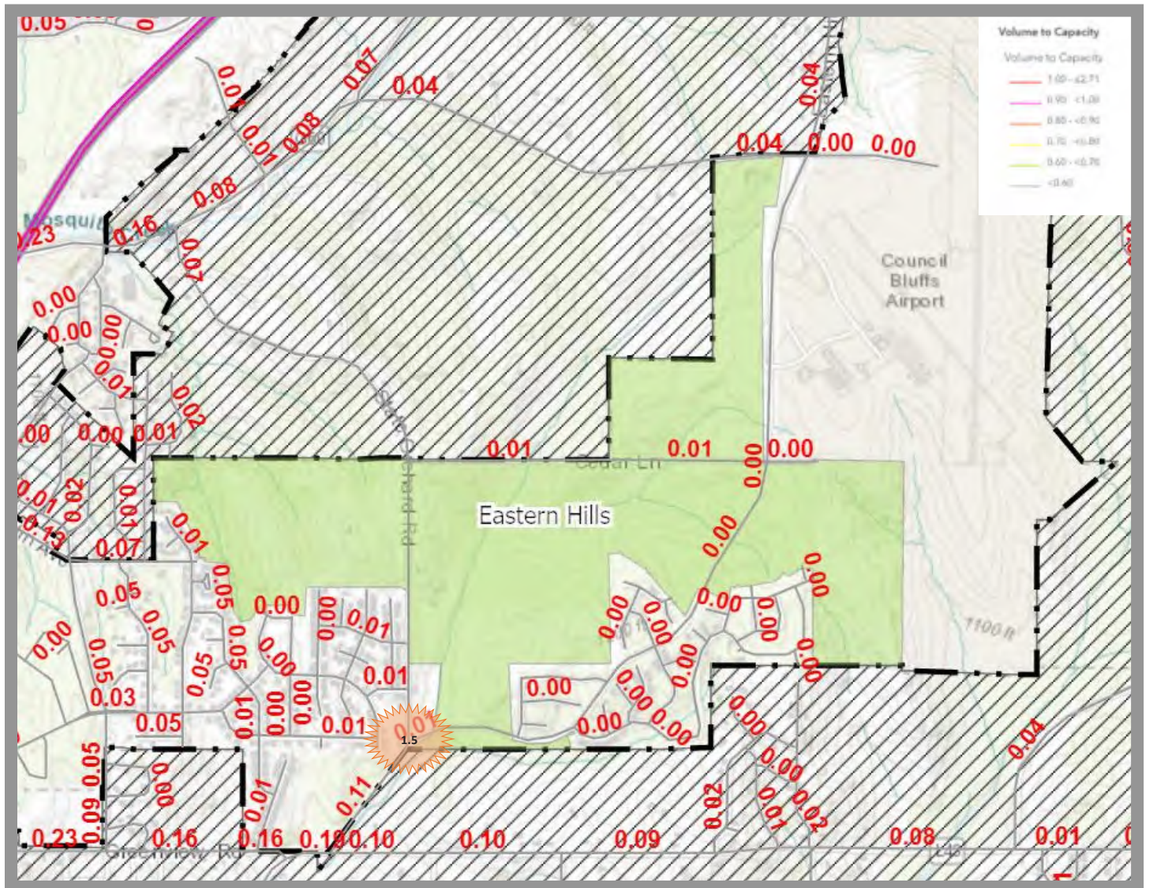
HIGHWAY 92 INFILL AREA - HIGH CRASH MAP

High Crash Locations and Daily Volume/Capacity Ration for Streets and Surrouding Infill Sites



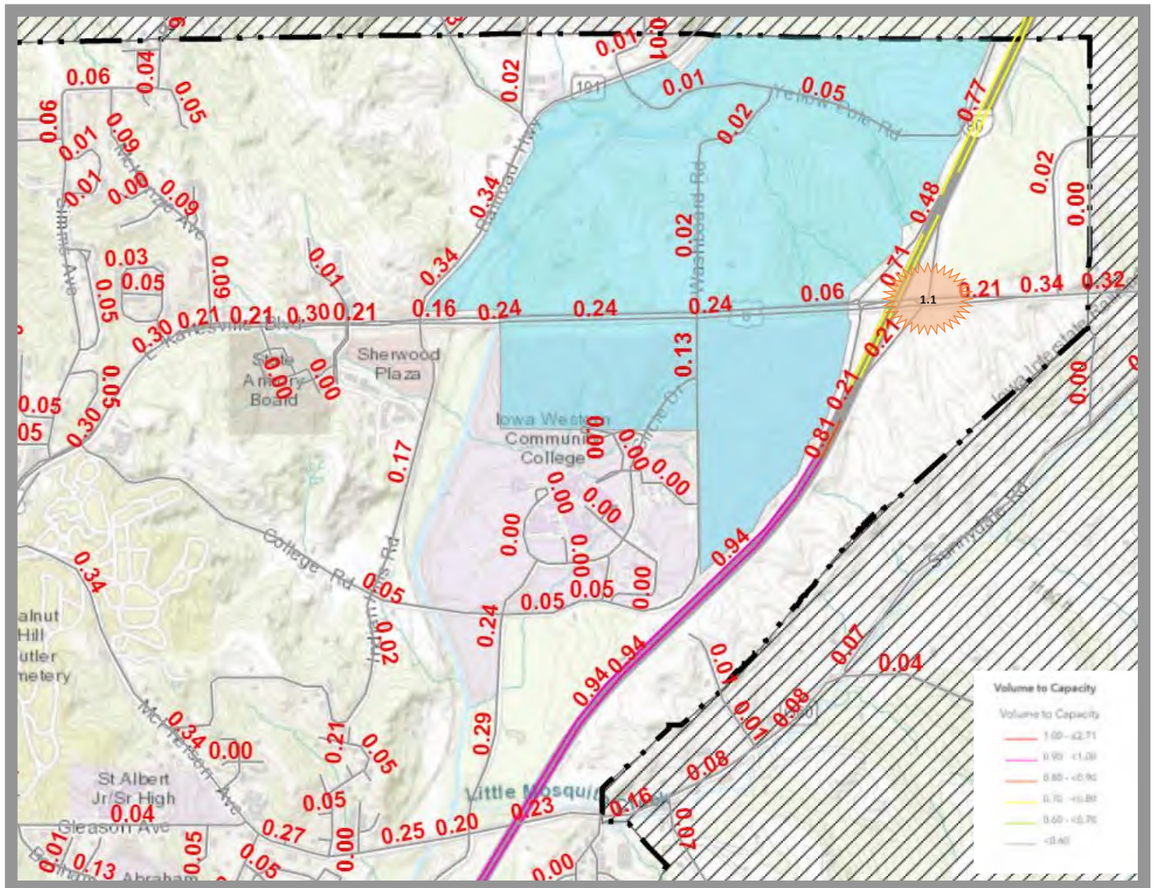
VETERANS MEMMORIAL HIGHWAY INFILL AREA - HIGH CRASH MAP

High Crash Locations and Daily Volume/Capacity Ration for Streets and Surrouding Infill Sites



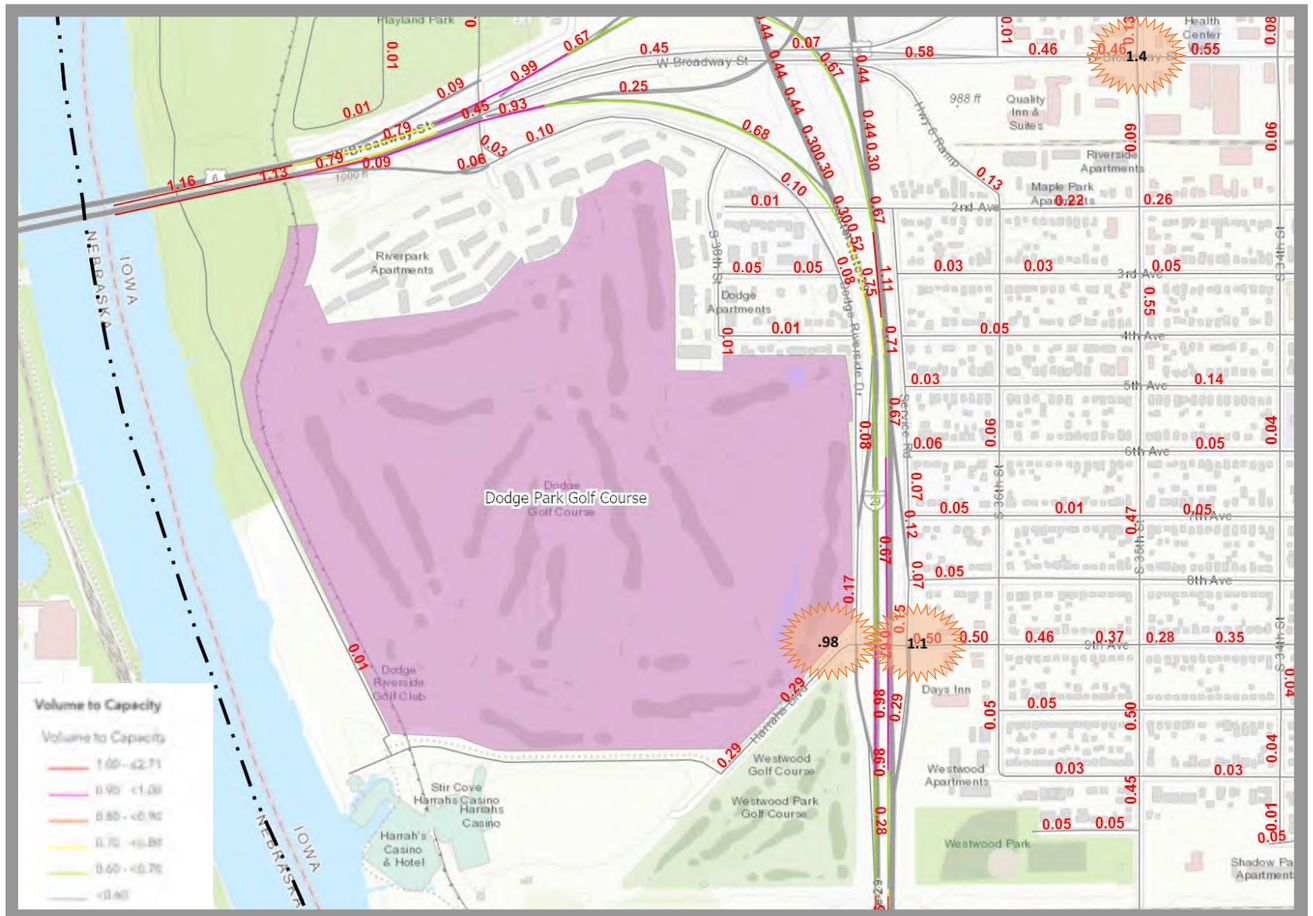
EASTERN HILLS DRIVE INFILL AREA - HIGH CRASH MAP

High Crash Locations and Daily Volume/Capacity Ration for Streets and Surrouding Infill Sites



HIGHWAY 6 INFILL AREA - HIGH CRASH MAP

High Crash Locations and Daily Volume/Capacity Ration for Streets and Surrouding Infill Sites



DODGE PARK GOLF COURSE INFILL AREA - HIGH CRASH MAP

High Crash Locations and Daily Volume/Capacity Ration for Streets and Surrouding Infill Sites

CONCLUSION

Traffic volume data and historical crash data were used to assess the existing roadway infrastructure surrounding the infill and expansion areas and to identify recommended improvements to be considered as sites redevelop.

Volume/Capacity

Overall, the city is served by two interstates (Interstate 80 and Interstate 29) that collectively carry up to 75,000 vehicles per day and connect Council Bluffs to Omaha, Sioux City, Kansas City, and Des Moines. Highways 6 and 92 provide east-west connectivity through the city, extending to the east into Cass County.

The two interstates experience higher v/C ratios indicative of congestion related issues. The Council Bluffs Interstate System Improvement Program is a major effort underway that will result in a modernization and reconstruction of the interstate highway system in the Omaha-Council Bluffs metropolitan area. With these improvements, it is anticipated that existing v/C ratios on the Interstate 80 and Interstate 29 system in the city will improve or hold steady even as the area grows, and these infill sites develop.

The changes with the interstate re-design will physically separate through traffic on Interstate 80 from local traffic on Interstate 29 destined for Council Bluffs. This should improve through-traffic on Interstate 80 and local access on Interstate 29 to Council Bluffs. Local traffic will still need to rely on the local street network to circulate around the City. Based on the existing daily v/C ratios, there appears to be ample capacity in the local system anticipated to handle additional traffic demand generated by these infill sites.

Crash Analysis

As shown in Table T1, there were 11 intersections with collision rates higher than the statewide average present in the City. Potential mitigations to address the common crash trends experienced at these intersections are identified in Table 6. These mitigations strategies should be considered for implementation as areas develop so that existing crash issues are not amplified with the additional development traffic volume.

DEVELOPMENT & INFRASTRUCTURE FUNDING CONSIDERATIONS

5

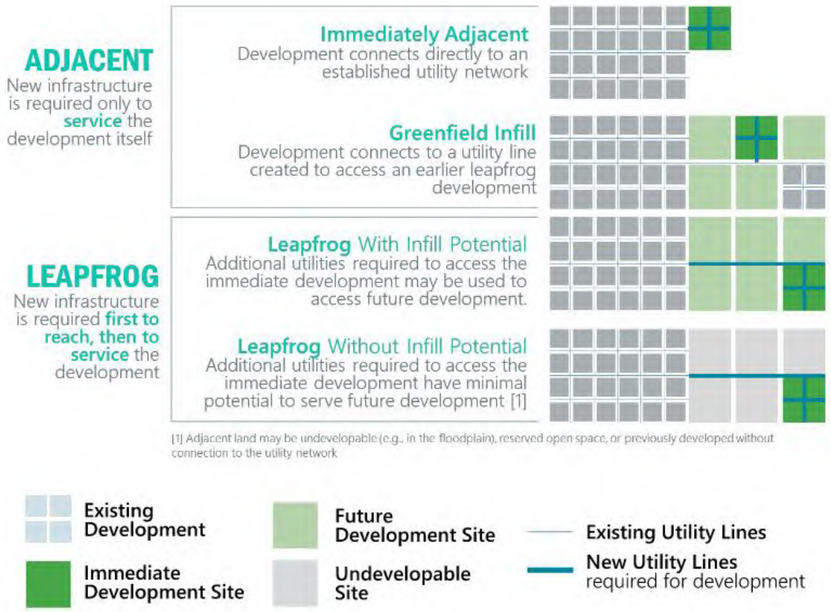
HISTORIC DEVELOPMENT PATTERNS

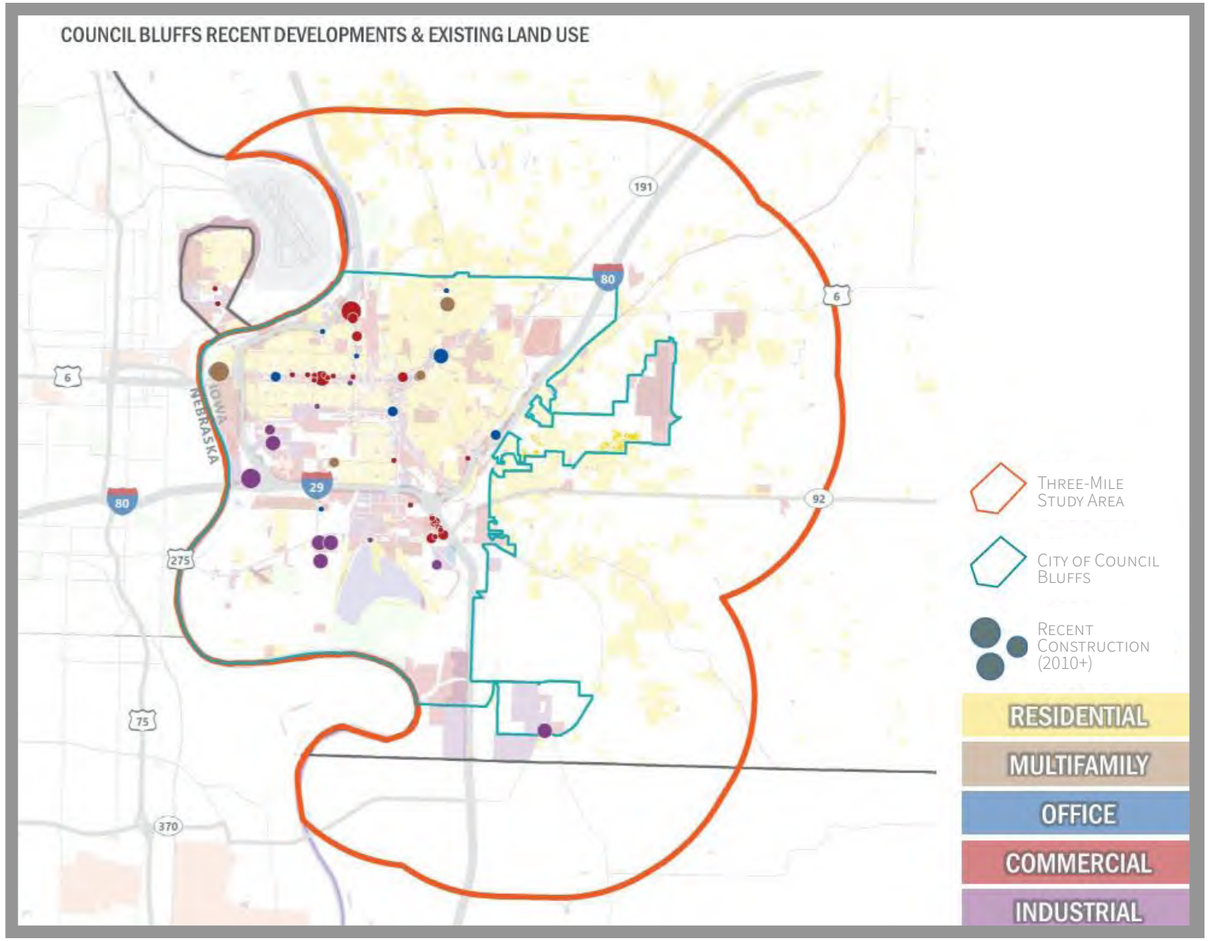
Development within the City of Council Bluffs and surrounding two-mile extraterritorial area occurred at a steady pace between 2010 and 2020. Most commercial development occurred along the West Broadway corridor and within two new power centers: The Metro Crossing Shopping Center (located at the northwest corner of Interstate 29 and Highway 275), and The Marketplace (located at the southeast corner of Interstate 80 and South 24th Street).

Most development on the City's periphery was either industrial or single-family residential. One of the largest industrial development hubs is the South Pointe Industrial Park (located south of Veterans Memorial Highway/Highway 275 between Indian Creek and Gifford Road). This industrial park is located within an Urban Revitalization (URV) Area that was established in 2004. Residential development has concentrated on the eastern edge of the City near the Council Bluffs Municipal Airport and in the area south of the Veterans Memorial Highway, in the Fox Run development.

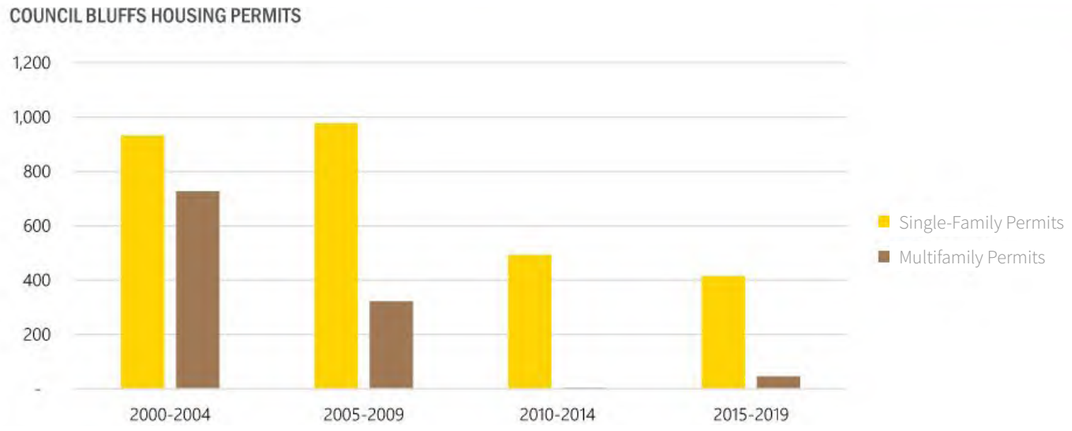
Types of Utility Expansion

The cost of expanding the infrastructure network can be prohibitive to some new development. Development within the City since 2010 has occurred both adjacent to utility-served improved sites (infill) and in a leapfrog form. Leapfrog developments have a higher infrastructure cost burden because developers are required to fund infrastructure extending beyond their site. Municipal financial support is often required to offset these extraordinary costs. Creative infrastructure funding solutions for extraordinary costs through special districts or third-party programs can help alleviate the burden on municipal general funds.





SOURCE: US CENSUS, POTTAWATTAMIE COUNTY GIS; ESRI; COSTAR, SB FRIEDMAN



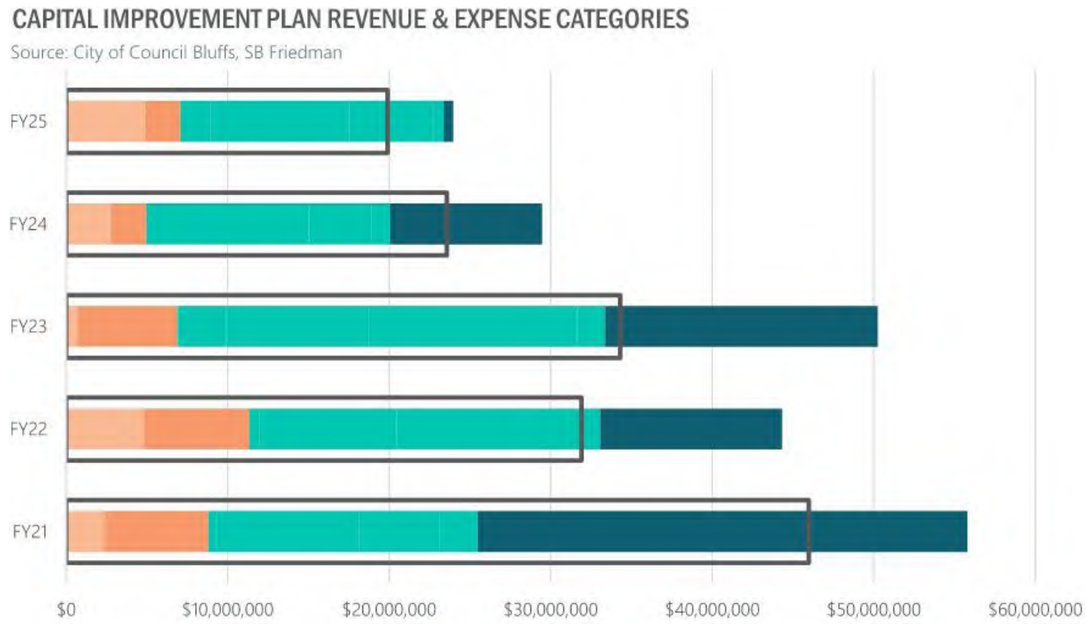
SOURCE: US CENSUS, POTTAWATTAMIE COUNTY GIS; ESRI; COSTAR, SB FRIEDMAN

FUNDING INFRASTRUCTURE

There are a variety of solutions available to the City to help fund infrastructure improvements (both maintenance/repair and extensions) and generally fall into two categories: local sources and external sources.

The City's Capital Improvement Plan (CIP) illustrates the projected mix of revenue sources available to fund infrastructure improvements. The vast majority of expenditures included in the CIP are projects to improve existing public works. There are very few infrastructure expansion projects identified in the FY21-25 CIP.

The revenues identified to fund infrastructure improvements break down into four primary categories: federal funding, state funding, local funding and other programs. Local funding sources include local option sales tax funds, road use tax funds, general obligation bonds and general funding.



LOCAL SOURCES

DISTRICT PROPERTY TAXPAYERS

FIRST-MOVER

- Recapture Agreement
- Special Assessment
- Self-Supported Municipal Improvement Districts (SSMIDs)
- Real Estate Improvement Districts (REIDs)

MUNICIPALITIES

- Local Option Sales Tax
- Local Revolving Loan Fund

OTHER LOCAL TAXING DISTRICTS

- Tax Increment Financing (TIF) via Urban Renewal
- Tax Abatement via Urban Revitalization

NONPROFITS

- Private Grants

EXTERNAL SOURCES

STATE GOVERNMENT

- RISE Grants
- State Revolving Loan Funds
- Road Use Tax Funds

FEDERAL GOVERNMENT

- Community Development Block Grants (CDBG)
- US DOT BUILD Grant
- Surface Transportation Block Grant Program
- EDA Public Works and Economic Adjustment Assistance Program

RIGHT-SIZING PUBLIC INVOLVEMENT

The City has the capacity to influence development patterns by leveraging multiple tools, including entitlements and financial assistance. Undeveloped areas in particular tend to be complicated by extraordinary costs necessary to fund infrastructure extensions required to make land development-ready.

Developing and maintaining infrastructure is a core function of municipal government. However, municipalities must choose where to allocate scarce CIP resources and whether to prioritize network expansion versus improvements to existing infrastructure. To stretch municipal dollars further, local leaders must also consider whether improvements required for any given development benefit the broader community (e.g., sewer expansions within the right-of-way that could accommodate additional users) versus improvements that serve a single site. The approach to public assistance for infrastructure expansion should vary depending on the infrastructure required.

1. Public Infrastructure: Infrastructure that will be conveyed to a public entity; typically funded with public dollars. Due to the greater investment, public entities can have greater influence over development patterns. Infrastructure should be funded first in priority development areas that have higher development potential.

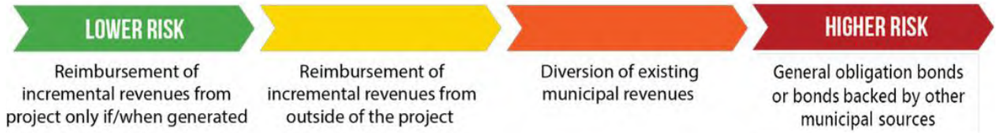
2. Private Infrastructure: Infrastructure that will remain privately held and exclusively serves a development site. In these cases, infrastructure costs can often be shared between the public and a private developer. Public participation should be driven by a financial gap assessment. A gap assessment can indicate what infrastructure cost a developer can carry and still maintain a market-typical rate of return.

When funding private infrastructure, public entities can structure agreements to either place the financial risk on a developer or on themselves. Tax rebates place a higher risk on developers than upfront funds backed by the municipality.

After identifying infrastructure priorities, public entities should work to identify the appropriate mechanisms for funding top priority infrastructure. Different funding mechanisms result in varying levels of risk to the public entity. Some degree of risk is often required because revenue from most special taxing districts does not materialize until after public improvements are made (e.g., urban renewal, special assessments, real estate improvement districts). Special districts typically see revenue materialize from a development over a 10+ year period while an infrastructure investment is usually necessary up front to unlock the potential. This risk can either fall on a private developer or to the public entity. The primary mechanisms are included with the corresponding risk to the municipality:

1. **Project-based Rebates – Lower Risk**: Redevelopment agreements which provide reimbursement of incremental property taxes driven by development on a site if/when realized. This structure places the developer at risk if a project fails to perform as anticipated.
    - When to use: When private infrastructure costs are extraordinary; or for area-wide infrastructure in non-priority areas.
2. **Area-wide Rebates, Developer Notes – Moderate Risk**: Redevelopment agreements which provide reimbursement from incremental property taxes generated across multiple sites.
    - When to use: When an initial developer (the first-mover) builds public utilities to unlock development potential on multiple sites.
3. **Area-wide General Obligation Bonds – Higher Risk**: Diversion of existing municipal revenues or issuance of general obligation bonds or bonds backed by other municipal sources.
    - When to use: Pioneering projects, projects in difficult to develop areas or, when necessary, to support a specific municipal goal (e.g., priority development area).





DEVELOPMENT PHASING RECOMMENDATIONS

The following are initial recommendations for funding infrastructure in undeveloped areas with infrastructure deficiencies. These recommendations are based on this assessment of recent development trends, historic funding strategies, and revenue potential. Specific infrastructure funding recommendations will vary depending upon the utility expansion required. The primary goal across both scenarios (public versus private infrastructure) is to minimize City risk while tolerating greater risk where necessary to achieve City objectives.

1. For Public Infrastructure:

    - To unlock development, the City should take a more proactive role in funding infrastructure that serves a broader area and has the potential to unlock multiple development sites. The cost of infrastructure should align with the long-term benefit to the City.

        ➔ In the event infrastructure investment would result in a fiscal burden to the City, any subsequent developers who benefit should contribute to the infrastructure cost.

    - Development in each of the infill areas identified in Chapter 3: Council Bluffs Infill Sites could translate to revenues available to the City to help fund infrastructure.

        ➔ Revenue estimates were based on full build-out assumptions for each infill area. These programs could exceed demand within a 20-year period. In advance of agreements which put the City at risk, full market assessments should be concluded to project revenues based on reasonable development scenarios and phasing.

    - To reduce leapfrog development patterns, the City should establish 'priority development areas.' The priority development areas should be defined zones in which the City will consider use of funding mechanisms which carry a higher level of risk (e.g. general obligation bonds) to unlock development.

        ➔ Where possible, manage risk by phasing development to reduce the upfront infrastructure cost.

2. For Private Infrastructure:

    - In the absence of a clear economic development purpose to incentivize development, on-site infrastructure which primarily serves a single developer should be funded by the private entity.

        ➔ City participation should be based on a gap analysis that projects an appropriate level of public assistance to that allows a developer to achieve market-appropriate rates and return.

    - Redevelopment agreements should primarily be structured through developer reimbursements for upfront costs, a structure that reduces City risk.

PROPOSED LAND USE RECOMMENDATIONS

6

FUTURE LAND USE

Land use categories were identified to reflect the existing terminology used by both the City and the County. The following classifications have been identified for the purpose of this study:

Future Land Use Classifications

1. Residential Estates:

Generally intended for areas where residential uses are suitable but cannot be fully serviced with sanitary sewer collection and potable water distribution systems. The anticipated density of this classification is one unit/acre.

2. Residential:

Generally intended for residential housing units. The classification is intended to broadly include a variety of densities and typologies except for those defined as estates. It is expected that the density will be determined by the availability of sanitary sewer and potable water services and access to the transportation network. Within these areas, neighborhood commercial and/or mixed-use development may also occur.

3. Commercial:

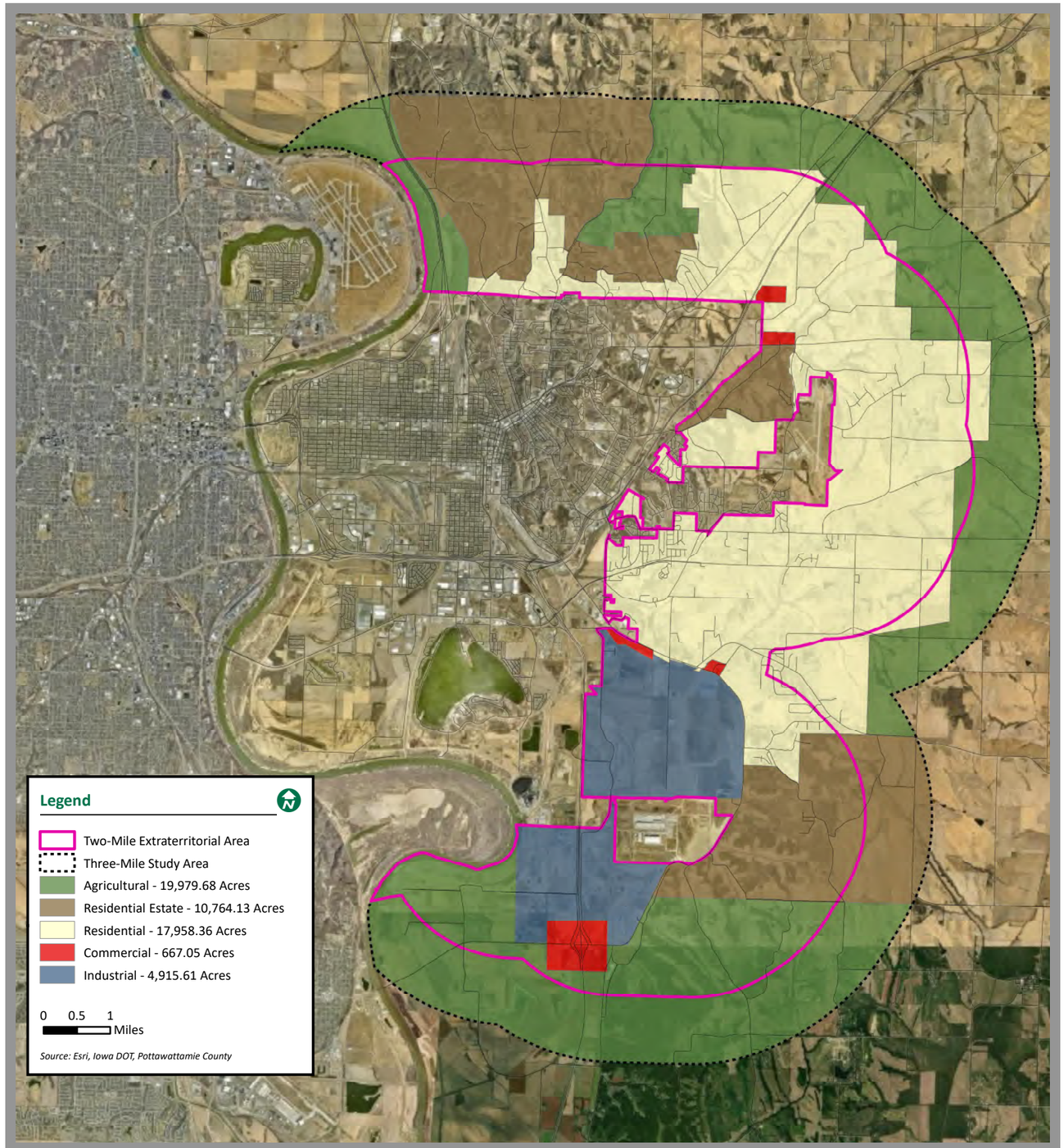
Generally intended for providing consumer goods and services for the area. Fully serviced with sanitary sewer collection and potable water distribution systems and located on paved roadways with adequate capacity for traffic.

4. Industrial:

Generally intended for uses conducting manufacturing, assembly, or logistical services. Fully serviced with sanitary sewer collection and potable water distribution systems and located on paved roadways with adequate capacity for traffic.

5. Agricultural:

Generally intended for land that is in production of agricultural commodities, livestock and/or are not likely suitable for the efficient extension of services to support more intensive land uses.

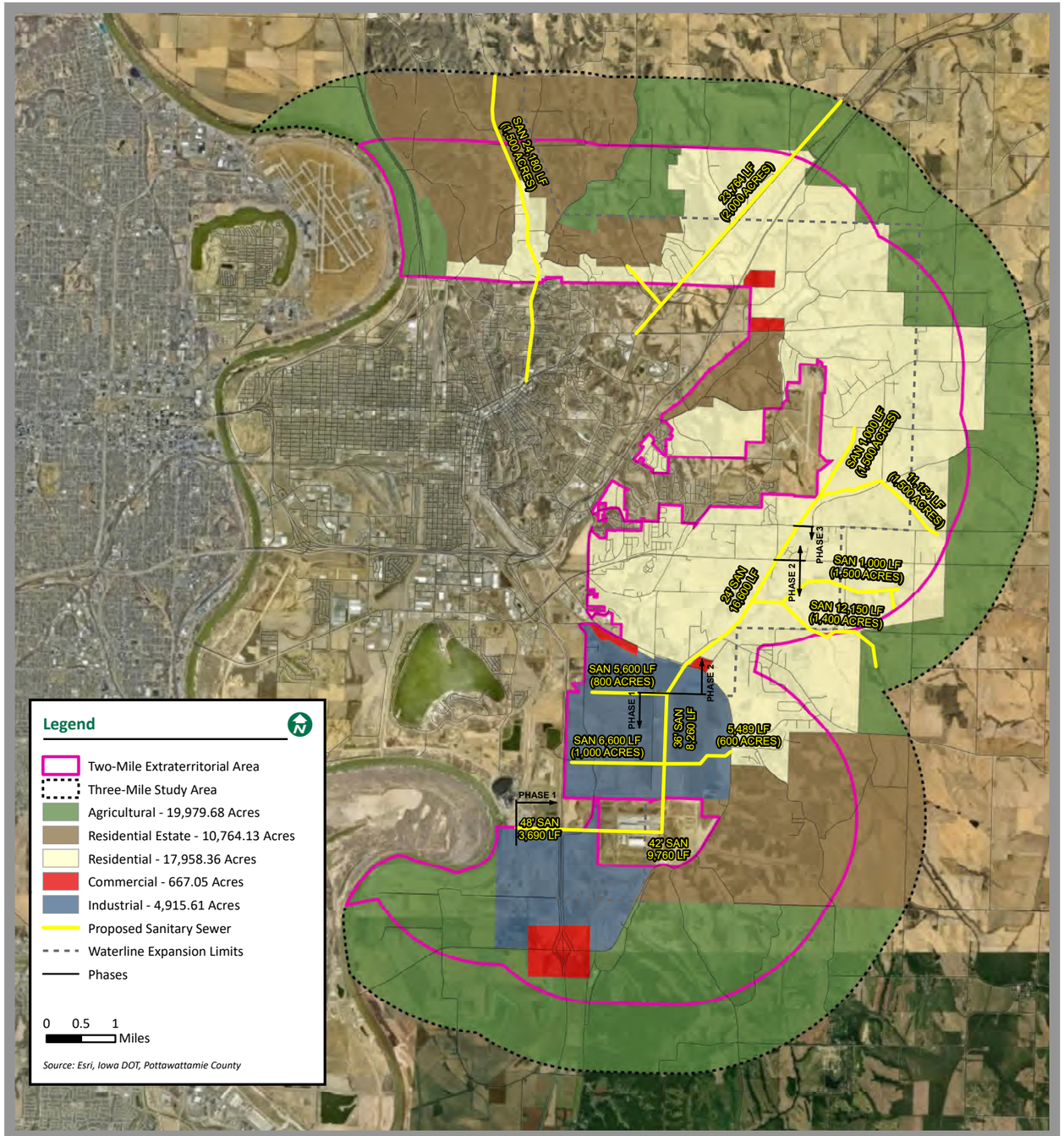


FUTURE LAND USE MAP

Each property located in the study area was analyzed with the following key considerations:

1. Access to sanitary sewer collection system;
2. Access to potable water distribution system;
3. Future access to sanitary sewer collection system;
    - Amount of area available for development following extension(s).
4. Terrain, steep slopes, or floodplain;
    - These considerations are subjective, in that grading and filling can generally address the code requirements. Much of the study area is impacted by these conditions. Historical development patterns have addressed the issue(s) as a cost of development.
    - Consideration for the effective status of the FIRM(s) for the study area.
5. Proximity to paved transportation network;
    - This consideration is subjective, in that improvement to existing roadways or extension of a new roadway is often addressed as a cost of development.
6. Historical development pattern and compatibility of surrounding uses.

Land within this study area was analyzed in the context of extending sanitary sewer service to determine the ease of potential future development. All land within the study area was then classified into four categories based on the land's potential to meet the needs for future development, primarily as it relates to infrastructure.



FUTURE LAND USE AND PROPOSED SANITARY SEWER MAP

SERVICE AREAS

The study area has been classified into four categories for the purpose of establishing goals, policy statements, and implementation strategies to ensure the orderly and sustainable growth and development of the area. For the purpose of this study, the areas are identified as **City Growth Area IA**, **City Growth Area IB**, **City Growth Area II**, and **County Development Area**. The uses discussed in this section are meant to be future uses and not the existing and/or interim uses.

The following definitions are intended to provide clarity to terms that were specifically created for the purpose of this adopted policy:

1. Development shall mean the subdividing of land for the purpose of providing a buildable lot(s) for any new commercial, industrial, and/or residential land use(s) and/or structure(s).

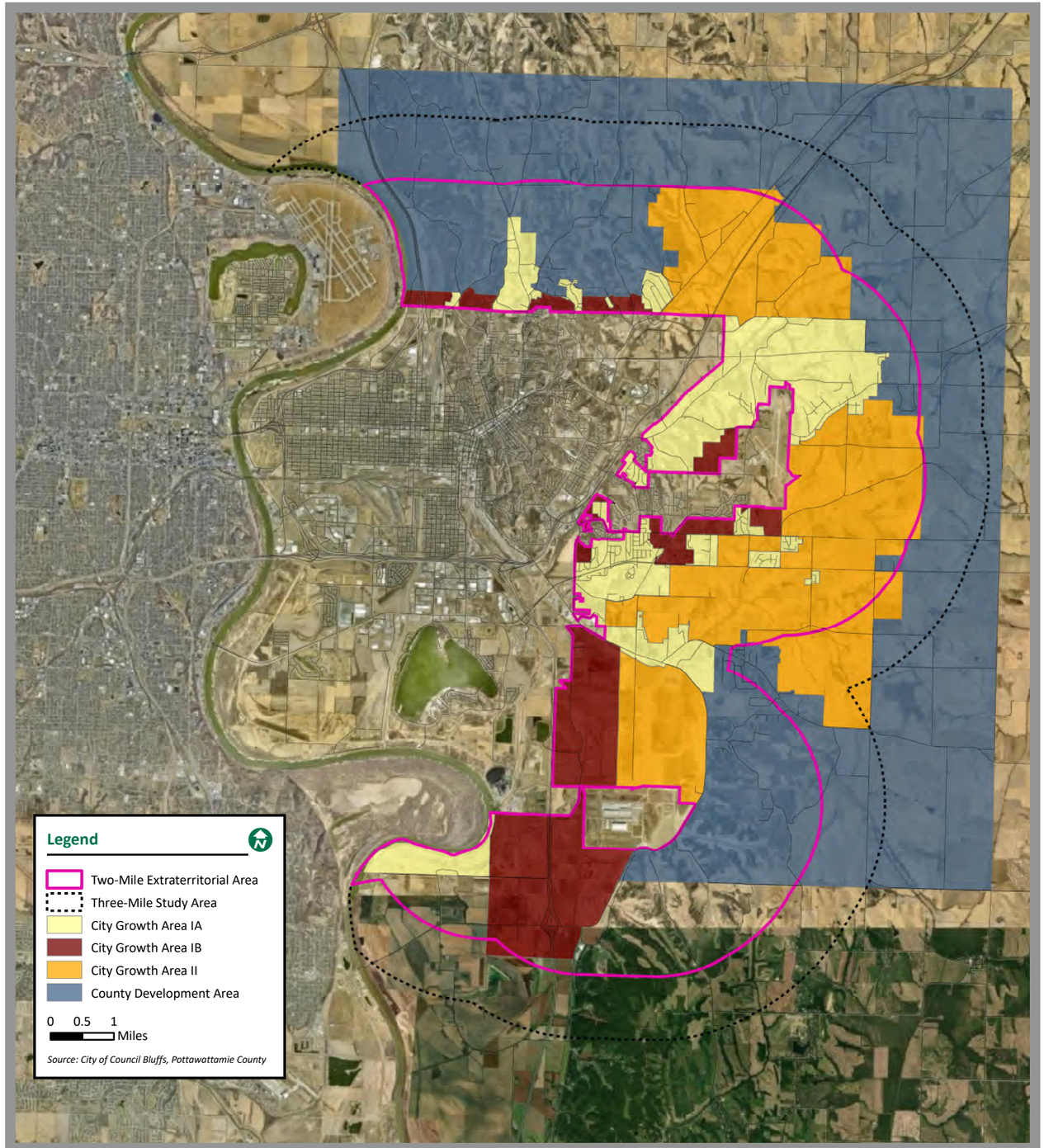
2. City development standards shall mean all land development, building, and construction regulations, as specified below:

    - Iowa Statewide Urban Design and Specifications (SUDAS), as administered by the Council Bluffs Public Works Department;
    - Title 12: Council Bluffs Fire Code, of the Council Bluffs Municipal Code, as administered by the Council Bluffs Fire Department;
    - Title 13: Buildings and Construction, of the Council Bluffs Municipal Code, as administered by the Council Bluffs Permits and Inspections Division; and
    - Title 14: Subdivisions of the Council Bluffs Municipal Code, as administered by the Council Bluffs Community Development Department.

3. Homestead parcel split shall be the dividing of a parcel or tract of land that contains one habitable residential unit into two parcels in which the “homestead” parcel (i.e., the parcel retaining the residential unit) contains no more than 4 acres, and the remainder of the parcel to be split is 20 acres or greater.

4. Parent parcel shall mean the existing parcel(s) or tract(s) of land, according to the Pottawattamie County Assessor’s Office as of the first adoption date of this study. Parent Parcel excludes lots that are within a platted subdivision that was formally reviewed and approved by the Pottawattamie County Board of Supervisors as of the first adoption date of this study.

5. A map of major roads in the three-mile study area is shown in Figure 12 of the Appendix.



SERVICE AREA CATEGORIES MAP

CITY GROWTH AREA IA

Land located within the three-mile study area that is generally adjacent to City limits and is substantially developed with subdivisions and smaller lots in County jurisdiction and may or may not have access or planned access for services including: water, sanitary sewer, storm sewer, emergency services, power, natural gas, communications, and roadways. Property in this area is not expected to be further developed unless assembled into larger development projects and fully served to urban standards. This area is not a priority for future annexation unless it provides a contiguous connection to future development, but may be annexed as subdivision or development of individual sites occur.

Service Area Goals

The following goals have been identified for City Growth Area IA:

Goal 1: Development shall be constructed in accordance with City development standards.

Goal 2: Study the viability of extending sanitary sewer service within the Pony Creek drainage basin and the unserved areas of the Mosquito Creek drainage basin. Amend the growth area map accordingly if studies recommend modification based on sewer capacity, serviceability, etc.

Goal 3: Encourage and concentrate development in areas that have access to or can be provided with full urban services.

Goal 4: Limit the subdividing of land into acreages that are not provided with full services.

Goal 5: Areas that can be fully serviced with sanitary sewer extensions from existing lines should be prioritized for development. Areas that can be fully serviced should be developed to maximum densities where possible.

Goal 6: Limit subdividing of land along existing road frontages into acreages which may impede the future development of the full parcel.

Goal 7: Encourage commercial and/or industrial use as identified on the future land use plan and where full services can be established at the time of development.

Goal 8: Areas with full urban services should be annexed into the City or should be required to be annexed at the time of development.

Goal 9: A regional stormwater management concept plan should be developed to limit the downstream impacts with the area.

Goal 10: Develop a mechanism to finance the extension of sanitary and storm sewer that considers involvement of partnerships between the City, County, and private parties.

Goal 11: Allow areas previously developed to be further subdivided subject to (1) annexation into the City or (2) adoption of an annexation agreement.

Service Area Policies

This section provides policy statements for City Growth Area IA:

1. All development shall be in accordance with the adopted standards and ordinances of the City of Council Bluffs.
2. Annexation shall be required if subdivision activity (i.e. minor and major subdivisions, parcel splits, homestead parcel splits, and property line adjustments) meets one or more of the following criteria:
   - Occurs adjacent to City limits;
   - Annexation of the property would connect to land in City Growth Areas IB or 2;
   - Annexation would square off a boundary; and/or
   - Annexation would facilitate infrastructure extensions and/or improvements.
3. Require property that is annexed within this area be served with sanitary sewer and potable water at the time development occurs.
4. Allow existing septic systems to be maintained or replaced until sanitary sewer is available within 200 feet of a subject property.
5. Promote the extension of municipal services to include water, sanitary sewer, storm sewer, street maintenance, street lighting, snow removal, parking maintenance and enforcement, traffic maintenance, emergency management, roads, bridges, sidewalks, library, and park and recreation services to proposed development sites, if annexed.
6. Coordinate with law enforcement, fire, and emergency medical services to ensure that appropriate levels of services can be provided to all residents.
7. Interconnect to other adjoining parcels to facilitate future development and circulation when practicable.
8. Individual lot frontage on major streets shall be avoided when access is possible from another improved street and/or roadway.
9. All subdivision activity (i.e. minor and major subdivisions, parcel splits, homestead parcel splits, and property line adjustments) shall comply with the standards and procedures established in Title 14: Subdivisions of the Council Bluffs Municipal Code, and shall not impede the future development of surrounding parcels. No subdivision, parcel split, homestead parcel split, or property line adjustment shall be approved that causes or increases the nonconformity of any lot, use or structure.

Implementation Strategies

This section provides implementation strategies for City Growth Area IA:

1. City development standards will be applied to regulate development. The City will provide the County with the opportunity to comment on all requests for conformance with the policies established for City Growth Area IA.
2. Annexation of this area is anticipated to be concurrent with individual subdivision activity (i.e. minor and major subdivisions, parcel splits, homestead parcel splits, and property line adjustments) and with the extension of utility systems. In the event that none of the criteria in Policy Statement No. 2 are met and it is not practicable to complete an annexation at the time of development, the subdivider shall enter into an agreement with the City providing assurances that when it is practicable to be annexed they, along with any successors and assigns of the property, will cooperate with the process on a voluntary basis.
3. All subdivision activity (i.e. minor and major subdivisions, parcel splits, homestead parcel splits, and property line adjustments) in City Growth Area IA shall be reviewed and approved by the City of Council Bluffs.
4. Parcel splits shall be allowed as a one-time action from a parent parcel (not previously subdivided).
5. Homestead parcel splits shall be allowed as a one-time action from a parent parcel (not previously subdivided) provided the “homestead” parcel contains no more than 4 acres, and the remainder of the parcel to be split is 20 acres or greater and retains a potential for development at urban standards.
6. Property line adjustments shall be allowed provided they do not result in the creation of an additional buildable lot. Property line adjustments in City Growth Area IA will be exempt from the annexation agreement requirement in Implementation Strategy No. 2.
7. Zoning shall remain under the authority of Pottawattamie County until time of annexation.

CITY GROWTH AREA IB

Land located within the three-mile study area that is a priority for growth in an urban development pattern. The land is identified as an area having access, or planned access for service including water, sanitary sewer, storm sewer, emergency services, power, natural gas, communications, and roadways. Areas should be developed to City standards. The area is projected to have access to a roadway network. In many cases this area can be serviced from existing infrastructure with extensions and does not require installation of new main service trunk lines. Areas will be annexed and reclassified into the appropriate City zoning district as subdivision or development of individual sites occur.

Service Area Goals

The following goals have been identified for City Growth Area IB:

Goal 1: Development shall be constructed in accordance with City development standards.

Goal 2: Study the viability of extending sanitary sewer service within the Pony Creek drainage basin and the unserved areas of the Mosquito Creek drainage basin. Amend the growth area map accordingly if studies recommend modification based on sewer capacity, serviceability, etc.

Goal 3: Encourage and concentrate development in areas that have access to or can be provided with full urban services.

Goal 4: Limit the subdividing of land into acreages that are not provided with full services.

Goal 5: Areas that can be fully serviced with sanitary sewer extensions from existing lines should be prioritized for development. Areas that can be fully serviced should be developed to maximum densities where possible.

Goal 6: Limit subdividing of land along existing road frontages into acreages which may impede the future development of the full parcel.

Goal 7: Encourage commercial and/or industrial use as identified on the future land use plan and where full services can be established at the time of development.

Goal 8: Areas with full urban services should be annexed into the City or should be required to be annexed at the time of development.

Goal 9: A regional stormwater management concept plan should be developed to limit the downstream impacts with the area.

Goal 10: Develop a mechanism to finance the extension of sanitary and storm sewer that considers involvement of partnerships between the City, County, and private parties.

Goal 11: Allow areas previously developed to be further subdivided subject to (1) annexation into the City or (2) adoption of an annexation agreement.

Service Area Policies

This section provides policy statements for City Growth Area IB:

1. All development shall be in accordance with the adopted standards and ordinances of the City of Council Bluffs.
2. Annexation shall be required if subdivision activity (i.e. minor and major subdivisions, parcel splits, homestead parcel splits, and property line adjustments) meets one or more of the following criteria:
    - Occurs adjacent to City limits;
    - Annexation of the property would connect to land in City Growth Areas IA or 2;
    - Annexation would square off a boundary; and/or
    - Annexation would facilitate infrastructure extensions and/or improvements.
3. Require property that is annexed within this area be served with sanitary sewer and potable water at the time development occurs.
4. Allow existing septic systems to be maintained or replaced until sanitary sewer is available within 200 feet of a subject property.
5. Promote the extensions of municipal services to include water, sanitary sewer, storm sewer, street maintenance, street lighting, snow removal, parking maintenance and enforcement, traffic maintenance, emergency management, roads, bridges, sidewalks, library and park and recreation services to proposed development sites.
6. Coordinate with law enforcement, fire, and emergency medical services to ensure that appropriate levels of services can be provided to all residents.
7. Interconnect to other adjoining parcels to facilitate future development and circulation when practicable.
8. Individual lot frontage on major streets shall be avoided when access is possible from another improved street and/or roadway.
9. All subdivision activity (i.e. minor and major subdivisions, parcel splits, homestead parcel splits, and property line adjustments) shall comply with the standards and procedures established in Title 14: Subdivisions of the Council Bluffs Municipal Code and shall not impede the future development of surrounding parcels. No subdivision, parcel split, homestead parcel split, or property line adjustment shall be approved that causes or increases the nonconformity of any lot, use, or structure.

Implementation Strategies

This section provides implementation strategies for City Growth Area IB:

1. City development standards will be applied to regulate development. The City will provide the County with the opportunity to comment on all requests for conformance with the policies established for City Growth Area IB.

2. Annexation of this area is anticipated to be concurrent with individual subdivision activity (i.e. minor and major subdivisions, parcel splits, homestead parcel splits, and property line adjustments) and with the extension of utility systems. In the event that none of the criteria in Policy Statement No. 2 are met and it is not practicable to complete an annexation at the time of development, the subdivider of property shall enter into an agreement with the City providing assurances that when it is practicable to be annexed they, along with any successors and assigns, will cooperate with the process on a voluntary basis.

3. All subdivision activity (i.e. minor and major subdivisions, parcel splits, homestead parcel splits, and property line adjustments) in City Growth Area IB shall be reviewed and approved by the City of Council Bluffs.

4. Parcel splits shall be allowed as a one-time action from a parent parcel (not previously subdivided) provided the remainder of the parcel to be split is 20 acres or greater and retains a potential for development at urban standards.

5. Homestead parcel splits shall be allowed as a one-time action from a parent parcel (not previously subdivided) provided the “homestead” parcel contains no more than 4 acres, and the remainder of the parcel to be split is 20 acres or greater and retains a potential for development at urban standards.

6. Property line adjustments shall be allowed provided they do not result in the creation of an additional buildable lot.

7. Zoning shall remain under the authority of Pottawattamie County until time of annexation.

CITY GROWTH AREA II

Land located within the three-mile study area that lies between areas that will likely be developed to urban densities and areas that will remain rural in character. It is possible that some areas may be serviced to the extent that urban densities could be achieved, but the timing of extension of services is uncertain and a level of development should still be allowed in the transitional time. In specific instances development could occur prior to the extension of services provided an agreement is reached that ensures connection would be made when available. Areas should be developed to City standards, such that annexation and absorption into the City is possible in the future as infrastructure arrives and becomes adjacent to City limits. Upon annexation, property would be reclassified into the appropriate City zoning district. This area may also be suitable for transitional areas where some level of development is possible, provided it does not hinder the full development of the parcel at a later date.

Development in City Growth Area II shall be served by municipal water service and septic systems or common sewage treatment plants constructed to City subdivision and design standards.

Service Area Goals

The following goals have been identified for City Growth Area II:

Goal 1: Study the viability of extending sanitary sewer service within the Pony Creek drainage basin and the unserved areas of the Mosquito Creek drainage basin.

Goal 2: Encourage and concentrate development in areas that are adjacent to urban services that can be provided through extensions from existing services.

Goal 3: Ensure that development occurs in such a way that connections to urban services is possible and required at such time the service is made available.

Goal 4: Allow for development to occur in the time prior to the extension of sanitary sewer if agreements are in place to require connection and annexation at a later date.

Goal 5: Development should provide adequate or planned transportation/roadway capacity and/or be concentrated around such areas that have sufficient or planned capacity.

Goal 6: Develop a mechanism to finance the extension of sanitary and storm sewer that considers involvement of partnerships between the City, County, and private parties.

Goal 7: Develop a regulatory review process that meets the needs of both the City and the County.

Goal 8: A regional stormwater management concept plan should be developed to limit the downstream impacts with the area.

Goal 9: Develop County zoning districts that are compatible with City subdivisions and future conversion to City zoning.

Service Area Policies

This section provides policy statements for City Growth Area II:

1. All development shall be in accordance with the adopted standards and ordinances of the City of Council Bluffs. When annexation into the City of Council Bluffs is not practicable, any development that occurs in City Growth Area II shall be subject to a voluntary annexation agreement between the property owner, and their successors/assigns, and the City of Council Bluffs.

2. Require that services be provided at the time development occurs or provide an agreement that once services are available that connections will be made on a voluntary basis. Uses will connect to sanitary sewer service when available within 200 feet of the subdivision boundary. During the interim timeframe, a community sanitary system, which serves all lots within a development, shall be allowed until sanitary sewer service is available within 200 feet of the development.

3. Promote the extension of municipal services to include water, storm sewer, street maintenance, street lighting, snow removal, parking maintenance and enforcement, traffic maintenance, emergency management, roads, bridges, sidewalks, library, and park and recreation services to proposed development sites.

4. Maximize density through design, prioritizing the concentration of uses and preservation of natural amenities, unsuitable soils, steep slopes, or other development constraints.

5. Interim facilities or utilities to treat and dispose of human waste, handle storm water runoff, and/or provide drinking water, irrigation, electricity, gas, telephone, or other services, may be located within the common areas. Common areas shall be designed to facilitate future development after the facilities are removed.

6. Coordinate with law enforcement, fire, and emergency medical services to ensure that appropriate levels of services can be provided to all residents.

7. Individual lot frontage on major streets shall be avoided when access is possible from another improved street and/or roadway.

8. All subdivision activity (i.e. minor and major subdivisions, parcel splits, homestead parcel splits, and property line adjustments) shall not impede the future development of surrounding parcels. No subdivision, parcel split, homestead parcel split, property line adjustment shall be approved that causes or increases the nonconformity of any lot, use, or structure.

Implementation Strategies

This section provides implementation strategies for City Growth Area II:

1. Zoning requests that do not involve annexation by the City shall be reviewed and approved by the County. The County will provide the City with the opportunity to comment on all requests for conformance with the policies established by City Growth Area II.

2. City development standards will be applied to regulate development. The City will provide the County with the opportunity to comment on all requests for conformance with the policies established for City Growth Area II.

3. Annexation of this area is anticipated to be concurrent with individual subdivision activity (i.e. minor and major subdivisions, parcel splits, homestead parcel splits, and property line adjustments) and with the extension of utility systems. In the event that it is not practicable to complete an annexation at the time of development, the subdivider of property shall enter into an agreement with the City providing assurances that when it is practicable to be annexed they, along with any successors and assigns, will cooperate with the process on a voluntary basis.

4. All minor and major subdivisions in City Growth Area II shall be reviewed and approved by the City of Council Bluffs.

5. All parcel splits, homestead parcel splits, and property line adjustments in City Growth Area II shall be reviewed and approved through the County Sketch Plat Application process. The Council Bluffs Community Development Department shall be notified of all subdivision activity prior to final County approval being granted.

6. Parcel splits shall be allowed as a one-time action from a parent parcel (not previously subdivided) provided the remainder of the parcel to be split is 20 acres or greater and retains a potential for development at urban standards.

7. Homestead parcel splits shall be allowed as a one-time action from a parent parcel (not previously subdivided) provided the “homestead” parcel contains no more than 4 acres, and the remainder of the parcel to be split is 20 acres or greater and retains a potential for development at urban standards.

8. Property line adjustments shall be allowed provided they do not result in the creation of an additional buildable lot.

9. Zoning shall remain under the authority of Pottawattamie County until time of annexation.

COUNTY DEVELOPMENT AREA

Land within the three-mile study area that is not likely to develop beyond rural and agricultural uses as the location of these properties is such that they are beyond a reasonable expectation of future annexation by the City due to the difficulty of extending services to an extent that would support urban density patterns. Urban level of services and transportation enhancements are unlikely to occur. It is possible that water service may be available in portions of this area, but sanitation facilities will be by individual septic system. The transportation network varies in characterization from pavement, bituminous and gravel surface, and rural section without curb and gutter.

Service Area Goals

The following goals have been identified for the County Development Area:

Goal 1: Prioritize rural and agricultural uses.

Goal 2: Limit the further subdivision of parent parcels and prioritize non-urban uses.

Goal 3: Allow for residential estates to occur without the extension of urban services.

Goal 4: Do not allow for commercial and industrial uses without extension of services.

Service Area Policies

This section provides policy statements for the County Development Area:

1. Allow a maximum density of one residential dwelling unit per one acre where concentration of development cannot be achieved. Two-acre minimum is required in areas where parcels may be created that are not serviced by municipal or common water systems.
2. Maximize density through the use of cluster subdivision designs, subject to conformance with the following open space requirements:
    - At least fifty percent of the entire development area must be retained in common open space.
    - The open space shall be commonly owned and controlled through a homeowner's association agreement, provided that such open space may be held by the association or a public or non-profit entity and shall be for conservation or recreation.
    - Facilities or utilities to treat and dispose of human waste, handle storm water runoff, and/or provide drinking water, irrigation, electricity, gas, telephone, or other services, may be located within the open space.
3. Coordinate with law enforcement, fire, and emergency medical services to ensure that appropriate level of services can be provided to all residents.
4. Development standards shall be in accordance with Pottawattamie County Code.

Implementation Strategies

This section provides implementation strategies for the County Development Area:

1. All zoning requests shall be reviewed by the County. The County will provide the City with the opportunity to comment on all requests for conformance with the policies established for the County Development Area.
2. County subdivision and design standards will be applied to regulate development. The County will provide the City with the opportunity to comment on all requests for conformance with the policies established in the County Development Area.
3. Annexation by the City of this area is not anticipated. However, limited annexation of those areas adjacent to the City's corporate limits, which require municipal services, may occur.
4. Zoning shall remain under the authority of Pottawattamie County until time of annexation.

		City Growth Area IA	City Growth Area IB	City Growth Area II	County Development Area
Subdivision Actions & Jurisdictional Roles	**Subdivisions**	x	x	x	x
	Parcel Splits (refer to Ch. 6 of the Joint City-County Land Use Study for minimum area requirements)	x	x	x	x
	Homestead Splits (refer to Ch. 6 of the Joint City-County Land Use Study for minimum area requirements)	x	x	x	
	Property Line Adjustments that do not create a new buildable lot (allows 2 buildable lots to replat into 2 buildable lots)	x	x	x	x
	Property Line Adjustments that create a new buildable lot (allows 1 buildable lot and 1 non-buildable lot to replat into 2 buildable lots)				x
	City's Review Role	x	x	x	Notification Only
	County's Review Role	None	None	Procedural for subdivisions. Full review of County sketch plats for parcel splits, homestead parcel splits and property line adjustments.	x
	Development Standards Applied	City	City	City	County
	Jurisdictional Application	City, if annexation occurs concurrently with development County, if annexation is not practicable	City, if annexation occurs concurrently with development County, if annexation is not practicable	City, if annexation occurs concurrently with development County, if annexation is not practicable	County
	Zoning Jurisdiction	County until annexation	County until annexation	County until annexation	County
Infrastructure	**Sanitary**	Required (unless City requirements for septic are met) Existing septic permitted until sanitary sewer is available within 200' of the subject property or when the tract is connected to sanitary sewer	Required (unless City requirements for septic are met) Existing septic permitted until sanitary sewer is available within 200' of the subject property or when the tract is connected to sanitary sewer	Community sanitary systems until City sanitary sewer is available Subdivisions should be designed to place sanitary facilities in an outlot of size and dimension that will facilitate future recreation or development Existing septic permitted until sanitary sewer is available within 200' of the subject property or when the tract is connected to sanitary sewer Septic systems on tracts 20 acres or more are permitted if County requirements are met	Septic, per County requirements
	Water	Council Bluffs Water Works, unless City requirements for a well are met or currently connected to Rural Water	Council Bluffs Water Works, unless City requirements for a well are met or currently connected to Rural Water Maintenance or replacement of wells permitted	Council Bluffs Water Works or Rural Water Maintenance or replacement of wells permitted Wells on tracts 20 acres or more are permitted if they can meet County requirements	Rural Water or well
	Stormwater Management	City	City	City	County
	Streets and Roads	City	City	City	County
Annexation Requirements	**Immediate Annexation**	Yes, if subdivision activity meets one or more of the following criteria: • Occurs adjacent to City limits; • Annexation would connect to land in City Growth Area IB or II; • Annexation would square off a boundary; and/or • Annexation would facilitate infrastructure improvements	Yes, if subdivision activity meets one or more of the following criteria: • Occurs adjacent to City limits; • Annexation would connect to land in City Growth Area IA or II; • Annexation would square off a boundary; and/or • Annexation would facilitate infrastructure improvements	Yes, if subdivision activity meets one or more of the following criteria: • Occurs adjacent to City limits; • Annexation would connect to land in City Growth Area IA or IB; • Annexation would square off a boundary; and/or • Annexation would facilitate infrastructure improvements	No
	Annexation Agreement	Yes, if none of the criteria outlined above are met or when it is determined by the City to be beneficial to delay annexation Property line adjustments are exempt from this requirement	Yes, if none of the criteria outlined above are met or when it is determined by the City to be beneficial to delay annexation	Yes, if none of the criteria outlined above are met or when it is determined by the City to be beneficial to delay annexation	No
Fees	**Fee Capture for Sanitary Sewer**	Yes; per acre (City)	Yes; per acre (City)	Yes; per acre (City)	N/A
	Building Permit Applications/Fees	Jurisdiction at the time of permit submittal	Jurisdiction at the time of permit submittal	Jurisdiction at the time of permit submittal	County
	Zoning/Subdivision Application Fees	Jurisdiction (City if one or more of the criteria for "Immediate Annexation" are met)	Jurisdiction (City if one or more of the criteria for "Immediate Annexation" are met)	Jurisdiction (City if one or more of the criteria for "Immediate Annexation" are met)	County

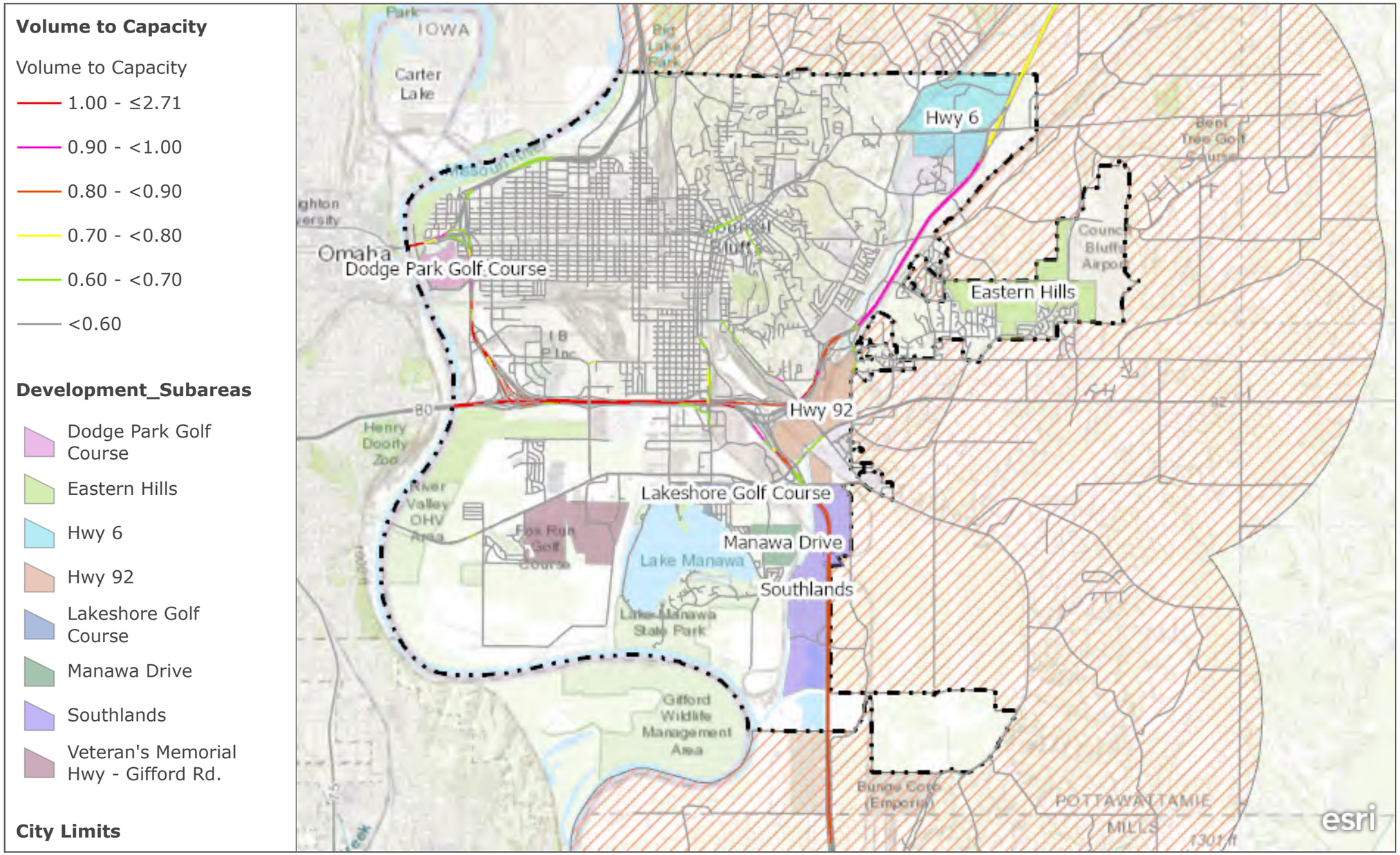
SERVICE AREA MATRIX

The matrix to the left provides a guide for each growth and development area. The matrix indicates each type of subdivision action that is allowed, infrastructure and annexation requirements, and the jurisdictional roles of the City of Council Bluffs and Pottawattamie County in each area. It is the intent that the following requirements will be the basis of an updated Two-Mile Extraterritorial Agreement between each party.

APPENDIX

The Appendix includes reference materials and supporting maps, tables, and exhibits used in the completion of this study.

Transportation Map

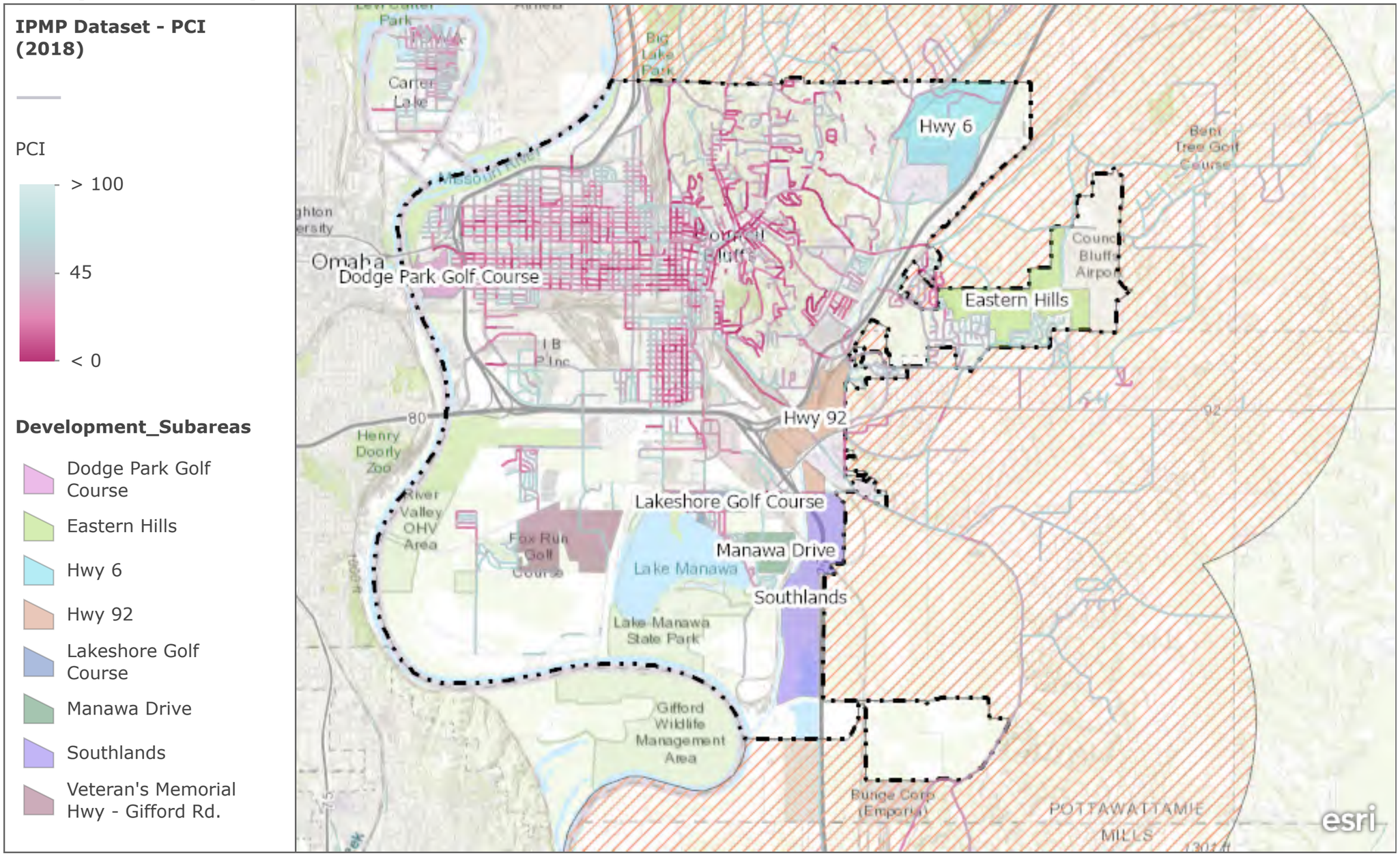


Council Bluffs Land Use Plan - Transportation Map

Iowa Department of Transportation - Office of Systems Planning | County of Pottawattamie, Iowa DNR, Nebraska Game & Parks Commission, Esri, HERE, Garmin, USGS, NGA, EPA, USDA, NPS

FIGURE 1 - VOLUME-TO-CAPACITY TRANSPORTATION MAP

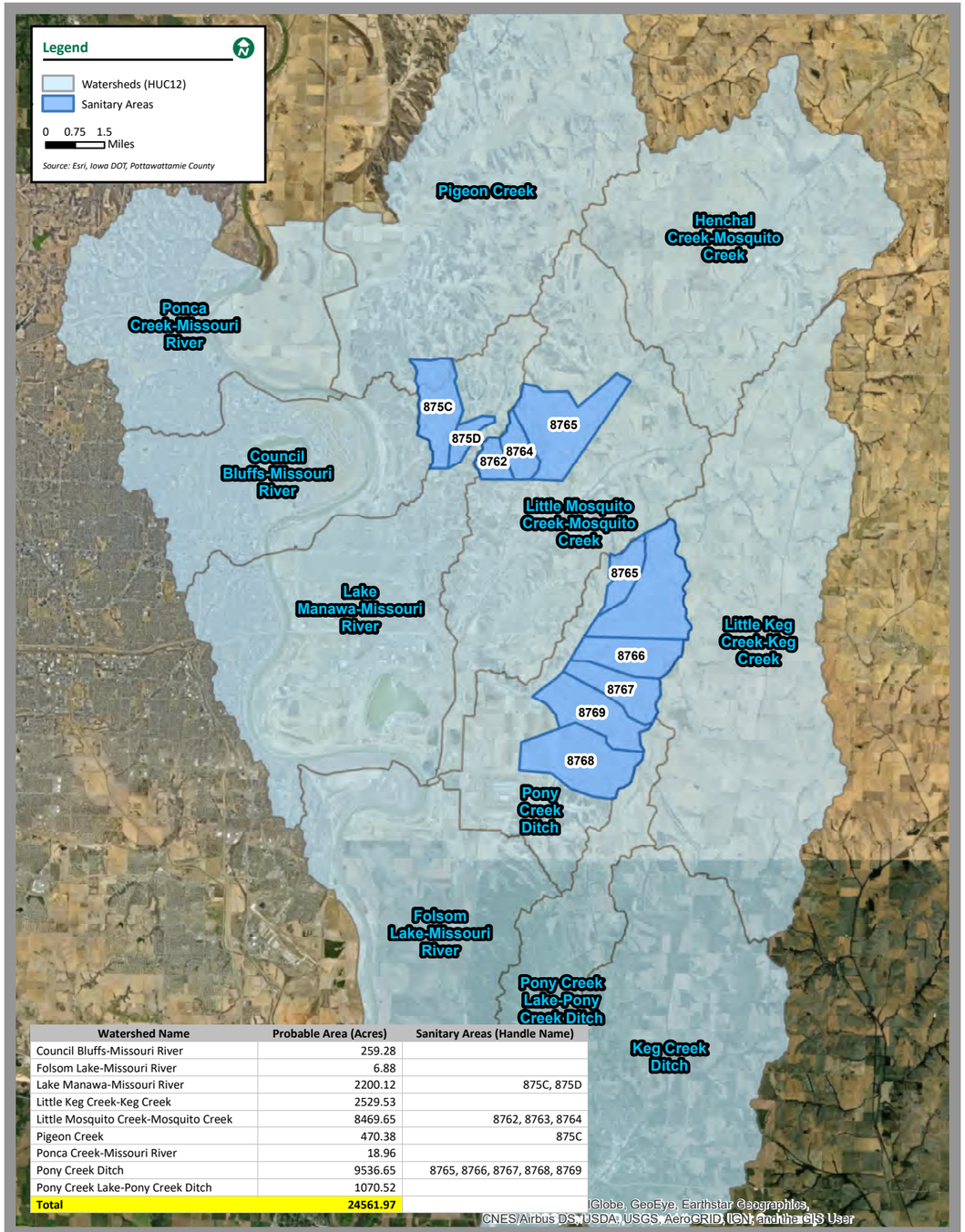
Transportation Map



Council Bluffs Land Use Plan - Transportation Map

Iowa Department of Transportation - Office of Systems Planning | County of Pottawattamie, Iowa DNR, Nebraska Game & Parks Commission, Esri, HERE, Garmin, USGS, NGA, EPA, USDA, NPS

FIGURE 2 - PCI TRANSPORTATION MAP



Watershed Name	Probable Area (Acres)	Sanitary Areas (Handle Name)
Council Bluffs-Missouri River	259.28	
Folsom Lake-Missouri River	6.88	
Lake Manawa-Missouri River	2200.12	875C, 875D
Little Keg Creek-Keg Creek	2529.53	
Little Mosquito Creek-Mosquito Creek	8469.65	8762, 8763, 8764
Pigeon Creek	470.38	875C
Ponca Creek-Missouri River	18.96	
Pony Creek Ditch	9536.65	8765, 8766, 8767, 8768, 8769
Pony Creek Lake-Pony Creek Ditch	1070.52	
Total	**24561.97**	

FIGURE 3 - SANITARY AREAS MAP

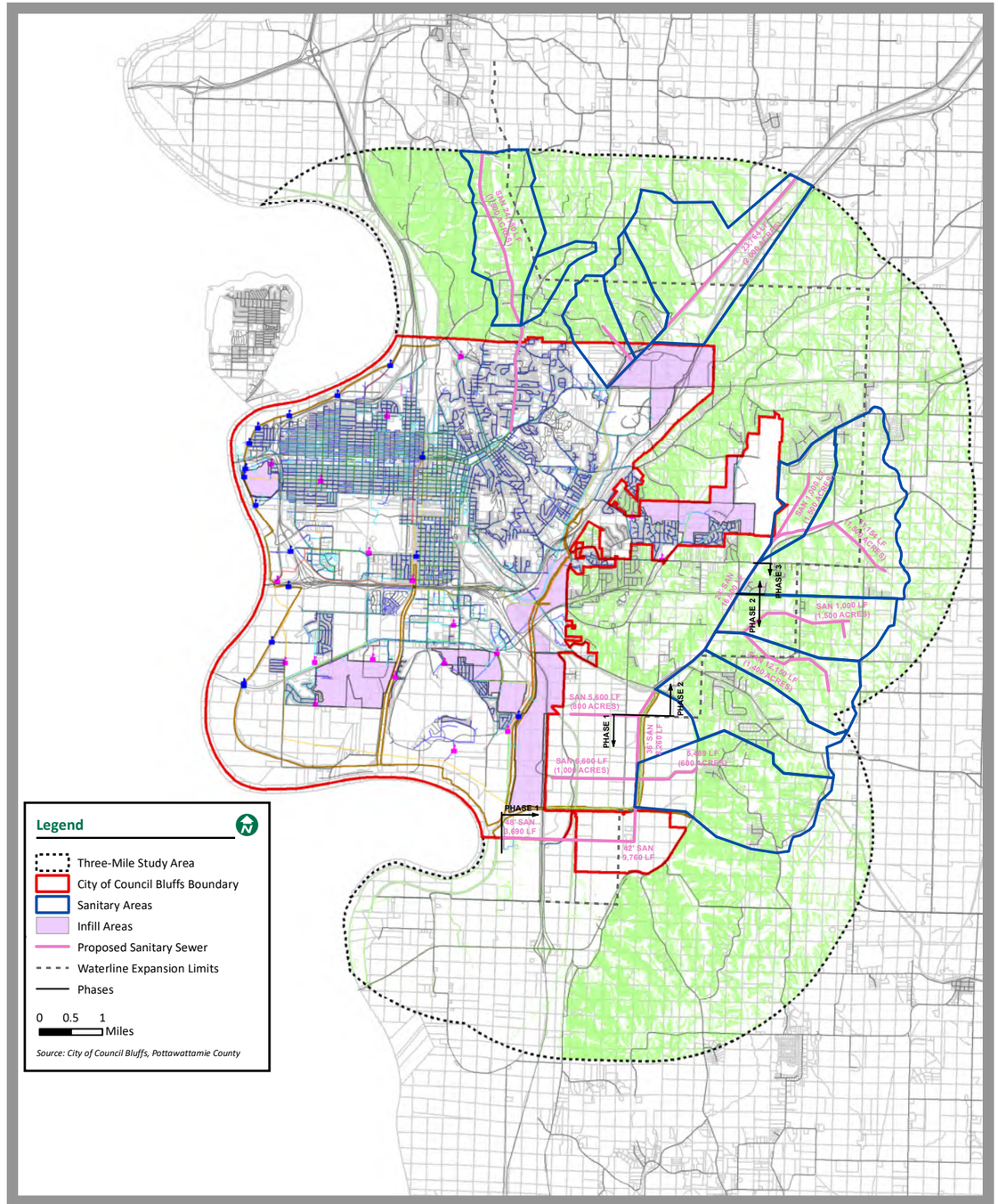


FIGURE 4 - PROPOSED SANITARY SEWER MAP

hgm ASSOCIATES INC.

ENGINEER'S CONCEPTUAL OPINION OF PROBABLE CONSTRUCTION COST
CB LAND USE PLAN
SANITARY SERVICE TO AIRPORT DEVELOPMENT
CITY OF COUNCIL BLUFFS, IOWA
HGM Project No. 104820
October 5, 2020

ITEM NO.	DESCRIPTION	ESTIMATED QUANTITY		UNIT PRICE	TOTAL AMOUNT
PHASE 1					
1.	Excavation, Unsuitable Material	10,360.80	CY	$15.00	$155,412.00
2.	Sanitary Sewer, Trenched, 36"	8,260.00	LF	$450.00	$3,717,000.00
3.	Sanitary Sewer, Trenched, 42"	9,760.00	LF	$700.00	$6,832,000.00
4.	Sanitary Sewer, Trenchless, 42"	400.00	LF	$2,500.00	$1,000,000.00
5.	Sanitary Sewer, Trenched, 48"	3,690.00	LF	$800.00	$2,952,000.00
6.	Sanitary Sewer, Trenchless, 48"	400.00	LF	$3,000.00	$1,200,000.00
7.	Dewatering	11,255.86	LF	$130.00	$1,463,261.54
				Subtotal:	$17,319,673.54
				Engineering (15%):	$2,597,951.03
				Contingency (20%):	$3,983,375.42
				Total:	**$23,901,000.00**

Notes:

1. Excavation assumes 25% of trenched material
2. Dewatering assumed to be required on half of trenched sewer
3. No lift staions included
4. New or upgraded treatment plan likely required and not included in estimate

FIGURE 5 - PROPOSED SANITARY SEWER COST, PHASE 1

hgm ASSOCIATES INC.

ENGINEER'S CONCEPTUAL OPINION OF PROBABLE CONSTRUCTION COST
CB LAND USE PLAN
SANITARY SERVICE TO AIRPORT DEVELOPMENT
CITY OF COUNCIL BLUFFS, IOWA
HGM Project No. 104820
October 5, 2020

ITEM NO.	DESCRIPTION	ESTIMATED QUANTITY		UNIT PRICE	TOTAL AMOUNT
PHASE 2					
1.	Excavation, Unsuitable Material	5,752.80	CY	$15.00	$86,292.00
2.	Sanitary Sewer, Trenched, 24"	12,500.00	LF	$250.00	$3,125,000.00
3.	Dewatering	6,249.78	LF	$130.00	$812,471.14
				Subtotal:	$4,023,763.14
				Engineering (15%):	$603,564.47
				Contingency (20%):	$925,672.39
				Total:	**$5,553,000.00**

Notes:

1. Excavation assumes 25% of trenched material
2. Dewatering assumed to be required on half of trenched sewer
3. No lift staions included
4. New or upgraded treatment plan likely required and not included in estimate

FIGURE 6 - PROPOSED SANITARY SEWER COST, PHASE 2

hgm ASSOCIATES INC.

ENGINEER'S CONCEPTUAL OPINION OF PROBABLE CONSTRUCTION COST
CB LAND USE PLAN
SANITARY SERVICE TO AIRPORT DEVELOPMENT
CITY OF COUNCIL BLUFFS, IOWA
HGM Project No. 104820
October 5, 2020

ITEM NO.	DESCRIPTION	ESTIMATED QUANTITY		UNIT PRICE	TOTAL AMOUNT
PHASE 3					
1.	Excavation, Unsuitable Material	1,886.40	CY	$15.00	$28,296.00
2.	Sanitary Sewer, Trenched, 24"	4,100.00	LF	$250.00	$1,025,000.00
3.	Dewatering	2,049.36	LF	$130.00	$266,417.32
				Subtotal:	$1,319,713.32
				Engineering (15%):	$197,957.00
				Contingency (20%):	$303,329.68
				Total:	**$1,821,000.00**

Notes:

1. Excavation assumes 25% of trenched material
2. Dewatering assumed to be required on half of trenched sewer
3. No lift staions included
4. New or upgraded treatment plan likely required and not included in estimate

FIGURE 7 - PROPOSED SANITARY SEWER COST, PHASE 3

hgm ASSOCIATES INC.

ENGINEER'S CONCEPTUAL OPINION OF PROBABLE CONSTRUCTION COST
CB LAND USE PLAN
SANITARY SERVICE - INDIVIDUAL BASINS
CITY OF COUNCIL BLUFFS, IOWA
HGM Project No. 104820
August 16, 2021

ITEM NO.	DESCRIPTION	ESTIMATED QUANTITY		UNIT PRICE	TOTAL AMOUNT
1.	Sanitary Sewer, Trenched, 18" (875C)	24,180.00	LF	$297.00	$7,181,460.00
2.	Sanitary Sewer, Trenched, 10" (875D)	9,850.00	LF	$272.00	$2,679,200.00
3.	Sanitary Sewer, Trenched, 15" (8762)	7,100.00	LF	$287.00	$2,037,700.00
4.	Sanitary Sewer, Trenched, 24" (8763)	17,150.00	LF	$322.00	$5,522,300.00
5.	Sanitary Sewer, Trenched, 15" (8764)	6,930.00	LF	$287.00	$1,988,910.00
6.	Sanitary Sewer, Trenched, 15" (8765)	8,800.00	LF	$287.00	$2,525,600.00
7.	Sanitary Sewer, Trenched, 18" (8766)	11,000.00	LF	$297.00	$3,267,000.00
8.	Sanitary Sewer, Trenched, 18" (8767)	12,150.00	LF	$297.00	$3,608,550.00
9.	Sanitary Sewer, Trenched, 21" (8768)	17,700.00	LF	$312.00	$5,522,400.00
10.	Sanitary Sewer, Trenched, 24" (8769)	16,200.00	LF	$322.00	$5,216,400.00
				Subtotal:	$39,549,520.00
				Engineering (15%):	$5,932,428.00
				Contingency (35%):	$15,918,052.00
				Total:	**$61,400,000.00**

Notes:

1. Excavation included in price and assumes 25% of trenched material
2. Dewatering included in price and assumed to be required on half of trenched sewer
3. No lift stations included
4. New or upgraded downstream infrastructure likely required and not included in estimate

FIGURE 8 - PROPOSED SANITARY SEWER COST, INDIVIDUAL BASINS

Categories of Development

The categories of 'probable' and 'priority' were terms that the team used internally as we began looking at infrastructure extensions and the resulting land that would be available for development. This was our internal way to start identifying 'focus areas' or 'potential expansion areas' located within the three-mile study area. The following matrix was used to determine the favorability for development in these areas:

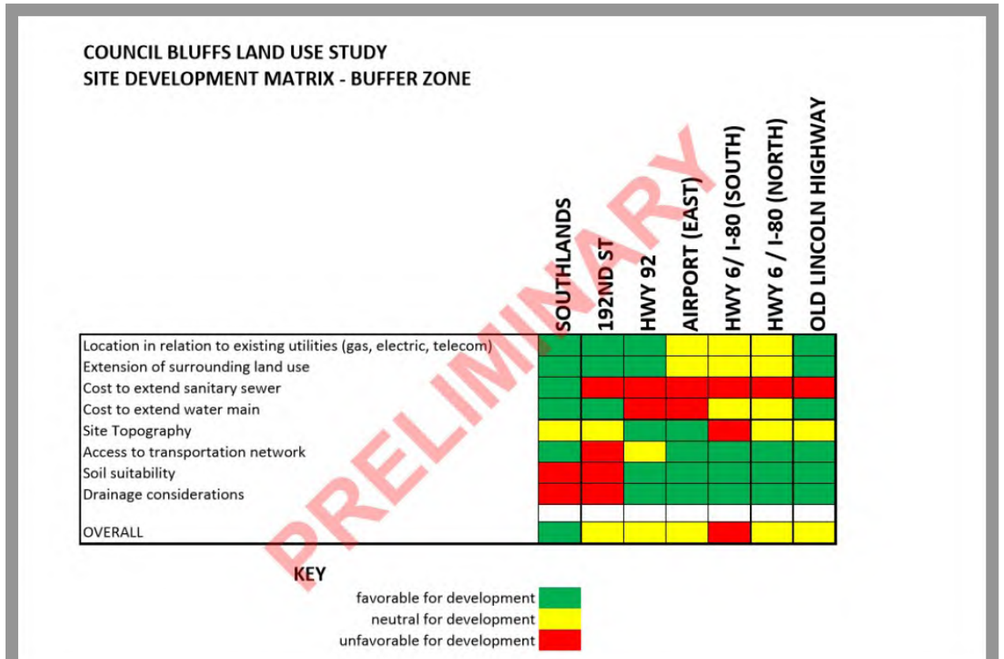


FIGURE 9 - SITE DEVELOPMENT MATRIX

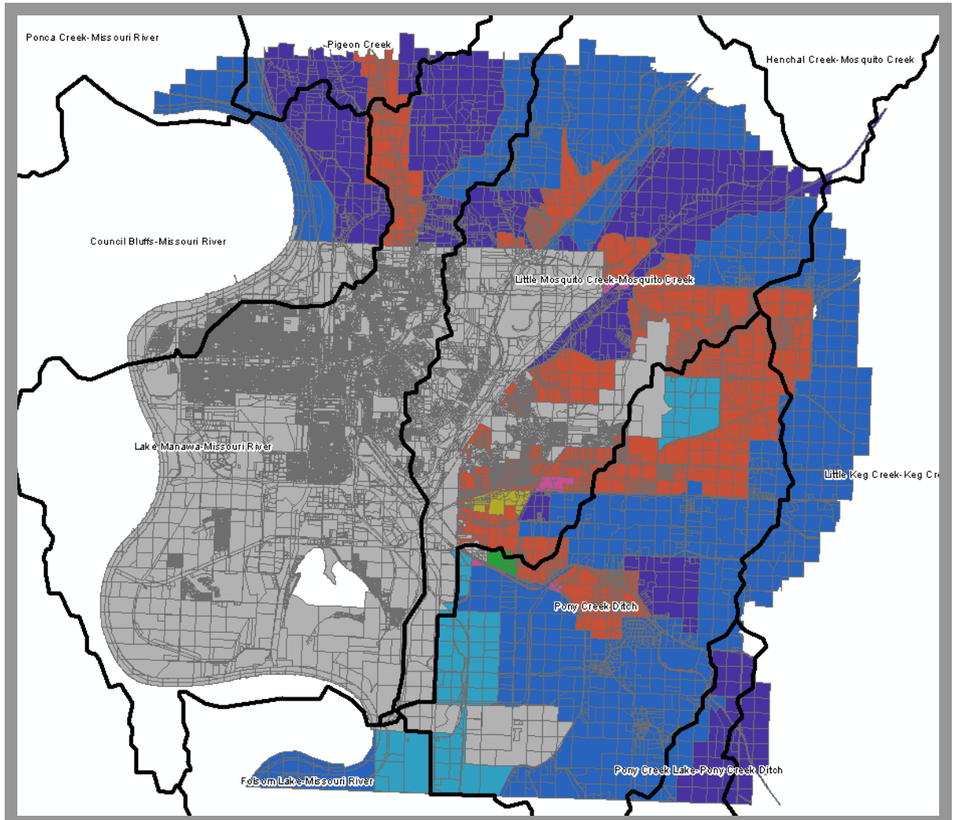


FIGURE 10 - WATERSHED MAP

		Developable Land Analysis – Sum of Area (Acres)		
Watershed (HUC 12)	**Proposed Land Use**	**Constrained**	**Less Constrained**	**Grand Total**
Council Bluffs-Missouri River	Ag	629.43	27.05	656.48
	Estate Res	1427.50	153.32	1580.82
	Low Density Res	51.15	3.49	54.64
Council Bluffs-Missouri River Total		**2108.08**	**183.87**	**2291.95**
Folsom Lake-Missouri River	Ag	5496.16	736.57	6232.72
	Commercial	241.04	11.22	252.26
	Industrial	1422.65	93.21	1515.87
Folsom Lake-Missouri River Total		7159.85	841.00	8000.85
Keg Creek Ditch	Ag	57.48	71.77	129.25
	Estate Res	105.88	127.00	232.88
Keg Creek Ditch Total		**163.36**	**198.77**	**362.13**
Lake Manawa-Missouri River	Ag	533.55	253.72	787.27
	Estate Res	1364.97	535.29	1900.26
	Low Density Res	654.79	270.28	925.08
	Med Density Res	7.35	9.59	16.94
Lake Manawa-Missouri River Total		**2560.67**	**1068.88**	**3629.55**
Little Keg Creek-Keg Creek	Ag	1249.43	1866.19	3160.62
	Estate Res	161.36	219.00	380.36
	Low Density Res	288.27	434.11	722.38
Little Keg Creek-Keg Creek Total		**1744.06**	**2519.31**	**4263.37**
Little Mosquito Creek-Mosquito Creek	Ag	3229.32	2072.67	5301.99
	Commercial	69.57	43.26	112.82
	Estate Res	2355.49	1519.53	3875.02
	High Density Res	0.07	0.12	0.20
	Industrial	50.32		50.32
	Low Density Res	2599.62	1942.35	4541.97
	Med Density Res	125.50	78.90	204.40
Little Mosquito Creek-Mosquito Creek Total		**8429.88**	**5656.83**	**14806.71**
Pigeon Creek	Ag	224.88		224.88
	Estate Res	765.89	109.25	875.14
	Low Density Res	180.06	86.97	267.03
Pigeon Creek Total		**1170.84**	**196.22**	**1367.05**
Ponca Creek-Missouri River	Ag	349.89	10.90	360.75
Ponca Creek-Missouri River Total		**349.89**	**10.90**	**360.75**
Pony Creek Ditch	Ag	6544.36	3268.72	9813.08
	Commercial	45.05	31.81	76.86
	Estate Res	420.96	302.20	723.16
	High Density Res	55.97	19.54	75.51
	Industrial	2062.22	201.58	2263.81
	Low Density Res	2163.15	1519.14	3682.29
Pony Creek Ditch Total		**11291.72**	**5342.99**	**16634.71**
Pony Creek Lake-Pony Creek Ditch	Ag	1010.96	1232.55	2243.51
	Estate Res	296.49	880.86	1117.35
Pony Creek Lake-Pony Creek Ditch Total		**1307.45**	**2113.40**	**3420.85**
Grand Total		**36285.81**	**18132.16**	**54417.97**

FIGURE 11 - DEVELOPABLE LAND ANALYSIS (SORTED BY WATERSHED)

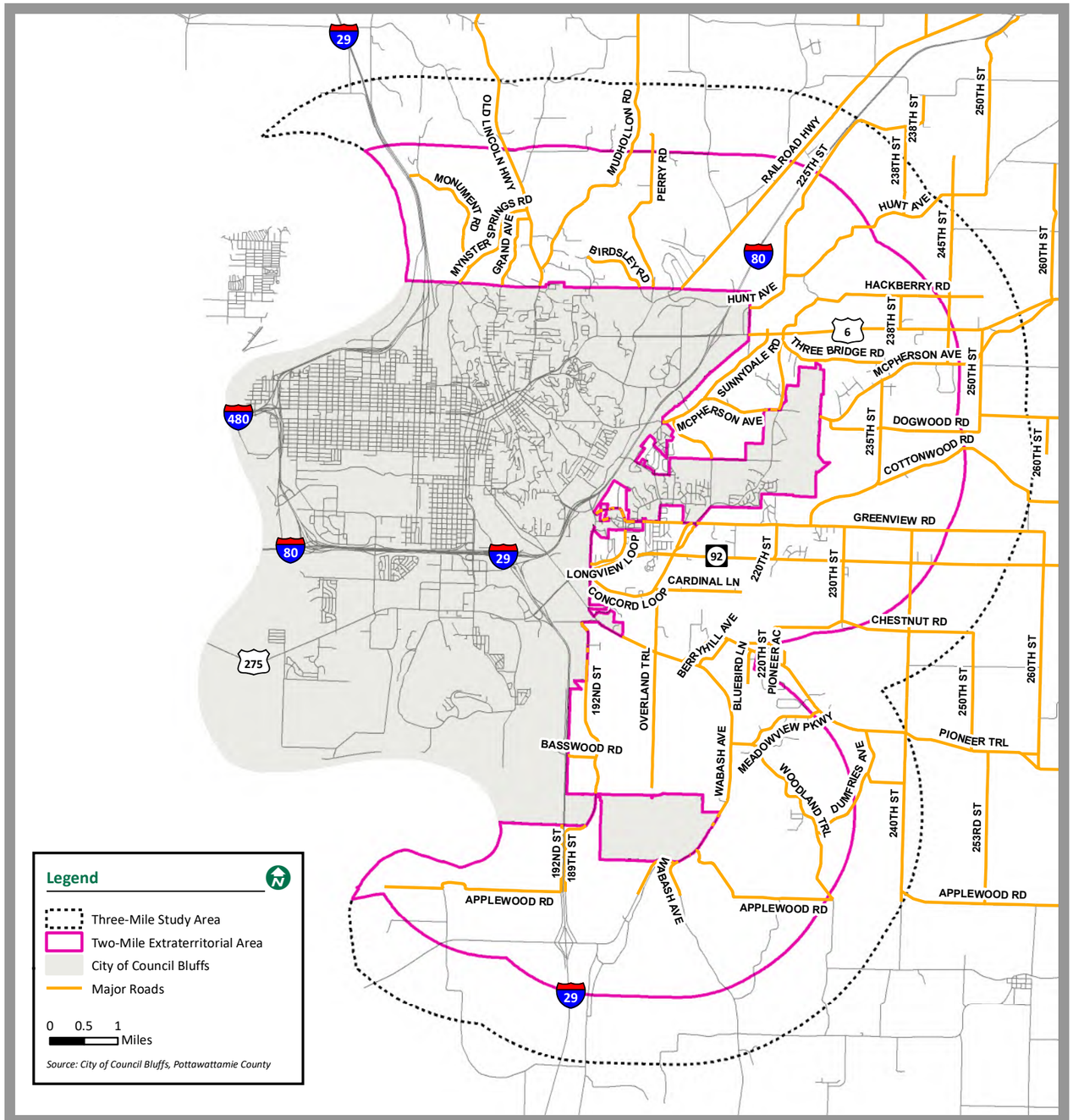
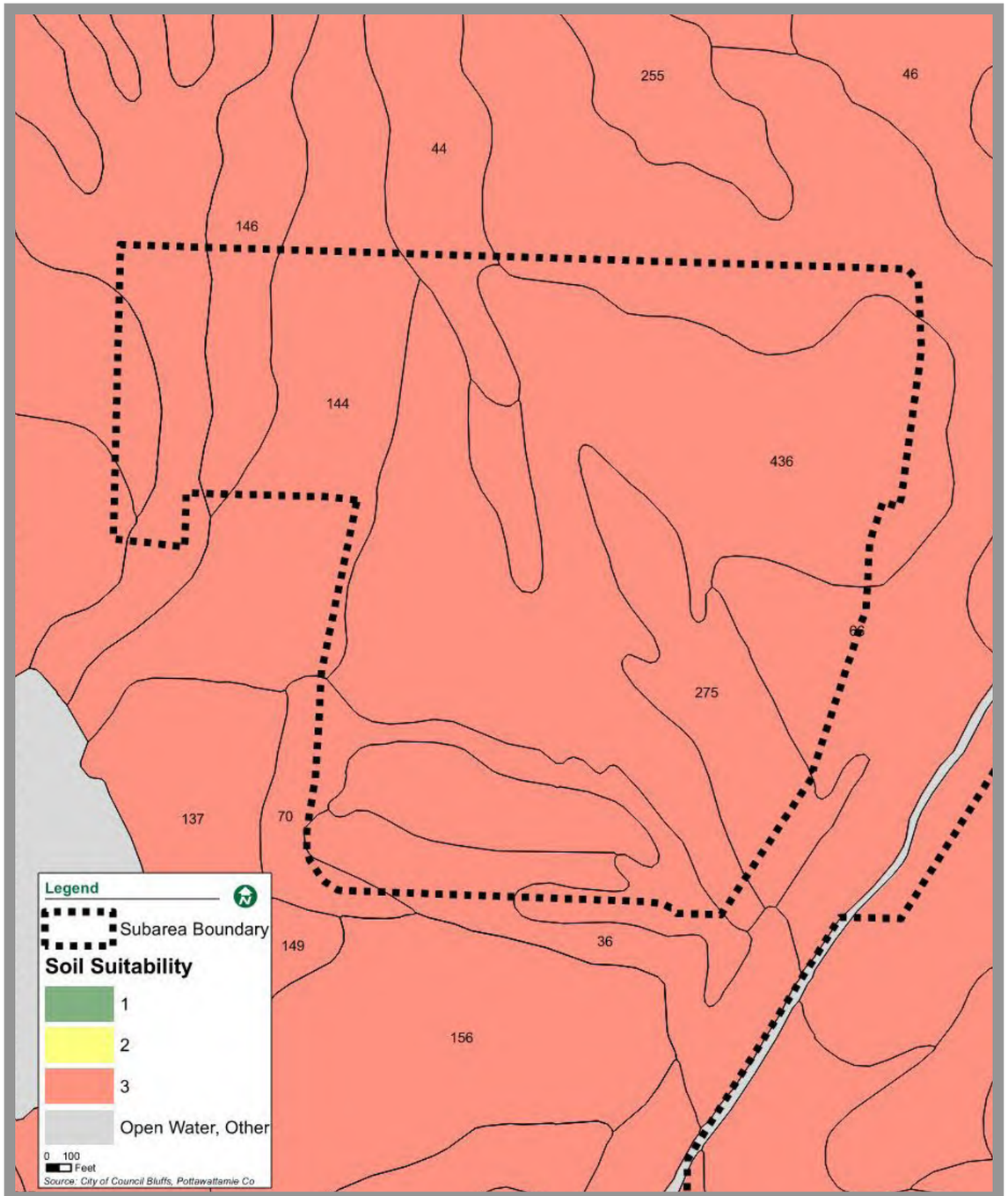
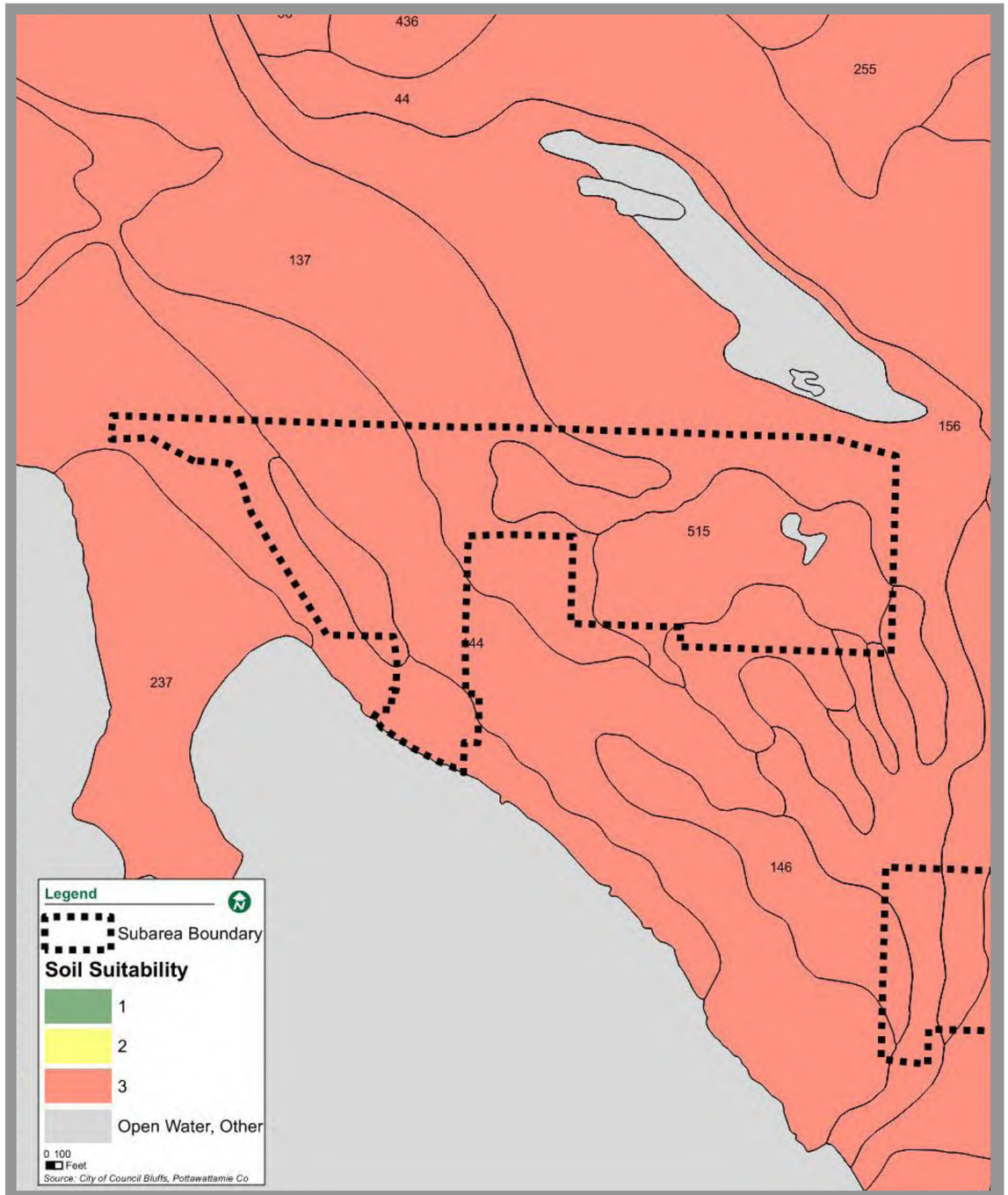


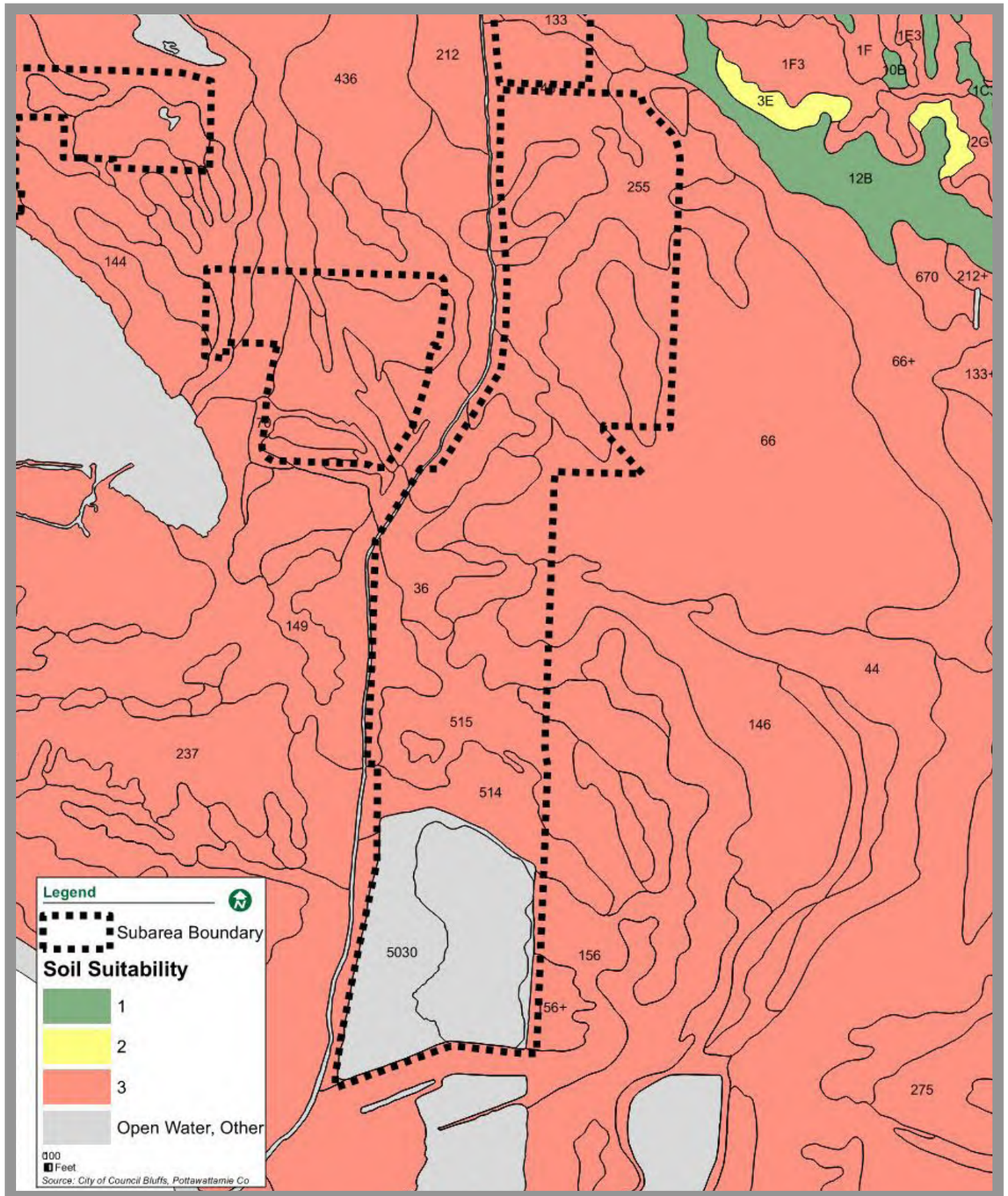
FIGURE 12 - MAJOR ROADS MAP



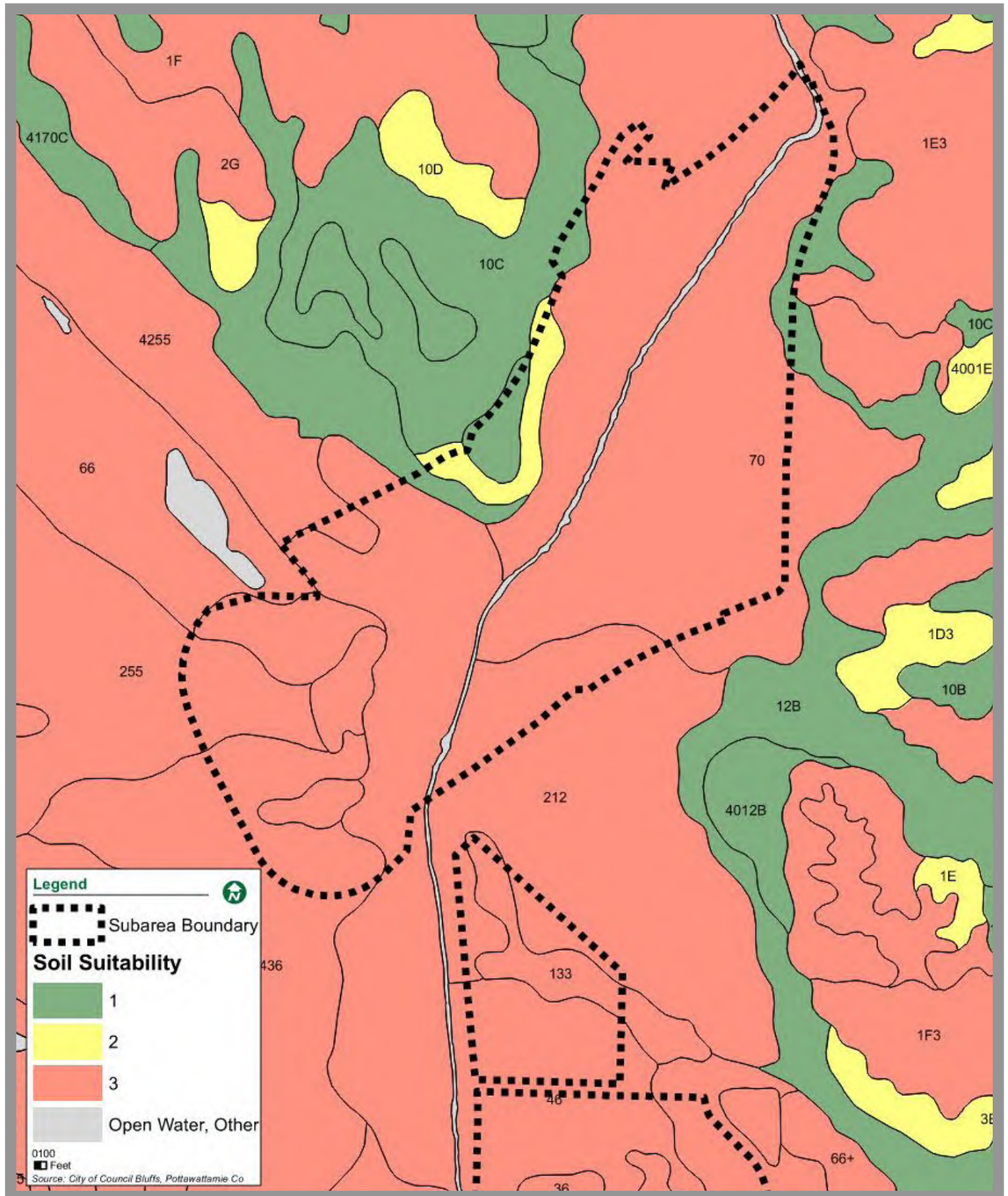
EAST MANAWA DRIVE INFILL AREA - SOIL SUITABILITY MAP



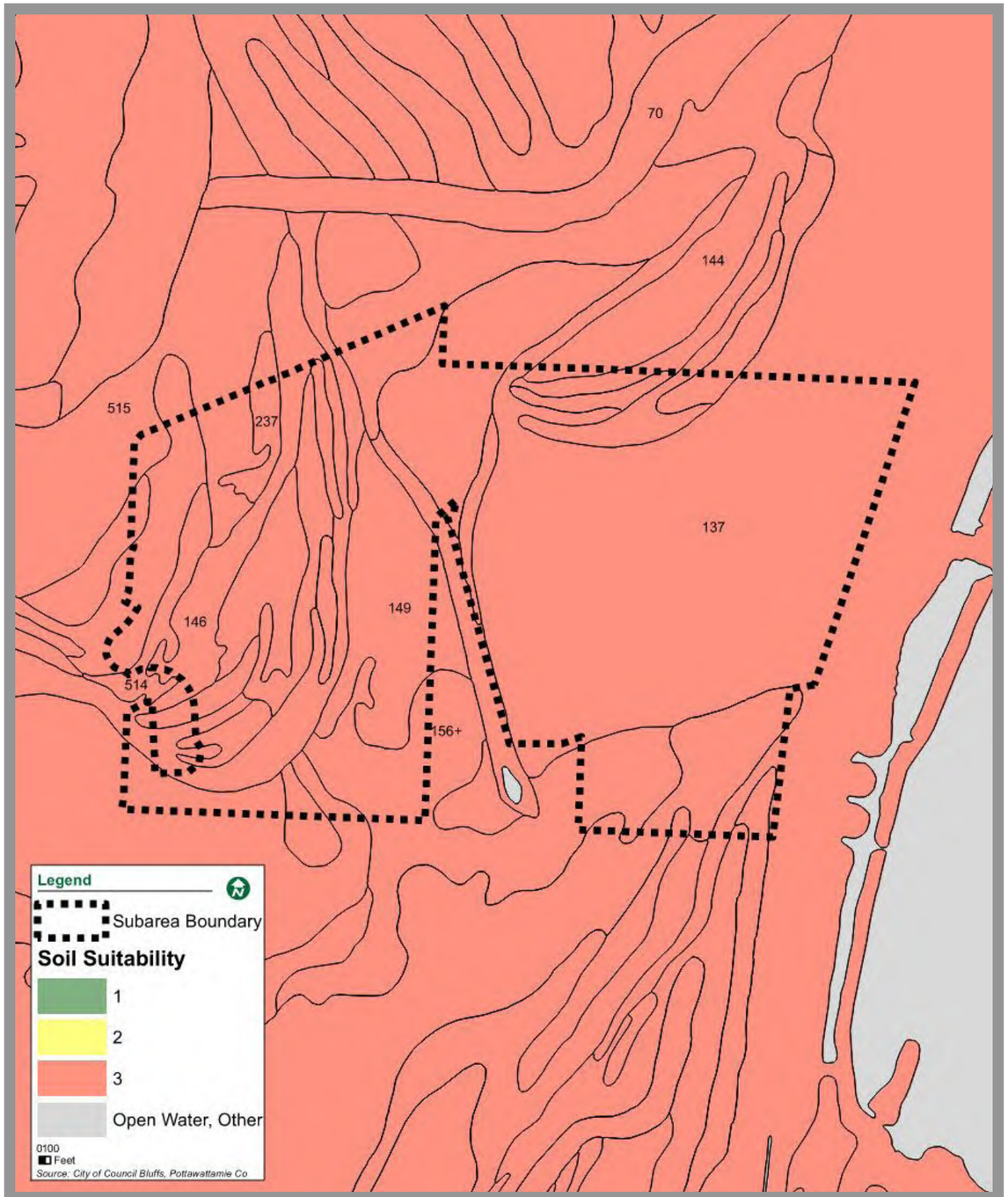
CB COUNTRY CLUB INFILL AREA - SOIL SUITABILITY MAP



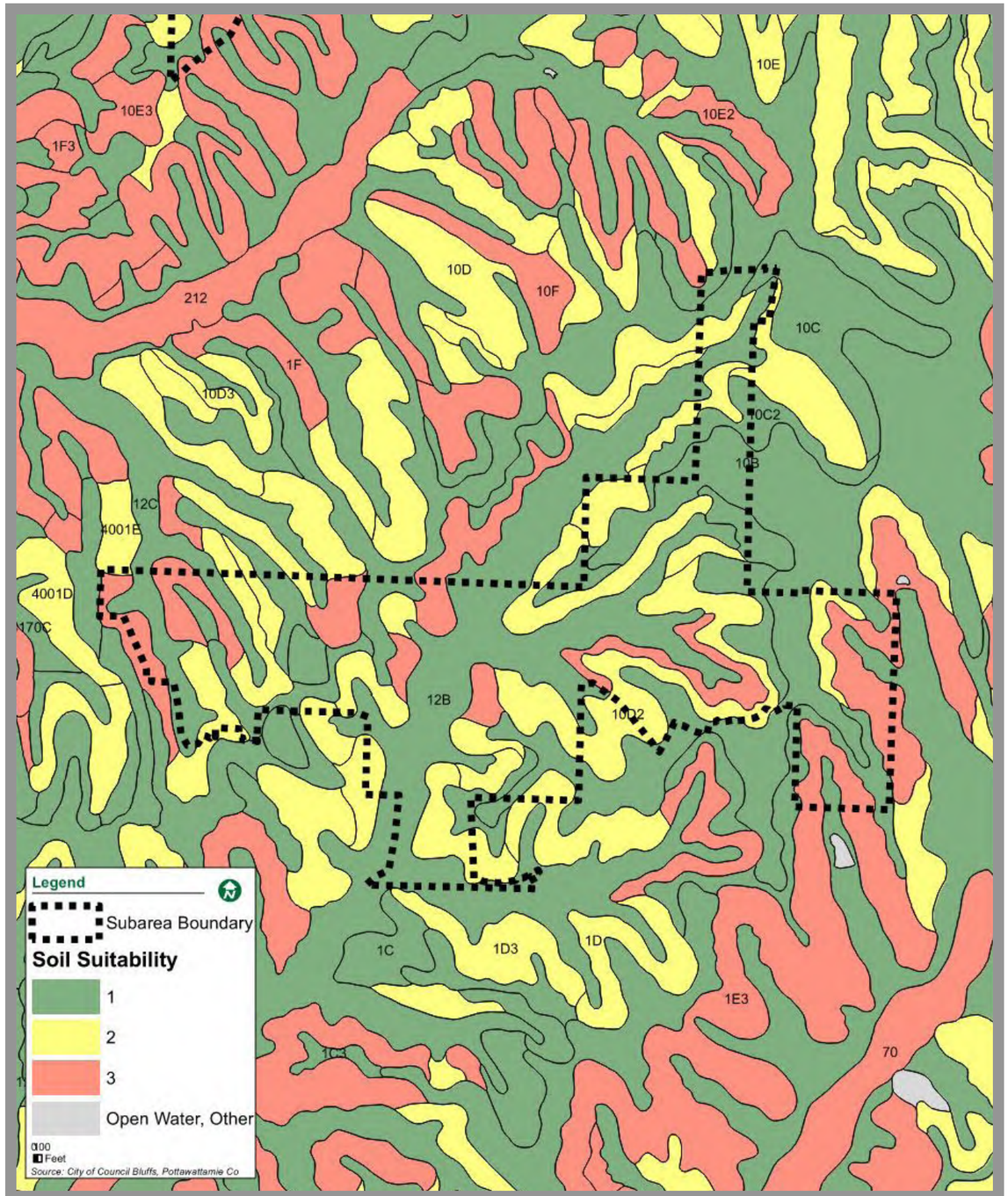
SOUTH 192ND STREET INFILL AREA - SOIL SUITABILITY MAP



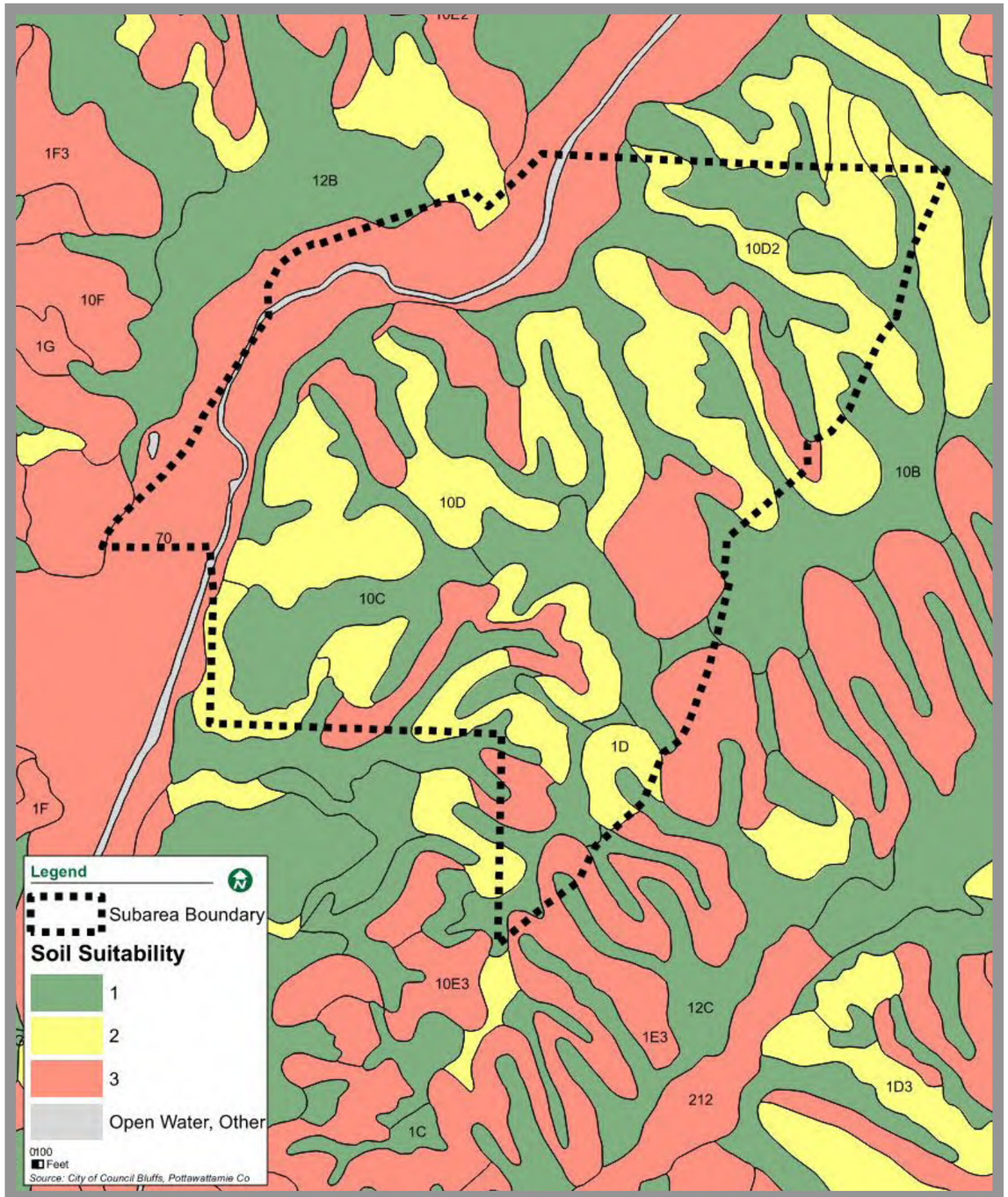
HIGHWAY 92 INFILL AREA - SOIL SUITABILITY MAP



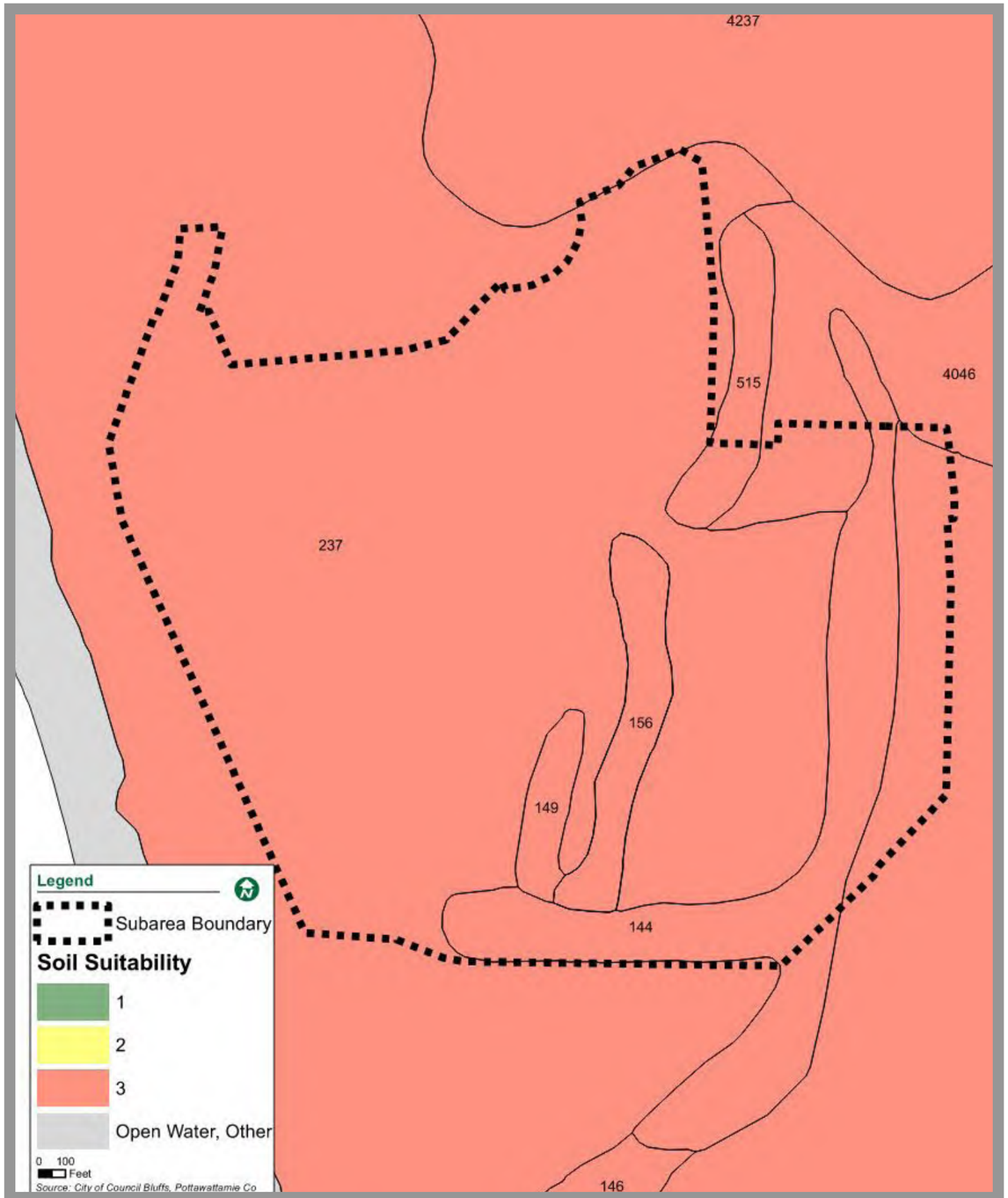
VETERANS MEMORIAL HIGHWAY INFILL AREA - SOIL SUITABILITY MAP



EASTERN HILLS DRIVE INFILL AREA - SOIL SUITABILITY MAP



HIGHWAY 6 INFILL AREA - SOIL SUITABILITY MAP



DODGE PARK GOLF COURSE INFILL AREA - SOIL SUITABILITY MAP