

Draft Environmental Assessment
**Storm Lake Sanitary System
Mitigation Project**

City of Storm Lake, Iowa
FEMA DR-1763-IA

October 15, 2011



FEMA

**Federal Emergency Management Agency
Department of Homeland Security**
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Abbreviations and Acronyms

APE	Area of Potential Effect
BMP	Best Management Practices
CEQ	Council on Environmental Quality
CFR	Code of Federal Regulations
CO	Carbon Monoxide
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act
dB	Decibels
EA	Environmental Assessment
EO	Executive Order
EPA	Environmental Protection Agency
ESA	Endangered Species Act
FEMA	Federal Emergency Management Agency
FIRM	Flood Insurance Rate Map
FONSI	Finding of No Significant Impact
FPPA	Farmland Protection Policy Act
HMGP	Hazard Mitigation Grant Program
HUD	U.S. Department of Housing and Urban Development
IDNR	Iowa Department of Natural Resources
NAAQS	National Ambient Air Quality Standards
NEPA	National Environmental Policy Act
NFIP	National Flood Insurance Program
NHPA	National Historic Preservation Act
NO ₂	Nitrogen Dioxide
NPDES	National Pollutant Discharge Elimination System
NRCS	Natural Resources Conservation Service
NRHP	National Register of Historic Places
O ₃	Ozone
PM	Particulate Matter
RCRA	Resource Conservation and Recovery Act
ROI	Region of Influence
SHPO	State Historic Preservation Office
SHSI	State Historical Society of Iowa
SWPPP	Storm Water Pollution Prevention Plan
USACE	U.S. Army Corps of Engineers
USDA	U.S. Department of Agriculture
USFWS	U.S. Fish and Wildlife Service

1. INTRODUCTION

The City of Storm Lake is located in the Northwest portion of the state of Iowa in Buena Vista County. See Appendix A, Figure 1 for a Vicinity Map. The City of Storm Lake currently owns and operates a sanitary sewer system that provides service to the developed area of the City of Storm Lake.

The City of Storm Lake also provides wastewater treatment for the City of Lakeside. The City of Lakeside owns its own sanitary sewer collection system. The City of Lakeside pumps flow from its sanitary sewer collection system to the City of Storm Lake's wastewater treatment plant.

The population of the City of Storm Lake and the City of Lakeside as of the 2010 U.S. Census is:

City of Storm Lake	10,600
City of Lakeside	<u>496</u>
Total	11,096

For at least the last 20 years the City of Storm Lake has experienced surcharging and flooding of its sanitary sewer system during and following major rainfall events. During frequent heavy rainfall, small to medium rainfall or snow melt events (when the soil is saturated), the residents of both communities experience loss of wastewater treatment and sewage backup in basements due to inundation of the collection system from storm water infiltration. The collection system surcharges and then backs up causing flooding in basements and creating a health and safety hazard.

The recommended project is intended to convey the flows to the wastewater treatment plant and significantly reduce system surcharging and the resulting basement backups. The improvements are intended to mitigate the flooding and surcharging of sanitary sewer system to a level of protection equivalent to at least a 100-year level of protection.

The Storm Lake sanitary sewer system includes approximately 260,000 feet of sanitary sewer pipe. The pipe ranges from 8-inch diameter to 30-inch diameter. The majority of pipe is 8-inch diameter.

The original sanitary sewer system was constructed in the 1930s. The sanitary sewer system has been expanded since its original construction. The expansion includes construction of sanitary sewer in areas of the City that were not sewered as a part of the original sewer system construction and sanitary sewer in areas that have developed since the construction of the original sanitary sewer system.

The National Environmental Policy Act (NEPA) requires that Federal agencies evaluate the environmental effects of their proposed and alternative actions before deciding to fund an action. The

President's Council on Environmental Quality (CEQ) has developed a series of regulations for implementing NEPA. These regulations are included in Title 40 of the Code of Federal Regulations (CFR), Parts 1500–1508. They require the preparation of an Environmental Assessment (EA) that includes an evaluation of alternative means of addressing the problem and a discussion of the potential environmental impacts of a proposed Federal action. An EA provides the evidence and analysis to determine whether the proposed Federal action will have a significant adverse effect on human health and the environment. An EA, as it relates to the FEMA program, must be prepared according to the requirements of the Stafford Act and 44 CFR, Part 10. This section of the Federal Code requires that FEMA take environmental considerations into account when authorizing funding or approving actions. This EA was conducted in accordance with both CEQ and FEMA regulations for NEPA and will address the environmental issues associated with the FEMA grant funding as applied towards construction of a new City of Storm Lake Sanitary System Mitigation Project at the proposed sites.

Executive Order (EO) 11988 (Floodplain Management) requires that Federal Agencies assume a leadership role in avoiding direct or indirect support of development within the 100-year floodplain whenever there is a practicable alternative. At present, portions of the proposed project are located within the 100-year floodplain and subject to repetitive flooding. The whole project is intended to reduce the impact of flash floods exceeding the capacity of the existing sanitary sewer system.

2. PURPOSE AND NEED

Pursuant to Section 404 of the Robert T. Stafford Disaster Relief and Emergency Assistance Act of 1974, as amended, the City of Storm Lake has requested funding through FEMA Hazard Mitigation Grant Program (HMGP). FEMA's HMGP provides grants to state and local governments to implement long-term hazard mitigation measures after major disaster declarations. The purpose of the HMGP is to reduce the loss of life and property due to natural disasters and to enable mitigation measures to be implemented during the immediate recovery from a disaster.

The City of Storm Lake, in partnership with the Northwest Iowa Planning and Development Commission, initiated a hazard mitigation planning process in September 2008. This process resulted in a FEMA approved Local Hazard Mitigation Plan which was adopted by the City in May 2009. Throughout the planning process, a designated planning committee met eight times, holding public meetings consistent with Iowa's Open Meeting Law. The planning committee identified, evaluated, and prioritized natural and human-related hazards that the City is subject to as well as potential mitigation measures to address such hazards. The 2009 plan identified a preventative measure to conduct a sanitary sewer system study as well as structural projects to replace sewer lines and construct or elevate lift stations to address vulnerabilities to the sanitary system. In May 2010, the City of Storm Lake adopted an additional mitigation objective into the 2009 Local Hazard Mitigation Plan to address damages to the sanitary system resulting from flash flooding.

The City of Storm Lake sanitary sewer system experiences flooding and surcharging during and following significant rainfall events. A review of system performance indicates most rainfall events of 2 inches or more will result in some level of surcharge and flooding. Over the period 1993 through 2008 slightly more than 90 events have been identified that were of a magnitude under which some level of surcharge and flooding is likely to have occurred.

The purpose of this action is to assist the City and the citizens of Storm Lake and Lakeside in their efforts to address hazard mitigation measures using FEMA HMGP funds. These funds would contribute to the construction of improvements to the sanitary collection system and wastewater treatment plant to alleviate flooding and surcharging of the sanitary system which results in untreated sanitary wastewater accumulating in residents' basements.

3. ALTERNATIVES ANALYSIS

NEPA requires the investigation and evaluation of a range of reasonable project alternatives as part of the project environmental review process. Two alternatives are addressed in this EA: the No-action Alternative, where no FEMA grant funding is applied towards construction of sanitary improvements in Storm Lake, and the Proposed Action, where FEMA grant funding is applied towards construction of sanitary improvements in Storm Lake, Iowa. The discussion includes Alternatives Analyzed and Dismissed. Furthermore, during the City’s screening process, numerous criteria were identified in evaluating options.

3.1 No Action Alternative

Inclusion of a No Action Alternative in the environmental analysis and documentation is required under NEPA. The No Action Alternative is defined as maintaining the status quo with no FEMA funding for an alternative action.

The No Action Alternative is used to evaluate the effects of not providing eligible assistance for the project, thus providing a benchmark against which “action alternatives” may be evaluated. For the purposes of this alternative, it is assumed that the City of Storm Lake would not be able to improve the sanitary system to alleviate the basement backup problems. Therefore, no FEMA grant funding would be applied towards sanitary improvements and the city would be unable to provide adequate sanitary service during most 2 inch rainfall events.

As a focused Environmental Assessment, only the No Action Alternative and the Proposed Action will be carried forward for review.

3.2 Proposed Action

This alternative provides FEMA grant funding towards construction of sanitary sewer improvements as shown on Appendix A, Figure 2. Below is a brief description of the proposed project.

1. Installing a new diversion force main and gravity sewer around the west side of Storm Lake, and connecting it to the wastewater treatment plant;
2. Retrofitting two lift stations and constructing five new lift stations to pump against the head in the diversion line;
3. Relocating grit screening equipment from the current main lift station (Memorial Street Lift Station) to the wastewater treatment plant;
4. Replacing the intrachannel clarifiers with two traditional clarifiers (clarifiers) precipitate out the clay particles, then collect and remove them;

5. Expanding the lagoon cell to handle peak flow events. The project would install approximately 13,675 linear feet of gravity sewer and 35,125 linear feet of force main. The disturbance width would be approximately 25 feet to 40 feet. The project involves several new footprints (approximately 30 percent of the project area) related to the placement of the new sanitary sewer lines and expansion of the lagoon; and
6. Provide a backup generator to operate the wastewater treatment facility during power outages.

3.3 Alternatives Considered and Dismissed

An April 2010 Sanitary Sewer Engineering feasibility study was completed by Veenstra & Kimm, Inc. (V&K). In the V&K report a total of five alternatives were identified to address the flooding and surcharging problems within the Storm Lake sanitary sewer system. The alternatives included a Do Nothing Alternative and four alternatives to improve the sanitary sewer system. Each of the four alternatives to improve the sanitary sewer system were developed and evaluated to address the four key areas of concern. These areas are:

- Lack of capacity in the Memorial Lift Station
- Lack of capacity in the 13th Street Lift Station
- Lack of capacity in the Inlet and Emerald Park Lift Station
- Impact of the Memorial Lift Station on Lakeside

The five alternatives considered are:

- Alternative 1 - Do Nothing
- Alternative 2 - New Conveyance to West and South
- Alternative 3 - New Conveyance to East and South
- Alternative 4 - Upgrade Existing System
- Alternative 5 - System Rehabilitation

Below is a short description of each alternative that was screened:

Alternative 1 - Do Nothing

Under Alternative 1 the City would make no capital improvements to the sanitary sewer system. This alternative has no identified or operational cost.

Under this alternative the City of Storm Lake would continue to experience flooding and surcharging in major areas of the sanitary sewer system during and following significant rainfall events.

Alternative 2 - New Conveyance to West and South

Alternative 2 is for a new 13th Street Lift Station with the flow being conveyed through a new sewer system around the west and south sides of the lake. The total length of the system between the existing 13th Street Lift Station and the wastewater treatment plant is slightly more than 46,000 feet, or approximately 8.75 miles.

The analysis of the concept of a force main extending to the wastewater treatment plant indicated the alternative would require multiple lift stations. The analysis indicated it is not possible to pump the flow the entire 46,000 feet while maintaining a suitable operating condition. With a single lift station it is not possible to size a force main that provides adequate velocity to move the wastewater in the force main without resulting in a total pumping head greater than can be accommodated with normal wastewater pumps.

Alternative 2 is based on the concept of a replacement 13th Street Lift Station and two additional lift stations. The replacement lift station for the 13th Street Lift Station would be located southwesterly of the existing station. The replacement lift station for the 13th Street Lift Station is identified on Appendix A, Figure 2 as Lift Station 2-1. A new approximately 16-inch force main from the new station would convey the flow westerly. A gravity sewer would continue south to the second lift station located near the water treatment plant. This lift station is identified on Appendix A, Figure 2 as Lift Station 2-2.

The force main from the second lift station would continue southerly along the west side of the lake. The force main would discharge near the Northern part of Casino Beach area. Another lift station (2-2A) will be required to discharge the flow near high ground east of the airport.

From the discharge of the third lift station force main, a gravity sewer would continue east to a lift station located in a low area south of the lake. This fourth lift station would be used to pump the flow directly to the wastewater treatment plant. This lift station is identified on Appendix A, Figure 2 as Lift Station 2-3.

The Inlet Lift station would be replaced with a new lift station. This lift station is identified on Appendix A, Figure 2 as Lift Station 2-4. The new lift station would have an increased capacity and be designed to pump against the large force main to be constructed along the west side of the lake. The Emerald Park Lift Station would be reconstructed and the force main connected to the new force main. The reconstruction of the lift station would be designed to increase the capacity of the lift station and to provide pumps that can operate against the head in the new force main.

With Alternative 2 all of the flow from the 13th Street Lift Station would be removed from the Memorial Lift Station. This diversion of flow provides additional capacity in the Memorial Lift Station. With the rerouting of the 13th Street Lift Station the Memorial Lift Station should have adequate capacity to

accommodate current and anticipated flow. Alternative 2 includes minor modifications to the Memorial Lift Station. In addition, a new standby power system will be installed. The new unit will operate in parallel with the existing unit and allow operation of all of the large pumps in the event of a power failure.

Alternative 2 would route the 13th Street Lift Station flow around the Memorial Lift Station. At the present time the grit and screening removal for the collection system is located at the Memorial Lift Station.

The preferable approach would be a grit and screening facility at the wastewater treatment plant. Personnel are located at the wastewater treatment plant and can operate and maintain a grit and screening facility as part of the integrated treatment plant operation. Alternative 2 proposes a new grit and screening facility located at the wastewater treatment plant.

Alternative 3 - New Conveyance to East and South

Alternative 3 involves a new 13th Street Lift Station. Under Alternative 3 the flow from the 13th Street Lift Station would be pumped to the wastewater treatment plant. The major flow conveyance under Alternative 3 is along the easterly side of the lake.

The total distance from the 13th Street Lift Station to the wastewater treatment plant is approximately 28,500 feet. The analysis of the system hydraulics with the alignment under Alternative 3 indicated it is not practical to design a single lift station to pump the entire distance from the 13th Street Lift Station to the wastewater treatment plant.

Alternative 3 utilizes the concept of an intermediate gravity sewer and a second lift station. The flow from the 13th Street Lift Station would be pumped easterly to discharge to a trunk sewer. The trunk sewer would flow easterly and southerly to a new lift station.

The new lift station would pump the flow southerly through a new force main extending to the wastewater treatment plant. The southern part of the force main would generally follow the alignment of the Memorial Lift Station force main.

Alternative 3 reduces the flow to the Memorial Lift Station. From a functional perspective, Alternative 3 is similar to Alternative 2.

Alternative 4 - Upgrade Existing System

Alternative 4 addresses the capacity shortage in the collection system by addressing the 13th Street Lift Station and the Memorial Lift Station. Under Alternative 4 a new 13th Street Lift Station would be constructed. The flow from the 13th Street Lift Station would be conveyed through a force main to a point near the Memorial Lift Station.

Under Alternative 4 the existing Memorial Lift Station would be replaced with a new lift station. The existing Memorial Lift Station is identified on Appendix A, Figure 2. This lift station is referred to as the New Memorial Lift Station. The new lift station would use submersible pumps, rather than the dry pit pumps in the existing lift station.

Under Alternative 4 the grit and screening function at the Memorial Lift Station would be relocated to the new facility at the wastewater treatment plant. The lagoon expansion at the wastewater treatment plant would accommodate the additional flow.

Alternative 5 - System Rehabilitation

Under Alternative 5 the surcharging and flooding problems in the sanitary sewer system would be addressed by an extensive sewer rehabilitation program designed to significantly reduce the extraneous flow level into the sanitary sewer system.

With the high groundwater conditions present in the City of Storm Lake, a sewer rehabilitation program to effectively reduce extraneous flow would need to encompass all elements of the sanitary sewer system that are potential sources of extraneous flow. These elements include the public sanitary sewers, private sewer service lines and residential and non-residential buildings with basement level facilities extending below the groundwater.

A sewer rehabilitation program for the public sanitary sewer system would involve lining the sanitary sewers. Due to the widespread nature of the extraneous flow in the sanitary sewer system, the sewer system rehabilitation would require lining of all of the sanitary sewers and leak-proofing the manholes in the sanitary sewer system.

Engineering and Cost Evaluation of Alternatives Screened for Consideration

A summary of the estimated cost for the five alternatives evaluated to address the surcharging and flooding of the Storm Lake sanitary sewer system is as follows:

Alternative 1 - Do Nothing	\$ 0
Alternative 2 - New Conveyance to West and South	\$16,825,000
Alternative 3 - New Conveyance to East and South	\$17,478,000
Alternative 4 - Upgrade Existing System	\$21,146,000
Alternative 5 - System Rehabilitation	\$17,825,000

The least costly alternative is Alternative 1 - Do Nothing. However, Alternative 1 does not address the problems currently experienced in the sanitary sewer system. Each of the four major issues would remain if the City selected Alternative 1.

Alternative 1 is not considered a long term alternative. Alternative 1 does not address any of the five objectives identified to remediate the flooding problem in the sewer system. With Alternative 1 the flooding would remain essentially unchanged from its current condition.

Alternative 5 is considered a marginally effective alternative. The rehabilitation alternative can be a very viable method of partial reduction of flow. Generally up to a 50% reduction in flow can be achieved through a comprehensive rehabilitation program. Achieving flow reduction greater than 50% is problematic. The level of flow reduction in some portions of the City of Storm Lake would need to exceed 50% under peak conditions.

Alternative 5 was not considered for the final selection as a result of cost and effectiveness factors.

Alternative 2, Alternative 3 and Alternative 4 are considered comparable alternatives. Each of the three alternatives will address the four objectives identified as necessary to solve the problems within the sanitary sewer system.

From an operational cost perspective it does not appear there is a significant difference between the three alternatives. There are five existing lift stations that are affected by the various alternatives.

Under Alternative 2 the five existing lift stations are replaced or modified, and five new lift stations will be constructed. There will be a small increase in total operating costs as the result of the additional pumping of the flow routed around the west side of the lake. This additional operating cost is not large enough to offset the capital cost difference with the other alternatives.

Alternative 3 results in no change in the total number of lift stations. One new lift station is added on the east side of the City. Two lift stations on the west side of the City are replaced with a single lift station. The current operating cost will increase slightly as a result of the need to pump the 13th Street flow one additional time.

Alternative 4 results in the reduction of the number of lift stations by one. Under Alternative 4 the two lift stations on the west side of the lake are replaced with a single lift station. The cost savings from operating one lift station fewer is not large enough to offset the capital cost difference between Alternative 4 and Alternative 2.

Based on a comparison of the alternatives, Alternative 2 is selected as the preferred alternative. Alternative 2 is the least costly of the four alternatives that achieve the objectives of providing additional capacity to accommodate the existing flow levels in the sanitary sewer system.

4. SUMMARY OF IMPACTS AND MITIGATION

Two alternatives were evaluated in this EA:

- No-action Alternative
- Proposed Action

Table 4-1 summarizes the potential environmental impacts expected with each of the two alternatives. Additional information is located in Section 5.

As shown in table 4-1, the No-action Alternative could result in no environmental impacts on the environment.

As shown in table 4-1, the selection of Proposed Action would result in minor environmental impacts from the temporary increase in noise and the production of fugitive dust during construction.

Table 4-1: Summary of Impacts and Mitigation

Environmental Resource	No-action	Proposed Action
Air Quality	No impact	No significant impact: Fugitive dust would result from all construction activities; the project would be of relatively short duration; best management practices (BMP) would be implemented
Biological Resources/Threatened and/or Endangered Species	No impact	No significant impact: The project is located within the designated Critical Habitat area for the Topeka shiner. Avoidance and minimization efforts will include avoiding direct disturbance of the streams by direction boring or other construction techniques. If avoidance and minimization efforts cannot be realized, suitable mitigation will be developed during the permitting process
Executive Order 11990/Wetlands	No impact	Potential impact of up to 2.23 acres of primarily Palustrine Emergent wetland; avoidance may be obtained through boring or modification of alignments. Best management practices (BMP) would be used to protect wetlands during construction. If required, a Section 404 permit from the U.S. Army Corps of Engineers (USACE) would be obtained including any necessary mitigation
Executive Order 11988/Floodplain Mgmt	No impact	No significant impact: Project will have no long-term adverse effects to the floodplain. Use of BMP for erosion and sediment control is required

Cultural Resources	No impact	No impact: A Phase I archaeological survey was conducted for the proposed improvements. The total area examined for this project includes 56.1 acres. Because no property currently listed on or eligible for listing on the National Register of Historic Places will be affected by the construction associated with upgrades to the City of Storm Lake's sewer system and wastewater treatment facility, it is recommended that no additional archaeological investigations or cultural resources stipulations are required for this project
Geology and Soils	No impact	No significant impacts: Construction activities would clear existing vegetation and expose soil in the proposed construction area. Site restoration will include re-vegetating
Radon	No impact	No significant impact: Best management practices (BMP) will be utilized to minimize the potential for radon gas to migrate from the construction site
Land Use and Planning	No impact	Land required for the Proposed Action would involve property already owned by the City of Storm Lake and Buena Vista County. Additional land for permanent and temporary easements may be required for lift station #2-2. Property acquisition and easement negotiations and property and easement acquisition activities will follow 49 CFR 24
Hazardous Substances	No impact	No significant impact: In the event that a hazardous substance is discovered during construction activities, the Iowa Department of Natural Resources (IDNR) should be contacted at Field Office #3 (712) 262-4177. Work within the sensitive area should not resume until IDNR personnel indicates no further assessment is needed of the discovery
Noise	No impact	No significant impact: Construction activities would increase the noise levels in the immediate area of the construction project; activities are assumed to take place during daylight hours and no sensitive noise receptors are located near the project area
Executive Order 12898, Environmental Justice	No impact	No impact: Implementation of this alternative would have little likelihood of having disproportionate impacts on any low-income or minority groups
Transportation	No impact	No significant impact: Flagmen and possibly escort vehicles could be utilized for short periods; construction of the Storm Lake Sanitary Improvements could temporarily disrupt local traffic within the project area
Water Quality/Water Resources	No impact	Minimal impact: The proposed improvements are located in an area that has little or no flood issues. Minimization efforts will be included in project plans and specifications. Minimization efforts will include boring under creek crossings.

Cumulative Impacts	No impact	No significant impact: If the Storm Lake sanitary sewer system improvements are not constructed, the quality of life and safety for the residents of the Storm Lake area will be negatively impacted. This action planned by the City of Storm Lake would not pose a significant cumulative impact from the Proposed Action Alternative or impact the City of Storm Lake and surrounding area. While some wetlands may be impacted, due to the scope of work no loss of any sensitive species is expected that would contribute a measurable amount to the cumulative effects. If wetlands are impacted, they can be mitigated through the permitting process.
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5. AFFECTED ENVIRONMENT AND IMPACTS

Chapter 5 describes the existing environmental conditions that may be affected by the proposed FEMA grant funding being applied towards construction of sanitary sewer system improvements for the City of Storm Lake, located in Buena Vista County, Iowa. The environmental impacts of the No-action alternative were also analyzed.

This chapter also describes the potential environmental consequences of the proposed alternative by comparing it with the potentially affected environmental components. Proposed activities were also evaluated against existing environmental documentation on current and planned actions and information on anticipated future projects to determine the potential for cumulative impacts. The potential for significant environmental consequences was evaluated utilizing the context and intensity considerations as defined in CEQ regulations for implementing the procedural provisions of NEPA (40 CFR Part 1508.27).

5.1 Air Quality

The 1990 Clean Air Act, its amendments, and NEPA require that air quality impacts be addressed in the preparation of environmental documents. The U.S. Environmental Protection Agency (EPA) established National Ambient Air Quality Standards (NAAQS) for six “criteria” pollutants; carbon monoxide (CO), nitrogen dioxide (NO₂), ozone (O₃), particulate matter (PM₁₀ and PM_{2.5}), sulfur dioxide and lead, and define the allowable concentrations that may be reached but not exceeded in a given time period to protect human health (primary standard) and welfare (secondary standard) with a reasonable margin of safety.

Primary and secondary standards for NAAQS have been established for most of the criteria pollutants. The EPA is authorized to designate those locations that have not met the NAAQS as non-attainment and to classify these non-attainment areas according to their degree of severity. Attainment pertains to the compliance/violation of any of the NAAQS for the six criteria pollutants mentioned above. Each year, states are required to submit an annual monitoring network plan to EPA. The network plans provide for the creation and maintenance of monitoring stations, in accordance with EPA monitoring requirements specified in 40 CFR Part 58. The State of Iowa’s most recent Monitoring Network Plan was approved by EPA Region 7 in December 2010.

The nearest Air Quality Monitoring System is located in Emmetsburg, approximately 30 miles away. Buena Vista County is considered an attainment area for all criteria pollutants listed above. Air quality in the project and the surrounding area currently complies with Federal and State air quality standards as indicated by the entire state of Iowa being within an Air Quality Attainment Area.

5.1.1 No Action

The No-action Alternative would not affect air quality. No construction activities would occur with the selection of the No-action Alternative.

5.1.2 Proposed Action

Under this alternative, the Proposed Action would require the excavation of soil for the construction of the storm water mitigation project, thereby short-term emissions of criteria pollutants would occur during the construction phase. Construction equipment and personal vehicles would generate exhaust emissions, including NO₂ and CO; the operation of motor vehicles on unpaved surfaces and the use of earthmoving equipment may also generate particulate matter. The moving and handling of soil during construction would increase the potential for emissions of fugitive dust; however, any deterioration of air quality would be a localized, short-term condition that would be discontinued when the project has been completed and disturbed soils have been stabilized or permanently covered.

The proposed action would require approximately eighteen (18) months of construction and heavy equipment including; bulldozers, scrapers, and backhoes. Construction activities would be required to minimize fugitive dust emissions through watering, controlling entrainment of dust by vehicles, and/or other measures to reduce the disturbance of particulate matter. Increases in ambient concentrations of the criteria pollutants resulting from heavy equipment would be minimal and Federal or State air quality attainment levels would not be exceeded. The proposed action is expected to have no long-term adverse impacts on the air quality of the area.

Mitigation

- Construction activities would be required to minimize fugitive dust emissions through watering, controlling entrainment of dust by vehicles, and/or other measures to reduce the disturbance of particulate matter.
- During site preparation and construction, the contractor would:
 - Minimize land disturbance;
 - Suppress dust on traveled paths that are not paved through wetting, use of watering trucks, chemical dust suppressants, or other reasonable precautions to prevent dust from entering ambient air;
 - Cover trucks when hauling soil;
 - Minimize soil track-out by washing or cleaning truck wheels before leaving the construction site;
 - Stabilize the surface of soil piles; and
 - Create wind breaks.
- During site restoration, the contractor would:
 - Revegetate any disturbed land not used with native species in accordance with Executive Order (EO) 13112
 - Remove unused material, and
 - Remove soil piles via covered trucks.

5.2 Biological Resources

Native or naturalized vegetation, wildlife, and the habitats in which they occur are collectively referred to as biological resources. Existing information on plant and animal species and habitat types in the vicinity of the proposed site was reviewed with special emphasis on the presence of any species listed as threatened or endangered by Federal or State agencies to assess their sensitivity to the effects of the alternatives.

Biological studies consisting of literature review, field reconnaissance, agency consultation, and map documentation were performed. For the purpose of discussion, biological resources have been divided into the areas of protected species and habitats.

5.2.1 Protected Species and Habitat

The Endangered Species Act (ESA) of 1973 establishes a Federal program to conserve, protect, and restore threatened or endangered plants and animals and their habitats. ESA specifically charges Federal agencies with the responsibility of using their authority to conserve threatened or endangered species.

All Federal agencies must ensure any action they authorize, fund, or carry out is not likely to jeopardize the continued existence of an endangered or threatened species or result in the destruction of critical habitat for these species. During the field survey of May, 2011, the following list and description of threatened or endangered species that may occur in Buena Vista County was produced. See Appendix B for the Wetlands Investigation and Threatened and Endangered Species Investigation.

Table 5-1: Federally Protected Species of Buena Vista County, Iowa

Common Name	Scientific Name	Status	Potential Occurrence at Site	Reason
Western prairie fringed orchid	Platanthera praeclara	Threatened	No	No habitat
Prairie bush clover	Lespedeza leptostachya	Threatened	No	No habitat
Topeka shiner	Notropis topeka	Threatened	Yes	Habitat available

5.2.2 No Action

The No-action Alternative would not impact vegetation or wildlife in the project area. No construction activities would occur with the selection of the No-action Alternative.

5.2.3 Proposed Action

Lists were reviewed from both U.S. Fish and Wildlife Service (USFWS) and the Iowa Department of Natural Resources (IDNR) for threatened and endangered species with potential to occur in the proposed project area. No potentially supporting habitats exist within the project area for Western prairie fringed orchid and Prairie bush clover. The project is located in a county identified by the USFWS as part of the Topeka shiner habitat range (Appendix B, Figure 5).

FEMA has reviewed the Iowa Fish Atlas predicted distribution of the Topeka shiner developed from the 2004 Iowa GAP Analysis and FEMA's Threatened and Endangered Species GIS database. The project is not located in a watershed delineated at the sub-watershed (HUC 12) level where the Topeka shiner is likely to be found. However sub-watersheds identified as potential Topeka shiner habitat through the predictive models are located downstream from the project area. Likewise, a portion of the North Raccoon River identified as federally-designated Topeka shiner habitat is also located downstream. Avoidance and minimization methods will be required as project conditions by FEMA including sediment and erosion control and construction Best Management Practices (BMP). If avoidance and minimization efforts cannot be realized, suitable mitigation will be developed during the permitting process.

In the event that Federal threatened or endangered species are encountered in the project area, the FEMA Regional Environmental Officer shall pursue further Section 7 ESA consultation with the USFWS. The construction of the proposed sanitary sewer system improvements for the City of Storm Lake has been determined to have "no significant impact" on threatened and endangered species.

5.3 Cultural Resources

In addition to review under NEPA, consideration of impacts to cultural resources is mandated under Section 106 of the National Historic Preservation Act (NHPA), as amended and implemented by 36 CFR Part 800. Requirements include the identification of significant cultural resources that may be impacted by the undertaking. Cultural resources are those buildings, structures, objects, districts, or sites, including archaeological sites that are listed in or determined eligible for listing in the National Register of Historic Places (NRHP).

Only those cultural resources determined to be potentially significant under NHPA are subject to protection from adverse impacts resulting from an undertaking. To be considered significant, a cultural resource must meet one or more of the criteria established by the National Park Service that would make that resource eligible for inclusion in the National Register of Historic Places. The term "eligible for inclusion in the NRHP" includes all properties that meet the NRHP criteria for evaluation, which are specified in the Department of Interior regulations Title 36, Part 60.4 and NRHP Bulletin 15. Sites not yet evaluated may be considered potentially eligible for inclusion in the NRHP and, as such,

are afforded the same regulatory consideration as nominate properties. Whether prehistoric, historic, or traditional, significant cultural resources are referred to as “historic properties.”

For the purposes of this analysis, the term region of influence (ROI) is synonymous with the “area of potential effect” as defined under cultural resources legislation. In general, the ROI for cultural resources at each alternative’s site encompasses areas requiring ground disturbance (e.g. areas of grading, cut and fill, etc) associated with the proposed sanitary sewer system improvements.

5.3.1 Archeological

5.3.1.1 No Action

The No-action Alternative would not impact cultural resources in the project area. No construction activities would occur with the selection of the No-action Alternative.

5.3.1.2 Proposed Action

The Area of Potential Effects (APE) for this undertaking was considered sensitive for the presence of prehistoric archaeological sites. As a result, FEMA required the applicant to undertake an archeological survey of the proposed action. The survey resulted in recording and evaluating a single archaeological site, Site 13BV74. Because Site 13BV74 was found within a disturbed context adjacent to a major transportation and utility corridor and is not likely to produce significant information that would advance our understanding of the region’s prehistory, it is evaluated as not eligible for listing on the NRHP under Criterion D. Despite an intensive effort to relocate Site 13BV8, no evidence of the site was noted within the proposed sewer line corridor as a result of this study. This site, if it still exists, will not be affected by the proposed undertaking. None of the previous cultural resource compliance studies performed within the current project area identified archaeological or other types of cultural resources within the APE. State Historic Preservation Office (SHPO) has been consulted on the results of the survey for concurrence with the determination that no historic properties would be affected by the implementation of the proposed undertaking. See Appendix C for the SHPO concurrence letter dated July 26, 2011.

5.3.2 Historic

5.3.2.1 No Action

The No-action Alternative would have no significant effect on cultural resources within the project area. No construction activities would occur with the selection of the No-action Alternative.

5.3.2.2 Proposed Action

Background research showed that no property currently listed on the NRHP is within the project area and no standing structures or buildings were noted within the study area on various historic documents or orthographic photographs consulted. It is therefore determined that the project will have

no impact on historic properties. See Appendix C for the SHPO concurrence letter dated July 26, 2011.

5.4 Geology and Soils

The topography of the project area in Storm Lake, Iowa is predominantly level to moderately sloping land, primarily in the Sac-Primghar-Galva soil association. Approximately 11,250 acres of the 13,770 acre watershed are currently cropland and are almost all in corn/soybean rotation.

Soils that will be disturbed by this project consist of the Clarion-Nicolette-Canisteo soil association throughout the majority of the project area, and of the Sac-Primghar-Galva association where the corridor runs between Little Storm Lake and Storm Lake. Clarion-Nicolette-Canisteo soil association consists of loams and silty clay loams in nearly level to moderately sloping areas. The native vegetation of this soil association mainly consisted of prairie grasses, but included swamp grasses, sedges, and flood tolerant prairie grasses in poorly drained soils, such as Canisteo and Webster series soils.

Sac-Primghar-Galva soils are found on loess-mantled upland plains and are occasionally bisected by streams and drainage ways. These soils formed from loess of 24 to 40 or more inches deep. They range from well drained Sac and Galva to poorly drained Primghar and Marcus. Native vegetation in these series consisted of prairie grasses in well drained areas with the inclusion of water tolerant prairie grasses and swamp and sedge grasses in less permeable areas.

The Farmland Protection Policy Act (FPPA) was enacted in 1981 (P.L. 98-98) to minimize the unnecessary conversion of farmland to nonagricultural uses as a result of Federal actions. In addition, the Act seeks to ensure that Federal programs are administered in a manner that will be compatible with State and Local policies and programs that have been developed to protect farmland. The policy of the Natural Resources Conservation Service (NRCS) is to protect significant agricultural lands from conversions that are irreversible and that result in the loss of essential food and environmental resources. The NRCS has developed criteria for assessing the efforts of Federal actions on converting farmland to other uses, including Farmland Conversion Impact Rating form AD-1066 that documents a site-scoring evaluation process to assess its potential agricultural value.

In accordance with Section 1541 of the FPPA, the alternatives were reviewed for potential impacts on prime farmlands. The Prime Farmland map of Buena Vista County was consulted and indicates that Prime Farmlands are in the immediate vicinity of the Proposed Action. However, proposed projects on land already in urban development or water storage are not subject to FPPA provisions. The proposed project is located within urbanized areas and along existing road rights of way and is not expected to result in the conversion of farmland to other uses.

5.4.1 No Action

The No-action Alternative would have no significant effect on geology or soils. This alternative would not involve any construction, improvements, or ground disturbance to the project area.

5.4.2 Proposed Action

The Proposed Action would have no significant impact to geology and soils. Construction activities would temporarily expose soil in the area proposed for the sanitary sewer system improvements. The majority of the project would include installation of sanitary sewers that would be back-filled after construction. BMP would be implemented during and after construction for sediment and erosion control. Non-structural BMP may utilize the minimization of disturbance, preservation of natural vegetation and re-vegetation of exposed slopes and soils to minimize erosion and to stabilize slopes. Structural erosion controls BMP include the placement of mulch or grass and the covering of stockpiles. Structural sediment control BMP includes silt fencing and sediment traps.

5.5 Land Use and Planning

The current comprehensive plan for the City of Storm Lake, Iowa completed in October, 2000 includes developed land (residential and commercial), street, highway, and agricultural lands. This comprehensive development plan for Storm Lake has two fundamental purposes. The first provides an essential legal basis for land use regulation such as zoning and subdivision control. Secondly, a modern comprehensive plan presents a unified and compelling vision for a community, derived from the aspirations of its citizens; and establishes the specific actions necessary to fulfill that vision.

The comprehensive plan identified issues that were considered most important to the citizens of Storm Lake. Infrastructure maintenance and repair along with growth and community development were included as major issues.

5.5.1 No Action

The No-action Alternative would have no significant effect on land use. Future planning for growth and community development would be inhibited without the project. This alternative would not involve any construction, improvements, or ground disturbance to the project.

5.5.2 Proposed Action

Land required for the Proposed Action would primarily involve property already owned by the City of Storm Lake and Buena Vista County. Additional lands required will include vacant property and not subject to any displacements. The project will allow future growth and community development per the comprehensive plan for Storm Lake.

5.6 Hazardous Substances

Hazardous wastes, as defined by the Resource Conservation and Recovery Act (RCRA), are defined as “a solid waste, or combination of solid wastes, which because of its quantity, concentration, or physical, chemical, or infectious characteristics may; (1) cause, or significantly contribute to, an increase in mortality or an increase in serious irreversible or incapacitating reversible illness or; (2) pose a substantial present or potential hazard to human health or the environment when improperly treated, stored, transported or disposed of or otherwise managed.”

Hazardous materials and wastes are regulated in Iowa by a combination of Federal and State laws. Federal regulations governing the assessment and disposal of hazardous wastes include RCRA, the RCRA Hazardous and Solid Waste Amendments, Comprehensive Environmental Response, Compensation and Liability Act (CERCLA), Solid Waste Act, and Toxic Substances Control Act.

5.6.1 No Action

The No-action Alternative would have no significant effect on unidentified hazardous substances. This alternative would not involve any construction, improvements, or ground disturbance to the project.

5.6.2 Proposed Action

In the event that a hazardous substance is discovered during construction activities, the IDNR should be contacted at Field Office #3 (712) 262-4177. Work within the sensitive area should not resume until IDNR personnel indicates no further assessment is needed of the discovery.

5.7 Noise

The Noise Control Act was enacted in 1972 (P.L. 92-574). EPA does not have regulatory authority governing noise in local communities. In 1982, the EPA shifted federal noise control policy and transferred the primary responsibility of regulating noise to State and Local governments. The Noise Control Act of 1972 and the Quiet Communities Act of 1978, however, were not rescinded by Congress and remain in effect. Inadequately controlled noise presents a growing danger to the health and welfare of the nation’s population. The major sources of noise include transportation vehicles and equipment, machinery, appliances, other products in commerce, climate, and recreation. Sounds, which disrupt normal activities or otherwise diminish the quality of the environment, are designated as noise. Noise can be stationary or transient, intermittent or continuous. Noise is considered unwanted sound and is typically measured in decibels (dB). The day-night average sound level (Ldn) is the 24-hour average sound level, in dB, obtained after the addition of 10 dB to the sound levels occurring between 10 p.m. and 7 a.m. and is used by agencies for estimating sound impacts and establishing guidelines for compatible land uses.

The U.S. Department of Housing and Urban Development (HUD) regulations set acceptable noise levels at 65 Ldn or less (24 CFR Part 51, Subpart B). Typical residential construction codes require a minimum exterior to interior insertion loss, or noise reduction, of 20 dBA. The EPA identifies a 24-hour exposure level of 70 decibels (dB) as the level of environmental noise which will prevent any measurable hearing loss over a lifetime. Likewise, levels of 55 dB outdoors and 45 dB indoors are identified as preventing activity interference and annoyance (e.g., spoken conversation, sleeping, working, recreation) (EPA 1981). The levels represent averages of acoustic energy over long periods of time such as 8 hours or 24 hours rather than single events.

5.7.1 No Action

The No-action Alternative would not affect noise levels within the proposed project area or the surrounding community. No construction activities would occur with the selection of the No-action Alternative.

5.7.2 Proposed Action

The Proposed Action would increase the levels of noise in the vicinity of the project area during the construction of the Storm Lake sanitary sewer system improvements. The proposed project would require approximately 18 months of construction including the use of heavy equipment. These noise levels would not be significant, as the increased level of sound would be similar to increased construction activities occurring in the local area. No known sensitive noise receptors are located near the project area. All construction activities are anticipated to occur during daylight hours. Based upon this information, there would be minimal impacts to noise due to the implementation of the Proposed Action.

5.8 Socioeconomic Considerations

On February 11, 1994, President Clinton signed Executive Order 12898, "Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations." The EO directs Federal agencies to focus attention on human health and environmental conditions in minority and/or low-income communities. Its goals are to achieve environmental justice, fostering non-discrimination in Federal programs that substantially affect human health or the environment, and to give minority or low-income communities greater opportunities for public participation in and access to public information on matters relating to human health and the environment. Also identified and addressed, as appropriate are, disproportionately high and adverse human health, or environmental effects of its programs, policies, and activities on minority populations and low-income populations in the United States.

As of the 2010 Census there were 10,600 people living in Storm Lake distributed among 3,536 occupied housing units. The minority population in the city is 31.6% while the white population of the

area is 68.4%. Of the minority population, 13.6% reported more than one race followed by Asian at 9.8% and African American at 6.5%.

The 2000 census shows there were 3,466 households in Storm Lake with an average size of 2.57 residents; 67.8% of the City households reported having children. Median household incomes for the city are \$35,270 with 11.6% of the population below the poverty threshold. Residents with at least one type of disability comprise 6.86% of the city population.

As of the 2000 Census there were 484 people in 211 housing units in the city of Lakeside. The racial makeup of the City was 79.3% white, 20.6% minority. Of the minority population, 9.3% reported as other races followed by Asian at 9.1%.

The City of Lakeside reported 184 households in the 2000 Census. The average household size was 2.3 residents with 36.4% reported as having children. Median household income was \$39,135 with 7.3% of the population below the poverty line.

Table 5-2: Census minority and below poverty level populations.

Jurisdiction	1980	1990	2000	2010
Iowa	2,913,808	2,776,755	2,926,324	3,046,355
Buena Vista County	20,744	19,965	20,411	20,260
City of Storm Lake	8,814	8,769	10,076	10,600
City of Lakeside		522	484	496

5.8.1 No Action

The No-action Alternative would have no impact to the socioeconomics of the local area because no construction activity would occur.

5.8.2 Proposed Action

Activities associated with the implementation of the Proposed Action would be considered a positive impact with an influx of construction workers needed for the approximately 18 months of construction activities. Construction personnel would provide short-term benefits to the local businesses, which would include the purchase of food, gas, and other services. The Proposed Action will also provide residents protection from sanitary backups into basements and associated potential unhealthy problems. The Proposed Action would not displace or adversely affect any nearby residents during

the construction phase beyond temporary impacts. There are no displacements as a result of this project, nor are any neighborhoods divided. Based on the evaluation of the demographic and income characteristics in the study area and the proposed alignment location, the proposed improvements do not have the potential to exert high or disproportionate adverse impacts on minority or low-income populations.

5.9 Transportation

The proposed project is located predominantly in road rights of way extending from the 13th Street Lift Station west and south between Storm Lake and Little Storm Lake then east along C65/630th Street to the waste water treatment plant, southeast of Storm Lake (Appendix A, Figure 1). Construction activities required to complete the project may require traffic obstructions and negative impacts to road level of service resulting from machinery entering and exiting the construction zones.

5.9.1 No Action

The No-action Alternative would have no impact to existing traffic and circulation of the local area because no construction activity would occur.

5.9.2 Proposed Action

The construction of the sanitary sewer system improvements in the proposed area would temporarily disrupt the traffic flow during the 18 month construction period. Local traffic would need to slow down or stop to accommodate equipment, such as bulldozers, backhoes, and graders, used during construction. Flagmen and possibly escort vehicles would be utilized to sustain traffic flow while maintaining safe working and traffic conditions. This activity would have a short-term effect on the level of service for the connecting roads during the construction period. This level of service would, however, be expected to return to normal at the completion of the project.

5.10 Water Resources

The U.S. Army Corps of Engineers (USACE) is responsible for permitting and enforcement functions dealing with building in U.S. waters and discharging dredged or fill material into Waters of the United States. USACE regulations for building or working in navigable waters of the United States are authorized by the Rivers and Harbors Act of 1899. These regulations often go hand in hand with Section 404 of the Clean Water Act, which establishes the USACE permit program for discharging dredged or fill material. The regulations are often used together because building in navigable waters of the United States also constitutes discharging dredged or fill material into Waters of the United States. In addition to regulating construction or work being done in navigable Waters of the United States, USACE regulates discharging into wetlands through the Section 404 permit program.

Additionally, Executive Order (EO) 11990 (Protection of Wetlands) requires federal agencies to avoid, to the extent possible, adverse impact to wetlands. EO 11988 requires the federal government to minimize the occupancy and modification to floodplains. Specifically, EO 11988 prohibits Federal agencies from funding new construction in the 100-year floodplain, or 500-year floodplain for a critical facility (e.g. Hospital, Fire Station), unless there are no practical alternatives.

5.10.1 Wetlands

Wetlands are defined by the USACE as “those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas.” EO 11990, Protection of Wetlands, requires Federal agencies to take action to minimize the destruction or modification of wetlands, by considering both direct and indirect impacts to wetlands that may result from federally funded actions.

Activities disturbing jurisdictional wetlands require a permit from the USACE. Two types of authorization are available from the USACE for activities regulated under Section 404 of the Clean Water Act: general permits, which are issued for a specific category of similar activities and include nationwide permits defined in 33 CFR Part 30, and individual permits issued after review of the project, project alternative, and proposed mitigation.

Consistent with EO 11990, a review of the U.S. Fish and Wildlife Service National Wetlands Inventory Map indicates several areas of mapped wetlands within the vicinity, mainly associated with Storm Lake and Little Storm Lake. A detailed investigation was also completed and a Phase I Investigation Report was completed on June 28, 2011 (Appendix B).

The investigation revealed that four areas within the project study area (assumed 50' corridor) are identified as wetland. All four identified wetland areas appear to be jurisdictional wetlands according to the most recent Clean Water Act guidance. The total wetland area to potentially be impacted by project construction includes 2.23 acres of primarily Palustrine Emergent (PEM) wetland.

Wetland SL1 is approximately 0.45 acres in size and considered Palustrine Emergent and Palustrine Forested (PFO) wetland. The wetland boundaries are identified by changes in vegetation, soils and hydrology. The wetland extends well beyond the study corridor to the west and north.

Wetland SL2 is approximately 1.56 acres in size and considered a PEM wetland (sedge meadow). The wetland extends beyond the study corridor limits to the south and is part of a USDA wetland restoration project.

Wetland SL3 is approximately 0.09 acres in size and considered a PEM wetland (sedge meadow). The wetland is a closed depression adjacent to the lake.

Wetland SL4 is approximately 0.13 acres on size and considered a PEM wetland. The wetland is a remnant oxbow adjacent to Outlet Creek.

In addition to the identified wetland impacts, the project alignment crosses jurisdictional waters of the U.S. (open water and stream crossings) at three locations: the lake inlet, an unnamed stream adjacent to wetland SL3, and Outlet Creek. No other potentially jurisdictional waters are located within the project area.

5.10.1.1 No Action

The No-action Alternative would not affect wetlands. No construction activities would occur with the selection of the No-action Alternative.

5.10.1.2 Proposed Action

The proposed action includes sanitary sewers primarily in existing road right-of-ways. The alignments were selected to avoid wetlands if at all possible. In areas where wetlands could not be avoided due to stream crossings, etc., impacts will be minimized by boring under the creeks such as Outlet Creek. If the wetlands cannot be avoided completely, a Section 404 Permit will be required and a mitigation plan will be developed.

The Contractor should implement specific BMP to reduce or eliminate runoff impacts during proposed construction activities of the Proposed Action at all sites.

5.10.2 Floodplain

Executive Order 11988 (Floodplain Management) requires that a Federal agency avoid direct or indirect support of development within the 100-year floodplain whenever there is a practicable alternative. FEMA uses Flood Insurance Rate Maps (FIRM) to identify the regulatory 100-year floodplain for the National Flood Insurance Program (NFIP). The City of Storm Lake and Buena Vista County, Iowa are not participants in the NFIP. Likewise, there are no known flood maps.

The area of the wastewater treatment plant is not prone to flooding. The nature of buried sanitary sewers and submersible lift stations will not have an impact on the floodplain.

5.10.2.1 No Action

The No-action Alternative would not affect floodplains. No construction activities would occur with the selection of the No-action Alternative.

5.10.2.2 Proposed Action

The Proposed Action will have no significant, long-term adverse effects to any floodplains. Construction should occur during non-flood seasons, but in the event of construction within a flood season all equipment would need to be staged in an area not susceptible to flood events.

5.11 Cumulative Impacts

The CEQ regulations for implementing NEPA require an assessment of cumulative effects during the decision-making process for Federal projects. Cumulative effects are defined as “the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions” (40 CFR Part 1508.7). Cumulative effects are considered for both the No Action and Proposed Action alternatives. Cumulative effects were determined by combining the effects of the alternative with other past, present, and reasonably foreseeable future actions.

The proposed sanitary sewer system improvement project is primarily in a developed area. The great majority of the new sewer will be located in existing city and county right-of-way. There will be some minor loss of agriculture land during construction; however, it will only be during a short construction window. The construction in agriculture areas will be less than two months.

There is a potential for 2.23 acres of wetland impact, however, the applicant can avoid the majority of the impact by boring the sewer line under waterways and creeks. The total impact anticipated after avoidance and minimization efforts will be approximately .13 acres which will be further evaluated, avoided, minimized, or mitigated during the permitting process.

The overall cumulative impact of the sanitary sewer system improvements in addition to the reasonably foreseeable future projects examined in this EA have been evaluated and are not considered collectively significant. The improvement project will significantly benefit the residents of the area by protecting them from wastewater backing into their basements.

5.12 Coordination and Permits

Improvements to the sanitary sewer system would require a building permit from the IDNR and the City of Storm Lake. In the event that archaeological deposits (soils, features, artifacts), or other remnants of human activity are uncovered, or if archaeological deposits are discovered during construction of the project, activities would cease in the immediate area, and the SHPO and the FEMA Regional Environmental Officer would be notified before work would continue (section 5.3.1.2, Cultural Resources). Work in sensitive areas cannot resume until a qualified archaeologist determines the extent of the discovery, consultations between State Historic Society of Iowa (SHSI) and FEMA are complete, and the applicant has been notified by SHSI and FEMA.

In the event that a hazardous substance is discovered during construction activities, the Iowa Department of Natural Resources should be contacted at Field Office #3 (712) 262-4177. Work within the sensitive area should not resume until IDNR personnel indicates no further assessment is needed of the discovery.

Agency coordination and/or permits may be required before implementation of the Proposed Action Alternative. The City of Storm Lake is required to obtain and comply with all required local, state, and federal permits, and if applicable, a USCAC Section 404 permit for fill of wetlands. Development at the Proposed Action Alternative site shall comply with the approved design plans. Any expansion or alteration of this use beyond that initially approved would require a new or amended permit. A general NPDES permit would need to be obtained from the IDNR because more than 1 acre of ground will be disturbed. A Storm Water Pollution Prevention Plan (SWPPP) may be required as part of the NPDES permit process.

6. CONCLUSION

The draft EA evaluated potentially significant resources that could be affected. The evaluation resulted in identification of no significant impacts associated with the resources of climate, historic, cultural, geology and soils; floodplains; wetlands and water resources; vegetation; biological resources (endangered species act); and socioeconomic and environmental justice. Obtaining and implementing permit requirements along with appropriate BMP will avoid or minimize any effects associated with the action. Should no significant impacts be identified during the public comment period, it is recommended that a Finding of No Significant Impact (FONSI) to the human or natural environment be issued for the Proposed Action Alternative.

7. PARTIES CONSULTED AND REFERENCES

7.1 Parties Consulted

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7.2 References

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