

Draft Environmental Assessment  
**Cedar Rapids Public Works Facility**  
City of Cedar Rapids, Iowa  
FEMA 1763- DR-IA

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**FEMA**

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## Abbreviations and Acronyms

ACM	Asbestos Containing Material
APE	Area of Potential Effect
BMP	Best Management Practices
CAA	Clean Air Act
CEQ	Council on Environmental Quality
CFR	Code of Federal Regulations
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act
dB	Decibels
EA	Environmental Assessment
EHP	Environmental Planning and Historic Preservation
EIS	Environmental Impact Statement
EO	Executive Order
EPA	Environmental Protection Agency
ESA	Endangered Species Act
ESA	Environmental Site Assessment
FEMA	Federal Emergency Management Agency
FIRM	Flood Insurance Rate Map
FONSI	Finding of No Significant Impact
FPPA	Farmland Protection Policy Act
GHG	Greenhouse Gases
HMGP	Hazard Mitigation Grant Program
HPC	Historic Preservation Commission
HUD	U.S. Department of Housing and Urban Development
IHSEMD	Iowa Homeland Security and Emergency Management Division
IDNR	Iowa Department of Natural Resources
LTRC	Long-Term Recovery Committee
LUST	Leaking Underground Storage Tank
MPO	Metropolitan Planning Organization
NAAQS	National Ambient Air Quality Standards
NEPA	National Environmental Policy Act
NESHAP	National Emission Standards for Hazardous Air Pollutants
NFIP	National Flood Insurance Program
NHPA	National Historic Preservation Act
NPDES	National Pollutant Discharge Elimination System
NRCS	Natural Resources Conservation Service
NRHP	National Register of Historic Places
OSA	Office of the State Archaeologist
RCRA	Resource Conservation and Recovery Act
RIO	Rebuild Iowa Office
sf	Square Feet
SHPO	State Historic Preservation Office

## Abbreviations and Acronyms continued

SHSI	State Historic Society of Iowa
SWPPP	Storm Water Pollution Prevention Plan
TEH	Total Extractable Hydrocarbons
USACE	U.S. Army Corps of Engineers
USDA	U.S. Department of Agriculture
UST	Underground Storage Tank
USFWS	U.S. Fish and Wildlife Service
VMT	Vehicle Miles Traveled

# 1. INTRODUCTION

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Cedar Rapids is the second largest city in the State of Iowa and is the county seat of Linn County. The City spans both banks of the Cedar River with municipal facilities on May's Island within the river and multiple other locations throughout the City. Between June 11 and June 13 2008, the Public Works Facility at 1201 6<sup>th</sup> Street SW experienced damage from the flooding of the Cedar River and its tributaries along with large portions of Cedar Rapids and the surrounding area. The Public Works Department has operated multiple functions out of locations other than the Public Works Facility prior to the disaster. On May 27, 2008, President Bush declared a major disaster in the State of Iowa (1763- DR-IA) pursuant to the Robert T. Stafford Disaster Relief and Emergency Assistance Act, as amended, 42 U.S.C. Section 5121-5206. The incident period began on May 25, 2008 and closed August 13, 2008. The Public Works Facility and associated functions serve Cedar Rapids with a 2010 Decennial Census population of 126,326.

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 Cedar Rapids' identified options for the restoration of the Public Works Facility and associated department functions.

In August 2008, FEMA approved a preliminary project scope of work to repair the Public Works Facility with the understanding that additional details and potential hazard mitigation proposals would be forthcoming. The City presented a detailed repair scope of work to FEMA through Iowa Homeland Security and Emergency Management Division (IHSEMD) the following summer which FEMA approved in October 2009. FEMA denied a version to the scope of work in July 2011 for hazard mitigation measures that would elevate electrical substations, boilers, air handling units, and other components above the flood of record as the City submitted an improved project proposal which would not be eligible for hazard mitigation under FEMA policy. This EA evaluates the proposed scope of work for the improved project submitted in July 2011 and the identified alternatives detailed in Section 3.

The Public Works Building flooded at approximately 3 to 4 feet above the finished floor height and had its basement completely flooded. Areas housing electrical substations, chillers, boilers, and other mechanical equipment flooded at approximately 2 to 3 feet above the finished floor height. The Public Works Facility currently consists of the main Public Works Building (257,000 sf), two sheds (8,500 and 5,700 sf), salt dome (7,900 sf), fuel canopy and underground storage tanks (8,800 sf), and above ground oil tanks (2,900 sf).

Other Public Works department facilities considered in this EA includes the Forestry Complex, Solid Waste Building, Sokol Park Maintenance - A Street Shop, and the Fleet Services Maintenance Garage. The Forestry Complex located at 22<sup>nd</sup> Avenue SW and A Street SW is within the 100-year floodplain and was substantially damaged having been flooded to an approximate height of 14 feet. FEMA determined the facility eligible for complete replacement based on the amount of damage the facility experienced. The Sokol Park Maintenance - A Street Shop building is located between A Street SW and the Cedar River within the regulatory floodway and was inundated with 13 feet of flood water. FEMA determined the structure eligible for complete replacement based on the amount of damage the building experienced. The Fleet Services Maintenance Garage is located on the Central Fire Station block at the intersection of 4<sup>th</sup> Street NW and A Avenue NW. Under the April 2010 revised floodplain maps, the Fleet Services Maintenance Garage is located within the 100-year floodplain, previously classified as being within the 500-year floodplain. During the 2008 flood, the Fleet Services Maintenance Garage was submerged under more than 9 feet of flood water and was determined by FEMA to be eligible for repair funding. The Solid Waste Building is located at the north end of the Public Works site consisting of one 55,625 sf building that was flooded to approximately 5 feet throughout and was determined by FEMA to be eligible for repair funding; the Public Works site is located outside of the 100-year and 500-year floodplains.

## 2. PURPOSE AND NEED

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Pursuant to Section 406 of the Robert T. Stafford Disaster Relief and Emergency Assistance Act of 1974 (42 U.S.C. 5172), as amended, the City of Cedar Rapids has requested funding through FEMA Public Assistance Program. FEMA's Public Assistance Program provides supplemental Federal disaster grant assistance to State, Tribal, and local governments, and certain types of Private Nonprofit organizations so that communities can respond to and recover from major disasters or emergencies. The Public Assistance Program also has rules whereby eligible applicants may choose to use eligible, though capped, recovery funds for alternate or improved projects that may be more beneficial to the applicant than what existed prior to the disaster event.

The need for the proposed project and the following evaluated alternatives is to restore the City's Public Works department operations to, at a minimum, their pre-disaster levels. Since the floods of 2008, Cedar Rapids has operated numerous functions partially out of temporary facilities and partially out of mucked-out structures. The Public Works Department has used the cleaned and mucked-out Public Works Facility for limited purposes, but has not yet restored the building. Portions of the Public Works Department have been operating out of the Fleck Building and other temporary locations with damaged buildings mucked-out and used for cold storage or vacant since the disaster. This EA is intended to document the City's decision-making process and evaluate City and FEMA defined alternatives in the City's desire to consolidate functions at the Public Works Facility at 1201 6<sup>th</sup> Street SW.

### 3. ALTERNATIVES ANALYSIS

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NEPA requires the investigation and evaluation of reasonable project alternatives as part of the project's environmental review process. Executive Order (EO) 11988 Floodplain Management requires the investigation of practicable alternatives prior to Federal agencies taking actions that provide direct or indirect support of floodplain development. Inclusion of a No Action Alternative in the environmental analysis and documentation is required under NEPA and EO 11988. 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. The development of the initial set of alternatives for the Public Works Department emerged through the City's various planning processes since the disaster.

Prior to the 2008 flood, the City had selected the planning firm Sasaki to prepare a *Riverfront Park Master Plan*. Following the flood, the City requested that Sasaki expand its scope to explore flood recovery options as well, primarily for neighborhoods affected by the flood. The Public Works Building, the Solid Waste Building, and the Fleet Services Building are located within the areas primarily identified for reinvestment by the Sasaki *Framework Plan for Reinvestment and Recovery (Framework Plan)* and also in the *Neighborhood Action Plan*. However these facilities are not identified as targeted for specific types of reinvestment or uses. The Sokol Park Maintenance - A Street Shop and Forestry Complex are located in areas identified as targeted for future greenway on the river side of one conceptual levee alignment. The process for developing the *Framework Plan* began on June 17, 2008 leading up to City Council adoption on November 12, 2008 which included three public open houses.<sup>1</sup>

The *Neighborhood Action Plan* initiated with a kick-off meeting in January 2009 and proceeded with three workshops and four area meetings through May 5, 2009.<sup>2</sup> The *Neighborhood Action Plan* was unanimously adopted by the City Council on May 13, 2009 and unveiled to the public online on June 15, 2009. Following the adoption of the plan, additional open houses were held as part of an action plan with a Public Facilities and Parks and Recreation process consisting of events taking place between June 23, 2009 and October 6, 2009. During these open houses, Public Works was discussed along with other City facilities.

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<sup>1</sup> Open House 1: Analysis (July 29, 2008), Open House 2: Flood Management Options (September 11, 2008), and Open House 3: Framework for Reinvestment and Revitalization (October 16, 2008)

<sup>2</sup> Kick-off meeting: Community Goals (January 10, 2009), Workshop 1: Elements of a Great Neighborhood (January 31, 2009), Area Meeting 1: Assets and Opportunities (February 10, 2009), Area Meeting 2: Confirmation of Opportunities (February 24, 2009), Workshop 2: Reinvestment Scenarios (March 21, 2009), Area Meeting 3: Refined Area-Specific Scenarios (March 31, 2009), Workshop 3: Preferred Plan and Urban Design Principles (April 25, 2009), and Area Meeting 4: Initiatives and Action Items (May 5, 2009).

In the City's *Buildings and Facilities Master Plan* prepared by the consultant CDM, the City established a triple bottom line approach for repair or replacement considerations for public facilities. This approach consists of multiple criteria distributed among anticipated economic, environmental, and social impacts and ranked by the level of positive or negative effects by building or site elements. Following the *CDM Master Plan*, the City retained OPN Architects, Inc to facilitate another public process to consider options for individual buildings.

Three open houses facilitated by OPN for the development of the *Cedar Rapids Community Facilities Final Report (OPN Report)* for community input on proposals for multiple City facilities were held from June 23, 2009 through November 18, 2009 along with collection of online feedback through December 4, 2009. OPN reports 1,220 participants in the open house events encompassing the general public as well as City employees. Through this process, options for the Public Works Facility were discussed along with those for other City facilities. The options presented for Public Works and the other facilities at the first open

house were limited to restoring facilities to their pre-disaster state, restoration of the facilities with upgrades, and consideration of new buildings in alternate locations with the possibility of co-locating facility functions. The open house format consisted of poster boards displayed along with custom kiosks set up to receive feedback cards deposited through a slot on the side.

Some feedback from the open houses identified in the *OPN Report* include; not building in the 100 or 500 year floodplains, a desire indicated by participants for consolidated services in public buildings, consideration of energy use, and consideration of life cycle operation and maintenance costs. The second open house presented four options for public consideration, restoring damaged buildings to pre-disaster condition, restoring buildings with sustainability and functionality upgrades, construction of new buildings at alternate locations with consolidated functions, and re-using other existing buildings in town. The last option was included in the second open house as a result of feedback from the first event.

The *OPN Report* indicates that from the feedback received during the process, the option to restore the facility with mitigation, upgrades, and program growth is about equal in desirability to the option to build a new building at any given location. The feedback for both options indicated a preference for the current Public Works site regardless of which option, restore or rebuild, is chosen. The proposal to continue to use the Fleck Building

Figure 3-1: Triple Bottom Line Approach

Table ES-1: Triple Bottom Line Approach	
Triple Bottom Line Evaluation Criteria	
Economic	Capital costs Life cycle costs Is it affordable/practical? Does it create a successful environment for business?
Environmental	Reduced energy use Minimized carbon footprint Increased use of green building materials Minimized resource use Improved stormwater quality Reduced water use
Social	Increased vibrancy of downtown Reduced traffic Improved walk-ability Increased economic vitality Improved access to parks, cultural/historical venues Improved quality of life Increased sense of community Improved public safety Improved infrastructure Improved indoor environmental quality, human, and health performance

Source: CDM, 2009 p. 6

was also discussed. Feedback regarding Fleet Maintenance overwhelmingly favored consolidation of functions to increase efficiencies. The options indicated in the *OPN Report* with the most support from participants in the planning process recommend consolidation of the facilities at the Public Works site.

Alternatives developed through this process and scored with the City's evaluation criteria using the triple bottom line approach favored a new, consolidated facility. Higher scores indicate more favorable or beneficial options; however criteria to determine what score to apply to any particular consideration was not defined in information received by FEMA. FEMA identified the City's preferred option as an adverse effect to historic properties and began a Memorandum of Agreement (MOA) process to resolve adverse effects (see 5.4 Cultural Resources; see Appendix C Figure 1). Through the MOA process initiated in August 2011, the Cedar Rapids Historic Preservation Commission (HPC) first learned of the proposal to demolish the existing Public Works Facility and construct a new consolidated facility in the same location. The HPC requested that the City consider an option to preserve a portion of the historic existing facility, the distinctive corner at the facility's 6<sup>th</sup> Street entrance, using the MOA mitigation funds available as a result of FEMA's resolution of an adverse effect (see Appendix C Figure 2). City representatives presented the proposed project and previously evaluated alternatives at the November 17, 2011 HPC meeting where HPC members also had an opportunity to tour the Public Works Building.

The options presented to the City Council on December 6, 2011 consisted of Option #1 repair building to pre-disaster condition (Alternative 2, below), Option #2 repair of building with addition to consolidate functions (Alternative 3, below), and Option #3 new building at existing site with consolidation of functions (Alternative 4, below). The Council authorized the new construction option at the December 20, 2011 City Council Meeting (Resolution No. 1633-12-11).

FEMA identified the options presented at the City Council Meeting to be insufficient in considering the HPC's request for an alternative to be considered that minimizes adverse effects to historic properties. As the HPC's request appeared to FEMA to be a reasonable and practicable alternative, FEMA has included the option in this EA. In addition, FEMA requested that the City apply the evaluation criteria used in the initial set of alternatives to the option proposed by the HPC for equitable consideration. FEMA received two schematics that were prepared to address the HPC's request, later followed by a scorecard and summary analysis in late January 2012 (see Appendix A Figures 5-7).

### **3.1 ALTERNATIVE 1 – NO ACTION**

The No Action Alternative is defined as maintaining the status quo with no additional FEMA funding being provided for repairs. No repairs, code upgrades, or mitigation measures would be implemented, FEMA funding would be limited to the already completed mucking out debris left by the flooding event and the functions of Public Works would continue to operate out of the existing, mucked-out facilities. Other Public Works functions would continue to operate out of temporary locations such as the Fleck Building and temporary trailers.

### **3.2 ALTERNATIVE 2 – REPAIR OF PUBLIC WORKS WITHOUT CONSOLIDATION**

The Public Works Building would be restored to pre-disaster condition with the inclusion of code upgrades and hazard mitigation measures pending FEMA approval of such measures. The hazard mitigation measures previously identified include elevating electrical substations, boilers, chillers, and other mechanical equipment. The City Assessor's Office, Code Enforcement, Facilities Maintenance, Housing Services, and multiple Public Works Departments would be restored to the repaired Public Works Facility. This alternative is also known as Option #1 from the presentation to the City Council and Option A in the OPN public process and associated report (see Appendix A Figure 1); this option received a selection score of 28 out of 45 in the OPN process (see Appendix A Figure 4).

Forestry Complex would be evaluated for replacement at a new location or elevated at its current location two feet above the base flood elevation according to local floodplain regulations. Sokol Park Maintenance - A Street Shop would also be evaluated for replacement at a new location, however elevation at its current site would be inconsistent with EO 11988 leaving relocation the only practicable option (see 5.2.3 for further discussion). The Solid Waste Building would be restored to pre-disaster condition and function at its current location. The Fleet Services Maintenance Garage would be restored at the former Central Fire Station block and may be required to be restored with mitigation measures according to local floodplain regulations based on the revised floodplain maps (see 5.2.3 Floodplain and Appendix A Figure 8). Fleet Maintenance function would continue to operate out of five separate locations.

### **3.3 ALTERNATIVE 3 – REPAIR OF PUBLIC WORKS WITH CONSOLIDATION**

Alternative 3 would restore the existing Public Works Building to pre-disaster condition with the inclusion of code upgrades and hazard mitigation measures pending FEMA approval of such measures. The hazard mitigation measures previously identified include elevating electrical substations, boilers, chillers, and other mechanical equipment. The City Assessor's Office, Code Enforcement, Facilities Maintenance, Housing Services, and other Public Works Departments would be restored to the facility. An addition would be built onto the existing structure to house the consolidated functions of Forestry, Sokol Park Maintenance - A Street Shop, Fleet Services, and Solid Waste.

The Forestry Complex and Sokol Park Maintenance - A Street Shop have been rendered safe and secure and would remain boarded up and locked. The Solid Waste Building would be used for cold storage once the repairs of the Public Works Facility are complete. The Fleet Services Maintenance Garage would be retained for cold storage long-term. This alternative is also known as Option #2 from the presentation to the City Council and Option B in the OPN public process and associated report (see Appendix A Figure 2); this option received a selection score of 28 out of 45 in the OPN process (see Appendix A Figure 4).

### **3.4 ALTERNATIVE 4 – REPLACE PUBLIC WORKS WITH CONSOLIDATION**

This option would replace the existing Public Works Building with a completely re-designed structure that includes consolidated functions from Forestry, Sokol Park Maintenance - A Street Shop, Fleet Services, and Solid Waste. This alternative is the City's preferred option. Replacing the existing building with re-designed site

layout would require the removal of significant amounts of existing pavement in addition to the existing structures. Excavations are expected to be approximately 4 feet deep around the structure, up to 39 inches in areas currently covered in pavement if sub-grade stabilization is needed, and up to 12 feet in areas where underground storage tanks are located. With the site re-design, bio swales are proposed in the parking area and rain gardens are proposed along 4<sup>th</sup> Street and near the 6<sup>th</sup> Street employee equipment entrance. The City prepared draft architectural plans for this option which show the proposed finished floor elevated from the existing 729.76 feet to 734.50 feet amounting to a nearly 5 foot increase in elevation achieved through use of engineered fill. The new structure as designed in the preliminary plans would meet the Leadership in Energy and Environmental Design (LEED) Silver level.

The Forestry Complex and Sokol Park Maintenance - A Street Shop have been rendered safe and secure and would remain boarded up and locked. The Solid Waste Building would be used for cold storage once the replacement of the Public Works Facility is complete. The Fleet Services Maintenance Garage would be retained for cold storage long-term. This alternative is also known as Option #3 from the presentation to the City Council and Option C in the OPN public process and associated report (see Appendix A Figure 3); this option received a selection score of 33 out of 45 in the OPN process (see Appendix A Figure 4).

### **3.5 ALTERNATIVE 5 – REPLACE AND CONSOLIDATE WITH RETENTION OF PROMINENT CORNER**

In response to the HPC's request for an alternative that addressed minimization of adverse effects to historic properties and at FEMA's direction to evaluate the request equitably with the other options, the City prepared this alternative with two schematic options. One option, Alternative 5(a) retains the distinctive northwest corner of the historic administration building with a re-designed main structure (see Appendix A Figure 5) was scored by the City at 27 out of 45 in applying the criteria from the OPN public process. The City indicates that the inefficient layout of this option limits its viability. The other option, Alternative 5(b) retains the whole administrative building, including the distinctive northwest corner (see Appendix A Figure 6) was scored at 28 out of 45 with the City applying the criteria used in the OPN public process. Both options presented by the City will be evaluated under this Alternative through this EA as presented to FEMA. See Appendix A Figure 7 for the City-applied scoring criteria to these two options.

Both options under this alternative will consolidate the functions identified in Alternative 4. The Forestry Complex and Sokol Park Maintenance - A Street Shop have been rendered safe and secure and would remain boarded-up and locked. The Solid Waste Building would be used for cold storage once the replacement of the Public Works Facility is complete. The Fleet Services Maintenance Garage would be retained for cold storage long-term.

### **3.6 ALTERNATIVES CONSIDERED AND DISMISSED**

One alternative considered during the OPN facilitated public process was eliminated from the alternatives for the Public Works recovery project. Option D from the OPN report was for repurposing an existing building, such as a vacant "big box" store, as opposed to the flood-damaged structure. This option was eliminated as the City was unable to identify a sufficiently large site in a centralized location comparable or superior to the existing Public Works Facility site.

## 4. SUMMARY OF IMPACTS AND MITIGATION

Five alternatives, including the no action alternative, were evaluated in this EA and their impacts summarized in this section using the following scale. Impacts are assumed to be negative unless noted otherwise. The following section, Section 5, further details the anticipated impacts of both alternatives.

- No impact – no impacts are anticipated
- Negligible impact – no discernible impacts are anticipated or are minimal and cannot be measured meaningfully
- Minor impact – anticipated impacts are measurable, but are minor and within or below regulatory standards and / or are confined to the project site(s)
- Moderate impact – anticipated impacts are measurable and / or have impacts that may extend beyond the project site(s), may require permitting, and may require limited mitigation actions or coordination to minimize negative impacts
- Major impact – anticipated impacts are readily measurable, have a regional impact, require mitigation to reduce impacts, and / or exceed existing regulatory standards; permanent changes to the resources would be expected

Table 4-1: Summary of Impacts and Mitigation

Affected Environment	Impacts	Mitigation Measures / BMPs
Air Quality		
Alternative 1	Negligible	Not applicable
Alternative 2	Negligible to minor	Not applicable
Alternative 3	Moderate short-term; Minor (positive) long-term	Construction Best Management Practices (BMP) appropriate to site conditions and fugitive dust controls required to reduce short term impacts to minor or negligible levels
Alternative 4		
Alternative 5		
Climate Change		
Alternative 1	Negligible	Not applicable
Alternative 2	Negligible, minor (positive) long-term	Not applicable
Alternative 3	Minor (positive)	LEED standards are incorporated into project design, salvage or recycling of building components and debris is recommended
Alternative 4	Moderate	
Alternative 5	Moderate	
Water Quality		
Alternative 1	No impact	Not applicable
Alternative 2	Moderate	NPDES permit would be required for relocation sites where one acre or more of ground disturbance occurs, sediment and erosion control BMPs appropriate to the site would be required to reduce construction impacts to minor or negligible levels, potential coordination with the IDNR Sovereign Lands Permit Program may be required depending on scope of work adjacent to the Cedar River
Alternative 3	Moderate, minor (positive) long-term	NPDES permit and a Storm Water Pollution Prevention Plan (SWPPP) would be required as more than one acre of ground disturbance, sediment and erosion control BMPs appropriate to
Alternative 4		
Alternative 5		

		the site would be required to reduce construction impacts to minor or negligible levels, potential coordination with the IDNR Sovereign Lands Permit Program may be required depending on scope of work adjacent to the Cedar River
<b>Wetlands</b>		
Alternative 1	No impact	Not applicable
Alternative 2	No impact to Moderate	Temporary encroachment on wetlands by construction activities are permitted under NWP #3, sediment and erosion control BMPs would be required to reduce impacts to minor or negligible levels
Alternative 3	No impact	Not applicable
Alternative 4		
Alternative 5		
<b>Floodplain</b>		
Alternative 1	No additional impact	Not applicable
Alternative 2	No impact to moderate	Alternate sites for the Forestry Complex and Sokol Park Maintenance - A Street Shop would need to be evaluated, sediment and erosion control BMPs would be required
Alternative 3	No impact	Sediment and erosion control BMPs must be used for all ground-disturbing activities
Alternative 4		
Alternative 5		
<b>Protected Species and Habitat</b>		
Alternative 1	No impact	Not applicable
Alternative 2	No impact to moderate	Relocation of the Forestry Complex and Sokol Park Maintenance - A Street Shop would be required to take place a minimum of 660 feet from an active Bald eagle nests or outside of nesting season depending on selected sites
Alternative 3	No impact	Not applicable
Alternative 4		
Alternative 5		
<b>Historic Structures</b>		
Alternative 1	No impact	Not applicable
Alternative 2	Minor impact	Repair work would require conformance to Secretary of the Interior standards
Alternative 3	Minor to moderate impact	Repair work would require conformance to FEMA Programmatic Agreement stipulations and the addition would be required to meet Secretary of the Interior's Standards for the Treatment of Historic Properties
Alternative 4	Major impact	This alternative results in the permanent loss of historic structures; the Memorandum of Agreement (MOA) in development would be completed and executed stipulating treatment measures to compensate for the loss of the structures.
Alternative 5	Major impact	This alternative results in the permanent loss of historic structures; the MOA in development would be amended to include the Historic Preservation Commission's recommended treatment measures

Archaeology		
Alternative 1	No impact	Not applicable
Alternative 2	Negligible to moderate impact	Sites selected for relocation would require further evaluation by FEMA to assess sites for archaeological resources
Alternative 3	Negligible impact	In the event that archaeological deposits are found, the project must be halted, site stabilized, and FEMA notified to enable the findings to be evaluated; work cannot resume until consultation with SHPO over the discovery is completed
Alternative 4		
Alternative 5		
Environmental Justice		
Alternative 1	Minor to moderate impact	Maintenance and periodic inspection of vacant sites may reduce potential for perceived disinvestment
Alternative 2	Negligible to minor short term impacts	Not applicable
Alternative 3	Minor to moderate impact	Maintenance and periodic inspection of vacant sites may reduce potential for perceived disinvestment; nuisances associated with incrementally increased intensity of use at the Public Works site are anticipated to be managed by existing City regulations
Alternative 4		
Alternative 5		
Noise		
Alternative 1	No impact	Not applicable
Alternative 2	Moderate (short term), negligible to minor impact (long-term)	Noise reduction BMPs are expected to reduce short term impacts to negligible to minor, application of existing noise regulations is expected to minimize long-term impacts
Alternative 3		
Alternative 4		
Alternative 5		
Land Use and Planning		
Alternative 1	Moderate impact	Existing temporary sites may not be in conformance with the City's zoning code and may be inconsistent with the comprehensive plan; this impact may be resolved through the City's planning process and zoning regulations
Alternative 2	Moderate impact	Relocation of Forestry Complex and Sokol Park Maintenance - A Street Shop may require the City to rezone parcels for public use if selected sites are not already zoned as such
Alternative 3	Minor (positive) impact	Not applicable
Alternative 4	Moderate impact	This alternative is not consistent with the City's comprehensive plan or the post-flood Sasaki planning process
Alternative 5	Moderate impact	Preservation of the distinctive corner of the historic administrative building may reduce the level of impact from the loss of historic buildings
Transportation		
Alternative 1	Negligible impact	Not applicable
Alternative 2	Minor impact	
Alternative 3		
Alternative 4		
Alternative 5		
Public Health and Safety		
Alternative 1	Moderate impact	Soil and groundwater contamination would remain undisturbed

Alternative 2	Moderate impact	Testing for asbestos for and proper handling and disposal of hazardous substances would be required
Alternative 3	Major impact	Consultant recommendations should be followed, BMPs to prevent disturbed soil and groundwater contaminants from being released to adjacent properties and during transit must be used, proper disposal of contaminated materials at a permitted site is required; if contaminants in excess of reporting standards are encountered, the IDNR must be contacted and work must stop until the IDNR indicates that no further assessment is needed, IDNR clean-up or containment requirements must be met; implementation of radon mitigation is recommended where practicable
Alternative 4		
Alternative 5		
Alternative 5		
Demolition		
Alternative 1	No impact	Not applicable
Alternative 2	Moderate impact	Testing for asbestos for and proper handling and disposal of hazardous substances would be required
Alternative 3	Major impact	Asbestos testing must take place before demolition, all handling of ACM must be done by licensed contractors, hazardous substances such as asbestos, lead paint, etc. must be properly transmitted and disposed at a permitted landfill; salvage and/or recycling of uncontaminated material and building components would reduce impacts to the landfill and reduce wasted embodied energy
Alternative 4		
Alternative 5		
Alternative 5		
Cumulative Impact		
Alternative 1	Moderate impact	The City of Cedar Rapids would need to identify non-FEMA funding to restore the Public Works Department while continuing to operate out of temporary facilities
Alternative 2	Moderate impact	Salvage or recycling of uncontaminated building components and materials could reduce impacts to the landfill and reduce wasted embodied energy, hazardous material removal and disposal would have to comply with local, state, and Federal regulations
Alternative 3		
Alternative 4		
Alternative 5		

## 5. AFFECTED ENVIRONMENT AND IMPACTS

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Chapter 5 describes the existing environmental conditions that may be affected by the proposed FEMA grant funding being applied towards the alternatives for Public Works. The environmental impacts of the No-action alternative were also analyzed.

This chapter also describes the potential environmental consequences of the proposed alternatives by comparing them with the potentially affected environmental components. The proposed activity was 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 1508.27).

### 5.1 PHYSICAL RESOURCES

#### 5.1.1 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 (NO<sub>2</sub>), ozone (O<sub>3</sub>), particulate matter (PM<sub>10</sub> and PM<sub>2.5</sub>), sulfur dioxide (SO<sub>2</sub>) and lead (Pb), 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 which are detailed in Table 5-1: National Ambient Air Quality Standards, below. 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 National Ambient Air Quality Standards (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 Linn County Public Health Department, Air Quality Division, is authorized by the EPA to implement and enforce the Clean Air Act and the county’s code on Air Quality. The Linn County Air Quality Division maintains a network of instruments and devices located throughout the Cedar Rapids metropolitan area to monitor ambient air. The nearest Air Quality Monitoring System location is 520 11th Street NW at the Abbe Center for Community Mental Health in Cedar Rapids, approximately 1 mile from the Public Works Facility. As of August 30, 2011, no area within the State of Iowa is considered a non-attainment area for the six criteria pollutants.

Table 5-1: National Ambient Air Quality Standards

Pollutant	Primary Standards		Secondary Standards	
	Level	Averaging Time	Level	Averaging Time
Carbon Monoxide	9 ppm (10 mg/m <sup>3</sup> )	8-hour	None	
	35 ppm (40 mg/m <sup>3</sup> )	1-hour		
Lead	0.15 mg/m <sup>3</sup>	Rolling 3-Month Average	Same as Primary	
Nitrogen Dioxide	53 ppb	Annual (Arithmetic Average)	Same as Primary	
	100 ppb	1-hour	None	
Particulate Matter (PM <sub>10</sub> )	150 mg/m <sup>3</sup>	24-hour	Same as Primary	
Particulate Matter (PM <sub>2.5</sub> )	15 mg/m <sup>3</sup>	Annual (Arithmetic Average)	Same as Primary	
	35 mg/m <sup>3</sup>	24-hour	Same as Primary	
Ozone	0.075 ppm (2008 std)	8-hour	Same as Primary	
	0.08 ppm (1997 std)	8-hour	Same as Primary	
	0.12 ppm	1-hour	Same as Primary	
Sulfur Dioxide	0.03 ppm (1971 std)	Annual (Arithmetic Average)	0.5 ppm	3-hour
	0.14 ppm (1971 std)	24-hour		
	75 ppb	1-hour	None	

Source: USEPA, 2011a

Any construction activities at the Public Works Building have the potential to disturb existing asbestos containing material (ACM); see 5.5.6 for evaluation of hazardous materials.

### 5.1.1.1 Alternative 1 – No Action

Under the no action alternative, no further construction activities would take place at the Public Works Facility beyond the muck-out and debris removal already undertaken. Marginally increased air quality impacts compared to pre-disaster condition may be anticipated with functions housed at temporary locations and the location inefficiencies associated with additional vehicle miles traveled (VMT). Any negative effects to air quality from such additional VMT are negligible.

### 5.1.1.2 Alternative 2 – Repair of Public Works without Consolidation

Ground disturbing activities are anticipated to be minimal under this alternative limiting the potential for fugitive dust. Operation of construction equipment and personal vehicles would elevate vehicle emissions of criteria pollutants temporarily, including NO<sub>2</sub> and CO; however the increase is anticipated to be negligible to minor. Following construction activities, air quality levels are anticipated to return to pre-disaster levels. Impacts associated with elevating the Forestry Complex or relocating the Forestry Complex and Sokol Park

Maintenance - A Street Shop would have to be evaluated separately. Temporary air quality impacts are anticipated to be minor and predominantly localized.

### **5.1.1.3 Alternative 3 – Repair of Public Works with Consolidation**

This alternative would require the excavation of soil for the addition to the Public Works Building, thereby short-term emissions of criteria pollutants are anticipated during the construction phase. Construction equipment and personal vehicles would generate exhaust emissions, including NO<sub>2</sub> and CO. By consolidating the Public Works functions, vehicle emissions resulting from the existing dispersed locations may be reduced resulting in a minor positive impact long-term.

The proposed action would require approximately 18 months of construction and heavy equipment including; bulldozers, scrapers, and backhoes. 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 is completed and disturbed soils have been stabilized or permanently covered.

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 (see 5.1.1.6 Mitigation Measures). Increases in ambient concentrations of the criteria pollutants resulting from heavy equipment would be minimal and Federal or state air quality attainment levels are not expected to be exceeded. This alternative is expected to have no long-term adverse impacts on the air quality of the area.

### **5.1.1.4 Alternative 4 – Replace Public Works with Consolidation**

This alternative would require the excavation of soil for the replacement of the Public Works Building, thereby short-term emissions of criteria pollutants are anticipated during the construction phase. Construction equipment and personal vehicles would generate exhaust emissions, including NO<sub>2</sub> and CO. By consolidating the Public Works functions, vehicle emissions resulting from the existing dispersed locations may be reduced resulting in a minor positive impact long-term.

The proposed action would require approximately 18 months of construction and heavy equipment including; bulldozers, scrapers, and backhoes. 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 is completed and disturbed soils have been stabilized or permanently covered.

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 (see 5.1.1.6 Mitigation Measures). Increases in ambient concentrations of the criteria pollutants resulting from heavy equipment would be minimal and Federal or state air quality attainment levels are not expected to be exceeded. This alternative is expected to have no long-term adverse impacts on the air quality of the area.

### **5.1.1.5 Alternative 5 – Replace and Consolidate with Retention of Prominent Corner**

Under this alternative, both alternatives would require the excavation of soil for the replacement of the majority of the Public Works Building, thereby short-term emissions of criteria pollutants are anticipated during the construction phase. Construction equipment and personal vehicles would generate exhaust emissions, including NO<sub>2</sub> and CO. By consolidating the Public Works functions, vehicle emissions resulting from the existing dispersed locations may be reduced resulting in a minor positive impact long-term.

The proposed action would require approximately 18 months of construction and heavy equipment including; bulldozers, scrapers, and backhoes. 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.

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 (see 5.1.1.6 Mitigation Measures). Increases in ambient concentrations of the criteria pollutants resulting from heavy equipment would be minimal; and Federal or state air quality attainment levels are not expected to be exceeded. This alternative is expected to have no long-term adverse impacts on the air quality of the area.

### **5.1.1.6 Mitigation Measures**

Construction mitigation measures to control fugitive dust for Alternatives 3-5 would be required in addition to standard construction best management practices.

- 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:
  - Re-vegetate 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.

## 5.1.2 Climate Change

Climate change encompasses changes in precipitation, sea level, temperature and other climatic variables including natural cycles and the climatic changes attributed to human actions on the environment. The EPA identifies the climate change largely associated with human actions as “abrupt climate change” occurring over decades to distinguish it from that which occurs gradually over centuries or millennia. In 2010 the CEQ issued draft guidance for Federal agencies to consider climate change in NEPA documentation. The guidance uses the EPA-defined threshold for mandatory greenhouse gas (GHG) emission reporting of 25,000 metric tons per year as a level where NEPA documents determine whether a quantitative analysis is required. This threshold is equivalent to the energy needed to power 2,300 homes for a year or the emissions from 4,600 passenger vehicles per year (USEPA, 2009). FEMA has determined that the actions considered in this EA are incremental changes compared to the pre-disaster condition and the overall effects are expected to be significantly below this threshold.<sup>3</sup> The majority of GHG emissions result from industry, heating and cooling of buildings, and automobile non-point sources.

Average temperatures in Cedar Rapids reach a low in January between 15 and 20 degrees Fahrenheit and a high in July between 70 and 75 degrees Fahrenheit. Peak precipitation is June through August which on average ranges between 4 and 5 inches per month. January and February tend to be when the average low precipitation of about 1 inch can be expected. However, average snowfall peaks in December to January of between 8 and 9 inches per month. Average morning humidity in Cedar Rapids tends to be around 80 percent with higher humidity June through September with average peak morning humidity in August around 90 percent. Average afternoon humidity between April and October tends to be below 65 percent with average afternoon humidity peaks in December and January of over 70 percent.

Between 1958 and 2007 amounts of very heavy precipitation has increased by 31 percent in the Upper Midwest encompassing Iowa, Missouri, Minnesota, Michigan, Illinois, Indiana, Ohio, and Wisconsin. During the same period, the Upper Midwest experienced a 27 percent increase in the average number of days with heavy precipitation defined as the heaviest 1 percent of all events. Heavy downpours currently occurring one time in 20 years on average are projected to increase in frequency between 10 and 25 percent through the 2090s (USGCRP, 2009).

Average temperatures in the United States have increased more than 2 degrees Fahrenheit in the last 50 years. Average temperatures in Iowa and portions of surrounding states are projected to increase by another 4 to 6 degrees, under low-emission models, or 8 to 10 degrees, under high-emission models, by the end of the century. Under current projections, Iowa can anticipate increases in flooding, heat waves, droughts, invasive plant and insect species, and insect-borne diseases (USGCRP, 2009). While data needed to predict specific

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<sup>3</sup> The Draft EA developed by consultants on behalf of FEMA Region X for the Veronia K-12 School Project includes a quantification of GHG. This accounting found that the new 135,000 sf school with 18,000 sf in outbuilding space to be built to LEED Platinum standards would result in the emission of 152 metric tons per year of GHG, significantly below the EPA threshold. This draft EA can be found on FEMA’s website at: <http://www.fema.gov/library/viewRecord.do?id=4351>.

events and the full range of climate impacts are still being developed, enough data is available to suggest that climatic events, such as severe storms, will be localized and will be increasingly unpredictable.

The City of Cedar Rapids established as one of its recovery goals sustainable re-development in the December 2008 *Long-Term Community Recovery* (LTCR) report in partnership with FEMA's Emergency Support Function (ESF) #14 LTCR team and the Rebuild Iowa Office (RIO). Sasaki's *Framework Plan* also identified the goal of sustainable redevelopment. The City has made efforts to incorporate LEED standards into other recovery projects and the plans developed for their preferred option (Alternative 4) meet LEED Silver standards. For the purpose of comparison, FEMA will assume that similar design standards would apply to Alternatives 3 - 5 should they have been as fully detailed.

Embodied energy is a concept in measuring sustainability that has been used since the early-1970s to account for the energy, often in terms of carbon, invested into an existing material or structure. Another measure of sustainability is life-cycle or cradle-to-grave analysis which accounts for the extraction, manufacture, distribution, use, and eventual disposal of materials. While resources exist to quantify embodied energy or life cycle analysis, the calculations were not prepared by the City for the options presented in this EA.

New construction, even with incorporation of energy efficient materials and design, typically involves more embodied energy than retention and retrofit of older buildings. Advanced materials such as electronic climate controls, solar panels, and engineered building products typically require more energy intensive manufacture and installation than traditional materials. An energy-efficient home would require 35 - 50 years to recover the amount of embodied energy in terms of carbon expended during construction. The General Services Administration (GSA) found in 1999 that the operation costs of historic buildings were 27 percent lower than more modern buildings reflecting the higher quality materials, thicker walls, and passive energy features (Frey et al., 2008).

#### **5.1.2.1 Alternative 1 – No Action**

Under this alternative, construction activities would not take place. Continued operation out of temporary facilities may marginally raise the emission of GHG associated with VMT and heating and cooling buildings which may not be optimal for the current uses. The impact of this alternative is expected to be negligible to minor as a small, incremental change from pre-disaster conditions. This alternative potentially foregoes an opportunity to reduce GHG through improved efficiency of energy usage through heating and cooling and through reducing VMT associated with operating out of temporary facilities. However the overall embodied energy of the Public Works Building is not expected to change.

#### **5.1.2.2 Alternative 2 – Repair of Public Works without Consolidation**

Repair of the Public Works Building would restore the GHG levels associated with VMT to pre-disaster conditions and inclusion of code upgrades may marginally lower the GHG emissions associated with building operations. Incorporation of hazard mitigation measures and code upgrades is anticipated to contribute to the repaired buildings' lifespan while minimizing loss of embodied energy. Options for the Forestry Complex and Sokol Park Maintenance - A Street Shop would need to be evaluated for the potential impacts of elevating the Forestry Complex or relocating the two facilities.

### **5.1.2.2 Alternative 3 – Repair of Public Works with Consolidation**

While detailed plans for the repair of the Public Works Building with consolidation of associated uses are not available, FEMA presumes that this option would also be designed to meet LEED Silver criteria. Design to LEED standards is expected to incrementally reduce GHG associated with building operations and VMT, due to consolidation of functions, from the pre-disaster levels. Embodied energy represented by the existing building would be largely preserved and the inclusion of code upgrades is anticipated to extend the lifespan of the structure.

Salvage or recycling of unwanted building components and demolition debris should be incorporated into the project to retain embodied energy invested in the components and materials, see 5.5.6 Demolition for additional discussion.

### **5.1.2.2 Alternative 4 – Replace Public Works with Consolidation**

The City's preferred option resulting in total re-configuration of the Public Works site with consolidation of associated uses is designed to meet LEED Silver criteria. Design to LEED standards is expected to incrementally reduce GHG associated with building operations and VMT, due to consolidation of functions, from the pre-disaster levels. However total re-design of the site is expected to result in the greatest expenditure in embodied energy resulting from re-construction and premature disposal of materials that retain structural integrity and useful life.

Salvage or recycling of unwanted building components and demolition debris should be incorporated into the project to retain embodied energy invested in the components and materials, see 5.5.6 Demolition for additional discussion.

### **5.1.2.2 Alternative 5 – Replace and Consolidate with Retention of Prominent Corner**

While detailed plans for the repair of the Public Works Building with consolidation of associated uses are not available, FEMA presumes that the two options under this alternative would also be designed to meet LEED Silver criteria. Schematic 5(a) represents a higher loss of embodied energy and likely incrementally higher energy usage than option 5(b) given the difference in quantity of demolition and increased surface area (see Appendix A Figures 5-6). In terms of embodied energy and GHG emissions associated with building operation and VMT, option 5(b) represents an intermediate point between the City's preferred option, Alternative 4, and the repair to pre-disaster condition with hazard mitigation and code upgrades.

Salvage or recycling of unwanted building components and demolition debris should be incorporated into the project to retain embodied energy invested in the components and materials, see 5.5.6 Demolition for additional discussion.

## **5.2 WATER RESOURCES**

### **5.2.1 Water Quality**

Congress enacted the Federal Water Pollution Control Act in 1948 which was reorganized and expanded in 1972 and became known as the Clean Water Act (CWA) in 1977, as amended. The CWA regulates discharge of pollutants into water with sections falling under the jurisdiction of the U.S Army Corps of Engineers (USACE) and the EPA. Section 404 of the CWA establishes the USACE permit requirements for discharging dredged or fill materials into Waters of the United States and traditional navigable waterways. USACE regulation of activities within navigable waters is also authorized under the 1899 Rivers and Harbors Act. The USACE jurisdiction extends to tributaries and wetlands where a “significant nexus” exists between the resources as articulated in two recent Supreme Court decisions known as the SWANCC and Rapanos decisions. Under the National Pollution Discharge Elimination System (NPDES) the EPA regulates both point and non-point pollutant sources, including storm water and storm water runoff. Activities that disturb one acre of ground or more are required to apply for an NPDES permit through the Iowa Department of Natural Resources (IDNR) as authorized by the EPA. The Wild and Scenic Rivers Act is another regulatory framework related to water resources; however there are no designated wild and scenic rivers in the State of Iowa.

The majority of the City on the west side of the Cedar River, including the Public Works facility, is located in the Middle Cedar watershed (HUC 7080205) which includes Vinton, Waterloo, and Cedar Falls upstream. The rest of Cedar Rapids north of the Kirkwood Community College Campus is located in the Lower Cedar watershed (HUC 7080206) which extends to Columbus Junction to the southeast. The City of Cedar Rapids is further regulated by NPDES with a Municipal Separate Storm Sewer System (MS4) individual or general permit. MS4 permits require the City to develop and maintain a storm water management program (SWMP) to reduce contamination of storm water and limit contamination discharges.

#### **5.2.1.1 Alternative 1 – No Action**

Under the no action alternative, no ground disturbance or construction activities would take place. No change to pre-disaster impacts to local water quality would occur.

#### **5.2.1.2 Alternative 2 – Repair of Public Works without Consolidation**

Repair of the Public Works facility to pre-disaster condition would involve minimal or no ground disturbance resulting in negligible impacts to local water quality. Elevation of the Forestry Complex or relocation of both Sokol Park Maintenance - A Street Shop and the Forestry Complex under this alternative would likely require NPDES General Construction Permits and sediment and erosion control BMPs. Coordination with the IDNR Sovereign Lands Permit Program may be required depending on the scope of work at the Sokol Park Maintenance - A Street Shop as the Cedar River is one of Iowa’s Meandered Rivers.

#### **5.2.1.3 Alternative 3 – Repair of Public Works with Consolidation**

Repair of the Public Works facility with consolidation of functions would require the removal of a portion of the parking lot and installation of new footings. This work would disturb more than one acre of ground, which would

require the City prepare a Storm Water Pollution Prevention Plan (SWPPP) and to obtain a NPDES permit and implement sediment and erosion control BMP (also see 5.7 Coordination and Permits).

While the option as presented to the City Council does not include green infrastructure such as rain gardens and bio swales, incorporation of such features could help improve water quality in the long-term. Similarly, incorporation of such features may aid in compliance with the City's SWMP. Green infrastructure features are included in the schematic for the City's preferred option, Alternative 4. Overall water quality is anticipated to marginally improve long-term with the inclusion and maintenance of these features in this alternative.

#### **5.2.1.4 Alternative 4 – Replace Public Works with Consolidation**

Replacement of the Public Works Facility with consolidation and near total site re-design would disturb the majority of the approximately 15 - 20 acre site. The work would require the City prepare a SWPPP and to obtain a NPDES permit and implement sediment and erosion control BMP (also see 5.7 Coordination and Permits).

The City's preferred option includes green infrastructure features consisting of bio swales and rain gardens which are expected to reduce the amount of runoff from the site and aiding ground infiltration of precipitation in the long-term (see Appendix A Figure 3). Overall water quality is anticipated to marginally improve long-term with the inclusion and maintenance of these green infrastructure features.

#### **5.2.1.5 Alternative 5 – Replace and Consolidate with Retention of Prominent Corner**

Replacement of the Public Works Facility with consolidation and significant site re-design would disturb a significant portion of the approximately 15 - 20 acre site. The work would require the City prepare a SWPPP and to obtain a NPDES permit and implement sediment and erosion control BMP (also see 5.7 Coordination and Permits).

While the option as prepared by the City does not include green infrastructure such as rain gardens and bio swales, incorporation of such features could help improve water quality in the long-term. Similarly, incorporation of such features may aid in compliance with the City's SWMP. Green infrastructure features are included in the schematic for the City's preferred option, Alternative 4. Overall water quality is anticipated to marginally improve long-term with the inclusion and maintenance of these features in this alternative.

### **5.2.2 Wetlands**

In addition to the CWA, Executive Order (EO) 11990 Protection of Wetlands requires Federal agencies to avoid, to the extent practicable, adverse impacts to wetlands. Under the CWA two types of authorization are available from the USACE for activities regulated under Section 404 of the Clean Water Act: general nationwide 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.

The 1987 *Corps of Engineers Wetlands Delineation Manual* provides the technical guidelines in identifying and delineating wetlands. The Corps' manual requires the presence of all three parameters (greater than 50

percent dominance of hydrophytic vegetation, evidence of hydric soils, and presence of hydrologic indicators) for an area to be considered a wetland. The U.S. Fish and Wildlife Service maintains the National Wetlands Inventory (NWI) maps including conventional maps, downloadable digital map data, dynamic online maps<sup>4</sup> and geographic information system (GIS) data. Federal actions within identified wetlands require the Federal agency conduct an 8-Step process, which like NEPA, requires the evaluation of alternatives prior to funding the action. FEMA's regulations on conducting 8-Step processes are contained in 44 CFR Part 9.5.

The nearest identified wetlands are located on the opposite bank of the Cedar River from the Public Works Facility and associated buildings addressed in this EA. The wetland is identified as a Palustrine Forested Seasonally Flooded (PFO1C) wetland in the NWI maps. Additional wetlands are located downstream on both banks of the river; however they are located at a sufficient distance to omit from further consideration under the alternatives considered here.

### **5.2.2.1 Alternative 1 – No Action**

Under the no action alternative, no impacts to wetlands are anticipated as there would be no ground disturbance or construction activities in or near known wetlands.

### **5.2.2.2 Alternative 2 – Repair of Public Works without Consolidation**

Repairs of the Public Works Building, Fleet Maintenance Shop, and Solid Waste Building are not expected to have impacts to wetlands. Elevating the Forestry Complex or relocating the Forestry and Sokol Park Maintenance - A Street Shop would need to be further evaluated for potential impacts to their chosen sites under this alternative. Other NWI-identified wetlands are located within the boundaries of the City of Cedar Rapids.

Should the two facilities be relocated to sites located near identified wetlands, sediment and erosion control BMP would be required and NPDES permits would be required for ground disturbance of one acre or more (see 5.7 Coordination and Permits). EO 11990 would prohibit relocating the Forestry Complex and Sokol Park Maintenance - A Street Shop into known wetlands unless no other practicable alternative exists.

### **5.2.2.3 Alternative 3 – Repair of Public Works with Consolidation**

As there are no NWI-designated wetlands in the immediate vicinity of the Public Works Complex, this alternative would have no impact to wetlands. Sediment and erosion control BMP and an NPDES permit would be required (see 5.7 Coordination and Permits).

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<sup>4</sup> U.S. Fish and Wildlife Service National Wetland Inventory Geospatial Wetlands Digital Data is available at; <http://www.fws.gov/wetlands/data/index.html>

#### **5.2.2.4 Alternative 4 – Replace Public Works with Consolidation**

As there are no NWI-designated wetlands in the immediate vicinity of the Public Works Complex, this alternative would have no impact to wetlands. Sediment and erosion control BMP and an NPDES permit would be required (see 5.7 Coordination and Permits).

#### **5.2.2.5 Alternative 5 – Replace and Consolidate with Retention of Prominent Corner**

As there are no NWI-designated wetlands in the immediate vicinity of the Public Works Complex, this alternative would have no impact to wetlands. Sediment and erosion control BMP and an NPDES permit would be required (see 5.7 Coordination and Permits).

### **5.2.3 Floodplain**

EO 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 floodplains for the National Flood Insurance Program (NFIP). Federal actions within the 100-year floodplain, or 500-year floodplain for critical actions, require the Federal agency conduct an 8-Step process. This process, like NEPA, requires the evaluation of alternatives prior to funding the action. FEMA's regulations on conducting 8-Step processes are contained in 44 CFR Part 9.5. Cedar Rapids, Iowa is a participant in the NFIP with updated FIRMs promulgated in April of 2010. FIRM Panels 1901870020B and 1901870030B dated December 15, 1982 encompassing the Public Works facilities addressed in this EA were in effect as of the 2008 floods. Revised FIRMs were issued April 5, 2010 with Panel 19113C0410D encompassing the same facilities.

Under the historic FIRM Panels, the Public Works and Solid Waste Buildings were identified outside of the 100-year and 500-year floodplains with Fleet Maintenance located at the Central Fire parcel within the 500-year floodplain. The Forestry Complex and Sokol Park Maintenance - A Street Shop were located within Zone A11 within the 100-year floodplain. The updated FIRM Panels locate Fleet Maintenance, the Forestry Complex, and Sokol Park Maintenance - A Street Shop in Zone AE within the 100-year floodplain. Sokol Park Maintenance - A Street Shop is further located partly within the regulatory floodway. The Solid Waste Building and the Public Works Building are both located outside of the 100-year and 500-year floodplains.

#### **5.2.3.1 Alternative 1 – No Action**

Under this alternative continued operation out of the damaged Public Works Building and other functions operating out of temporary facilities would have no direct impact on the floodplain. No construction activities would take place.

#### **5.2.3.2 Alternative 2 – Repair of Public Works without Consolidation**

Repair of the Public Works and Solid Waste Buildings would have no impact to the floodplain as both are located outside of designated floodplains. Fleet Maintenance may need to be evaluated under FEMA's 8-Step process to consider alternative sites and would have to comply with City floodplain regulations. The Forestry Complex and Sokol Park Maintenance - A Street Shop are within the 100-year floodplain, were substantially damaged, and were deemed eligible for relocation. Relocation of these two facilities would have to be

separately evaluated for impacts to floodplains and if a site is identified within the 100-year floodplain, the 8-Step review process would be required. The Forestry Complex may consider rebuilding at its current site if elevated two feet above the 2008 flood level according to local floodplain regulations and would have to be evaluated under FEMA's 8-Step review process to consider alternate sites. However, Sokol Park Maintenance - A Street Shop would likely be required to relocate as the facility is partly within the regulatory floodway and practicable alternative locations are conceivable. Relocation of Sokol Park Maintenance - A Street Shop would require further evaluation depending on a selected site under this alternative.

#### **5.2.3.3 Alternative 3 – Repair of Public Works with Consolidation**

Consolidation of the Public Works functions at the 6<sup>th</sup> Street SW site would not directly impact the floodplain as the three functions currently located within the floodplain would be relocated out of the floodplain. Sediment and erosion control BMP will be required. Use or future removal of damaged structures within the floodplain will need to be coordinated with the local floodplain administrator and comply with local floodplain regulations (see 5.7 Coordination and Permits).

#### **5.2.3.4 Alternative 4 – Replace Public Works with Consolidation**

Consolidation of the Public Works functions at the 6<sup>th</sup> Street SW site would not directly impact the floodplain as the three functions currently located within the floodplain would be relocated out of the floodplain. Sediment and erosion control BMP will be required. Use or future removal of damaged structures within the floodplain will need to be coordinated with the local floodplain administrator and comply with local floodplain regulations (see 5.7 Coordination and Permits).

#### **5.2.3.5 Alternative 5 – Replace and Consolidate with Retention of Prominent Corner**

Consolidation of the Public Works functions at the 6<sup>th</sup> Street SW site would not directly impact the floodplain as the three functions currently located within the floodplain would be relocated out of the floodplain. Sediment and erosion control BMP will be required. Use or future removal of damaged structures within the floodplain will need to be coordinated with the local floodplain administrator and comply with local floodplain regulations (see 5.7 Coordination and Permits).

### **5.3 BIOLOGICAL RESOURCES**

#### **5.3.1 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. Biological studies consisting of literature review, field reconnaissance, and map documentation were performed. A site visit was conducted on November 18, 2010 with a subsequent visit on March 10, 2011.

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. EO 13112 prohibits Federal agencies from funding, authorizing, or carrying out actions that are likely to cause or promote the introduction or spread of invasive species in the United States.

While the Bald eagle (*Haliaeetus leucocephalus*) has been removed from the Federal threatened and endangered species list, the species is still protected by The Bald and Golden Eagle Act and the Migratory Bird Treaty Act of 1918. USF&WS recommends that any work be conducted at least 660 feet from an active nest. The Cedar River corridor is conducive to Bald eagle habitat with identified nests in the area of Ellis Park and downstream from the Water Pollution Control Facility. Any vegetation clearing and all construction and landscaping activities must take place outside of the nesting season if work is closer to an active nest than the USF&WS recommendation. Work may take place from August through mid-January which is outside of the nesting season.

Table 5-2: Federally Protected Species of Linn County, Iowa

Common Name	Scientific Name	Status	Potential Occurrence at Site	Reason
Indiana bat	<i>Myotis sodalists</i>	Endangered	No	No habitat
Western prairie fringed orchid	<i>Platanthera praeclara</i>	Threatened	No	No habitat
Prairie bush clover	<i>Lespedeza leptostachya</i>	Threatened	No	No habitat

### 5.3.1.1 Alternative 1 – No Action

This alternative would have no impact to threatened or endangered species as there would be no construction activities and no known protected species are located on or adjacent to damaged sites.

### 5.3.1.2 Alternative 2 – Repair of Public Works without Consolidation

Repair of the Public Works, Solid Waste, and Fleet Maintenance Buildings would not result in impacts to Federally protected species. Relocation of the Forestry Complex and Sokol Park Maintenance - A Street Shop would have to be further evaluated for their potential to impact protected species depending on chosen locations. If a relocation site is selected near an active Bald eagle nest, all work would be required to take place a minimum of 660 feet away or take place outside of nesting season. Elevation on-site of the Forestry Complex is not expected to impact protected species as no known species have been identified at the damaged locations.

### 5.3.1.3 Alternative 3 – Repair of Public Works with Consolidation

Consolidating Public Works functions at the 6<sup>th</sup> Street SW location is not expected to impact protected species as there are no known species located at the site.

#### **5.3.1.4 Alternative 4 – Replace Public Works with Consolidation**

Consolidating Public Works functions at the 6<sup>th</sup> Street SW location is not expected to impact protected species as there are no known species located at the site.

#### **5.3.1.5 Alternative 5 – Replace and Consolidate with Retention of Prominent Corner**

Consolidating Public Works functions at the 6<sup>th</sup> Street SW location is not expected to impact protected species as there are no known species located at the site.

### **5.4 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 prehistoric and historic sites, structures, districts, buildings, objects, artifacts, or any other physical evidence of human activity considered important to a culture, subculture, or community for scientific, traditional, religious, or other reasons.

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 (NRHP). The term “eligible for inclusion in the NRHP” includes all properties that meet the NRHP listing criteria, 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 nominated properties. Whether prehistoric, historic, or traditional, significant cultural resources are referred to as “historic properties.”

For the purposes of this analysis, the term “Area of Potential Effects” (APE) as defined under cultural resources legislation, defines all historic properties that could be affected by each alternatives’ actions and encompasses areas requiring ground disturbance (e.g. areas of grading, cut and fill, etc) associated with the proposed Federal undertaking. For Alternatives 1 - 5 of this EA, the APE will include all sites affected by the proposed actions including the entire Public Works complex located at 1201 6th Street SW inclusive of all buildings and site improvements including the Solid Waste and Public Works buildings, the Forestry Complex, the Sokol Park Maintenance - A Street Shop and the Fleet Services Maintenance Garage.

#### **5.4.1 Historic Structures**

FEMA has considered the potential for these alternatives to affect historic structures. Various sources were checked to determine if any previously identified historic structures are located within the APE of this undertaking and to determine the potential for the APE to contain previously unidentified historic structures. This review included the NRHP and National Historic Landmarks Databases, and the Office of the State Archaeologist’s (OSA) I-Sites GIS and Database, historic maps and aerial photographs available through the

Iowa Geographic Map Server at Iowa State University and the University of Iowa Libraries' Iowa Digital Library. FEMA has determined and the Iowa State Historic Preservation Office (SHPO) concurred that the Public Works facility, including the Public Works and Solid Waste buildings, originally constructed as the Link-Belt Speeder Corporation complex in 1948 with subsequent additions, is eligible for listing in the NRHP. The Forestry Complex and the Sokol Park Maintenance - A Street Shop, meet the 50-year criterion of the National Register Criteria for Evaluation; however, they do not convey the significance required by the National Register Criteria for listing in the NRHP. Both of these facilities were evaluated in the *Architectural Reconnaissance Survey for the Czech Village Residential Area in the Southwest Quadrant of Cedar Rapids (57-094)* conducted by Camilla Deiber of the Louis Berger Group, Inc. August 2010, and recommended not eligible. The SHPO concurred with these determinations in a letter dated September 28, 2010. The Central Fire Fleet Maintenance building does not meet the 50-year criterion required by the National Register Criteria for Evaluation, or the level of exceptional importance required by Criteria Consideration G to be considered eligible for listing in the NRHP.

#### **5.4.1.1 Alternative 1 – No Action**

The No Action Alternative would neither result in consolidation of functions and construction of an addition to the existing building or a new facility, nor would it result in demolition of the original Public Works Facility in conjunction with the Federal undertaking; therefore Section 106 review would not apply.

If this alternative were to be considered and selected, the Memorandum of Agreement (MOA) developed to resolve adverse effects to historic structures resulting from the City's preferred option, Alternate 4, would no longer be required, and would be terminated, as this Alternative would not result in adverse effects to historic structures.

#### **5.4.1.2 Alternative 2 – Repair of Public Works without Consolidation**

Repair to pre-disaster condition of the Public Works, Solid Waste, and Fleet Maintenance Buildings would be reviewed in accordance with the Programmatic Agreement developed among FEMA, SHPO, Iowa Homeland Security and Emergency Management Division (IHSEMD) and the Advisory Council on Historic Preservation (ACHP) and Appendix A: Programmatic Allowances for program activities that will have limited or no effect on historic properties if implemented as specified. Any potential Hazard Mitigation considered for these facilities, if not in conformance with the Programmatic Allowances, may require consultation with the SHPO and if necessary plans to avoid, minimize, or mitigate adverse effects may be considered.

The relocation of the Forestry Complex and Sokol Park Maintenance - A Street Shop would require further evaluation for their potential to affect historic structures depending on chosen locations and consultation with the SHPO regarding the effects of relocating the facilities would be required.

If this alternative were to be considered and selected, the Memorandum of Agreement (MOA) developed to resolve adverse effects to historic structures resulting from the City's preferred option, Alternate 4, would no longer be required, and would be terminated, as this Alternative is not anticipated to result in adverse effects to historic structures.

### **5.4.1.3 Alternative 3 – Repair of Public Works with Consolidation**

Repair to pre-disaster condition of the Public Works and Solid Waste, would be reviewed in accordance with the Programmatic Agreement and Appendix A: Programmatic Allowances. Any potential eligible Hazard Mitigation considered for these facilities, if not in conformance with the Programmatic Allowances, may require consultation with the SHPO and if necessary plans to avoid, minimize, or mitigate adverse effects may be considered.

The consolidation of Forestry Complex, Fleet Maintenance Buildings and Sokol Park Maintenance - A Street Shop would result in an addition to the existing Public Works Facility. FEMA would work with the City to ensure that the proposed addition would be designed in accordance with the Secretary of the Interior's Standards for the Treatment of Historic Properties to avoid adverse effect to the historic structures. This addition would require consultation with the SHPO.

If this alternative were to be considered and selected, the MOA developed to resolve adverse effects to historic structures resulting from the City's preferred option, Alternate 4, would no longer be required, and would be terminated, as this Alternative is not anticipated to result in adverse effects to historic structures.

### **5.4.1.4 Alternative 4 – Replace Public Works with Consolidation**

This Alternative, the City's preferred option, will require the demolition of the Public Works Facility. As noted above, the facility has been determined eligible for listing in the NRHP. The demolition of this facility means that the proposed action as defined will result in adverse effects to historic structures, and is in contrast with the desire to retain cultural resources and restore or preserve historic buildings where possible in addition to locating public and shared facilities appropriately (Sasaki, 2008, p. 15; also see 5.5.3 Land Use and Planning).

As this Alternative has been selected as the City's preferred option, FEMA has initiated the process to resolve adverse effects to historic structures, resulting from the demolition of the former Link-Belt Speeder Corporation Complex, by working with the SHPO, the City and all interested parties and the public to develop a MOA to stipulate measures required to mitigate the adverse effects. FEMA posted a public notice regarding this undertaking in the *Cedar Rapids Gazette* on August 22, 2011. FEMA presented this undertaking at the City of Cedar Rapids Historic Preservation Commission Meeting on August 25, 2011 and invited interested parties and the public to participate in the development of the MOA. A thirty-day comment period was open from August 21 through September 22, 2011 for FEMA to receive comments regarding the undertaking and suggested mitigation measures to be included in the development of a MOA. FEMA has taken into consideration the comments presented by the interested parties and the public and is currently in final development of an MOA. This MOA is anticipated to be executed concurrent with the public comment period for this EA. The resultant MOA and successful completion of the mitigation measures stipulated in the agreement is evidence of FEMA's compliance with its statutory responsibilities under section 106 of the NHPA.

### **5.4.1.5 Alternative 5 – Replace and Consolidate with Retention of Prominent Corner**

This Alternative, suggested by the HPC during the first round of draft reviews of the MOA, will minimize the effect of the undertaking on historic structures, and meet most of the components the City's preferred option, Alternative 4. Adverse effects are not avoided, and a large portion of the NRHP eligible facility would be

demolished, FEMA would work through the process to resolve adverse effects to historic structures, by working with the SHPO, the City, the HPC and all interested parties and the public to develop a MOA to stipulate measures required to mitigate the adverse effects. As proposed by the HPC, brick-and-mortar repairs to the Administrative Office Building corner along 6th Street could be considered as possible mitigation measures stipulated in an MOA. FEMA would be required to present this undertaking to the public, invite interested parties and the public to participate in the development of the MOA, should this alternative be selected. The resultant MOA and successful completion of the mitigation measures stipulated in the agreement would be evidence of FEMA's compliance with its statutory responsibilities under section 106 of the NHPA.

If this alternative were to be considered and selected, the MOA developed to resolve adverse effects to historic properties resulting from the City's preferred option, Alternate 4, would no longer be relevant, and would be amended to reflect this alternative scope of work, and new mitigation measures would be developed to resolve adverse effects, as this Alternative is developed to minimize adverse effects to historic structures.

## **5.4.2 Archaeological Resources**

FEMA has considered the potential for the alternatives to affect archaeological resources. Various sources were checked to determine if any previously identified historic properties, including archeological sites are located within the APE of these undertakings and to determine the potential for the APE to contain previously unidentified historic properties. This review included the NRHP and National Historic Landmarks Databases, and the OSA I-Sites GIS and Database, historic maps and aerial photographs available through the Iowa Geographic Map Server at Iowa State University and the University of Iowa Libraries' Iowa Digital Library. According to the master inventory of archaeological sites in Iowa, no previously recorded archaeological sites are located within the APE of the Public Works facility; however, twelve previously identified sites are located within one mile of the APE, all located across the Cedar River from the facility.

### **5.4.2.1 Alternative 1 – No Action**

The No Action Alternative would not include any demolition or construction activities at the Public Works Facility, therefore no ground disturbing activities would occur, and no archeological resources would be affected with the selection of the No Action Alternative.

### **5.4.2.2 Alternative 2 – Repair of Public Works without Consolidation**

Repair to pre-disaster condition of the Public Works, Solid Waste, and Fleet Maintenance Buildings would result in no ground disturbing activities at those sites and would be reviewed in accordance with the Programmatic Agreement and Appendix A: Programmatic Allowances.

For any ground disturbing activities which may result from an eligible Hazard Mitigation Proposal within the Public Works Facility, FEMA has reviewed the historic aerial images, and has determined that the site has been previously profoundly disturbed by the construction of the Link-Belt Speeder Corporation at that site in 1948, with subsequent additions, and continued use as a public works facility operating heavy machinery on the site. FEMA has determined that as there are no known archaeological sites within the APE, and as the area has been previously profoundly disturbed, no further archaeological review or investigation is required.

The relocation of the Forestry Complex and Sokol Park Maintenance - A Street Shop would have to be further evaluated for their potential to affect historic properties depending on chosen locations. Depending on the site selected for individual relocation, archaeological investigation may be required and consultation with the SHPO regarding the effects of relocating the facility would be required. In addition, any ground disturbing activities at any of the locations within the APE that are not in conformance with the Programmatic Allowances would require review and consultation with the SHPO.

#### **5.4.2.3 Alternative 3 – Repair of Public Works with Consolidation**

For any ground disturbing activities within the Public Works Facility, including the construction of an addition to the existing facility, FEMA has reviewed the historic aerial images, and has determined that the site has been previously profoundly disturbed by the construction of the Link-Belt Speeder Corporation at that site in 1948, with subsequent additions, and continued use as a public works facility operating heavy machinery on the site. FEMA has determined that as there are no known archaeological sites within the APE, and as the area has been previously profoundly disturbed, no further archaeological review or investigation is required.

As the abandoned facilities will all be retained in place, the work required to secure the facilities has no potential to effect archaeological resources.

For any post-review discoveries: in the event that any archaeological deposits (soils, features, or any other remnants of human activity) are uncovered during the undertaking, this project shall be halted, the applicant shall stop all work immediately in the vicinity of the discovery and take reasonable measures to avoid or minimize harm to the finds. The City will inform IHSEMD immediately, will secure all archaeological findings and restrict access to the area. IHSEMD shall notify FEMA and FEMA will consult with the SHPO and the State Archaeologist of Iowa. Work in sensitive areas may not resume until consultations are completed or until an archaeologist who meets the Secretary of the Interior's Professional Qualification Standards determines the extent and historical significance of the discovery. Work may not resume at or around the delineated archaeological deposit until the applicant is notified by IHSEMD.

#### **5.4.2.4 Alternative 4 – Replace Public Works with Consolidation**

For any ground disturbing activities within the Public Works Facility, including the demolition of the original facility and the construction of a new facility, FEMA has reviewed the historic aerial images, and has determined that the site has been previously profoundly disturbed by the construction of the Link-Belt Speeder Corporation at that site in 1948, with subsequent additions, and continued use as a public works facility operating heavy machinery on the site. FEMA has determined that as there are no known archaeological sites within the APE, and as the area has been previously profoundly disturbed, no further archaeological review or investigation is required.

As the abandoned facilities will all be retained in place, the work required to secure the facilities has no potential to effect archaeological resources.

For any post-review discoveries: in the event that any archaeological deposits (soils, features, or any other remnants of human activity) are uncovered during the undertaking, this project shall be halted, the applicant shall stop all work immediately in the vicinity of the discovery and take reasonable measures to avoid or

minimize harm to the finds. The City will inform IHSEMD immediately, will secure all archaeological findings and restrict access to the area. IHSEMD shall notify FEMA and FEMA will consult with the SHPO and the State Archaeologist of Iowa. Work in sensitive areas may not resume until consultations are completed or until an archaeologist who meets the Secretary of the Interior's Professional Qualification Standards determines the extent and historical significance of the discovery. Work may not resume at or around the delineated archaeological deposit until the applicant is notified by IHSEMD.

#### **5.4.2.5 Alternative 5 – Replace and Consolidate with Retention of Prominent Corner**

For any ground disturbing activities within the Public Works Facility, including the demolition of most of the original facility and the construction of a new facility, FEMA has reviewed the historic aerial images, and has determined that the site has been previously profoundly disturbed by the construction of the Link-Belt Speeder Corporation at that site in 1948, with subsequent additions, and continued use as a public works facility operating heavy machinery on the site. FEMA has determined that as there are no known archaeological sites within the APE, and as the area has been previously profoundly disturbed, no further archaeological review or investigation is required.

As the abandoned facilities will all be retained in place, the work required to secure the facilities has no potential to effect archaeological resources.

For any post-review discoveries: in the event that any archaeological deposits (soils, features, or any other remnants of human activity) are uncovered during the undertaking, this project shall be halted, the applicant shall stop all work immediately in the vicinity of the discovery and take reasonable measures to avoid or minimize harm to the finds. The City will inform IHSEMD immediately, will secure all archaeological findings and restrict access to the area. IHSEMD shall notify FEMA and FEMA will consult with the SHPO and the State Archaeologist of Iowa. Work in sensitive areas may not resume until consultations are completed or until an archaeologist who meets the Secretary of the Interior's Professional Qualification Standards determines the extent and historical significance of the discovery. Work may not resume at or around the delineated archaeological deposit until the applicant is notified by IHSEMD.

## **5.5 SOCIOECONOMIC CONSIDERATIONS**

### **5.5.1 Environmental Justice**

On February 11, 1994, President Clinton signed Executive Order (EO) 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. This section uses data from both the 2000 and 2010 Decennial Censuses as not all data for 2010 has been released as of the writing of this EA. The American Community

Survey (ACS) is also used for rough comparison as it is more current though the data uses smaller sample sizes and has higher margins of error than the data used in the decennial censuses.

The Public Works Facility is located in Census Tract 25 at the tract’s border with Census Tract 22. The Fleet Maintenance Building is located in Census Tract 22 and the Forestry Complex and Sokol Park Maintenance - A Street Shop are both located in Census Tract 26 (Appendix A Figure 16). The boundaries of these three Census Tracts are the same as for the 2000 Census. As the 2008 flood heavily impacted Tracts 22 and 26; the 2010 Census address canvassing operation began in March 2009; and as housing acquisition funded through FEMA and Community Development Block Grants (CDBG) have been in progress since the Census process began, the demographics of this area should be understood as dynamic and may vary from the 2010 Census data as released. Tract 25 contains the most housing units (1,395) and the highest population (2,859) reported of the three tracts, followed by Tract 26 with 1,286 housing units and 2,416 residents, and Tract 22 with 864 housing units and 1,832 residents counted. Census Tract 25 contains less than 2.5 percent of the City’s share of housing units and population while the three Tracts combined contain approximately 6 percent of the City’s housing stock and 5.6 percent of the City’s population.

Median ages of Census Tract 25 is higher than that for the City as a whole with 35.7 for men and 37.6 for women in the Tract and 34 for men and 36.8 for women for the City as a whole. Median ages for the other two tracts are below the City-wide median age. All three Census Tracts have lower proportions of older residents (aged 65 and over) than the City proportion and have proportions of working-aged adults comparable to or greater than the City-wide proportion. In Tract 22 (28.1%) the proportion of the under-18 population that is comprised of young children (age 5 or younger) is comparable to the City proportion (28.6%). The proportion of young children within the under-18 population is slightly higher in Tract 25 (30.2%) and highest in Tract 26 (34%).

*Table 5-3: Age Breakdown of Project Area*

Geography	Median Age		Age Distribution					
	Male	Female	Under 18		18-64		over 64	
Census Tract 22	30.6	29.9	405	22.1%	1,334	72.8%	93	5.1%
Census Tract 25	35.7	37.6	685	24.0%	1,866	65.3%	308	10.8%
Census Tract 26	32.5	35.2	582	24.1%	1,541	63.8%	293	12.1%
Cedar Rapids	34	36.8	29,646	23.5%	80,108	63.4%	16,572	13.1%

Census Tract 22 has the highest proportion of minority populations of the three tracts which is also significantly higher than the City proportion. Census Tract 25 has a smaller proportion of minority populations than the City proportion and Census Tract 26 is comparable to the rest of the City. Similar to the rest of the City, the highest proportion of the minority populations report as Black or African American followed by populations reporting as Two or More Races. However, significantly fewer residents of the three Census Tracts consider themselves Asian (7% or less) than the proportion for the City as a whole (18.4%). A higher proportion of the total population of Census Tract 22 report Hispanic or Latino heritage (5.1%) compared to the City proportion (3.3%) which is comparable to the other two Tracts.

*Table 5-4: Total minority populations*

Geography	2010 Minority Status (SF1 Data)		
	Total	Minority Population	Percentage
Census Tract 22	1,832	358	19.5%
Census Tract 25	2,859	257	9.0%
Census Tract 26	2,416	297	12.3%
Cedar Rapids	126,326	15,182	12.0%

Median household incomes in the three Census Tracts were lower as of the 2000 Census than the City-wide median income of 43,704 dollars annually. Tract 25 had the highest median income of the three with \$35,000 and Tract 22 had the lowest with \$30,035.

*Table 5-5: Population for whom poverty status is determined*

Geography	2000 Poverty Status (SF3 Data)		2010 ACS (5-Year Average)	
	Population	Percentage	Percentage	Margin of Error
Census Tract 22	293	11.60%	24.1%	± 9.8%
Census Tract 25	481	14.60%	11.9%	± 7.0%
Census Tract 26	452	15.40%	18.8%	± 9.7%
Cedar Rapids	8,843	7.54%	12.0%	± 1.0%

The population determined to be below the poverty threshold in the 2000 Census is significantly higher in the three Census Tracts compared to the City’s figure of 7.54 percent. The five year average estimate from the ACS suggests that the proportion of the population in Census Tract 22 determined to be in poverty may have nearly doubled since 2000. The same estimates suggest that the proportion of population in poverty has increased in Census Tract 26 and declined in Census Tract 25. Due to the sample size and the methodology used by the ACS, the real levels of population considered in poverty could vary considerably from little increase in poverty to a near tripling in Census Tract 22. The estimated proportion of the population of Cedar Rapids determined to be in poverty has increased with a much narrower margin of error.

### **5.5.1.1 Alternative 1 – No Action**

Under the no action alternative, no construction activity would take place. No new impacts to the surrounding neighborhoods would be expected as compared to the existing post-flood condition. Impacts associated with the damaged and vacant buildings in the case of Forestry Complex, Sokol Park Maintenance - A Street Shop, and Fleet Maintenance would persist and are anticipated to be minor to moderate; such impacts may include but not limited to perception of disinvestment in the community, opportunities for vandalism, and opportunities for squatting. Maintenance and periodic inspection of vacant properties may reduce the potential impacts contributing to disinvestment. Impacts to neighborhoods resulting from the temporary relocation of Public Works functions would continue, but are expected to be minor to negligible and primarily associated with nuisances as addressed in 5.1.1 Air Quality, 5.5.2 Noise, 5.5.3 Land Use and Planning, and 5.5.4 Transportation.

### **5.5.1.2 Alternative 2 – Repair of Public Works without Consolidation**

Repair of the Public Works Facility would return functions to their pre-disaster levels and conditions preserving any positive and negative impacts that existed prior to the disaster. Short term impacts are anticipated to be limited to construction activities with associated impacts such as air quality, transportation, and others addressed elsewhere in this document. This alternative does not displace or further encroach on low-income or minority populations as the site is currently and has been developed and operated for a similar use since prior to the disaster.

Impacts associated with Forestry Complex and Sokol Park Maintenance - A Street Shop would require further evaluation to assess the effects of relocating or of elevating the Forestry Complex at the damaged locations. Long-term negative impacts associated with vacant buildings to the neighborhoods adjacent to and surrounding Forestry Complex and Sokol Park Maintenance - A Street Shop may include perception of disinvestment in the community; opportunities for vandalism; and opportunities for squatting. These impacts may be mitigated through maintenance of the vacant facilities and periodic inspection which would reduce the impacts to minor or negligible levels.

### **5.5.1.3 Alternative 3 – Repair of Public Works with Consolidation**

Repair of the Facility with consolidation of functions is expected to have an incremental impact to the surrounding neighborhood with the increased intensity of usage of the site (see 5.5.3 Land Use and Planning). Short term construction impacts may be a nuisance to the surrounding area which may be mitigated as discussed in other areas of this document. This alternative does not displace or further encroach on low-income or minority populations as the site is currently and has been developed and operated for a similar use since prior to the disaster. Incrementally increased intensity of use of the site with the consolidation of Department functions is anticipated to be minor and manageable through existing City regulations.

Long-term negative impacts associated with vacant buildings to the neighborhoods adjacent to and surrounding Forestry Complex and Sokol Park Maintenance - A Street Shop may include perception of disinvestment in the community; opportunities for vandalism; and opportunities for squatting. These impacts may be mitigated through maintenance of the vacant facilities and periodic inspection which would reduce the impacts to minor or negligible levels.

### **5.5.1.4 Alternative 4 – Replace Public Works with Consolidation**

Repair of the Facility with consolidation of functions is expected to have an incremental impact to the surrounding neighborhood with the increased intensity of usage of the site (see 5.5.3 Land Use and Planning). Short term construction impacts may be a nuisance to the surrounding area which may be mitigated as discussed in other areas of this document. This alternative does not displace or further encroach on low-income or minority populations as the site is currently and has been developed and operated for a similar use since prior to the disaster. While FEMA has not evaluated the aesthetic merits of the proposed design and the existing structure, loss of the characteristic Administrative building and the corner of the building at the existing 6<sup>th</sup> Street entrance would be expected to change the characteristics of the neighborhood. Such impacts are anticipated to be minor to moderate though whether they are positive, negative, or indifferent has not been

established. Incrementally increased intensity of use of the site with the consolidation of Department functions is anticipated to be minor and manageable through existing City regulations.

Long-term negative impacts associated with vacant buildings to the neighborhoods adjacent to and surrounding Forestry Complex and Sokol Park Maintenance - A Street Shop may include perception of disinvestment in the community; opportunities for vandalism; and opportunities for squatting. These impacts may be mitigated through maintenance of the vacant facilities and periodic inspection which would reduce the impacts to minor or negligible levels.

#### **5.5.1.5 Alternative 5 – Replace and Consolidate with Retention of Prominent Corner**

Repair of the Facility with consolidation of functions is expected to have an incremental impact to the surrounding neighborhood with the increased intensity of usage of the site (see 5.5.3 Land Use and Planning). Short term construction impacts may be a nuisance to the surrounding area which may be mitigated as discussed in other areas of this document. This alternative does not displace or further encroach on low-income or minority populations as the site is currently and has been developed and operated for a similar use since prior to the disaster. Both schematics preserve the characteristic corner of the administrative building at the existing 6<sup>th</sup> Street entrance; however schematic 5(b) preserves the characteristics of the overall site more substantially compared to the pre-disaster condition. Such aesthetic impacts are anticipated to be minor to moderate though whether they are positive, negative, or indifferent has not been established by FEMA. Incrementally increased intensity of use of the site with the consolidation of Department functions is anticipated to be minor and manageable through existing City regulations.

Long-term negative impacts associated with vacant buildings to the neighborhoods adjacent to and surrounding Forestry Complex and Sokol Park Maintenance - A Street Shop may include perception of disinvestment in the community; opportunities for vandalism; and opportunities for squatting. These impacts may be mitigated through maintenance of the vacant facilities and periodic inspection which would reduce the impacts to minor or negligible levels.

### **5.5.2 Noise**

As a result of the human health and welfare impacts of uncontrolled noise, the Noise Control Act was enacted in 1972; however 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 were not rescinded by Congress and remain in effect.

The term “noise” is considered unwanted or nuisance 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). 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). The levels represent averages of acoustic energy over long periods of time such as eight (8) hours or 24 hours rather than single events. Table 5-3, below, presents some common construction equipment with their estimated noise levels and levels at various distances.

Noise regulations take into account sensitive receptors which are populations or land uses that may be impacted to a greater extent by increases in ambient noise levels. Sensitive receptors generally include museums, libraries, day care centers, schools, hospitals, and places of worship, among others. The Public Works Site is adjacent to residential areas as well as commercial properties. Aside from residential properties, the nearest identified sensitive noise receptors include Eden United Church of Christ and Linwood Cemetery, however the Murdoch Funeral Home at the cemetery is located on the opposite side of the cemetery from the Public Works site. The Forestry Complex and Sokol Park Maintenance - A Street Shop are also located in a largely residential area with the nearest identified sensitive noise receptor being the relocated National Czech Slovak Museum and Library which is approximately 1,000 feet away. The Fleet Maintenance Building is also located near residential and commercial properties. Saint Patrick's Church is located approximately 400 feet from Fleet Maintenance and Salem United Methodist Church is located approximately 530 feet, separated from the building by Interstate 380.

According to the Cedar Rapids Municipal Code 56.02, any noise measured over 65 dB at any time within a commercial district is prohibited; motor vehicles or combination of vehicles with gross weight rating of 10,000 pounds or more that produce noise measured at 90 dB are prohibited in speed zones of 35 miles per hour or less; and all other vehicles that produce noise at 80 dB are prohibited in the same areas. The City also prohibits "loud and raucous noise in the vicinity of any residence or hospital which causes unreasonable distress to the occupants thereof" (62.01, Code 2011).

Table 5-6: Estimated Sound Levels for Construction Equipment and Attenuation at Various Distances

Equipment	Typical Noise Level (dBA) at 50 ft. from Source <sup>1</sup>	Estimate at 100 ft.	Estimate at 200 ft.	Estimate at 500 ft.	Estimate at 1,000 ft.
Air Compressor	81	75	69	61	55
Backhoe	80	74	68	60	54
Concrete Mixer	85	79	73	65	59
Dozer	85	79	73	65	59
Generator	81	75	69	61	55
Loader	85	79	73	65	59
Paver	89	83	77	69	63
Pneumatic Tool	85	79	73	65	59
Pump	76	70	64	56	50
Saw	76	70	64	56	50
Shovel	82	76	70	62	56
Truck	88	82	76	68	62

Source: FHWA, 2006

### 5.5.2.1 Alternative 1 – No Action

Under the no action alternative, no construction activities would take place that would affect surrounding properties. Impacts at the Public Works site would remain at current levels as would impacts near temporary locations where Public Works functions are currently housed.

### 5.5.2.2 Alternative 2 – Repair of Public Works without Consolidation

Repair of the damaged Public Works Building would be largely contained within the existing building reducing the amount of noise impacts to surrounding properties. Impacts are expected to be minor compared to day-to-day operations at the site.

Relocation of the Forestry Complex and Sokol Park Maintenance - A Street Shop would result in short-term increases in noise levels in the vicinity of the project resulting from construction activities for approximately 18 months. The impacts of noise from construction activities will be limited to day-time hours according to City regulations. Relocation of these facilities would require further evaluation for potential sensitive noise receptors at the chosen locations if they are moved under this alternative. Likewise, elevation of the Forestry Complex at its damaged locations would have short-term impacts to the surrounding properties comparable to relocation; best management practices (BMP) to minimize noise impacts would be required, see 5.5.2.6 Mitigation.

### **5.5.2.3 Alternative 3 – Repair of Public Works with Consolidation**

Repair and consolidation of Public Works functions in an addition at the 6<sup>th</sup> Street Public Works site would result in short-term increases in noise levels in the vicinity of the project resulting from construction activities for approximately 18 months. The impacts of noise from construction activities will be limited to day-time hours according to City regulations. The Eden United Church of Christ is located approximately 700 feet from the corner of the site occupied by the Solid Waste Building and approximately 1,000 feet from the portions of the project site where most work would take place. Construction noise impacts to this church are expected to be negligible to minor. Noise impacts to surrounding residential properties would require noise reduction BMP, see 5.5.2.6 Mitigation.

Long-term impacts associated with increased intensity of use at the Public Works site are expected to increase, but are anticipated to be within regulatory standards. The impacts are anticipated to be incremental and are associated with normal land use changes, see 5.5.3 for further discussion. Long-term impacts at the Forestry Complex, Sokol Park Maintenance - A Street Shop, and Fleet Maintenance Building are anticipated to remain comparable or decline with the anticipated reduction in intensity of use of the buildings.

### **5.5.2.4 Alternative 4 – Replace Public Works with Consolidation**

Reconstruction and consolidation of Public Works functions in an addition at the 6<sup>th</sup> Street Public Works site would result in short-term increases in noise levels in the vicinity of the project resulting from construction activities for approximately 18 months. The impacts of noise from construction activities will be limited to day-time hours according to City regulations. The Eden United Church of Christ is located approximately 700 feet from the corner of the site occupied by the Solid Waste Building and approximately 1,000 feet from the portions of the project site where most work would take place. Construction noise impacts to this church are expected to be negligible to minor. Noise impacts to surrounding residential properties would require noise reduction BMP, see 5.5.2.6 Mitigation.

Long-term impacts associated with increased intensity of use at the Public Works site are expected to increase, but are anticipated to be within regulatory standards. The impacts are anticipated to be incremental and are associated with normal land use changes, see 5.5.3 for further discussion. Long-term impacts at the Forestry Complex, Sokol Park Maintenance - A Street Shop, and Fleet Maintenance Building are anticipated to remain comparable or decline with the anticipated reduction in intensity of use of the buildings.

### **5.5.2.5 Alternative 5 – Replace and Consolidate with Retention of Prominent Corner**

Reconstruction and consolidation of Public Works functions in an addition at the 6<sup>th</sup> Street Public Works site would result in short-term increases in noise levels in the vicinity of the project resulting from construction activities for approximately 18 months. The impacts of noise from construction activities will be limited to day-time hours according to City regulations. The Eden United Church of Christ is located approximately 700 feet from the corner of the site occupied by the Solid Waste Building and approximately 1,000 feet from the portions of the project site where most work would take place. Construction noise impacts to this church are expected to be negligible to minor. Noise impacts to surrounding residential properties would require noise reduction BMP, see 5.5.2.6 Mitigation.

Long-term impacts associated with increased intensity of use at the Public Works site are expected to increase, but are anticipated to be within regulatory standards. The impacts are anticipated to be incremental and are associated with normal land use changes, see 5.5.3 for further discussion. Long-term impacts at the Forestry Complex, Sokol Park Maintenance - A Street Shop, and Fleet Maintenance Building are anticipated to remain comparable or decline with the anticipated reduction in intensity of use of the buildings.

### 5.5.2.6 Mitigation

Alternatives 3 - 5 would result in the highest increases in noise levels, albeit temporary, in the vicinity of the project area for the construction of the proposed project. Alternative 2 may have similar noise impacts associated with the relocation or elevation of the Forestry Complex and Sokol Park Maintenance - A Street Shop. Construction activities would require approximately 18 months of construction and the use of heavy equipment. According to the Center for Environmental Excellence by the American Association of State Highway and Transportation Officials (AASHTO), BMPs for noise reduction include (AASHTO 2009);

- Early and frequent communication with the public;
- Planning noisier activities and equipment usage for mid-morning to mid-afternoon;
- Planning site access and staging to minimize or eliminate “back-up alarm” noise;
- Limiting equipment on site to only what is necessary;
- Imposing seasonal limitation on construction noise as spring and fall are critical times when windows are left open in residential areas;
- Using newer, “low-noise” models of equipment;
- Limiting construction activities to daylight hours;
- And, shift work to weekends rather than weeknights.

Once construction activities are completed, noise levels should return to pre-project levels. Applying BMPs for construction noise reduction is expected to minimize the short-term adverse impacts of the project. FEMA has determined that the proposed action is expected to have no long-term adverse impacts on the noise quality of the area.

### 5.5.3 Land Use and Planning

The Cedar Rapids Community Development Department coordinates planning activities in the City and advises the City Council, other departments, other non-City agencies, and private stakeholders on issues of development and planning within the City. The City adopted the current comprehensive plan in 1999 which established the community’s priorities including vision, objectives, and goals through 2030. See 5.5.4 Transportation for metropolitan transportation planning discussion. Land-use and zoning regulations are administered and enforced by the City of Cedar Rapids.

The Public Works Facility currently occupies the land bound by 6<sup>th</sup> Street SW, 4<sup>th</sup> Street SW, 15<sup>th</sup> Avenue SW and the CRANDIC railroad tracks. The site is currently zoned PUB Special Purpose Overlay District designating land owned by government entities where the City designates the permitted use of the land. The surrounding land is zoned for light industrial uses, single and two family residential uses, Community Commercial, PUB, and Office and Service uses (see Appendix A Figure 12). The Forestry Complex is currently

zoned PUB with adjacent land zoned for general industrial uses and single family residential uses. The Sokol Park Maintenance - A Street Shop is currently zoned for single family residential uses with adjacent land similarly zoned (see Appendix A Figure 13). The Fleet Maintenance Building is currently zoned PUB with adjacent parcels zoned PUB, for regional commercial uses, and for residential multi-family uses (see Appendix A Figure 14).

The Public Works Building, the Solid Waste Building, and the Fleet Services Building are located within the areas primarily identified for reinvestment by the Sasaki Framework Plan for Reinvestment and Recovery (Framework Plan) and also in the Neighborhood Action Plan. However these facilities are not identified as targeted for specific types of reinvestment or uses. The Sokol Park Maintenance - A Street Shop and Forestry Complex are located in areas identified as targeted for future greenway on the river side of one potential levee alignment.

### **5.5.3.1 Alternative 1 – No Action**

Under this alternative, no impacts to land use of the damaged facilities are anticipated. By taking no action, multiple Public Works functions will remain distributed among damaged and temporary facilities which may be inconsistent with zoning and with the comprehensive plan.

### **5.5.3.2 Alternative 2 – Repair of Public Works without Consolidation**

Repair of the Public Works Building, Solid Waste Building, and Fleet Maintenance would restore pre-disaster conditions consistent with previous land use and zoning. The Forestry Complex would have to be further evaluated depending on elevation at its damaged location or both the Forestry Complex and Sokol Park Maintenance - A Street Shop for new sites if relocation is chosen. New sites for these two facilities may require the City to undergo its standard re-zoning process if the sites are not already zoned PUB.

### **5.5.3.3 Alternative 3 – Repair of Public Works with Consolidation**

Repair and consolidation of Public Works functions is expected to be consistent with the City's land use planning goals and would conform to existing zoning designations. Consolidation of functions at the Public Works site is expected to incrementally increase the intensity of use of the site with additional equipment and personnel on site. The impact of increased intensity of use is expected to be within regulatory standards.

### **5.5.3.4 Alternative 4 – Replace Public Works with Consolidation**

Replacement of the Public Works Facility with new site design and consolidation of functions is consistent with existing zoning designations. However this option is inconsistent with the City's 1999 comprehensive plan which indicates as one of its objectives "[t]o preserve and enhance existing community historic resources" (Freilich et al., 1999, p. 63 - 64). The replacement of the historic buildings at the Public Works Building is inconsistent with the public feedback indicated in the Sasaki *Framework Plan* which conveyed a desire to retain cultural resources and restore or preserve historic buildings where possible (Sasaki, 2008, p. 15). Selection of this alternative would result in the loss of a historic property which as a result of using eligible FEMA funds would require the development of mitigation measures (see 5.4.1 Historic Properties). Consolidation of functions at the Public Works site is expected to incrementally increase the intensity of use of

the site with additional equipment and personnel on site. The impact of increased intensity of use is expected to be within regulatory standards.

#### **5.5.3.5 Alternative 5 – Replace and Consolidate with Retention of Prominent Corner**

Replacement of the Public Works Facility with new site design and consolidation of functions is consistent with existing zoning designations. This alternative may not be consistent with the City's 1999 comprehensive plan as it consists of a City-selected project resulting in adverse effects to historic properties. The majority replacement of the historic buildings at the Public Works Building may be inconsistent with the public feedback indicated in the *Sasaki Framework Plan* which conveyed a desire to retain cultural resources and restore or preserve historic buildings where possible (Sasaki, 2008, p. 15). Both schematics developed by the City for this alternative are consistent with minimizing adverse effect to historic properties. Selection of this alternative would result in adverse effects to a historic property which as a result of using eligible FEMA funds would require the development of mitigation measures (see 5.4.1 Historic Properties). Consolidation of functions at the Public Works site is expected to incrementally increase the intensity of use of the site with additional equipment and personnel on site. The impact of increased intensity of use is expected to be within regulatory standards.

### **5.5.4 Transportation**

The Corridor Metropolitan Planning Organization (CMPO) is tasked under the 1973 Highway Act to coordinate metropolitan-wide transportation planning and investment. CMPO's most recent *Long Range Transportation Plan (LRTP)*, consistent with SAFETEA-LU (current Federal transportation legislation), Clean Air Act (CAA), and Title VI of the 1964 Civil Rights Act, was adopted July 15, 2010. The Public Works Facility entrance is on 6<sup>th</sup> Street which is classified as a major arterial, 15<sup>th</sup> Avenue is a minor arterial, and 4<sup>th</sup> Street is a residential street. The Fleet Maintenance building is surrounded by residential streets and one collector road; the Forestry Complex and Sokol Park Maintenance - A Street Shop are both located on collector roads.

The Level of Service for the roads surrounding the proposed project site are classified as "uncongested" and are projected to remain so through 2040 (see Appendix A Figure 15). The *LRTP* also identifies 6<sup>th</sup> Street as a regionally significant corridor. Intersection improvements and turn lane work is planned for 6<sup>th</sup> Street in the *LRTP*, however it is located south of 15<sup>th</sup> Avenue. The Sokol Park Maintenance - A Street Shop, Forestry Complex, and Fleet Maintenance Building are all located on roads currently classified as "uncongested" and are projected to remain so through 2040 as well.

#### **5.5.4.1 Alternative 1 – No Action**

Under the no action alternative, Public Works functions would remain distributed between damaged and temporary facilities. The result of distributed functions may result in continued, localized impacts to traffic congestion; however the impacts are expected to be negligible to minor.

#### **5.5.4.2 Alternative 2 – Repair of Public Works without Consolidation**

Repair of the Public Works Building, Solid Waste Building, and Fleet Maintenance is expected to restore the level of service of the surrounding streets to approximately pre-disaster levels. The Sokol Park Maintenance -

A Street Shop and Forestry Complex would have to be further evaluated depending on elevation of the Forestry Complex at its damaged locations or for new sites if relocation is chosen. Short term construction impacts to traffic on the surrounding roads are expected to be limited as the majority of the work is expected to be confined to the site. Traffic may be marginally impacted by construction equipment entering or leaving the site, however the impacts are expected to be partially mitigated by the urban street grid with the presence of alternate routes.

#### **5.5.4.3 Alternative 3 – Repair of Public Works with Consolidation**

Repair of the Public Works Facility with consolidation of functions is expected to result in increased traffic and incrementally reduced level of service on the surrounding streets. The impacts are expected to be minor, however in the long-term, improvements to 6<sup>th</sup> Street beyond current projections may be needed as traffic patterns change over time. The City would need to coordinate any future road improvements with CMPO.

Short term construction impacts to traffic on the surrounding roads are expected to be limited as the majority of the work is expected to be confined to the site. Traffic may be marginally impacted by construction equipment entering or leaving the site, however the impacts are expected to be partially mitigated by the urban street grid with the presence of alternate routes.

#### **5.5.4.4 Alternative 4 – Replace Public Works with Consolidation**

Repair of the Public Works Facility with consolidation of functions is expected to result in increased traffic and incrementally reduced level of service on the surrounding streets. The impacts are expected to be minor, however in the long-term, improvements to 6<sup>th</sup> Street beyond current projections may be needed as traffic patterns change over time. The City would need to coordinate any future road improvements with CMPO.

Short term construction impacts to traffic on the surrounding roads are expected to be limited as the majority of the work is expected to be confined to the site. Traffic may be marginally impacted by construction equipment entering or leaving the site, however the impacts are expected to be partially mitigated by the urban street grid with the presence of alternate routes.

#### **5.5.4.5 Alternative 5 – Replace and Consolidate with Retention of Prominent Corner**

Repair of the Public Works Facility with consolidation of functions is expected to result in increased traffic and incrementally reduced level of service on the surrounding streets. The impacts are expected to be minor, however in the long-term, improvements to 6<sup>th</sup> Street beyond current projections may be needed as traffic patterns change over time. The City would need to coordinate any future road improvements with CMPO.

Short term construction impacts to traffic on the surrounding roads are expected to be limited as the majority of the work is expected to be confined to the site. Traffic may be marginally impacted by construction equipment entering or leaving the site, however the impacts are expected to be partially mitigated by the urban street grid with the presence of alternate routes.

### 5.5.5 Public Health and Safety

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 the Toxic Substances Control Act.

Radon (Rn) is a naturally occurring radioactive gas that is produced by the decay of uranium found within soil, rocks, and groundwater that accumulates in enclosed spaces such as the lowest level of buildings. The U.S. Environmental Protection Agency (EPA) currently considers residential radon exposure at or above 4.0 pico Curies per liter (pCi/L) as a public health risk as an additional risk factor for development of lung cancer. The EPA provides a map for each county in the U.S. which shows the potential for elevated indoor radon levels, with Zone 1 having the highest potential for predicted average indoor screening levels greater than 4.0 pCi/L. According to the EPA's Map of Radon Zones, Linn County and the entire State of Iowa is mapped within Zone 1 (EPA, 2011b). Actual levels of radon can vary significantly from property to property, even within areas with high potential for elevated radon levels. Radon testing is the only way to determine actual radon levels within an enclosed space such as the lowest floor of a structure.

In reviewing the IDNR's Environmental Facilities geo-spatial data (see Appendix A Figure 17), FEMA identified one former leaking underground storage tank (LUST) is located on the Public Works site that has been classified by the IDNR as No Further Action (Leak #8LTK74). A LUST (Leak #8LTY47) is located on the Central Fire site at approximately the location of the Fleet Maintenance Building; also classified by the IDNR as No Further Action. An underground storage tank (UST) is located in close proximity to the Forestry Complex associated with Broulik Painting Inc. with no past leaks reported.

Additional known potential sources of contamination exist within 500 feet of the Public Works site. Two USTs are located near the intersection of the CRANDIC line and 6th Street SW. Two closed wells are located south of the site on IDOT District Office property along with a former LUST (Leak #7LTF63) classified as No Further Action. A metal fabrication company identified under the RCRA program as of 2009, Dakota Red (formerly Langer Manufacturing Company), is located within 500 - 700 feet of Public Works with no compliance or enforcement actions on record. A former LUST (Leak #8LTT66) associated with Don's Auto Sales is classified as No Further Action. Two potential sources of concern are associated with the Former Nordstrom Oil Bulk Plant LUST (Leak #9LTC43), as there is no information available through the IDNR database, and a LUST (Leak #7LTC17) associated with Kings Materials, Inc. which is classified as High Risk linked to groundwater and soil vapor into enclosed spaces.

During site visits in November 2010 and March 2011, FEMA identified potentially significant amounts of Asbestos Containing Materials (ACM) and lead paint in addition to inferred potential soil and groundwater

contamination based on the Public Works site previous use as a manufacturing plant. The City hired Terracon in 2011 to investigate the site and prepare a *Phase II Environmental Site Assessment* to identify the presence of potential soil and groundwater contamination. Multiple compounds were identified in the soil borings; however the majority of contaminants present are below Statewide Standards (SWS) for reporting or below Tier 1 Values.<sup>5</sup> Arsenic (As), benzene, vinyl chloride (VCM), and total extractable hydrocarbons (TEH) have been found at one or more testing location that exceed either the SWS or Tier 1 value indicating that the soil and groundwater at the Public Works Site have been impacted.

#### **5.5.5.1 Alternative 1 – No Action**

Under the no action alternative, no construction or demolition activities would take place and the potential to disturb or encounter contaminated soil or groundwater is limited to existing conditions. Soil and groundwater contamination would continue to be present at the site and contaminants may continue to migrate through the soil to neighboring areas.

#### **5.5.5.2 Alternative 2 – Repair of Public Works without Consolidation**

Repair of the damaged facilities would not require ground-disturbing activities and thus existing soil and groundwater contamination would remain. Sub-surface contamination present at the Public Works site would remain in place with no increase or decrease in potential exposure to neighboring properties. However, soil and groundwater contamination would not be disturbed and exposed to workers or civilians near the project site, near the disposal site, or while in transit. Asbestos testing must take place prior to work in areas undisturbed by muck-out activities that have already taken place, ACM must either be undisturbed, encapsulated, or properly removed and disposed by licensed contractors.

#### **5.5.5.3 Alternative 3 – Repair of Public Works with Consolidation**

Repair of the existing Public Works building will not disturb potential soil or groundwater contaminants. However construction of the proposed addition for the consolidation of department functions and the removal of existing cold storage and existing fuel facility would require ground disturbing activities (see Appendix A, Figure 2). Per consultant recommendations, “[a] media management plan should be prepared to provide hazard recognition and response procedures, suggested soil excavation, storage, characterization and disposal procedures, and dewatering management and disposal procedures for advance planning” (Terracon, 2012). If contamination in excess of reporting requirements is met, work must stop, the site must be stabilized, and the IDNR must be contacted at Field Office #1 (563-927-2640). Work within the sensitive area cannot resume until IDNR clean-up or containment requirements are met and IDNR personnel indicate that no further assessment is needed at the site of the discovery. Contaminated soils and material must be properly disposed of and protected from impacting surround properties between disturbance and disposal; BMP to prevent

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<sup>5</sup> The Tier 1 level is where contamination for a particular compound exceeds a level of acceptable risk. For concentrations of a given compound that fall below the Tier 1 level, further investigation is typically not required and a site may receive a no further action classification. For concentrations above this level, further investigation, implementation of project controls, or over-excavation and disposal may be required.

release of contaminants while in transit to a permitted disposal site must be implemented. FEMA recommends implementation of radon mitigation measures as practicable, see 5.5.5.5 Mitigation.

#### **5.5.5.4 Alternative 4 – Replace Public Works with Consolidation**

Complete replacement and consolidation of department functions at the Public Works site poses the highest amount of exposure to existing sub-surface contaminants due to the amount of ground disturbance required for this option. Per consultant recommendations, “[a] media management plan should be prepared to provide hazard recognition and response procedures, suggested soil excavation, storage, characterization and disposal procedures, and dewatering management and disposal procedures for advance planning” (Terracon, 2012). If contamination in excess of reporting requirements is met, work must stop, the site must be stabilized, and the IDNR must be contacted at Field Office #1 (563-927-2640). Work within the sensitive area cannot resume until IDNR clean-up or containment requirements are met and IDNR personnel indicate that no further assessment is needed at the site of the discovery. Contaminated soils and material must be properly disposed of and protected from impacting surround properties between disturbance and disposal; BMP to prevent release of contaminants while in transit to a permitted disposal site must be implemented. FEMA recommends implementation of radon mitigation measures as practicable, see 5.5.5.5 Mitigation.

#### **5.5.5.5 Alternative 5 – Replace and Consolidate with Retention of Prominent Corner**

Replacement of the majority of the facilities at the Public Works site would require extensive ground disturbing activities, exposing nearly as much existing sub-surface contaminants as Alternative 4 and somewhat less than in Alternative 3. Per consultant recommendations, “[a] media management plan should be prepared to provide hazard recognition and response procedures, suggested soil excavation, storage, characterization and disposal procedures, and dewatering management and disposal procedures for advance planning” (Terracon, 2012). If contamination in excess of reporting requirements is met, work must stop, the site must be stabilized, and the IDNR must be contacted at Field Office #1 (563-927-2640). Work within the sensitive area cannot resume until IDNR clean-up or containment requirements are met and IDNR personnel indicate that no further assessment is needed at the site of the discovery. Contaminated soils and material must be properly disposed of and protected from impacting surround properties between disturbance and disposal; BMP to prevent release of contaminants while in transit to a permitted disposal site must be implemented. FEMA recommends implementation of radon mitigation measures as practicable, see 5.5.5.5 Mitigation.

#### **5.5.5.5 Mitigation**

With the movement and excavation of the shallow soils associated with the construction of this facility there is a potential for encountering elevated concentrations of radon gas at the site and within the proposed building following construction. The project design should incorporate Radon-resistant construction appropriate to the site, actual radon levels, and overall project design as practicable for alternatives 3-5. Exact levels of radon present at the site can only be determined by site-specific testing. Radon-resistant construction techniques may vary for different foundations and site requirements, but in general include five key concepts:

- Gas Permeable Layer – Usually a 4-inch layer of clean gravel used beneath the slab or flooring system to allow soil-gas to move freely;

- Plastic sheeting – Polyethylene sheeting is placed on top of the gas permeable layer and under the slab to help prevent migration of the soil gas from entering the facility;
- Vent Pipe – A PVC pipe runs from the gas permeable layer up through the structure to the roof to safely vent radon above the facility;
- Junction Box – An electrical junction box is installed in case an electrical venting fan is needed later; and,
- Sealing and Caulking – Openings in the concrete foundation are sealed to prevent soil gas from entering the facility.

## **5.5.6 Demolition**

The Public Works site is substantially developed thus any significant alteration to the site would require demolition activities. Demolition activities are regulated by City, State, and Federal laws ranging from local permits to licensure to appropriate disposal, see 5.5.5 for sub-surface discussion. Demolition debris is expected to be disposed of at the Cedar Rapids/Linn County Landfill #2 located at 1954 County Home Road which is authorized to receive non-friable asbestos.

The IDNR requires that structures be tested for asbestos containing material prior to demolition. If testing is not conducted, all debris or demolition material must be disposed of as if it contained asbestos. IDNR requires at least 10 days notice prior to renovation, repairs, or demolition of asbestos contaminated structures. Cost of disposing ACM is significantly higher; in the Cedar Rapids area it is nearly three times as expensive to dispose as uncontaminated debris as referenced in a recent article in the *Cedar Rapids Gazette* (Gazette, 2012).

### **5.5.6.1 Alternative 1 – No Action**

Under the no action alternative, no construction or demolition activities would take place.

### **5.5.6.2 Alternative 2 – Repair of Public Works without Consolidation**

Under the repair alternative, selective demolition associated with muck-out activities have already been performed. Additional demolition activities, if required as part of restoring the facility to pre-disaster condition and function, would be minimal and largely contained to interior portions of the existing structures. Under this alternative, the Forestry Complex may be demolished facilitate the elevation of the facility at its current site. If the City chooses to relocate the Forestry Complex and Sokol Park Maintenance - A Street Shop to new sites under this alternative, those sites would need to be further evaluated for potential demolition activities.

### **5.5.6.3 Alternative 3 – Repair of Public Works with Consolidation**

The alternative to repair the existing facility with an addition to consolidate other department functions would require selective demolition on the existing building to facilitate construction of the addition. Demolition of a cold storage and a fuel building would be required along with a large amount of parking lot pavement. The City has indicated to FEMA that the Forestry Complex, Sokol Park Maintenance - A Street Shop, and Fleet Maintenance building have been rendered safe and secure and will be used for cold storage.

The City must comply with all local, state, and Federal laws governing the removal and disposition of hazardous materials and ensure that contractors working on behalf of the City are in compliance as well. The City is responsible for ensuring that all waste, including Asbestos Containing Materials (ACM) and lead paint, generated by the demolition activities is removed and disposed of according to applicable local, state, and Federal laws; see 5.5.5 Public Health and Safety for further discussion of sub-surface contaminants.

Salvage or recycling of uncontaminated building components and demolition debris such as crushing concrete for future use as aggregate or other uses should be implemented to mitigate the impact of demolition. Such opportunities are expected to reduce the impact of the demolition to the human environment through reducing wasted embodied energy and the premature opening and closing of cells at the landfill. Reuse of building components in the new facility could further reduce incremental impacts by reducing transportation of materials.

#### **5.5.6.4 Alternative 4 – Replace Public Works with Consolidation**

The alternative to replace the existing Public Works facility would require demolition resulting in significant amounts of debris, including disturbance of suspected ACM and lead paint. The City has indicated to FEMA that the Forestry Complex, Sokol Park Maintenance - A Street Shop, and Fleet Maintenance building have been rendered safe and secure and will be used for cold storage.

The City must comply with all local, state, and Federal laws governing the removal and disposition of hazardous materials and ensure that contractors working on behalf of the City are in compliance as well. The City is responsible for ensuring that all waste, including ACM and lead paint, generated by the demolition activities is removed and disposed of according to applicable local, state, and Federal laws; see 5.5.5 Public Health and Safety for further discussion of sub-surface contaminants.

Salvage or recycling of uncontaminated building components and demolition debris such as crushing concrete for future use as aggregate or other uses should be implemented to mitigate the impact of demolition. Such opportunities are expected to reduce the impact of the demolition to the human environment through reducing wasted embodied energy and the premature opening and closing of cells at the landfill. Reuse of building components in the new facility could further reduce incremental impacts by reducing transportation of materials.

#### **5.5.6.5 Alternative 5 – Replace and Consolidate with Retention of Prominent Corner**

The replacement of the Public Works facility with the preservation of the distinctive corner of the historic building would require demolition resulting in significant amounts of debris, including disturbance of suspected ACM and lead paint. Schematic 5(a) results in a greater amount of demolition than schematic 5(b). The City has indicated to FEMA that the Forestry Complex, Sokol Park Maintenance - A Street Shop, and Fleet Maintenance building have been rendered safe and secure and will be used for cold storage.

The City must comply with all local, state, and Federal laws governing the removal and disposition of hazardous materials and ensure that contractors working on behalf of the City are in compliance as well. The City is responsible for ensuring that all waste, including ACM and lead paint, generated by the demolition

activities is removed and disposed of according to applicable local, state, and Federal laws; see 5.5.5 Public Health and Safety for further discussion of sub-surface contaminants.

Salvage or recycling of uncontaminated building components and demolition debris such as crushing concrete for future use as aggregate or other uses should be implemented to mitigate the impact of demolition. Such opportunities are expected to reduce the impact of the demolition to the human environment through reducing wasted embodied energy and the premature opening and closing of cells at the landfill. Reuse of building components in the new facility could further reduce incremental impacts by reducing transportation of materials.

## **5.6 CUMULATIVE IMPACTS**

Cumulative effects are defined by the CEQ as the impact on the environment resulting from the incremental impacts of the evaluated actions when combined with other past, present, and reasonably foreseeable future actions, regardless of the source, such as Federal or non-Federal. Cumulative impacts can result from individually minor but collectively significant actions take over time. The City is engaged in numerous flood recovery projects including housing acquisitions, house and public building demolitions, relocation of public buildings, restoration of flood-impacted public facilities, and a City-desired flood protection system on both sides of the river.

### **5.6.1 Alternative 1 – No Action**

Under the no action alternative, the Public Works Department would not be restored to, at a minimum, pre-disaster function. The Department would continue to operate out of mucked-out and damaged facilities and out of multiple temporary facilities. The inefficiencies of dispersed operations and functioning at temporary locations are expected to compromise the Department's ability to serve the public effectively.

### **5.6.2 Alternative 2 – Repair of Public Works without Consolidation**

Restoration of the Public Works facilities to their pre-disaster location and levels would return the Department to its pre-disaster level of service. The Forestry Complex would need to be evaluated for either elevation at site or relocation and Sokol Park Maintenance - A Street Shop would need to be evaluated for relocation. Anticipated impacts of relocation of these two facilities are largely confined to a prolonged public process to identify and evaluate sites and consideration of the action to relocate each facility on the human environment. Given the City's desire to construct a flood protection system on both sides of the river, both the Forestry Complex and Sokol Park Maintenance - A Street Shop may be demolished at a point in the future as they are located in the conceptual path of future flood walls or levees. The demolition of these two facilities would contribute more debris to the local landfills contributing to the need to open, fill, and ultimately close lined cells at landfills. The City's planning process identified the desire to co-locate public facilities and so under this alternative, the Fleet Maintenance Building, Forestry Complex, Sokol Park Maintenance - A Street Shop, may ultimately be consolidated into a shared facility with the rest of the Public Works Department.

### **5.6.3 Alternative 3 – Repair of Public Works with Consolidation**

Consolidating Department functions to the Public Works site facilitates future demolition of vacated properties such as the Fleet Maintenance Building. Given the City's desire to construct a flood protection system on both sides of the river, both the Forestry Complex and Sokol Park Maintenance - A Street Shop may be demolished at a point in the future as they are located in the conceptual path of future flood walls or levees. The demolition of these two facilities would contribute more debris to the local landfills contributing to the need to open, fill, and ultimately close lined cells at landfills. The significant amount of demolition activities, public and private, taking place in Cedar Rapids since the flood would be incrementally increased with potential demolition of the vacated Department facilities. Salvage or recycling of uncontaminated building components and demolition debris such as crushing concrete for future use as aggregate or other uses should be implemented to mitigate the impact of demolition. Such opportunities are expected to reduce the impact of the demolition to the human environment through reducing wasted embodied energy and the premature opening and closing of cells at the landfill. Consolidation of Public Works functions is anticipated to increase the Department's ability to serve the public efficiently enabled by co-location. Co-location of Department functions and integration of code upgrades and energy efficient features is anticipated to reduce

### **5.6.4 Alternative 4 – Replace Public Works with Consolidation**

Consolidating Department functions to the Public Works site facilitates future demolition of vacated properties such as the Fleet Maintenance Building. Given the City's desire to construct a flood protection system on both sides of the river, both the Forestry Complex and Sokol Park Maintenance - A Street Shop may be demolished at a point in the future as they are located in the conceptual path of future flood walls or levees. The demolition of these two facilities in addition to the buildings on the Public Works site would contribute more debris to the local landfills contributing to the need to open, fill, and ultimately close lined cells at landfills. The significant amount of demolition activities, public and private, taking place in Cedar Rapids since the flood would be incrementally increased with potential demolition of the vacated Department facilities. Salvage or recycling of uncontaminated building components and demolition debris such as crushing concrete for future use as aggregate or other uses should be implemented to mitigate the impact of demolition. Such opportunities are expected to reduce the impact of the demolition to the human environment through reducing wasted embodied energy and the premature opening and closing of cells at the landfill. Consolidation of Public Works functions is anticipated to increase the Department's ability to serve the public efficiently enabled by co-location.

### **5.6.5 Alternative 5 – Replace and Consolidate with Retention of Prominent Corner**

Consolidating Department functions to the Public Works site facilitates future demolition of vacated properties such as the Fleet Maintenance Building. Given the City's desire to construct a flood protection system on both sides of the river, both the Forestry Complex and Sokol Park Maintenance - A Street Shop may be demolished at a point in the future as they are located in the conceptual path of future flood walls or levees. The demolition of these two facilities in addition to the buildings on the Public Works site would contribute more debris to the local landfills contributing to the need to open, fill, and ultimately close lined cells at landfills. Salvage or recycling of uncontaminated building components and demolition debris such as crushing concrete for future use as aggregate or other uses should be implemented to mitigate the impact of demolition. Such opportunities are expected to reduce the impact of the demolition to the human environment through reducing wasted

embodied energy and the premature opening and closing of cells at the landfill. The significant amount of demolition activities, public and private, taking place in Cedar Rapids since the flood would be incrementally increased with potential demolition of the vacated Department facilities. Consolidation of Public Works functions is anticipated to increase the Department's ability to serve the public efficiently enabled by co-location.

## **5.7 COORDINATION AND PERMITS**

Under any of the alternatives, work that disturbs one acre or more of ground must have a SWPPP developed and NPDES permit from the IDNR. Sediment and erosion control BMPs must be implemented. Any work located in the floodplain will need to be coordinated with the local floodplain administrator and must comply with City floodplain regulations. The City of Cedar Rapids will issue any required building and demolition permits to its selected contractors who will be required to abide by any associated conditions according to the City's standard processes. For all alternatives that result in an adverse effect to the identified historic properties, a MOA must be developed and executed to compensate for the loss of historic properties.

If contamination in excess of reporting requirements is met, work must stop, the site must be stabilized, and the IDNR must be contacted at Field Office #1 (563-927-2640). Work within the sensitive area cannot resume until IDNR clean-up or containment requirements are met and IDNR personnel indicate that no further assessment is needed at the site of the discovery. The City must ensure compliance with all local, state, and Federal laws regarding proper removal and disposal of asbestos containing materials and lead paint.

In the event that any archaeological deposits (soils, features, or any other remnants of human activity) are uncovered during the undertaking, this project shall be halted, the applicant shall stop all work immediately in the vicinity of the discovery and take reasonable measures to avoid or minimize harm to the finds. The City will inform IHSEMD immediately, will secure all archaeological findings and restrict access to the area. IHSEMD shall notify FEMA and FEMA will consult with the SHPO and the State Archaeologist of Iowa. Work in sensitive areas may not resume until consultations are completed or until an archaeologist who meets the Secretary of the Interior's Professional Qualification Standards determines the extent and historical significance of the discovery. Work may not resume at or around the delineated archaeological deposit until the applicant is notified by IHSEMD.

## 6. CONCLUSION

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The draft EA evaluated potentially significant resources that could be affected. The evaluation resulted in identification of no unmitigated significant impacts associated with the resources of climate, historic, cultural, geology and soils; floodplains; wetlands and water resources; biological resources; and environmental justice. Obtaining and implementing permit requirements along with appropriate Best Management Practices and mitigation measures will avoid or minimize any effects associated with the alternatives considered in this EA to below the level of a significant impact. Should no unidentified significant impacts be identified during the public comment period, FEMA recommends that a Finding of No Significant Impact (FONSI) to the human or natural environment be issued for the City's preferred alternative.

## 7. PARTIES CONSULTED AND REFERENCES

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### 7.1 PARTIES CONSULTED

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