

**1971**

Fargo North, North Dakota Quadrangle  
USGS 7.5 Minute Topographic Map

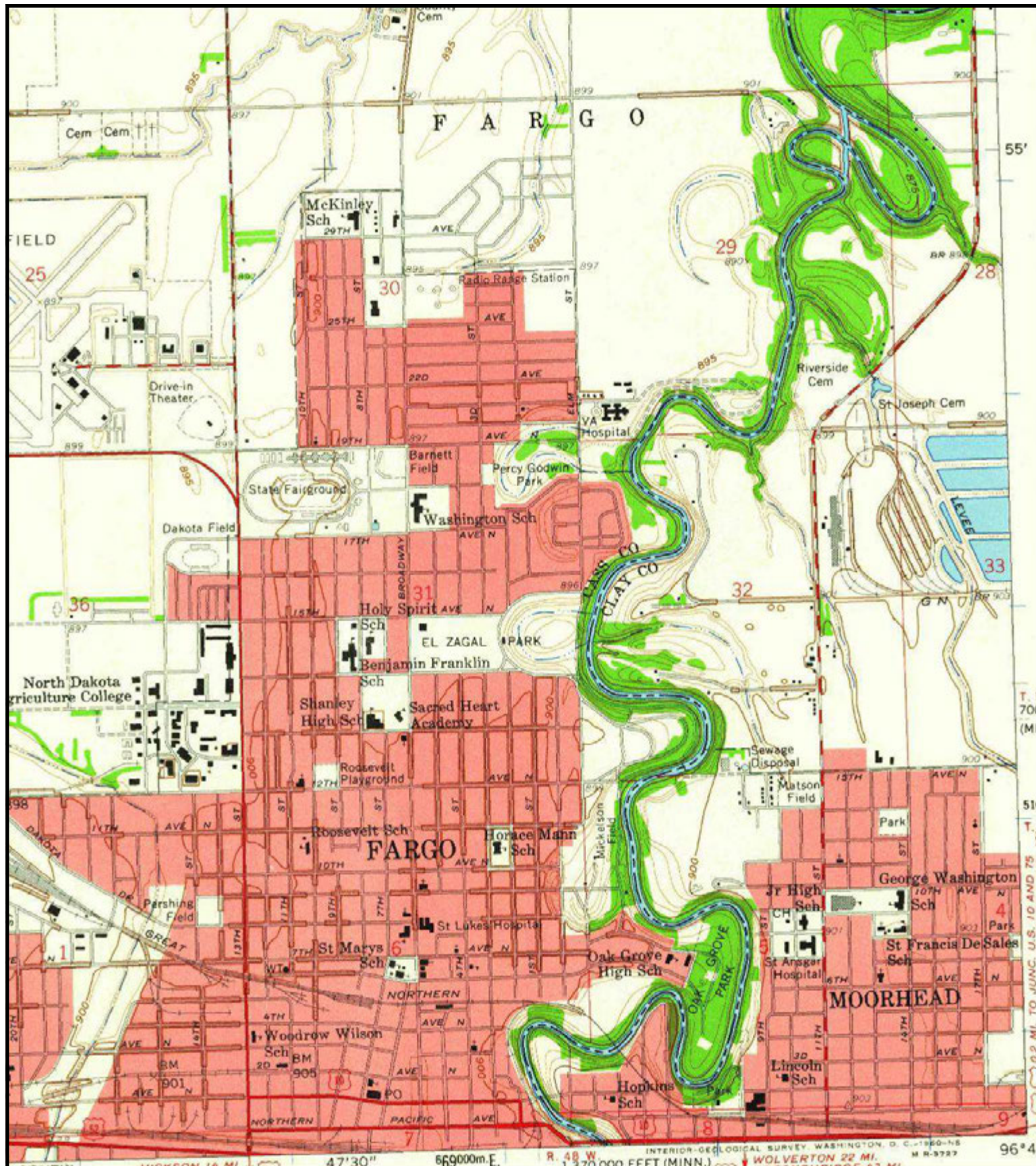
0 0.2 0.4 0.8 Miles

0 1,250 2,500 5,000 Feet

0 0.375 0.75 1.5 Km

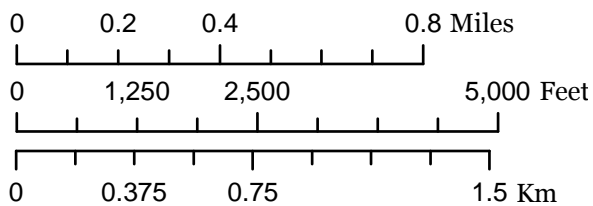






**1959**

Fargo North, North Dakota Quadrangle  
USGS 7.5 Minute Topographic Map



## **Appendix F – Environmental Lien Search Results**

## **Appendix G– Previous Investigation Reports**

# AWD-00002- Flows Through Project

HTRW Assessments and Cost Estimates for Potential Buyout  
Properties in Fargo, North Dakota

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## 1.0 Introduction

HDR Engineering, Inc. (HDR) conducted a preliminary Hazardous, Toxic, and Radioactive Waste (HTRW) evaluation of proposed properties that may be acquired by the Flood Diversion Authority as a part of the AWD-00002 Project (Project) to increase flows during flooding in the Red River through the towns of Fargo, North Dakota and Moorhead, Minnesota. This report focuses on properties identified in Fargo, North Dakota that would be impacted based on modeled flood stage levels.

The objective of this report was to develop planning-level cost estimates associated with HTRW should future flood impacted properties be purchased and demolished as a part of the Project. Estimated costs to address HTRW related issues for the Project were evaluated in two parts:

- 1) Evaluation of identified properties within the study area (see Figure 1) for the likely presence of HTRW and to assign relative risk levels
- 2) Development of planning-level clean up and/or abatement costs.

The evaluation involved a review of historical sources such as: aerial photographs, city directories, fire insurance maps, governmental database records, and property tax records. A limited site reconnaissance was also conducted on February 28, 2012. Following the HTRW evaluation, estimated costs were developed by factoring in risk levels, property size, building size, and generalized costs for clean up and/or abatement.

## 2.0 HTRW Evaluation

The HTRW evaluation focused on gathering background data for the study area identified in Figure 1. This study area was evaluated during the background review and the site reconnaissance. For the purpose of this report, only the following properties will be discussed and evaluated, since they have been identified as potential buyout properties required for the Project.

*Table 1. Potential Buyout Properties*

Property Name	Address(es)
<b>Oak Grove Residential Homes</b>	Multiple (North Ter N., South Ter N., Short St N.)
<b>Oak Grove Lutheran</b>	103 North Ter N., 124 North Ter N., and 88 South Ter N.
<b>Fargo Public Schools</b>	419 3 <sup>rd</sup> St N., 414 3 <sup>rd</sup> St N.
<b>Commercial Office Building</b>	203 4 <sup>th</sup> Ave N.
<b>Howard Johnson</b>	301 3 <sup>rd</sup> Ave N.
<b>City Hall Parking Lot</b>	200 2 <sup>nd</sup> St N.
<b>Mid America Steel</b>	92 Northern Pacific Ave N, 96 Northern Pacific Ave N, and 101 Northern Pacific Ave N
<b>Park East Apartments</b>	1 2 <sup>nd</sup> St S.

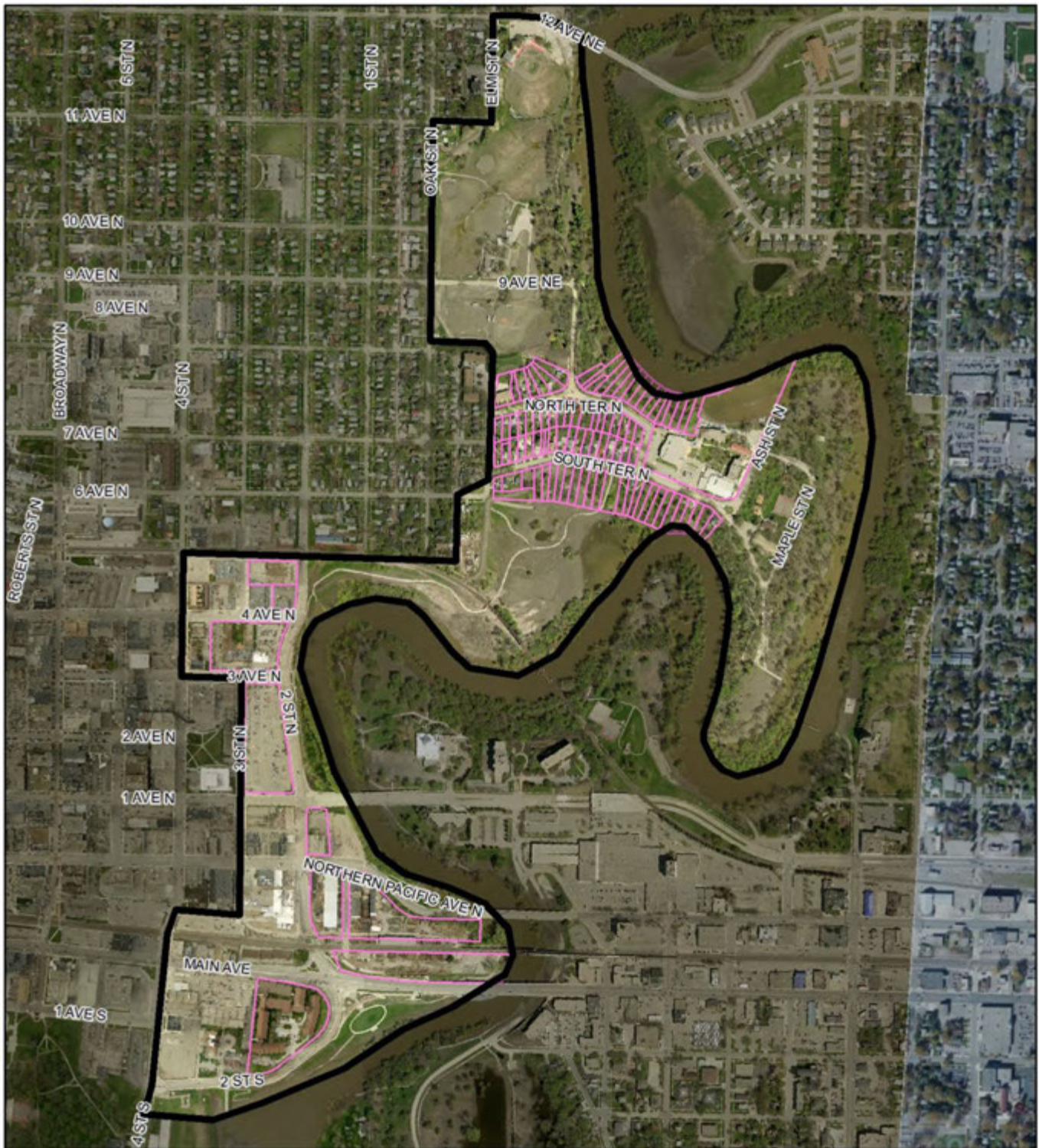
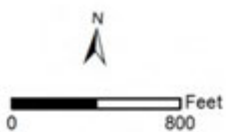


Figure 1  
Study Area

AWD-00002 - Increase In Flows Through Project  
HTRW Assessments & Cost Estimates



Study Area  
Buyout Property



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## 2.1 Background Review

HDR authorized Environmental Data Resources Inc. (EDR) to conduct a governmental database search of the study area. The database search identified listings within the study area and within a 1-mile buffer that were listed in federal, state, local, and tribal records. The search identified listings associated with two sites identified in Table 1. Details of these listings for these two sites are described further in the HTRW Assessment Summary Data Sheets. A copy of the EDR report is located in Appendix A.

Historical Information Gatherers (HIG) provided HDR with copies of historical aerial photographs, city directories, and fire insurance maps. These sources were valuable in assessing former land use in the study area back to the late 1800s. The coverage of these historical sources in the study area was as follows:

*Table 2. Historical Source Coverage*

Historical Source	Coverage Periods
Aerial Photographs	1939, 1941, 1948, 1954, 1958, 1965, 1972, 1976, 1981, 1991, 1997, 2005, and 2010
City Directories	1928, 1934, 1940, 1945, 1951, 1956, 1961, 1966, 1971, 1976, 1981, 1986, 1991, 1996, 2001, 2006, and 2009
Fire Insurance Maps	1880s, 1890s, 1900s, 1910s, 1920s, and 1950s

Copies of these sources are located in Appendix B (Historical Aerial Photographs), Appendix C (City Directories), and Appendix D (Fire Insurance Maps). Detailed discussion on these sources is provided in the HTRW Assessment Summary Data Sheets.

Property tax records were also collected from the City of Fargo website ([www.cityoffargo.com](http://www.cityoffargo.com)) for each of the properties listed in Table 1. Several representative properties were reviewed for the Oak Grove residential homes. Relevant information such as number of structures, age, square footage, and lot size were provided. Copies of these records are provided in Appendix E (Property Tax Records).

## 2.2 Study Area Reconnaissance

On February 28, 2012, HDR personnel conducted a reconnaissance of the study area, focusing particularly on properties that had been identified for potential buyout. Site access to private residences and businesses was not provided for the review. Interiors of buildings were also not reviewed during the site reconnaissance.

Observations of the study area were conducted from public roadways, public land, and lots accessible to the public. The study area consisted of a mix of residential, commercial, and industrial land uses. Residential properties were mainly located near the north end of the study area in the Oak Grove neighborhood. Commercial properties in the study area consisted of warehouses, laundering services,

motels, gas stations, office buildings, and retail stores. Industrial properties were limited to the Mid America Steel property, where public site access was prohibited. The location of the property at an elevated level to some of the surrounding streets and a perimeter fence limited the field review of the property.

## 2.3 HTRW Evaluation

The data collected during the background review and site reconnaissance was compiled and summarized in the HTRW Assessment Summary Data Sheets for each of the sites listed in Table 1. The HTRW Assessment Summary Data Sheets are provided in Appendix F.

The following table summarizes the findings associated with each of the buyout properties. Details regarding the determination for these ratings are discussed in the HTRW Assessment Summary Data Sheets.

*Table 3. Identified HTRW and Associated Risk Levels*

Property	HTRW		
	Asbestos	Lead	Other
<b>Oak Grove Lutheran</b>	Low, due to recent renovations	Low, due to recent renovations	None
<b>Residential Properties</b>	Low-Med	Medium	None
<b>Fargo Public Schools</b>	Low-Med	Low-Med	Medium. Potential soil contamination if soil disturbance will occur. Contaminants of Concern (COCs): PAHs and metals from former coal storage.
<b>Commercial Office Building</b>	Low-Med	Low	Low-Med. Potential for minor soil contamination associated with former use as RR siding. COCs: petroleum products, metals, creosote, PAHs.
<b>Howard Johnson</b>	Low-Med	Low	None
<b>City Hall Parking Lot</b>	N/A	N/A	Medium. Adjacent Tannery and foundry in early 1900s. Possible chromium, other metals, and VOCs present.
<b>Case Plaza</b>	Low, due to recent renovations	Low, due to recent renovations	Medium. Potential soil contamination if the lot is disturbed. COCs: PAHs, PCP, and metals.
<b>Mid America Steel</b>	Medium	Medium	Med-High. Historic use as a foundry and steel plant dating back to the early 1900s. COCs:



			arsenic, lead, PAHs, VOCs.
Park East Apartments	Low	Low	None

Based on the age of development in this area, with most structures built during the early- to mid-1900s, all the identified sites with structures on them had a potential for containing lead and asbestos containing building material.

### 3.0 Cost Estimations

Costs to address HTRW related clean up and/or abatement activities were estimated by combining the results of the assessment with other assumed costs further described in this section.

#### 3.1 Methodology

Since the review of each property was limited (specifically the interior of structures were not observed) and personal interviews were prohibited, a risk level was assigned to each property based only on information that was gathered in historical documents and during the site reconnaissance. The risk ratings were broken into low, medium, and high. HTRW issues were also categorized as a soil, asbestos, or lead cleanup. Multiple HTRW issues were typically identified at each site. The following table provides a breakdown of values assigned to each rating and HTRW category.

*Table 4. Risk Ratings*

Risk Ratings	Soil Volume based on % of site (to 0.5')	Lead Abatement based on % of Structure	Asbestos Abatement based on % of structure
<b>Low</b>	5%	1%	10%
<b>Moderate</b>	25%	10%	30%
<b>High</b>	50%	20%	50%

Since actual bulk surveys and subsurface site investigations were not performed to more accurately identify HTRW issues for each site, the estimated cost was normalized for each property by reflecting clean up cost as a percentage of the lot size or structure(s). The following formula was used to calculate total costs for each property.

$$C = Ad + Ch + ((R_S \times A_L) \times C_S) + ((R_L \times A_B) \times C_L) + ((R_A \times A_B) \times C_A) + U$$

In this formula C represents the total HTRW clean up cost for a particular property; Ad represents administrative costs; Ch represents characterizing costs (Phase I ESA, Phase II ESA, and Bulk Survey);  $R_S$ ,  $R_L$ , and  $R_A$  are the risk percentages (Table 4) that were assigned to each property (Table 3);  $A_L$  represents

the area of the property lot;  $A_B$  represents the area or square footage of a structure(s);  $C_S$ ,  $C_L$ , and  $C_A$  represent clean up costs as a function of volume (for soil) or area (for lead and asbestos), and  $U$  represents the cost to remove and dispose of an underground storage tank.

### 3.2 Results

The following table summarizes the estimated costs for each property based on the formula shown in Section 3.1.

*Table 5. Estimated HTRW Costs*

Property	HTRW Clean Up Cost	% of Total Cost
Case Plaza	\$57,972	6.0%
Fargo Public Schools	\$92,083	9.5%
Howard Johnson	\$88,484	9.1%
Mid America Steel	\$440,369	45.2%
Oak Grove	\$87,122	9.0%
Park East Apartments	\$108,054	11.1%
Residential Properties*	\$6,648	0.7%
Commercial Office Building	\$22,794	2.3%
City Hall Parking Lot	\$69,698	7.2%
<b>Total HTRW Cost Estimation**</b>	<b>\$973,000</b>	
* assumes 5 residential properties will be acquired		
** final value rounded to the nearest thousand		

The data used to develop these costs are described in detailed tables located in Appendix G.

### 3.3 Limitations

The HTRW cost estimates provided for the Project were prepared based on a planning level assessment, where the actual presence of HTRW has not been confirmed. A full ASTM 1527-05 Phase I Environmental Site Assessment (ESA) was not performed. Phase I ESAs, Phase II ESAs, and bulk surveys are needed to refine associated HTRW costs. These assessments and surveys would quantitatively identify contaminants of concern (COC) and areas of contamination that would require clean up.

The HTRW costs were also developed assuming flat rates for oversight, removal, and disposal for lead and asbestos as a function of square footage. In actuality, these costs would vary based on materials present at each structure and whether not those materials would require abatement before demolition. Asbestos abatement may also involve pipe insulation at commercial and industrial sites. This would not fall under the calculations using square footage and may increase abatement costs. Lead abatement also varies based on the need for stabilization or full removal prior to demolition. All these unknown



factors would be addressed with a bulk survey where the properties would be evaluated by a certified inspector and materials tested by a certified laboratory. The bulk survey is a requirement by the North Dakota Department of Health prior to demolition.

The goal of this evaluation was to provide a general estimate of potential HTRW costs. This will be added to other Project related estimates to determine a total cost to implement the Project. These costs may not reflect actual costs once the Project is implemented and characterization of the properties are conducted.

Groundwater related impacts were not included in the HTRW cost estimates. It is assumed that dewatering is not required as a part of the demolition of the properties. If groundwater contamination is present, the costs associated with monitoring and remediation is highly dependent on contaminant concentrations present. This information would not be available until after the properties are characterized.

## **4.0 Conclusions**

All the properties identified for acquisition have the potential to require clean up or abatement if the Project is implemented. The cost estimates developed for addressing HTRW issues was hypothesized based on available information at this point in the Project planning. Actual clean up costs may vary significantly if the assumptions used in developing the costs change substantially following further characterization.

# Appendix A- EDR Report

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Provided in Enclosed CD



# Appendix B- Historical Aerial Photographs

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Provided in Enclosed CD

# Appendix C- City Directories

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Provided in Enclosed CD

# Appendix D- Fire Insurance Maps

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Provided in Enclosed CD

# Appendix E- Property Tax Records

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Provided in Enclosed CD



# Appendix F- HTRW Assessment Data Sheets

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Provided in Enclosed CD

# Appendix G- Cost Estimation Tables

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Provided in Enclosed CD

## **Appendix H – Site Photographs**



View looking east towards the building entrance and parking lot.



Emergency back-up generator located in the parking lot.





View looking east along the north side of the building.



Adjacent property to the east.





View looking south along the east side of the building.



View of adjacent property to the north across the railroad tracks.

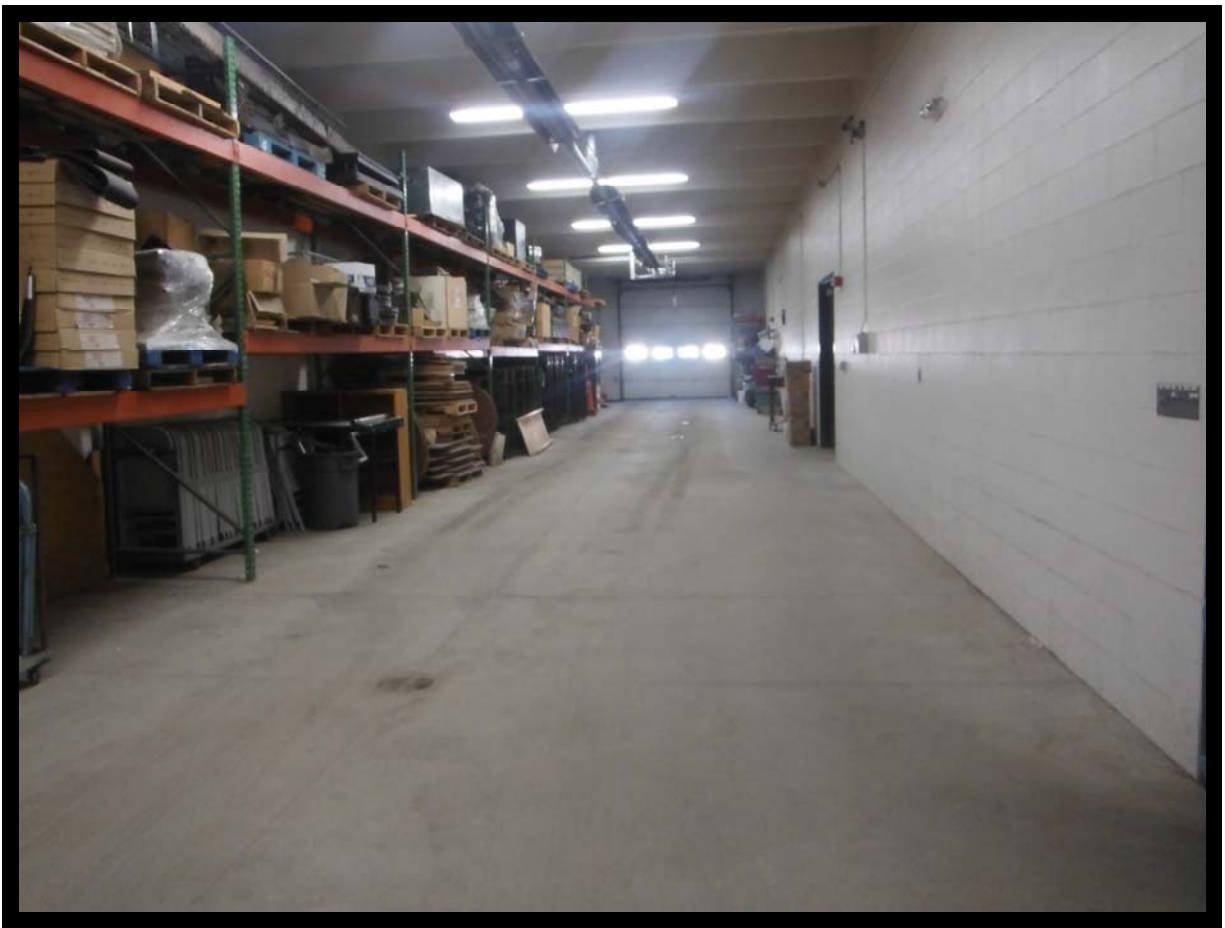


Compressed gas cylinders stored along the north side of the building.



East side of the garage bay looking north.





South side of the garage bay looking west.



Paint Room.

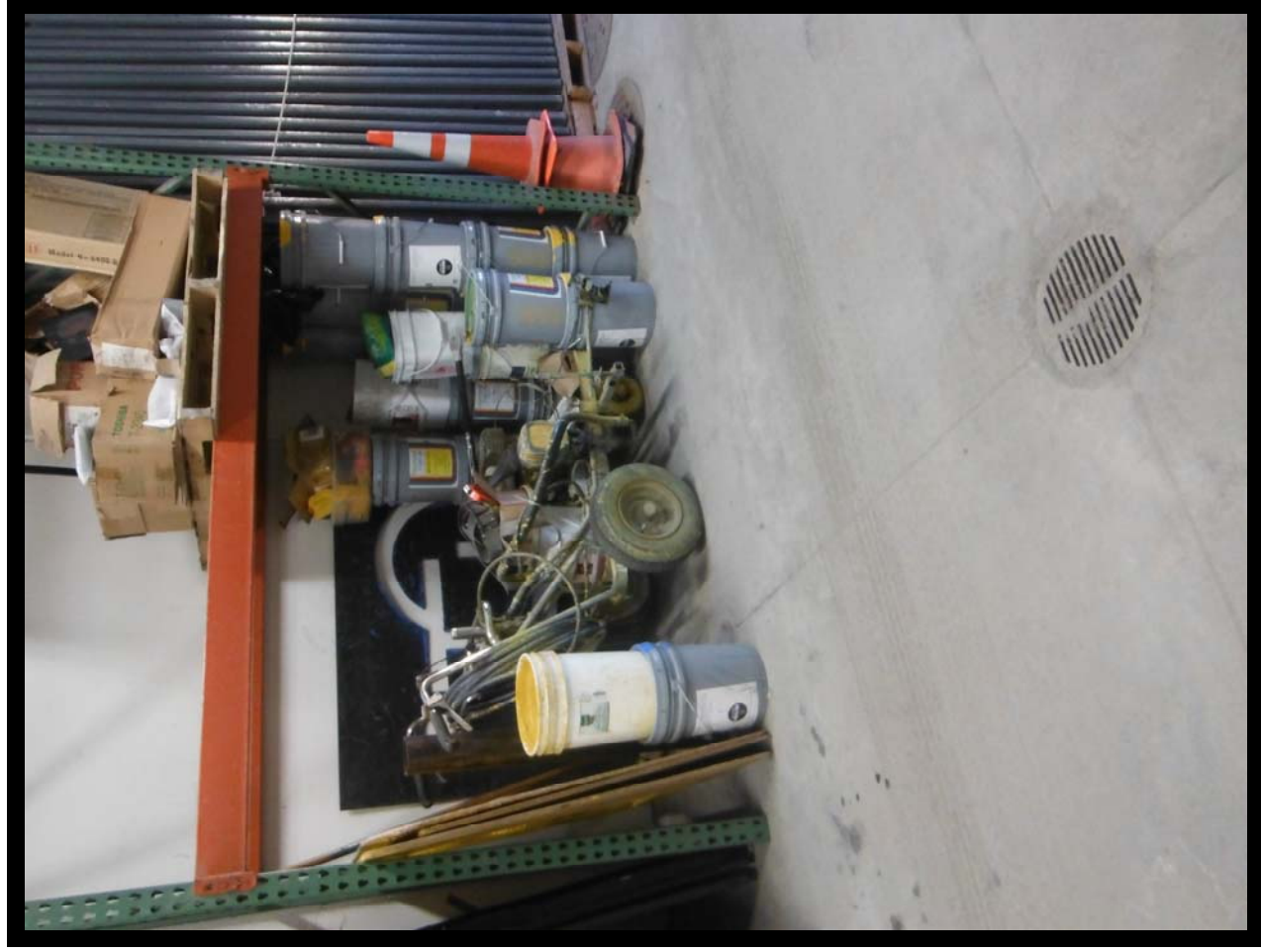




Woodshop.



Sacks of sand stored in garage bay.



Paint storage in garage bay.



Storage of corrosive chemicals in the garage bay.

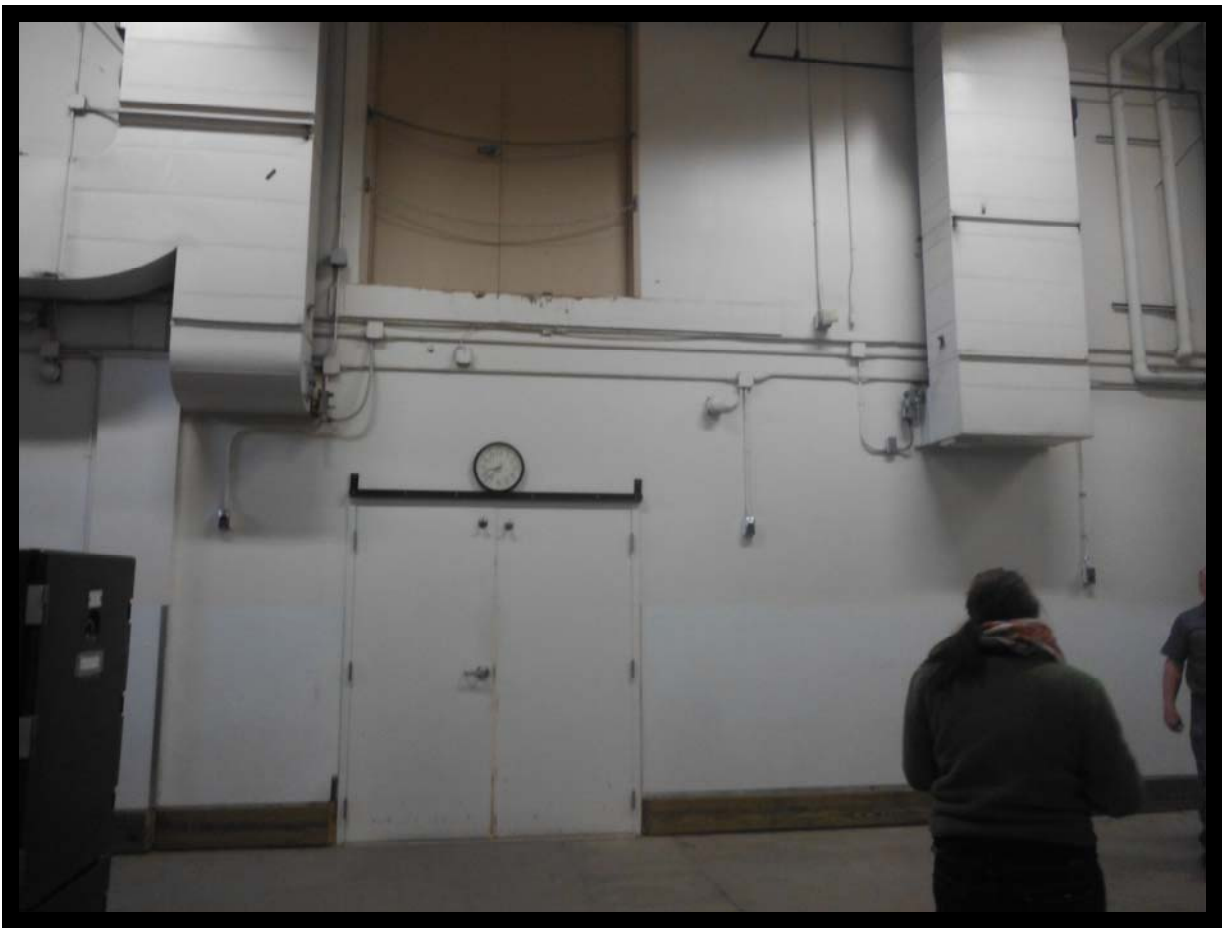




Dry goods storage.



Storage area.



Refrigeration area with storage area on second level.



Second level storage area.





Breakroom.



Kitchen Area.