Phase I Environmental Site Assessment

Moorhead Metro Feasibility Study HTRW
Clay County, Minnesota

United States Army Corps of Engineers
St. Paul District

Novermber 2010
22149.11

Stanley Consultants INC.
A Stanley Group Company
Engineering, Environmental and Construction Services - Worldwide

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APPENDICES

Summary

The purpose of a Phase I Environmental Site Assessment (ESA) is to identify recognized environmental conditions. The term recognized environmental condition (REC) is defined as the presence or likely presence of any hazardous substances or petroleum products on a property under conditions that indicate an existing release, a past release, or a material threat of a release of any hazardous substances or petroleum products into structures on the property or into the ground, groundwater, or surface water of the property. The term includes hazardous substances or petroleum products even under conditions in compliance with laws. The term is not intended to include de minimis conditions that generally do not present a material risk of harm to public health or the environment and that generally would not be the subject of an enforcement action if brought to the attention of appropriate governmental agencies. Stanley Consultants performed this assessment for the benefit of the United State Army Corp of Engineers (USCOE). This report is intended only for the use of USCOE.

Stanley Consultants performed this Phase I ESA on the properties along the proposed Red River diversion channel located in Clay County, Minnesota.

The proposed Minnesota diversion channel is expected to be approximately 2,000 feet wide. Currently, three different alignments are being evaluated for the Minnesota diversion, but in general, the diversion channel will extend from approximately 90th Avenue South at the Red River of the North, south of Moorhead, Minnesota (Clay County) and extend east/northeast to approximately 120th Avenue NW (Kragnes Township, Clay County, Minnesota) at the Red River of the North. This is a distance of approximately 26 miles. The three different alignments being evaluated for the Minnesota diversion channel are located along the downstream portion between 43rd Avenue N, approximately three miles north of Dilworth, MN and 110th Avenue NW, just north of the Kragnes, MN. The first alignment extends north, parallel to 60th Street N, until it turns west just south of 70th Ave NW. The alignment again turns north approximately 0.5 miles west of 40th Street N and extends approximately 3.5 miles where it again turns west. This alignment is located east of the Kragnes, MN. The second alignment departs from the first alignment approximately 0.25 miles south of 57th Avenue N. At this departure, the second alignment follows a northeasterly direction until it rejoins the first alignment west of 40th Street N. Near this point the second alignment turns west and parallels 70th Avenue NW for about 1.6 miles. Just west of State Highway 75, the alignment turns north once more and extends about 3.5 miles where it rejoins the first alignment. This alignment is located west of the Kragnes, MN.

The third alignment departs from the second alignment where the second alignment turns north just west of State Highway 75. The third alignment extends west approximately 0.5 miles more before turning north. The third alignment extends north, paralleling Clay County Highway 96 on the west side, approximately 3.5 miles where it rejoins the previous alignments. This alignment is also located west of the Kragnes, MN.

A tie-back levee is also required for the Minnesota alignment. The Minnesota diversion tie-back levee follows a general southwest trend west from the Minnesota diversion channel until it nears North Dakota Interstate I-29 where it turns south. The Minnesota tie-back levee heads south until it intersects I-29 approximately 0.5 mile south of 112th Avenue S. At this intersection, the Minnesota tie-back levee turns west and extends approximately 4.5 miles until it terminates at 81th Street S.

A site visit was conducted on July 26-30, 2010 by Stanley Consultants. The results of this site visit and review of available historical documentation is included in this report revealed the following RECs:

REC 1 - Former Methamphetamine Laboratory: According to interviews conducted with property owners by Ulteig Engineering, a methamphetamine laboratory was removed from a parcel neighboring parcel number 180182300 approximately one-quarter mile to the south (parcel number 180181800). Law enforcement, including a hazardous materials team, was reportedly brought in to remove the methamphetamine laboratory in 2005. Small containers of ammonia and brake fluid were reportedly removed along the river bank. Previous methamphetamine production at the site represents an REC. A Phase II ESA scope is provided below:

REC No.	1	1
Parcel No.	180181800 (See Figure 2-1)	180181800 (See Figure 2-1)
Property Owner	Paul & Sherri Fossum	Paul & Sherri Fossum
Media Sample	Soil	Groundwater
Number of Samples	2	2
Type of Sampling Required	Geoprobe	Geoprobe
Depth	15 feet	15 feet
Spacing	1,000 foot spacing near river	1,000 foot spacing near river
Type of Compounds for Testing	VOC, SVOC, RCRA Metals, Ammonia	VOC, SVOC, RCRA Metals, Ammonia

REC 2 - Kragnes Elevator/Richards Transportation: Kragnes Elevator was observed adjacent to and apparently upgradient of parcel numbers 180850105 and 180340300. This site is listed on the MN BULK database as maintaining a bulk pesticide/fertilizer storage permit. While no evidence of surface staining was observed at this off-site location, aerial photographs indicate that

it has been present since at least 1939. Based on the tenure in which bulk quantities of pesticides are fert ilizers may have been managed at this facility, Stanley Consultants qualifies this as an REC. In addition to Kragnes Elevator, Richards Transportation is located within one-eighth mile northeast and upgradient of these parcels. From the public thoroughfare, Richards Transportation appears to be a bus maintenance facility. Several bulk containers presumably containing petroleum products were observed at this facility. A Phase II ESA scope is provided below:

REC No.	2	2	2	2
Parcel No.	180850105 (See Figure 2-2)	180850105 (See Figure 2-2)	180340300 (See Figure 2-2)	180340300 (See Figure 2-2)
Property Owner	Unknown	Unknown	Clemedtson Farm LTD PTSHIP	Clemedtson Farm LTD PTSHIP
Media Sample	Soil	Groundwater	Soil	Groundwater
Number of Samples	1	1	1	1
Type of Sampling Required	Geoprobe	Geoprobe	Geoprobe	Geoprobe
Depth	15 feet	15 feet	15 feet	15 feet
Spacing	Downgradient Location	Downgradient Location	Downgradient Location	Downgradient Location
Type of Compounds for Testing	PEST/HERB, VOC, PAH, RCRA Metals	PEST/HERB, VOC, PAH, RCRA Metals	PEST/HERB, VOC, PAH, RCRA Metals	PEST/HERB, VOC, PAH, RCRA Metals

REC 3 - Burlington Northern Santa Fe (BNSF): Burlington Northern Santa Fe Dilworth is listed in the MPCA tank database as having as many as 18 installed, removed, and closed-in-place underground storage tanks (USTs) at the site with dates ranging from 1966 through 2007. The contents of these tanks is not reported. The EDR report indicates that the BNSF facility has 9,000-gallon underground waste oil UST at the site. A leak was reported at this site on December 5, 1989. This site is not listed as having achieved closure with the MPCA. Based on the long history of tanks being present at this facility, Stanley Consultants qualifies this as an REC. While the presence of tanks and railroad spurs at this site may be indicative of RECs, further information, as well as access to the site and site owners/operators is necessary to provide a Phase II Environmental Site Assessment (ESA) scope.

REC No.	3	Sampling plan to be determined once access is granted (See Figure 2-3)
Parcel No.		
Property Owner		
Media Sample		
Number of Samples		
Type of Sampling Required		
Depth		
Spacing		
Type of Compounds for Testing		

REC 4 - Aggregate Industries 2009 Release: Aggregate Industries at Highway 10 East in Dilworth Minnesota is listed on the MN SPILLS database. According to a report entitled "Surficial Excavation Report for Aggregate Industries/F-M Asphalt" prepared by West Central Environmental Consultants, Inc. dated July 27, 2010 (the July 2010 Report) that was provided to Stanley Consultants by Sheree Eilertson, Environmental Advisor for Aggregate Industries on August 8, 2010; a petroleum spill occurred at the site sometime prior to May 29, 2009. At that time, it was estimated that 2,160 cubic yards of contaminated soil was in-place at the site that was approved by the MPCA for removal and treatment; however, only approximately 860 cubic yards of contaminated soil was removed during the June 2010 excavation due to the excavation being completed within 5 feet on either side of the site gas lines. Additionally, the excavation was reportedly guided by sheen tests completed in the field during excavation and locations identified as passing the sheen tests were not excavated. Analytical sampling reportedly was not required. Groundwater was reportedly not encountered during excavation. According to Ms. Eilertson, the July 2010 report was recently submitted to the MPCA requesting closure with respect to the on-site spill; however, the MPCA has yet to respond. Based on the fact there is a spill located on the site that has not achieved closure with the MPCA, Stanley Consultants qualifies this as an REC. While the presence of releases at this site may be indicative of RECs, further information, as well as access to the site and site owners/operators is necessary to provide a Phase II ESA scope.

REC No.	4	Sampling plan to be determined once access is granted (See Figure 2-3)
Parcel No.		
Property Owner		
Media Sample		
Number of Samples		
Type of Sampling Required		
Depth		
Spacing		
Type of Compounds for Testing		

REC 5 - Aggregate Industries – 1990 Release: According to the MPCA On-Line Tank Database, Aggregate Industries (formerly F-M Asphalt) had a gasoline release that was reported on November 14, 1990. This incident reportedly received MPCA closure on September 10, 1997. The on-line database indicates that contaminated soils remain at the site; however, there is no off-site contamination. Based on the fact that there is contamination remaining at the site, Stanley Consultants qualifies this as an REC. While the presence of releases at this site may be indicative of RECs, further information, as well as access to the site and site owners/operators is necessary to provide a Phase II ESA scope.

REC No.	5	Sampling plan to be determined once access is granted (See Figure 2-3)
Parcel No.		
Property Owner		
Media Sample		
Number of Samples		
Type of Sampling Required		
Depth		
Spacing		
Type of Compounds for Testing		

REC 6 -Aggregate Industries – 1994 Release: According to the MPCA On-Line Tank Database, Aggregate Industries (formerly Kost Bros Fm Asphalt) had a release (product released listed as being unknown) reported on January 31, 1994. The database indicates that this incident got MPCA closure on August 18, 1997; however, it is unknown if contaminated soils remain at the site or if it has migrated off-site. Therefore, this is considered an REC. While the presence of releases at this site may be indicative of RECs, further information, as well as access to the site and site owners/operators is necessary to provide a Phase II ESA scope.

REC No.	6	Sampling plan to be determined once access is granted (See Figure 2-3)
Parcel No.		
Property Owner		
Media Sample		
Number of Samples		
Type of Sampling Required		
Depth		
Spacing		
Type of Compounds for Testing		

REC 7 - Dakota Ag Co-Op: An apparently unoccupied building labeled "Dakota Ag Co-Op" is located within the proposed flood diversion channel as it crossed Highway 10 in Dilworth, Minnesota. Three unlabelled ASTs located within concrete containment structures as well as a railroad spur was observed in outdoor areas of this facility that could be observed from the public thoroughfare. No current or former occupant or owner associated with this parcel was available for interview and Stanley Consultants was not able to access the interior portions of the building. While the presence of tanks and railroad spurs at this site may be indicative of RECs, further information, as well as access to the site and site owners/operators is necessary to provide a Phase II ESA scope.

REC No.	7	Sampling plan to be determined once access is granted (See Figure 2-3)
Parcel No.		
Property Owner		
Media Sample		
Number of Samples		
Type of Sampling Required		
Depth		
Spacing		
Type of Compounds for Testing		

REC 8 - Hoff Flying Service Spill: Hoff Flying Service (no address provided) is plotted as being located within the site area and is listed on the AGSPILLS database searched by Environmental Data Resources, Inc. (EDR). During the site visit, no physical evidence of spills was observed in this area. No information relating to the identification and amount of the substance reportedly spilled in this area is provided in the EDR report or in a search of the MPCA spills database. Additionally, the regulatory status pertaining to this listing is not provided. Since there was a reported spill plotted in this area by EDR, Stanley Consultants qualifies this as an REC. A Phase II ESA scope is provided below:

REC No.	8	8
Parcel No.	210130300 (See Figure 2-4)	210130300 (See Figure 2-4)
Property Owner	Duane T. & Teresa C. Walker	Duane T. & Teresa C. Walker
Media Sample	Soil	Groundwater
Number of Samples	1	1
Type of Sampling Required	Geoprobe	Geoprobe
Depth	15 feet	15 feet
Spacing	Downgradient Location	Downgradient Location
Type of Compounds for Testing	PEST/HERB, VOC, PAH, RCRA Metals	PEST/HERB, VOC, PAH, RCRA Metals

REC 9 - Railroad Tracks: The following parcels require additional investigation due to their location near railroad tracks. Contaminates commonly found associated with railroad tracks include arsenic, chromates, coal, creosote, and lead. While no signs of surface staining were observed in this area, railroad ties are commonly coated with creosote, which could have impacted the subject site, therefore this qualifies as an REC.

REC No.	9a	9a	9b	9b	9c	9c	9d	9d	9d
Parcel No.	190163800 (See Figure 2-5)	190164000 (See Figure 2-5)	180281000 (See Figure 2-6)	180280300 (See Figure 2-6)	210360000 (See Figure 2-7)	201362101 (See Figure 2-7)	230162500 (See Figure 2-7)	230161000 (See Figure 2-8)	230162000 (See Figure 2-8)
Property Owner	Walker Pare Farms	Barbara J Nelson - Hooper	Robert Horby	Minch Family LTD PTSHP	Merle Allen Family Trust	Unknown	Jody Eidenschink	Chad & Camille Jetvig	Elwood Shaner Trust
Media Sample	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil
Number of Samples	1	1	2	2	1	1	1	1	1
Type of Sampling Required	Hand auger	Hand auger	Hand auger	Hand auger	Hand auger	Hand auger	Hand auger	Hand auger	Hand auger
Depth	0-2 feet	0-2 feet	0-2 feet	0-2 feet	0-2 feet	0-2 feet	0-2 feet	0-2 feet	0-2 feet
Spacing	Near tracks	Near tracks	Near tracks (both sides)	Near tracks (both sides)	Near tracks	Near tracks	Near tracks	Near tracks	Near tracks
Type of Compounds for Testing	PAHs, RCRA Metals	PAHs, RCRA Metals	PAHs, RCRA Metals	PAHs, RCRA Metals	PAHs, RCRA Metals	PAHs, RCRA Metals	PAHs, RCRA Metals	PAHs, RCRA Metals	PAHs, RCRA Metals

REC 10 - Railroad Ties Dumping: Approximately ten railroad ties were observed in a small pile along the eastern edge of the parcel identified as PIN 190163800. While no signs of surface staining were observed in this area, railroad ties are commonly coated with creosote, which could have impacted the subject site, therefore this qualifies as an REC. A Phase II ESA scope is provided below:

REC No.	10
Parcel No.	190163800 (See Figure 2-5)
Property Owner	Walker-Parke Farms
Media Sample	Soil
Number of Samples	2
Type of Sampling Required	Hand auger
Depth	0-2'
Spacing	Close to ties
Type of Compounds for Testing	BOC, PAH, RCRA Metals

De minimis issues are summarized below.

Jakes Filling Station: A filling station was observed directly west of Parcel Number 23034000. This filling station was labeled as 'Jakes Garage' and two fuel pumps were observed. This filling station appeared to have been constructed within the past several years and was observed off of the driveway to a newer looking house. Additionally, this site was not listed on the UST or LUST databases searched (described in Section 4 of this report). Based on the location of the filling station, it is possible that it is decorative and there are no USTs in place; however, Stanley Consultants was unable to confirm. Regardless, this filling station is located directly west of and apparently downgradient of the proposed drainage channel and is therefore not considered an REC.

Off-Site Dumping: An area of dumping that included an abandoned school bus, a railroad tanker truck, and various demolition debris was observed directly adjacent to the west and across a public thoroughfare (apparently downgradient) from the on-site parcel (Parcel Identification Number [PIN] 190292870). No signs of surface staining was noted on the off-site facility. The fact that there was no staining observed in this area coupled with the fact that this off-site dumping location appears to be downgradient from the site area, this does not qualify as an REC.

Off-Site Burn Pit: An apparent burn pit was observed on a parcel directly west and upgradient of parcel number 190104301. A charred pit roughly ten feet in diameter was observed with remains of apparent demolition debris. There was no evidence that

potentially hazardous materials or petroleum products were burned in this area and there was no evidence of staining beyond the pit, therefore Stanley Consultants does not qualify this off-site burn pit as an REC.

Lileks Oil Leaking Aboveground Storage Tank: Lileks Oil, locates at County Road 78 and Marion Street in Dilworth, Minnesota, approximately one-half mile west and apparently downgradient from the site area is listed on the LAST database due to a prior petroleum spill that was reported on June 16, 2000. This incident received closure from the MPCA on May 11, 2001. Since this LAST facility is located downgradient of the subject site and has received agency closure, it is not expected to represent an REC.

On-site ASTs and Totes: Two approximately 2,000-gallon ASTs containing diesel fuel and gasoline and one approximately 1,000-gallon AST containing oil were observed on parcel number 190020200. While no secondary containment structures were observed, these ASTs appeared to be intact with no signs of leaking or staining. Additionally, one approximately 270-gallon tote labeled as containing "Gly Star Plus" was located at parcel number 190020200. While secondary containment was not provided for this storage, the containers appeared intact with no signs of leaking or staining in its vicinity, therefore Stanley Consultants does not qualify this as an REC.

Potential On-Site Pesticide Use - Based on the fact that the general site area has been used for agricultural purposes since at least 1939, it is probable that various pesticides and herbicides have been historically used at the site. However, during the site visit, no visual evidence of the misuse of pesticides (e.g. surface staining, sheen, ponding liquids, etc.) was observed, therefore, Stanley Consultants qualifies this as a *de minimis* issue.

Section 1

Introduction

1.1 Purpose

The purpose of this Phase I Environmental Site Assessment (ESA) is to identify recognized environmental conditions and/or HTRW materials that may be encountered during construction of the project features along the proposed Red River diversion channel in Clay County, Minnesota. The term recognized environmental condition (REC) is defined as the presence or likely presence of any hazardous substances or petroleum products on a property under conditions that indicate an existing release, a past release, or a material threat of a release of any hazardous substances or petroleum products into structures on the property or into the ground, groundwater, or surface water of the property. The term includes hazardous substances or petroleum products even under conditions in compliance with laws. The term is not intended to include de minimis conditions that generally do not present a material risk of harm to public health or the environment and that generally would not be the subject of an enforcement action if brought to the attention of appropriate governmental agencies.

1.2 Scope of Services

This ESA was conducted in general accordance with American Society for Testing and Materials (ASTM) E1527-05 Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process and ER 1165-2-132 Hazardous, Toxic, and Radioactive Waste (HTRW) Guidance for Civil Works Projects. According to ASTM E1527-05, a Phase I Environmental Site Assessment shall have four components, described as follows:

- *Records Review* - The purpose of the records review is to obtain and review available records that will help identify recognized environmental conditions in connection with the property.
- *Site Reconnaissance* - The purpose of the site reconnaissance is to visually and physically observe the property (including buildings) and, to the practical extent, the adjoining

properties for uses and evidence of previous uses that are indicative of recognized environmental conditions.

- *Interviews* - Interviews of the current owners and occupants of the property and interviews of local agency officials to the extent they are reasonably available are performed to help identify recognized environmental conditions in connection with the property.
- *Report* - The purpose of the report is to document the activities performed during the assessment, provide information supporting the analysis opinions and conclusions found in the report and summarize the findings of the assessment.

The following activities, among others, are excluded from the scope of work for a Phase I ESA as described in ASTM E1527-05:

- Testing or sampling of materials (e.g. soil, water, air, or building materials).
- Evaluation for asbestos, radon, lead-based paint, lead in drinking water, and wetlands.

Stanley Consultants performed this Phase I ESA on the properties along the proposed Red River diversion channel located in Clay County, Minnesota.

The proposed Minnesota diversion channel is expected to be approximately 2,000 feet wide. Currently, three different alignments are being evaluated for the Minnesota diversion, but in general, the diversion channel will extend from approximately 90th Avenue South at the Red River of the North, south of Moorhead, Minnesota (Clay County) and extend east/northeast to approximately 120th Avenue NW (Kragnes Township, Clay County, Minnesota) at the Red River of the North. This is a distance of approximately 26 miles. The three different alignments being evaluated for the Minnesota diversion channel are located along the downstream portion between 43rd Avenue N, approximately three miles north of Dilworth, MN and 110th Avenue NW, just north of the Kragnes, MN. The first alignment extends north, parallel to 60th Street N, until it turns west just south of 70th Ave NW. The alignment again turns north approximately 0.5 miles west of 40th Street N and extends approximately 3.5 miles where it again turns west. This alignment is located east of the Kragnes, MN. The second alignment departs from the first alignment approximately 0.25 miles south of 57th Avenue N. At this departure, the second alignment follows a northeasterly direction until it rejoins the first alignment west of 40th Street N. Near this point the second alignment turns west and parallels 70th Avenue NW for about 1.6 miles. Just west of State Highway 75, the alignment turns north once more and extends about 3.5 miles where it rejoins the first alignment. This alignment is located west of the Kragnes, MN. The third alignment departs from the second alignment where the second alignment turns north just west of State Highway 75. The third alignment extends west approximately 0.5 miles more before turning north. The third alignment extends north, paralleling Clay County Highway 96 on the west side, approximately 3.5 miles where it rejoins the previous alignments. This alignment is also located west of the Kragnes, MN.

A tie-back levee is also required for the Minnesota alignment. The Minnesota diversion tie-back levee follows a general southwest trend west from the Minnesota diversion channel until it nears North Dakota Interstate I-29 where it turns south. The Minnesota tie-back levee heads south until it intersects I-29 approximately 0.5 mile south of 112th Avenue S. At this intersection, the

Minnesota tie-back levee turns west and extends approximately 4.5 miles until it terminates at 81th Street S.

This area is shown on Figure 1-1, Site Location Map in Appendix A and is discussed in detail in Sections 2 and 5 of this report.

1.3 Significant Assumptions

Stanley Consultants has made no significant assumptions pertaining to the properties being evaluated.

1.4 Limitations and Exceptions

Stanley Consultants obtained information regarding practices, conditions, and other data from the Client point of contact during the performance of the Phase I ESA. Stanley Consultants is relying on the accuracy of this information for the preparation of this report. Stanley Consultants assumes no liability or responsibility for the accuracy, precision, misrepresentation, or withholding of information by the Client and/or property owner/operator or for items not visible, accessible, or present on-site at the time of investigation.

All recommendations and/or advice presented in this document are Stanley Consultants' opinions of probable project conditions. Project conditions are based on the information and data sources that are readily available to us, input by the owner's representative, and other reliable sources, all of which are believed to be accurate. Our recommendations and/or advice are made on the basis of our experience and represent our judgment and opinions. We have no control over new and/or non-public information, changed or conditions. Therefore, we do not guarantee that actual conditions will not vary from those presented in this report.

The findings set forth in this Phase I ESA are based solely on the services described therein, and not on scientific tasks or procedures beyond the scope of agreed upon services or the time and budgeting restraints imposed by the Client.

The purpose of a Phase I ESA is to review documentation pertaining to environmental concerns and to evaluate current environmental liabilities of the property. Stanley Consultants does not assume responsibility for the elimination of hazards that could possibly cause accidents, injuries, damage, or liabilities. Compliance with the proposed recommendations and/or suggestions as found in this report in no way guarantees elimination of hazards or warrants the property owner/operator's regulatory responsibilities to the appropriate regulatory agency of any conditions, releases, or discharges that are reportable under local, state, or Federal regulations. The Phase I ESA was conducted and prepared in accordance with ASTM E1527-05. No attempt was made in determining potential radon hazards, lead based paint hazards, or asbestos hazards on the property.

1.5 Special Terms and Conditions

There are no special terms and/or conditions for this project.

1.6 User Reliance

Stanley Consultants performed this assessment for the benefit of the United States Army Corp of Engineers. (USACE) This report is intended only for the use of USACE.

Section 2

Site Description

2.1 Location and Legal Description

The proposed Minnesota diversion channel is expected to be approximately 2,000 feet wide. Currently, three different alignments are being evaluated for the Minnesota diversion, but in general, the diversion channel will extend from approximately 90th Avenue South at the Red River of the North, south of Moorhead, Minnesota (Clay County) and extend east/northeast to approximately 120th Avenue NW (Kragnes Township, Clay County, Minnesota) at the Red River of the North. This is a distance of approximately 26 miles. The three different alignments being evaluated for the Minnesota diversion channel are located along the downstream portion between 43rd Avenue N, approximately three miles north of Dilworth, MN and 110th Avenue NW, just north of the Kragnes, MN. The first alignment extends north, parallel to 60th Street N, until it turns west just south of 70th Ave NW. The alignment again turns north approximately 0.5 miles west of 40th Street N and extends approximately 3.5 miles where it again turns west. This alignment is located east of the Kragnes, MN. The second alignment departs from the first alignment approximately 0.25 miles south of 57th Avenue N. At this departure, the second alignment follows a northeasterly direction until it rejoins the first alignment west of 40th Street N. Near this point the second alignment turns west and parallels 70th Avenue NW for about 1.6 miles. Just west of State Highway 75, the alignment turns north once more and extends about 3.5 miles where it rejoins the first alignment. This alignment is located west of the Kragnes, MN. The third alignment departs from the second alignment where the second alignment turns north just west of State Highway 75. The third alignment extends west approximately 0.5 miles more before turning north. The third alignment extends north, paralleling Clay County Highway 96 on the west side, approximately 3.5 miles where it rejoins the previous alignments. This alignment is also located west of the Kragnes, MN.

A tie-back levee is also required for the Minnesota alignment. The Minnesota diversion tie-back levee follows a general southwest trend west from the Minnesota diversion channel until it nears North Dakota Interstate I-29 where it turns south. The Minnesota tie-back levee heads south until

it intersects I-29 approximately 0.5 mile south of 112th Avenue S. At this intersection, the Minnesota tie-back levee turns west and extends approximately 4.5 miles until it terminates at 81th Street S.

This area is shown on Figure 1-1, Site Location Map and is discussed in detail in sections 2 and 5 of this report. A list of the properties is included in Appendix B.

2.2 Site and Vicinity General Characteristics

With a few exceptions, the site area is predominantly farmland and adjoining properties also mostly consist of farmland. Many paved and unpaved roads intersect the proposed flood diversion ditch. Additionally, railroad tracks cross the proposed ditch in several areas. This is discussed in more detail in Section 5.3 of this report. Several farmhouses and agricultural support buildings were noted within and in the vicinity of the site area. A few industrial buildings (as discussed in Section 2.3 of this report) are also located within the site area.

Additional discussion of site history is included in Section 4, Records Review and Section 5, Site Reconnaissance including summaries of topographic mapping and historical aerial photography.

2.2.1 Topography

Regional topography is generally flat. According to a 1976 topographic map obtained from the United States Geologic Survey on August 9, 2010 (Fargo, North Dakota-Minnesota quadrangle map), the site elevation generally varies from approximately 875 feet above mean sea level (amsl) near the Red River in the western portion of the alignment to approximately 895 amsl in the eastern portion of the alignment, with topographic relief generally towards the west/southwest.

2.2.2 Geology and Soils

According to information provided in the 'Geology Under the Fargo-Moorhead Region, North Dakota-Minnesota' prepared by the North Dakota State University, Department of Geosciences, July 2010, the major drainage relief in the area is the Red River. The Red River Valley represents the bottom, or floor, of what was a massive, ice-dammed lake known as Glacial Lake Agassiz. The lake began to develop as ice during the last ice age and melted northward from the region approximately 12,000 years ago. The "Red River Valley" is a misleading description of the landscape as the origin of the area is that of a flat plain that was once the floor of an enormous glacial lake. It is not a valley that was formed by a river. Underlying the flat land surface of the Fargo-Moorhead region is a relatively simple stratigraphy which is discussed below.

As a result of the glacial deposition, and retraction of the lake, the soils in the Fargo-Moorhead area, comprised mostly of clay, derived as meltwater rivers dispersed fine-grained sediments into Lake Agassiz. Most of the clays are of the Cretaceous age and formed from churned up shale. The remainder of the materials are gray, slickensided, fat clays of the Brenna/Argusville Formations (approximately 85 ft deep) overlain by 20 feet of tan-buff, laminated silty-clays of the Sherack Formation. Both formations include the occasional cobbles and boulders that appear to represent glacial rock debris.

Beneath the clays of the Brenna/Arusville Formations lies 100 to 200 feet of glacial sediments that were deposited primarily during the Wisconsinan ice age. This layer is predominantly comprised of till however, localized zones of outwash sands and gravels can provide small aquifers of low yield.

Finally, at a depth of 200 to 300 feet is a PreCambrian granitic and gneissic basement rock of the Superior Province. Little is known about this formation as few boreholes have ever reached these depths.

2.2.3 Hydrogeology

See Section 2.2.2.

2.3 Current Use of Property

The subject property is currently owned by several private landowners and with a few exceptions, is mostly used for agricultural (row crop) purposes. Based on the fact that the general site area has been used for agricultural purposes since at least the 1930s, it is possible that various pesticides and herbicides have been historically used at the site. However, during the site visit, no visual evidence of the misuse of pesticides (e.g. surface staining, sheen, ponding liquids, etc.) was observed.

In addition to agricultural usage, a small portion of the proposed flood diversion channel is used for residential and industrial purposes in Dilworth, Minnesota. Properties that would be impacted by this project include a rail yard and auto terminal operated by the Burling Northern Santa Fe (BNSF) railroad, a contractor supply company operated by Aggregate Industries, and an apparently vacant building formerly occupied by the Dakota Ag Co-op. Stanley Consultants was not granted access to these properties. Observations of the properties made from public thoroughfares are described in more detail in Section 7 of this report.

2.4 Descriptions of Structures, Roads, and Other Improvements on Site

With a few exceptions, the site area is predominantly farmland and adjoining properties also mostly consist of farmland. Many paved and unpaved roads intersect the proposed flood diversion ditch. Additionally, railroad tracks cross the proposed ditch in several areas. This is discussed in more detail in Section 5.3 of this report. Several farmhouses and agricultural support buildings were noted within and in the vicinity of the site area. A few industrial buildings (as discussed in Section 2.3 of this report) are also located within the site area.

Instances where structures or other improvements within and in the vicinity of the proposed flood diversion ditch present an REC to the site area are discussed in Section 7 of this report.

2.5 Current Uses of the Adjoining Properties

With a few exceptions, the site area is predominantly farmland and adjoining properties also mostly consist of farmland. Instances where adjoining properties present an REC to the site area are discussed in Section 7 of this report.

Section 3

User Provided Information

Ulteig Engineers attempted to present the questions set forth in Appendix X3: User Questionnaire of the ASTM International Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process to the various property owners within the site area.

3.1 Title Records

At the time of this report, title records were not available for Stanley Consultants to review.

3.2 Environmental Liens or Activity and Use Limitations

Ms. J. Bonnie Rehder, Clay County Recorder was interviewed on July 30, 2010. According to Ms. Rehder, she is unaware of any properties in Clay County with environmental liens. Additionally, based on a review of deed information available in the Clay County Recorder computer system, there were no environmental liens found associated with the properties in the project area where potential RECs were identified. Additionally, the EDR report did not indicate any properties with environmental liens within the project area.

3.3 Specialized Knowledge

Property owners were contacted to provide specialized knowledge, if any, regarding their property. No specialized knowledge was revealed. Property owner interviews are included in Appendix E of this report. The proposed Red River flood diversion channel covers parcels owned by many different landowners. Ulteig Engineers attempted to contact each of these landowners via telephone to present the questions set forth in Appendix X3: User Questionnaire of the ASTM International Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process. Not all property owners were available for interview. These questionnaires provided by Ulteig Engineers are provided in Appendix E of this report.

3.4 Commonly Known or Reasonably Ascertainable Information

Property owners were contacted to provide reasonably ascertainable environmental information, if any, regarding their property. Information provided from the owner interviews revealed a former methamphetine laboratory. This information is discussed further in Section 7. Property owner interviews are in Appendix E of this report.

3.5 Valuation Reduction for Environmental Issues

Property owners were contacted for any knowledge of devaluation of their property due to environmental considerations. None acknowledged property devaluation. Property owner interviews are in Appendix E of this report.

3.6 Owner, Property Manager, and Occupant Information

Information provided by property owners is included in Appendix E.

3.7 Reason for Performing Phase I Environmental Site Assessment

The purpose of a Phase I ESA is to identify recognized environmental conditions in conjunction with the proposed flood diversion channel.

Section 4

Records Review

4.1 Standard Environmental Record Sources – Federal, State, and Tribal Records

Summaries of available environmental regulatory agency database information for the site area were collected for Stanley Consultants by Environmental Data Resources (EDR), Inc., a firm that specializes in environmental records review. A records search was conducted using a one-mile radius from the project boundary, which meets or exceeds search radii requirements set forth in the ASTM standard. In addition to the results listed below, the EDR data base search identified a number of unmapped (orphan) sites. Stanley Consultants reviewed the list of unmapped sites and verified that none of the sites with adequate addresses listed were within the project boundaries and it was beyond the scope of this review to accurately locate each of the unmapped sites identified by EDR.

In addition, Stanley Consultants searched the Minnesota Pollution Control Agency (MPCA) On-line spills database on July 19 and August 3, 2010 and the North Dakota Department of Health – Environmental Health, Tank and Spill Database, July 20-23, 2010 for incidents located within the site area. These records are discussed further throughout this report.

The United States Environmental Protection Agency (USEPA) Envirofacts on-line database was also searched on July 22-23, 2010. The North Dakota Department of Health – Environmental Health Industrial Waste Landfill and Underground Storage Tank (UST)/Leaking UST (LUST) lists were also reviewed from July 25-30, 2010. There were no listings in the site area on either of these databases.

Mr. Roger Mackedanz with the Minnesota Department of Agriculture was contacted via telephone on August 5, 2010. Agency records pertaining to facilities in the vicinity of the site area were requested; however, at the time of this report have not been received.

The database search was made of the following federal, state, and tribal database records for sites within a one mile radius of the boundary of the subject site.

Database search results are provided in Appendix H.

4.1.1 Federal

- National Priorities List (NPL)
- Proposed NPL
- Delisted NPL
- NPL Liens
- Comprehensive Environmental Response, Compensation, and Liability Information System (CERCLIS)
- CERCLIS - No Further Remedial Action Planned Sites (NFRAP)
- CERCLA Lien Information (LIENS 2)
- Corrective Action Activity (CORRACTS)
- Resource Conservation and Recovery Act Information (RCRA) Treatment Storage and Disposal (RCRA-TSDF)
- RCRA – Large Quantity Generator (RCRA-LQG)
- RCRA – Small Quantity Generator (RCRA-SQG)
- RCRA – Conditionally Exempt Small Quantity Generator (RCRA-CESQG)
- RCRA – Non Generators (RCRA-NonGen)
- Engineering Controls Site List (US ENG CONTROLS)
- Sites with Institutional Controls (US INST CONTROL)
- Emergency Response Notification System (ERNS)
- Hazardous Materials Incident Report System (HMIRS)
- Incident and Accident Data (DOT OPS)
- Clandestine Drug Land (US CDL)
- Listing of Brownfields Sites (US BROWNFIELDS)
- Department of Defense Sites (DOD)
- Formerly Used Defense Sites (FUDS)
- Land Use Control Information System (LUCIS)
- CERCLA Consent Decrees (CONSENT)
- Records of Decision (ROD)
- Uranium Mill Tailings Sites (UMTRA)
- Torres Martinez reservation Illegal Dump Site Locations (DEBRIS REGION 9)
- Open Dump Inventory (ODI)
- Mines Master Index File (MINES)

- Toxic Chemical Release Inventory System (TRIS)
- Toxic Substances Control Act (TSCA)
- Federal Insecticide, Fungicide and Rodenticide Act (FIFRA)/TSCA Tracking System (FTTS)
- FIFRA/TSCA Tracking System Administrative Case Listing (HIST FTTS)
- Section 7 Tracking Systems (SSTS)
- Integrated Compliance Information System (ICIS)
- PCB Activity Database System (PADS)
- Material Licensing Tracking System (MLTS)
- Radiation Information Database (RADINFO)
- Facility Index System/Facility Registry System (FINDS)
- RCRA Administrative Action Tracking System (RAATS)
- Underground Storage Tank Listing (FEMA UST)
- State Coalition for Remediation of Drycleaners Listing (SCRD DRYCLEANERS)
- Steam-Electric Plan Operation Data (COAL ASH DOE)
- National Clandestine Laboratory Register (US HIST CDL)
- Coal Combustion Residues Surface Impoundments List (COAL ASH EPA)
- PCB Transformer Registration Database (PCB TRANSFORMER)
- Federal Facility Site Information Listing (FEDERAL FACILITY)

4.1.2 State

- Permanent List of Properties (PLP)
- Site Remediation Section Database (MN SRS)
- Deleted Permanent List of Properties (MN DEL PLP)
- Solid Waste Landfills/Special use Landfills (ND SWF/LF)
- Permitted Solid Waste Disposal Facilities (MN SWF/LF)
- List of Sites (MN LS)
- Closed Landfills Priority List (MN LCP)
- Underground Storage Tank Data (ND UST)
- Leaking Underground Storage Tank List (ND LUST)
- Underground Storage Tank Database (MN UST)
- Leaking Underground Storage Tank List (MN LUST)
- Environmental Liens (MN LIENS)
- Aboveground Storage Tanks (MN AST)
- Minnesota Spill List (SPILLS)
- Site Remediation Section Database (MN INST CONTROL)

- Voluntary Investigation and Cleanup Program (MN VIC)
- Drycleaner Facility Listing (ND DRYCLEANERS)
- Registered Drycleaning Facilities (MN DRYCLEANERS)
- List of Brownfields Sites (ND BROWNFIELDS)
- Petroleum Brownfields Program Sites (MN BROWNFIELDS)
- Clandestine Drug Labs Location Listing (ND CDL)
- Generators Associated with Enforcement Logs (MN ENF)
- Clandestine Drug Labs (MN CDL)
- Active TSD Facilities (MN HWS Permit)
- Permitted Airs Facility Listing (ND AIRS)
- Tier 2 Facility Listing (MN TIER 2)
- Licensing Information System Database Listing (MN MDA LIS)
- Coal Ash Disposal Site Listing (MN COAL ASH)
- Unpermitted Facilities (MN UNPERM LF)
- Manufactured Gas Plants

4.1.3 Tribal

- Indian Reservations (INDIAN RESERV)
- Report on the Status of Open Dumps on Indian Lands (INDIAN ODI)
- Leaking Underground Storage Tanks on Indian Land (INDIAN LUST)
- Underground Storage Tanks on Indian Land (INDIAN UST)
- Voluntary Cleanup Priority Listing (INDIAN VCP)

4.2 Results of Search – Federal, State, and Tribal Records

In summary, the regulatory database search yielded the following findings for locations either on or within the surrounding vicinity of the site regarding involvement in federal, state, and tribal environmental programs, as detailed below (See Appendix G for full report):

4.2.1 Federal

- No sites listed in NPL
- No sites listed in Proposed NPL
- No sites listed in Delisted NPL
- No sites listed in NPL Liens
- No sites listed in CERCLIS
- No sites listed in CERC-NFRAP
- No sites listed in LIENS 2
- No sites listed in CORRACTS

- No sites listed in RCRA-TSDF
- No sites listed in RCRA-LQG
- No sites listed in RCRA-SQG
- One site was listed in RCRA-CESQG database. Aggregate Industries at Highway 10 East in Dilworth Minnesota is listed on the RCRA-CESQG database. No violations are reported on the EDR report and inclusion on this database, alone is not indicative of an REC.
- No sites listed in RCRA-NonGen
- No sites listed in US ENG CONTROLS
- No sites listed in INST CONTROL
- No sites listed in ERNS
- No sites listed in HMIRS
- No sites listed in DOT OPS
- No sites listed in US CDL
- No sites listed in US BROWNFIELDS
- No sites listed in DOD
- No sites listed in FUDS
- No sites listed in LUCIS
- No sites listed in CONSENT
- No sites listed in ROD
- No sites listed in UMTRA
- No sites listed in DEBRIS REGION 9
- No sites listed in ODI
- No sites listed in MINES
- No sites listed in TRIS
- No sites listed in TSCA
- No sites listed in FTTS
- No sites listed in HIST FTTS
- No sites listed in SSTS
- No sites listed in ICIS
- No sites listed in PADS
- No sites listed in MLTS
- No sites listed in RADINFO
- No sites listed in FINDS
- No sites listed in RAATS
- No sites listed in FEMA UST

- No sites listed in SCRD DRYCLEANERS
- No sites listed in COAL ASH DOE
- No sites listed in US HIST CDL
- No sites listed in COAL ASH EPA
- No sites listed in PCB TRANSFORMER
- No sites listed in FEDERAL FACILITY.

4.2.2 State

- No sites listed in PLP
- No sites listed in MN SRS
- No sites listed in MN DEL PLP
- No sites listed in ND SWF/LF
- No sites listed in MN SWF/LF
- No sites listed in MN LS
- No sites listed in MN LCP
- No sites listed in ND UST
- No sites listed in ND LUST
- No sites listed in MN UST
- One site is listed on the MN LUST database. Burlington Northern Santa Fe Dilworth is listed as have a 9,000-gallon underground waste oil UST at the site. A leak was reported at this site on December 5, 1989. This site is not listed as having achieved closure with the MPCA. This is discussed further in Section 7 of this report.
- No sites listed in MN LIENS
- One site is listed in the MN Leaking AST (LAST) database. Lileks Oil, located at County Road 78 and Marion Street in Dilworth, Minnesota, approximately one-half mile west and apparently downgradient from the site area is listed on the LAST database due to a prior petroleum spill that was reported on June 16, 2000. This incident received closure from the MPCA on May 11, 2001. Since this LAST facility is located downgradient of the subject site and has received agency closure, it is not expected to represent an REC.
- One site is listed on the MN SPILLS database. Aggregate Industries at Highway 10 East in Dilworth Minnesota is listed on the MN SPILLS database. This is discussed further in Section 7 of this report.
- No sites listed in MN INST CONTROL
- No sites listed in MN VIC
- No sites listed in ND DRYCLEANERS
- No sites listed in MN DRYCLEANERS
- No sites listed in ND BROWNFIELDS
- No sites listed in MN BROWNFIELDS

- No sites listed in ND CDL
- No sites listed in MN ENF
- No sites listed in MN CDL
- No sites listed in MN HWS Permit
- One site was listed on the MN BULK database. Kragnes Elevator at 9749 21st Street North, directly north and upgradient of the subject site is listed as maintaining a bulk pesticide/fertilizer storage permit. This is discussed further in Section 7 of this report.
- One site is listed on the AGSPILLS database. Hoff Flying Service (no address provided) is plotted as being located within the site area. No information relating to the identification and amount of the substance reportedly spilled in this area is provided in the EDR report. Additionally, the regulatory status pertaining to this listing is not provided. This is discussed further in Section 7 of this report.
- No sites listed in ND AIRS
- One site is listed in the MN AIRS database. Aggregate Industries at Highway 10 East in Dilworth Minnesota is listed on the AIRS database. Inclusion in this database alone is not indicative of an REC.
- No sites listed in MN TIER 2
- No sites listed in MN MDA LIS
- No sites listed in MN COAL ASH
- No sites listed in MN UNPERM LF
- No Manufactured Gas Plants within a one-mile radius of the site.

4.2.3 Tribal

- No sites listed in INDIAN RESERV
- No sites listed in INDIAN ODI
- No sites listed in INDIAN LUST
- No sites listed in INDIAN UST
- No sites listed in INDIAN VCP

4.3 Additional Environmental Record Sources

4.3.1 Topographic Maps

Regional topography is generally flat. According to a 1985 topographic map obtained from the United States Geologic Survey on August 9, 2010 (Fargo, North Dakota-Minnesota quadrangle map), the site elevation generally varies from approximately 875 feet above mean sea level (amsl) near the Red River in the western portion of the alignment to approximately 895 amsl in the eastern portion of the alignment, with topographic relief generally towards the west/southwest. Based upon a review of the topographic map, there are areas where railroad tracks intersect the proposed flood diversion channel. This is discussed further in Section 5.3 of this report. Additionally, it appears that the flood diversion channel extends through an area that was labeled 'Moorhead Airport' in 1974. This appears to be the location

of where a spill under the name of Hoff Flying Service (no address provided) is plotted on the AGSPILLS database. During the site visit, no physical evidence of spills was observed in this area. No information relating to the identification and amount of the substance reportedly spilled in this area is provided in the EDR report or in a search of the MPCA spills database. Additionally, the regulatory status pertaining to this listing is not provided. Since there was a reported spill plotted in this area by EDR, Stanley Consultants qualifies this as an REC.

4.3.2 Sanborn Fire Insurance Maps

A search for reproductions of Sanborn Fire Insurance maps conducted by EDR determined there was no coverage.

4.3.3 Aerial Photographs

Historical aerial photographs provided by the National Resource Conservation Service (NRCS) dated 1939, 1954 and 1972 were reviewed for the site and surrounding area. Based on a review of these aerial photographs, the site and surrounding area generally consists of agricultural land and a low density of farm structures. Due to the scale and quality of the aerial photos readily available for review, specific site features could not be accurately ascertained. However, in general no evidence of surface staining, dumping, industrial land use, etc. that might indicate an REC was observed in the photos. Exceptions to this are described below.

- The area of the site that extends through Dilworth, Minnesota shows that from at least 1939 until 1972, a railroad roundhouse was located in the area currently occupied by the BNSF railyard.

- Buildings currently occupied by Kragnes Elevator and Richards Transportation that are located directly adjacent to and apparently upgradient of site appear to be present on aerial photographs dating back to 1939.

4.3.4 Historical City Directory

Historical city directories were reviewed at the Moorhead Public Library on July 30, 2010. No listings were found for the site area.

4.4 Previous Environmental Studies

Previous environmental studies provided to Stanley Consultants are described in Section 7 and referenced in Section 12 of this report.

4.5 Historical Use Information on the Property

Historical use information on the property was obtained by reviewing historical aerial photographs and interviews with local officials and land owners. Generally, the area of the site has been used for agricultural (row crop) purposes since at least 1939, which is the earliest available source reviewed.

4.6 Historical Use Information on Adjoining Properties

Historical use information on the adjoining properties was obtained by reviewing historical aerial photographs and interviews with local officials and land owners. Generally, the area of the site has been used for agricultural purposes since at least 1939, which is the earliest available source reviewed.

Section 5

Site Reconnaissance

5.1 Methodology and Limiting Conditions

The site reconnaissance involved one site visit to the project location from July 26-30, 2010 by William Carrig of Stanley Consultants. Additionally, Ulteig Engineers attempted to contact each property owner via telephone to present the questions set forth in Appendix X3: User Questionnaire of the ASTM International Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process. Not all property owners were available for interview. The majority of the site was farmland, with several industrial parcels observed in Dilworth, Minnesota, which are described in more detail in Section 7 of this report. Weather conditions at the time were generally sunny and warm. Site photos are included in Appendix C.

5.2 General Site Setting

The proposed Minnesota diversion channel is expected to be approximately 2,000 feet wide. Currently, three different alignments are being evaluated for the Minnesota diversion, but in general, the diversion channel will extend from approximately 90th Avenue South at the Red River of the North, south of Moorhead, Minnesota (Clay County) and extend east/northeast to approximately 120th Avenue NW (Kragnes Township, Clay County, Minnesota) at the Red River of the North. This is a distance of approximately 26 miles. The three different alignments being evaluated for the Minnesota diversion channel are located along the downstream portion between 43rd Avenue N, approximately three miles north of Dilworth, MN and 110th Avenue NW, just north of the Kragnes, MN. The first alignment extends north, parallel to 60th Street N, until it turns west just south of 70th Ave NW. The alignment again turns north approximately 0.5 miles west of 40th Street N and extends approximately 3.5 miles where it again turns west. This alignment is located east of the Kragnes, MN. The second alignment departs from the first alignment approximately 0.25 miles south of 57th Avenue N. At this departure, the second alignment follows a northeasterly direction until it rejoins the first alignment west of 40th Street N. Near this point the second alignment turns west and parallels 70th Avenue NW for about 1.6

miles. Just west of State Highway 75, the alignment turns north once more and extends about 3.5 miles where it rejoins the first alignment. This alignment is located west of the Kragnes, MN. The third alignment departs from the second alignment where the second alignment turns north just west of State Highway 75. The third alignment extends west approximately 0.5 miles more before turning north. The third alignment extends north, paralleling Clay County Highway 96 on the west side, approximately 3.5 miles where it rejoins the previous alignments. This alignment is also located west of the Kragnes, MN.

A tie-back levee is also required for the Minnesota alignment. The Minnesota diversion tie-back levee follows a general southwest trend west from the Minnesota diversion channel until it nears North Dakota Interstate I-29 where it turns south. The Minnesota tie-back levee heads south until it intersects I-29 approximately 0.5 mile south of 112th Avenue S. At this intersection, the Minnesota tie-back levee turns west and extends approximately 4.5 miles until it terminates at 81th Street S.

5.3 Exterior Observations

With a few exceptions, the site area is predominantly farmland and adjoining properties also mostly consist of farmland. Many paved and unpaved roads intersect the proposed flood diversion channel. Additionally, railroad tracks cross the proposed flood diversion channel in several areas. Impacted parcel numbers include 190163800, 190164000, 180289999, 210360000, 20136201, 230162500, and 230162000. The presence of railroad tracks on a parcel is indicative of an REC.

Several farmhouses and agricultural support buildings were noted within and in the vicinity of the site area. A few industrial buildings (as discussed in Section 2.3 of this report) are also located within the site area.

Based on the fact that the general site area has been used for agricultural (row crop) purposes since at least 1939, it is probable that various pesticides and herbicides have been historically used at the site. However, during the site visit, no visual evidence of the misuse of pesticides (e.g. surface staining, sheen, ponding liquids, etc.) was observed.

5.4 Interior Observations

Numerous buildings are located throughout the general site area. Stanley Consultants did not inspect the interior of these buildings.

Section 6

Interviews

Interviews or inquiries of local officials, adjacent property owners, and the current property owners were attempted.

6.1 Interview with Owner

Ulteig Engineers attempted to contact each property owner via telephone to present the questions set forth in Appendix X3: User Questionnaire of the ASTM International Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process. Not all property owners were available for interview. These questionnaires provided by Ulteig Engineers are provided in Appendix E of this report.

6.2 Interview with Site Manager

Please refer to Section 6.1.

6.3 Interviews with Occupants

Please refer to Section 6.1.

6.4 Interviews with Local Government Officials

Mr. Bruce Jaster, Director of the Clay County Department of Environmental Health was interviewed on July 30, 2010. According to Mr. Jaster, there are no known areas of environmental impairment within one mile of the proposed flood diversion area. Mr. Jaster was aware of a former landfill located approximately three miles northeast of the proposed flood diversion area on the northeast corner of Highway 75 and 120th Avenue North. Based on its distance from the proposed flood diversion area, this former landfill is not likely to be of environmental concern.

Mr. Joe Gaughan, Assistant Chief with the Moorhead Fire Department was interviewed on July 30, 2010. According to Mr. Gaughan, there are no known areas of environmental impairment within one mile of the proposed flood diversion area. Mr. Gaughan was aware of a former landfill located approximately five miles west of the proposed flood diversion area on the northeast corner of Highway 75 and 15th Avenue North. Based on its distance from the proposed flood diversion area, this former landfill is not likely to be of environmental concern. Mr. Gaughan also reported that a truck stop with leaking underground storage tanks was formerly located approximately three miles east of the proposed flood diversion area on the corner of Interstate 94 and Highway 336. Based on its distance from the proposed flood diversion area, this former truckstop is not likely to be of environmental concern.

Mr. Ken L. Parke, City Administrator with the City of Dilworth was interviewed on July 30, 2010. According to Mr. Parke, there is subsurface contamination at the Burlington Northern Santa Fe (BNSF) rail yard located within the proposed flood diversion area. Mr. Parke was unaware of the extent of the contamination; however, reported that the MPCA has visited the site several times. City of Dilworth file information pertaining to the BNSF rail yard, as well as Aggregate Industries and the Dakota Ag Co-Op (also located in Dilworth) was requested; however, at the time of this report, a response has not been received.

Ms. J. Bonnie Rehder, Clay County Recorder was interviewed on July 30, 2010. According to Ms. Rehder, she is unaware of any properties in Clay County with environmental liens. Additionally, based on a review of deed information available in the Clay County Recorder computer system, there were no environmental liens found associated with the properties in the project area where potential RECs were identified.

Additionally, Mr. Roger Mackedanz with the Minnesota Department of Agriculture, was contacted on August 5 to request documentation pertaining to additional spills in the area of the site. At the time of this report, a response has not been received.

Interviews with local agencies are included in Appendix I of this report.

6.5 Interviews with Others

No others were interviewed.

Section 7

Findings

The following paragraphs summarize the findings from this Phase I ESA.

7.1 Hazardous Substances

No hazardous substances were observed within any of the areas proposed for the flood diversion channel at the time of the site visit with the exception of an approximately 270-gallon tote labeled as containing "Gly Star Plus" located at parcel number 190020200. While secondary containment was not provided, the tote appeared intact with no signs of leaking or staining in its vicinity, therefore Stanley Consultants does not qualify this as an REC. In addition to the tote, aboveground storage tanks (described below in Section 7.3.1) were observed on this parcel. Adjacent properties were visually inspected from public thoroughfares for evidence of hazardous substance and petroleum storage. Based on this review, Kragnes Elevator was observed adjacent to and apparently upgradient of parcel numbers 180850105 and 180340300. This site is listed on the MN BULK database as maintaining a bulk pesticide/fertilizer storage permit. While no evidence of surface staining was observed at this off-site location, aerial photographs indicate that it has been present since at least 1939. Based on the tenure in which bulk quantities of pesticides are fertilizers may have been managed at this facility, Stanley Consultants qualifies this as an REC. In addition to Kragnes Elevator, Richards Transportation is located within one-eighth mile northeast and upgradient of these parcels. From the public thoroughfare, Richards Transportation appears to be a bus maintenance facility. Several bulk containers presumably containing petroleum products were observed at this facility.

7.2 Hazardous Substance Containers and Unidentified Containers

There were no unidentified containers observed on site.

7.3 Storage Tanks

7.3.1 Aboveground Storage Tanks (AST)

No aboveground storage tanks were observed in the areas of proposed flood diversion channel within the agricultural areas of the site with the exception of two approximately 2,000-gallon ASTs containing diesel fuel and gasoline and one approximately 1,000-gallon AST containing oil were observed on parcel number 190020200. While no secondary containment structures were observed, these ASTs appeared to be intact with no signs of leaking or staining, therefore, Stanley Consultants does not qualify them as RECs.

According to Ms. Sheree Eilertson, Environmental Advisor for Aggregate Industries, ASTs located at the Aggregate Industries facility located within the proposed flood diversion channel include, but are not limited to, one 2,000 gallon steel gasoline AST, two diesel fuel ASTs (10,000 and 17,625 gallon capacities), two fuel oil ASTs (12,000 gallon and 265 gallon capacities), and three asphalt cement ASTs ranging in size from 10,000 to 18,000 gallons in size. Releases have been reported at this site and are discussed further in Section 7.6 of this report.

Additional aboveground storage tanks located on properties within the proposed flood diversion channels include an apparently unoccupied building labeled "Dakota Ag Co-Op" located on Highway 10 in Dilworth, Minnesota. Three unlabelled ASTs located within concrete containment structures could be observed from the public thoroughfare. No current or former occupant or owner associated with this parcel was available for interview and Stanley Consultants was not granted access to the site.

Lileks Oil, located at County Road 78 and Marion Street in Dilworth, Minnesota, approximately one-half mile west and apparently downgradient from the site area is listed on the LAST database due to a prior petroleum spill that was reported on June 16, 2000. This incident received closure from the MPCA on May 11, 2001. Since this LAST facility is located downgradient of the subject site and has received agency closure, it is not expected to represent an REC.

7.3.2 Underground Storage Tanks (USTs)

No evidence of underground storage tanks was observed within the project boundary during the site reconnaissance.

Burlington Northern Santa Fe Dilworth is listed in the MPCA tank database as having as many as 18 installed, removed, and closed-in-place USTs at the site with dates ranging from 1966 through 2007. The contents of these tanks is not reported. The EDR report indicates that the BNSF facility has a 9,000-gallon underground waste oil UST at the site. A leak was reported at this site on December 5, 1989. This site is not listed as having achieved closure with the MPCA. Based on the long history of tanks being present at this facility, Stanley Consultants qualifies this as an REC.

According to the MPCA On-Line Tank Database, Aggregate Industries (formerly F-M Asphalt) had a gasoline release that was reported on November 14, 1990. This incident reportedly received MPCA closure on September 10, 1997. The on-line database indicates

that contaminated soils remain at the site; however, there is no off-site contamination. Base on the fact that there is contamination remaining at the site, Stanley Consultants qualifies this as an REC.

According to the MPCA On-Line Tank Database, Aggregate Industries (formerly Kost Bros Fm Asphalt) had a release (product released listed as being unknown) reported on January 31, 1994. The database indicates that this incident got MPCA closure on August 18, 1997; however, it is unknown if contaminated soils remain at the site or if it has migrated off-site. Therefore, this is considered an REC.

According to Ms. Sheree Eilertson, Environmental Advisor for Aggregate Industries, there are currently no active USTs at the Aggregate Industries facility.

A filling station was observed directly west of Parcel Number 23034000. The filling station was labeled as 'Jakes Garage' and two fuel pumps were observed. This filling station appeared to have been constructed within the past several years and was observed off of the driveway to a newer looking house. Additionally, this site was not listed on the UST or LUST databases searched (described in Section 4 of this report). Based on the location of the filling station, it is possible that it is decorative and there are no USTs in place; however, Stanley Consultants was unable to confirm. Regardless, this filling station is located directly west of and apparently downgradient of the proposed drainage channel and is therefore not considered an REC.

7.4 Indications of PCB's

Numerous pole mounted transformers were observed along Highway 10 within Dilworth, Minnesota. The ages of the observed transformers are unknown and it was unknown if the observed transformers were labeled as to their PCB content, as their labels were unreadable due to their height. However, the units appeared intact, with no visual signs of leaks. Additionally, an electrical substation was observed on the corner of Highway 75 and 90th Avenue North, within a half mile of the proposed drainage diversion. Several concrete pad mounted transformers were observed in this area. These units appeared intact, with no visual signs of leaks.

7.5 Indications of Solid Waste Disposal

Evidence of solid waste disposal was not observed on or in the immediate vicinity of the site area with the following exceptions:

- Approximately ten railroad ties were observed in a small pile along the eastern edge of the parcel identified as PIN 190163800. While no signs of surface staining was observed in this area, railroad ties are commonly coated with creosote, which could have impacted the subject site, therefore this qualifies as an REC.

- An area of dumping that included an abandoned school bus, a railroad tanker truck, and various demolition debris was observed directly adjacent to the west and across a public thoroughfare (apparently downgradient) from the on-site parcel (Parcel Identification Number [PIN] 190292870). No signs of surface staining was noted on the off-site facility. The fact that there was no staining observed in this area coupled with the fact

that this off-site dumping location appears to be downgradient from the site area, this does not qualify as an REC.

- An apparent burn pit was observed on a parcel directly west and upgradient of parcel number 190104301. A charred pit roughly ten feet in diameter was observed with remains of apparent demolition debris. There was no evidence that potentially hazardous materials or petroleum products were burned in this area and there was no evidence of staining beyond the pit, therefore Stanley Consultants does not qualify this off-site burn pit as an REC.

According to Mr. Bruce Jaster, Director of the Clay County Department of Environmental Health, there are no known areas of solid waste disposal within one mile of the proposed flood diversion area. Mr. Jaster was aware of a former landfill located approximately three miles northeast of the proposed flood diversion area on the northeast corner of Highway 75 and 120th Avenue North. Based on its distance from the proposed flood diversion area, this former landfill is not likely to be of environmental concern. Additionally, according to Mr. Joe Gaughan, Assistant Chief with the Moorhead Fire Department, there are no known areas of solid waste disposal within one mile of the proposed flood diversion area. Mr. Gaughan was aware of a former landfill located approximately five miles west of the proposed flood diversion area on the northeast corner of Highway 75 and 15th Avenue North. Based on its distance from the proposed flood diversion area, this former landfill is not likely to be of environmental concern.

According to interviews conducted with property owners by Ulteig Engineering, a methamphetamine laboratory was removed from a parcel neighboring parcel number 180182300 approximately one-quarter mile to the south (parcel numbers 180394700 and 180184036). Law enforcement, including a hazardous materials team, was reportedly brought in to remove the methamphetamine laboratory in 2005. Small containers of ammonia and brake fluid were reportedly removed along the river bank. During the site visit, this area was wooded and no structures or evidence of waste disposal was observed. Previous methamphetamine production at the site represents an REC.

7.6 Releases of Hazardous Substances

No physical evidence of a hazardous substance or petroleum releases was observed during the site visit. Additionally, none of the landowners available for interview were aware of any spills located within the site area with the exception of Aggregate Industries which is described in more detail below.

Aggregate Industries at Highway 10 East in Dilworth Minnesota is listed on the MN SPILLS database. According to a report entitled "Surficial Excavation Report for Aggregate Industries/F-M Asphalt" prepared by West Central Environmental Consultants, Inc. dated July 27, 2010 (the July 2010 Report) that was provided to Stanley Consultants by Sheree Eilertson, Environmental Advisor for Aggregate Industries on August 8, 2010; a petroleum spill occurred at the site sometime prior to May 29, 2009. At that time, it was estimated that 2,160 cubic yards of contaminated soil was in-place at the site that was approved by the MPCA for removal and treatment; however, only approximately 860 cubic yards of contaminated soil was removed during the June 2010 excavation due to the excavation being completed within 5 feet on either

side of the site gas lines. Additionally, the excavation was reportedly guided by sheen tests completed in the field during excavation and locations identified as passing the sheen tests were not excavated. Analytical sampling reportedly was not required. Groundwater was reportedly not encountered during excavation. According to Ms. Eilertson, the July 2010 report was recently submitted to the MPCA requesting closure with respect to the on-site spill; however, the MPCA has yet to respond. Based on the fact there is a spill located on the site that has not achieved closure with the MPCA, Stanley Consultants qualifies this as an REC.

Hoff Flying Service (no address provided) is plotted as being located within the site area and is listed on the AGSPILLS database. During the site visit, no physical evidence of spills was observed in this area. No information relating to the identification and amount of the substance reportedly spilled in this area is provided in the EDR report or in a search of the MPCA spills database. Additionally, the regulatory status pertaining to this listing is not provided. Since there was a reported spill plotted in this area by EDR, Stanley Consultants qualifies this as an REC.

7.7 Radon and Asbestos

Evaluation for the presence of radon and asbestos-containing materials is not a part of the ASTM E1527-05 scope of services.

7.8 Groundwater Wells

Based on the rural nature of the majority of the site area, the presence of groundwater wells in the area is assumed. No visual evidence of groundwater wells was observed during the site visit.

Section 8

Opinion

Based on the information summarized in this report, Stanley Consultants recommends further action, as described in Section 9 of this report.

Section 9

Conclusions

Stanley Consultants performed a Phase I Environmental Site Assessment in conformance with the scope and limitations of ASTM Practice E 1527-05 and ER 1165-2-132 Hazardous, Toxic, and Radioactive Waste (HTRW) Guidance for Civil Works Projects of the proposed alignment of a water diversion channels on the outskirts of Moorhead, Clay County, Minnesota. William Carrig of Stanley Consultants visited the site on July 26-30, 2010.

The following recognized environmental conditions, as defined by the ASTM E 1527-05 standard were identified in connection with the subject site:

REC 1 - Former Methamphetamine Laboratory: According to interviews conducted with property owners by Ulteig Engineering, a methamphetamine laboratory was removed from a parcel neighboring parcel number 180182300 approximately one-quarter mile to the south (parcel number 180181800). Law enforcement, including a hazardous materials team, was reportedly brought in to remove the methamphetamine laboratory in 2005. Small containers of ammonia and brake fluid were reportedly removed along the river bank. Previous methamphetamine production at the site represents an REC. A Phase II ESA scope is provided below:

REC No.	1	1
Parcel No.	180181800 (See Figure 2-1)	180181800 (See Figure 2-1)
Property Owner	Paul & Sherri Fossum	Paul & Sherri Fossum
Media Sample	Soil	Groundwater
Number of Samples	2	2
Type of Sampling Required	Geoprobe	Geoprobe
Depth	15 feet	15 feet
Spacing	1,000 foot spacing near river	1,000 foot spacing near river
Type of Compounds for Testing	VOC, SVOC, RCRA Metals, Ammonia	VOC, SVOC, RCRA Metals, Ammonia

REC 2 - Kragnes Elevator/Richards Transportation: Kragnes Elevator was observed adjacent to and apparently upgradient of parcel numbers 180850105 and 180340300. This site is listed on the MN BULK database as maintaining a bulk pesticide/fertilizer storage permit. While no evidence of surface staining was observed at this off-site location, aerial photographs indicate that it has been present since at least 1939. Based on the tenure in which bulk quantities of pesticides are fert ilizers may have been managed at this facility, Stanley Consultants qualifies this as an REC. In addition to Kragnes Elevator, Richards Transportation is located within one-eighth mile northeast and upgradient of these parcels. From the public thoroughfare, Richards Transportation appears to be a bus maintenance facility. Several bulk containers presumably containing petroleum products were observed at this facility. A Phase II ESA scope is provided below:

REC No.	2	2	2	2
Parcel No.	180850105 (See Figure 2-2)	180850105 (See Figure 2-2)	180340300 (See Figure 2-2)	180340300 (See Figure 2-2)
Property Owner	Unknown	Unknown	Clemedtson Farm LTD PTSHIP	Clemedtson Farm LTD PTSHIP
Media Sample	Soil	Groundwater	Soil	Groundwater
Number of Samples	1	1	1	1
Type of Sampling Required	Geoprobe	Geoprobe	Geoprobe	Geoprobe
Depth	15 feet	15 feet	15 feet	15 feet
Spacing	Downgradient Location	Downgradient Location	Downgradient Location	Downgradient Location
Type of Compounds for Testing	PEST/HERB, VOC, PAH, RCRA Metals	PEST/HERB, VOC, PAH, RCRA Metals	PEST/HERB, VOC, PAH, RCRA Metals	PEST/HERB, VOC, PAH, RCRA Metals

REC 3 - Burlington Northern Santa Fe (BNSF): Burlington Northern Santa Fe Dilworth is listed in the MPCA tank database as having as many as 18 installed, removed, and closed-in-place underground storage tanks (USTs) at the site with dates ranging from 1966 through 2007. The contents of these tanks is not reported. The EDR report indicates that the BNSF facility has 9,000-gallon underground waste oil UST at the site. A leak was reported at this site on December 5, 1989. This site is not listed as having achieved closure with the MPCA. Based on the long history of tanks being present at this facility, Stanley Consultants qualifies this as an REC. While the presence of tanks and railroad spurs at this site may be indicative of RECs, further information, as well as access to the site and site owners/operators is necessary to provide a Phase II Environmental Site Assessment (ESA) scope.

REC No.	3	Sampling plan to be determined once access is granted (See Figure 2-3)
Parcel No.		
Property Owner		
Media Sample		
Number of Samples		
Type of Sampling Required		
Depth		
Spacing		
Type of Compounds for Testing		

REC 4 - Aggregate Industries 2009 Release: Aggregate Industries at Highway 10 East in Dilworth Minnesota is listed on the MN SPILLS database. According to a report entitled "Surficial Excavation Report for Aggregate Industries/F-M Asphalt" prepared by West Central Environmental Consultants, Inc. dated July 27, 2010 (the July 2010 Report) that was provided to Stanley Consultants by Sheree Eilertson, Environmental Advisor for Aggregate Industries on August 8, 2010; a petroleum spill occurred at the site sometime prior to May 29, 2009. At that time, it was estimated that 2,160 cubic yards of contaminated soil was in-place at the site that was approved by the MPCA for removal and treatment; however, only approximately 860 cubic yards of contaminated soil was removed during the June 2010 excavation due to the excavation being completed within 5 feet on either side of the site gas lines. Additionally, the excavation was reportedly guided by sheen tests completed in the field during excavation and locations identified as passing the sheen tests were not excavated. Analytical sampling reportedly was not required. Groundwater was reportedly not encountered during excavation. According to Ms. Eilertson, the July 2010 report was recently submitted to the MPCA requesting closure with respect to the on-site spill; however, the MPCA has yet to respond. Based on the fact there is a spill located on the site that has not achieved closure with the MPCA, Stanley Consultants qualifies this as an REC. While the presence of releases at this site may be indicative of RECs, further information, as well as access to the site and site owners/operators is necessary to provide a Phase II ESA scope.

REC No.	4	Sampling plan to be determined once access is granted (See Figure 2-3)
Parcel No.		
Property Owner		
Media Sample		
Number of Samples		
Type of Sampling Required		
Depth		
Spacing		
Type of Compounds for Testing		

REC 5 - Aggregate Industries – 1990 Release: According to the MPCA On-Line Tank Database, Aggregate Industries (formerly F-M Asphalt) had a gasoline release that was reported on November 14, 1990. This incident reportedly received MPCA closure on September 10, 1997. The on-line database indicates that contaminated soils remain at the site; however, there is no off-site contamination. Based on the fact that there is contamination remaining at the site, Stanley Consultants qualifies this as an REC. While the presence of releases at this site may be indicative of RECs, further information, as well as access to the site and site owners/operators is necessary to provide a Phase II ESA scope.

REC No.	5	Sampling plan to be determined once access is granted (See Figure 2-3)
Parcel No.		
Property Owner		
Media Sample		
Number of Samples		
Type of Sampling Required		
Depth		
Spacing		
Type of Compounds for Testing		

REC 6 -Aggregate Industries – 1994 Release: According to the MPCA On-Line Tank Database, Aggregate Industries (formerly Kost Bros Fm Asphalt) had a release (product released listed as being unknown) reported on January 31, 1994. The database indicates that this incident got MPCA closure on August 18, 1997; however, it is unknown if contaminated soils remain at the site or if it has migrated off-site. Therefore, this is considered an REC. While the presence of releases at this site may be indicative of RECs, further information, as well as access to the site and site owners/operators is necessary to provide a Phase II ESA scope.

REC No.	6	Sampling plan to be determined once access is granted (See Figure 2-3)
Parcel No.		
Property Owner		
Media Sample		
Number of Samples		
Type of Sampling Required		
Depth		
Spacing		
Type of Compounds for Testing		

REC 7 - Dakota Ag Co-Op: An apparently unoccupied building labeled "Dakota Ag Co-Op" is located within the proposed flood diversion channel as it crossed Highway 10 in Dilworth, Minnesota. Three unlabelled ASTs located within concrete containment structures as well as a railroad spur was observed in outdoor areas of this facility that could be observed from the public thoroughfare. No current or former occupant or owner associated with this parcel was available for interview and Stanley Consultants was not able to access the interior portions of the building. While the presence of tanks and railroad spurs at this site may be indicative of RECs, further information, as well as access to the site and site owners/operators is necessary to provide a Phase II ESA scope.

REC No.	7	Sampling plan to be determined once access is granted (See Figure 2-3)
Parcel No.		
Property Owner		
Media Sample		
Number of Samples		
Type of Sampling Required		
Depth		
Spacing		
Type of Compounds for Testing		

REC 8 - Hoff Flying Service Spill: Hoff Flying Service (no address provided) is plotted as being located within the site area and is listed on the AGSPILLS database searched by Environmental Data Resources, Inc. (EDR). During the site visit, no physical evidence of spills was observed in this area. No information relating to the identification and amount of the substance reportedly spilled in this area is provided in the EDR report or in a search of the MPCA spills database. Additionally, the regulatory status pertaining to this listing is not provided. Since there was a reported spill plotted in this area by EDR, Stanley Consultants qualifies this as an REC. A Phase II ESA scope is provided below:

REC No.	8	8
Parcel No.	210130300 (See Figure 2-4)	210130300 (See Figure 2-4)
Property Owner	Duane T. & Teresa C. Walker	Duane T. & Teresa C. Walker
Media Sample	Soil	Groundwater
Number of Samples	1	1
Type of Sampling Required	Geoprobe	Geoprobe
Depth	15 feet	15 feet
Spacing	Downgradient Location	Downgradient Location
Type of Compounds for Testing	PEST/HERB, VOC, PAH, RCRA Metals	PEST/HERB, VOC, PAH, RCRA Metals

REC 9 - Railroad Tracks: The following parcels require additional investigation due to their location near railroad tracks. Contaminates commonly found associated with railroad tracks include arsenic, chromates, coal, creosote, and lead. While no signs of surface staining were observed in this area, railroad ties are commonly coated with creosote, which could have impacted the subject site, therefore this qualifies as an REC.

REC No.	9a	9a	9b	9b	9c	9c	9d	9d	9d
Parcel No.	190163800 (See Figure 2-5)	190164000 (See Figure 2-5)	180281000 (See Figure 2-6)	180280300 (See Figure 2-6)	210360000 (See Figure 2-7)	201362101 (See Figure 2-7)	230162500 (See Figure 2-7)	230161000 (See Figure 2-8)	230162000 (See Figure 2-8)
Property Owner	Walker Pare Farms	Barbara J Nelson - Hooper	Robert Horby	Minch Family LTD PTSHP	Merle Allen Family Trust	Unknown	Jody Eidenschink	Chad & Camille Jetvig	Elwood Shaner Trust
Media Sample	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil
Number of Samples	1	1	2	2	1	1	1	1	1
Type of Sampling Required	Hand auger	Hand auger	Hand auger	Hand auger	Hand auger	Hand auger	Hand auger	Hand auger	Hand auger
Depth	0-2 feet	0-2 feet	0-2 feet	0-2 feet	0-2 feet	0-2 feet	0-2 feet	0-2 feet	0-2 feet
Spacing	Near tracks	Near tracks	Near tracks (both sides)	Near tracks (both sides)	Near tracks	Near tracks	Near tracks	Near tracks	Near tracks
Type of Compounds for Testing	PAHs, RCRA Metals	PAHs, RCRA Metals	PAHs, RCRA Metals	PAHs, RCRA Metals	PAHs, RCRA Metals	PAHs, RCRA Metals	PAHs, RCRA Metals	PAHs, RCRA Metals	PAHs, RCRA Metals

REC 10 - Railroad Ties Dumping: Approximately ten railroad ties were observed in a small pile along the eastern edge of the parcel identified as PIN 190163800. While no signs of surface staining were observed in this area, railroad ties are commonly coated with creosote, which could have impacted the subject site, therefore this qualifies as an REC. A Phase II ESA scope is provided below:

REC No.	10
Parcel No.	190163800 (See Figure 2-5)
Property Owner	Walker-Parke Farms
Media Sample	Soil
Number of Samples	2
Type of Sampling Required	Hand auger
Depth	0-2'
Spacing	Close to ties
Type of Compounds for Testing	BOC, PAH, RCRA Metals

De minimis issues are summarized below.

Jakes Filling Station: A filling station was observed directly west of Parcel Number 23034000. This filling station was labeled as 'Jakes Garage' and two fuel pumps were observed. This filling station appeared to have been constructed within the past several years and was observed off of the driveway to a newer looking house. Additionally, this site was not listed on the UST or LUST databases searched (described in Section 4 of this report). Based on the location of the filling station, it is possible that it is decorative and there are no USTs in place; however, Stanley Consultants was unable to confirm. Regardless, this filling station is located directly west of and apparently downgradient of the proposed drainage channel and is therefore not considered an REC.

Off-Site Dumping: An area of dumping that included an abandoned school bus, a railroad tanker truck, and various demolition debris was observed directly adjacent to the west and across a public thoroughfare (apparently downgradient) from the on-site parcel (Parcel Identification Number [PIN] 190292870). No signs of surface staining was noted on the off-site facility. The fact that there was no staining observed in this area coupled with the fact that this off-site dumping location appears to be downgradient from the site area, this does not qualify as an REC.

Off-Site Burn Pit: An apparent burn pit was observed on a parcel directly west and upgradient of parcel number 190104301. A charred pit roughly ten feet in diameter was observed with remains of apparent demolition debris. There was no evidence that

potentially hazardous materials or petroleum products were burned in this area and there was no evidence of staining beyond the pit, therefore Stanley Consultants does not qualify this off-site burn pit as an REC.

Lileks Oil Leaking Aboveground Storage Tank: Lileks Oil, locates at County Road 78 and Marion Street in Dilworth, Minnesota, approximately one-half mile west and apparently downgradient from the site area is listed on the LAST database due to a prior petroleum spill that was reported on June 16, 2000. This incident received closure from the MPCA on May 11, 2001. Since this LAST facility is located downgradient of the subject site and has received agency closure, it is not expected to represent an REC.

On-site ASTs and Totes: Two approximately 2,000-gallon ASTs containing diesel fuel and gasoline and one approximately 1,000-gallon AST containing oil were observed on parcel number 190020200. While no secondary containment structures were observed, these ASTs appeared to be intact with no signs of leaking or staining. Additionally, one approximately 270-gallon tote labeled as containing "Gly Star Plus" was located at parcel number 190020200. While secondary containment was not provided for this storage, the containers appeared intact with no signs of leaking or staining in its vicinity, therefore Stanley Consultants does not qualify this as an REC.

Potential On-Site Pesticide Use - Based on the fact that the general site area has been used for agricultural purposes since at least 1939, it is probable that various pesticides and herbicides have been historically used at the site. However, during the site visit, no visual evidence of the misuse of pesticides (e.g. surface staining, sheen, ponding liquids, etc.) was observed, therefore, Stanley Consultants qualifies this as a *de minimis* issue.