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REGION 5 RAC2

REMEDIAL ACTION CONTRACT FOR

Remedial, Enforcement Oversight, and
Non-Time Critical Removal Activities at Sites of Release or
Threatened Release of Hazardous Substances in Region 5

OPERATION AND MAINTENANCE PLAN

Operable Unit 1 Groundwater Extraction System
Continental Steel Superfund Site
Kokomo, Indiana
WA No. 056-RARA-05BW/Contract No. EP-S5-06-01

June 2020

PREPARED FOR

U.S. Environmental Protection Agency

PREPARED BY

ch2m

FOR OFFICIAL USE ONLY

OPERATION AND MAINTENANCE PLAN

Operable Unit 1
Groundwater Extraction System

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Contents

Abbreviations and Acronyms

µg/L	micrograms per liter
ARAR	applicable or relevant and appropriate requirements
CSSS	Continental Steel Superfund Site
cis-1,2-DCE	cis-1,2-dichloroethene
EPA	U.S. Environmental Protection Agency
gpm	gallons per minute
HDPE	high-density polyethylene
IC	institutional control
IDEM	Indiana Department of Environmental Management
IDWP	Individual Wastewater Permit
MCL	Maximum Contaminant Level
MNA	monitored natural attenuation
O&M	operations and maintenance
OU	operable unit
PCE	tetrachloroethene
PM	project manager
POTW	publicly owned treatment works
RA	remedial action
ROD	Record of Decision
TCE	trichloroethene
VC	vinyl chloride
VOC	volatile organic compound

SECTION 1

Introduction

The operations and maintenance (O&M) plan provides the information necessary to operate and maintain the Continental Steel Superfund Site (CSSS) Operable Unit 1 (OU1) Groundwater Extraction System. It contains objectives for the operation of the Groundwater Extraction System and includes the following information:

- Introduction
- Project Organization
- Site Background
- Remedial Action
- System Description
- System O&M
- Sampling, Monitoring, and Reporting
- Groundwater Extraction System Record Drawings (Appendix A)

A complete copy of the O&M plan observations and maintenance records are to be stored with the Indiana Department of Environmental Management (IDEM) project manager.

1.1 Project Organization

1.1.1 EPA Region 5 Remedial Program Manager

The U.S. Environmental Protection Agency (EPA) remedial program manager will have overall responsibility for the long-term response action.

1.1.2 Operation and Maintenance Project Manager

The project manager (PM) will be responsible for project implementation and will be authorized to allocate resources to meet project requirements. The PM will report directly to the EPA Region 5 remedial program manager and will serve as the major point of contact and control for project matters. The following are the PM's responsibilities:

- Define project objectives and develop a detailed work plan and schedule.
- Establish project policy and procedures to address the specific needs of the project as a whole, as well as the objectives of each task.
- Acquire and apply technical resources to meet budget and schedule constraints.
- Orient project team members concerning project goals and special considerations.
- Monitor and direct project team members.
- Develop and meet ongoing project staffing requirements.
- Review the work performed to ensure quality, responsiveness, and timeliness.
- Review and analyze overall project performance with regard to the planned schedule and budget.
- Review reports (deliverables) before submission to EPA Region 5.
- Accept responsibility for the preparation and quality of interim and final reports.

- Represent the project team at meetings and public hearings.

The PM will store and maintain a complete copy of this O&M plan, along with field observation and maintenance records.

1.1.3 Operations Technician

The operations technician will report directly to the PM and will be responsible for the system's O&M in accordance with this plan. Ideally, the operations technician will possess previous experience with groundwater pump -and-treat systems. Specifically, the technician should be familiar with or possess the following skills:

- Autodialer programming and troubleshooting
- Flowmeter operation and troubleshooting
- Simple plumbing troubleshooting and repair
- Electric submersible pump troubleshooting and repair
- Water-level measurement
- Sample collection and processing

1.2 Site Background

The CSSS is located on West Markland Avenue in the City of Kokomo, Howard County, Indiana (Figure 1-1). The total site encompasses approximately 183 acres and consists of a former steel manufacturing plant (Main Plant Area), pickling liquor treatment lagoons (Lagoon Area), a former waste disposal area (Markland Avenue Quarry), and a slag processing area (Slag Processing Area). The site was divided into the following operable units (OUs) to facilitate remedy selection and implementation:

- OU1: Sitewide groundwater
- OU2: Lagoon Area
- OU3: Wildcat Creek and Kokomo Creek, which flow across the site
- OU4: Markland Quarry Lagoon
- OU5: Main Plant
- OU6: Slag Processing Area

The Record of Decision (ROD) for the CSSS was published in November 1998. IDEM was the lead agency responsible for conducting the remedial investigation/ feasibility study at the site under a cooperative agreement with EPA in accordance with the Comprehensive Environmental Response, Compensation, and Liability Act of 1980, commonly known as Superfund. Selected remedies for the various OUs, including optimizations that were developed during the design phase, are documented in an Explanation of Significant Differences that was published by EPA in August 2005. Groundwater at the CSSS is impacted by volatile organic compounds (VOCs) at concentrations above applicable federal drinking water Maximum Contaminant Levels (MCLs). A variety of remediation activities have been implemented at the site to address sources of contamination and to remediate contaminated groundwater, including removal, treatment, onsite and offsite disposal, and institutional controls (ICs) throughout OU2 through OU6 (excavation within the Kokomo and Wildcat Creek, capping of the Former Acid Lagoon Area and Slag Processing Area, and the installation of groundwater extraction systems). This plan describes the remedial action (RA) activities being completed to address contamination in OU1 (sitewide groundwater). The activities include shallow groundwater extraction, monitored natural attenuation (MNA), and groundwater-use restrictions.

1.3 Remedial Action Objectives

The purpose of the sampling is to continue to monitor the performance of the onsite groundwater extraction systems, monitor the water levels across the site, and evaluate the effectiveness of natural attenuation in addressing groundwater contamination. The 1998 ROD had separated sitewide groundwater from groundwater impacts associated with the individual OUs. During the design phase, these separate groundwater impacts were grouped back together under OU1, along with the sitewide impacts. This was performed for two reasons: (1) the planned RAs at the individual OUs had a large impact on sitewide groundwater flow, and (2) combining the components of the multiple RAs into one contract allowed for cost efficiencies. The RA for OU1 was conducted between 2010 and 2012 and included the following components:

- Collect intermediate and lower groundwater at Martin Marietta Quarry to contain contamination within current boundaries.
- Dispose of collected Martin Marietta Quarry groundwater offsite.
- Receive Technical Impracticability Waiver for intermediate and lower groundwater zones.
- Attain natural attenuation.
- Collect shallow groundwater and dispose offsite.
- Implement groundwater-use restrictions.

The remediation goals for OU1 are to contain and control the upper aquifer until the applicable or relevant and appropriate requirements (ARARs) are met. The shallow groundwater remedial strategy has two components: (1) eliminate contaminated groundwater migration from source areas by establishing a collection system for containment of the plumes within their current boundaries, and (2) aggressively extract contaminated groundwater to reduce contaminant levels and ultimately attain RA objectives as rapidly as possible. Shallow groundwater extracted as part of these source area RAs is pumped to the City of Kokomo sanitary sewer system for treatment by the City's wastewater treatment plant, referred to as the City of Kokomo Publicly Owned Treatment Works (POTW).

The remedy for OU1 sitewide groundwater long-term RA includes:

- Collecting the shallow groundwater through 16 extraction wells piped through 3 pump houses and discharging the extracted groundwater to the Kokomo POTW for treatment and disposal (Figure 1-2). Additionally, there is a sump that collects groundwater on the south side of the former Main Plant Area. The groundwater that collects in that sump is also discharged to the Kokomo POTW.
- Collect and analyze groundwater from up to the 50 wells in the long-term monitoring well program semiannually for VOCs (Figure 1-2).

The primary contaminants of concern at the site are trichloroethene (TCE), tetrachloroethene (PCE), cis-1,2-dichloroethene (cis-1,2-DCE), and vinyl chloride (VC). The remediation goals for the VOCs are the EPA-established MCLs: 5 micrograms per liter (µg/L) for TCE, 5 µg/L for PCE, 70 µg/L for cis-1,2-DCE, and 2 µg/L for VC.

In order to cease the ongoing implementation of the sitewide groundwater long-term RA, the ARARs/MCLs must be met continuously.

Historically, manganese was analyzed at all locations where VOC analysis was also performed. However, this has been discontinued based on recommendations from the 2018 annual report (CH2M 2019a) and reasoning for which is summarized as follows:

- The extent and concentrations of manganese appear to be relatively stable over the period of monitoring. Changes in the plume configuration were mostly a function of the monitoring wells sampled and single-event measurements rather than long-term changes.

- As indicated in the ROD, the groundwater RA activities do not attempt to reduce manganese concentrations. Because manganese does not degrade, it will continue to persist, although dilution, adsorption, or other physical/chemical processes may serve to reduce concentrations in the future.
- The ROD does not specify a remediation goal for manganese. The remediation goal for manganese of 50 µg/L is a secondary MCL related to staining color or taste of drinking water. Secondary MCLs are not typically included as an ARAR.
- The basis of design report (CH2M 2004) stated that groundwater will be remediated to the Indiana drinking water class criteria (327 Indiana Administrative Code 2-11-6). The code does not list manganese in its table; therefore, there is no specific remediation goal set for manganese based on the Indiana Administrative Code.

1.4 Aquifer Description

The three groundwater aquifers monitored as part of the long-term monitoring plan are the upper (shallow, "UA" wells), intermediate ("IA" wells), and lower (deep, "LA" wells). The intermediate and lower aquifers are influenced by preferential flow through fractures in the limestone bedrock underlying the site toward the Martin Marietta Quarry. The upper aquifer is affected by local influences, including the extraction wells and surface waters (currently Wildcat and Kokomo creeks, and historically included Markland Quarry and the Lagoon Area prior to their remediation). The surface waters influence the shallow water-bearing zone through both discharge and recharge, depending on creek flows.

Groundwater flow pathways follow the westerly course of Wildcat and Kokomo creeks toward the Martin Marietta Quarry and do not diverge significantly to the north or south. Potentiometric surface maps were developed for the upper, intermediate, and lower water-bearing zones using the data collected in June 2019 (Figures 1-3, 1-4, and 1-5).

1.5 Historic Extent of Contaminants

VOCs are present in the impacted shallow groundwater, and cis-1,2-DCE generally has the highest concentrations and the largest impacted area relative to PCE, TCE, and VC. Generally, the shallow aquifer plume, targeted by the groundwater extraction systems, originates in the Markland Quarry area and migrates northwest towards and beneath Wildcat Creek, then turns southwest following Wildcat Creek toward the Martin Marietta Quarry. The extent of groundwater with VOCs exceeding their respective target cleanup goals has been reduced in size between 2012 and 2019. Figures 2-1 through 2-12 depict contaminant plumes delineated for the shallow, intermediate, and lower water-bearing zones for source areas and sitewide groundwater in 2019.

1.6 Remedial Action—Sitewide Groundwater (OU1)

The intermediate and deep water-bearing zones are addressed invoking a Technical Impracticability Waiver and with ICs and deed restrictions. Dewatering that is occurring at the Martin Marietta Quarry affects the groundwater gradient, which generally moves in a westerly direction. The following are components of the RA for the shallow water-bearing zone:

- **Extraction Wells —**Sixteen 6-inch extraction wells were installed to reach 50 feet below ground and equipped with small electric submersible pumps.
- **Instrumentation and Piping—**High-density polyethylene (HDPE) piping transports extracted water to a small pump house. Instrumentation to control the pumps and measure and control flow rates are located in the pump houses.

- **ICs—**IDEM implemented ICs consisting of groundwater -use restrictions for the CSSS.
- **Environmental Monitoring/Maintenance—**Environmental monitoring will be performed to determine the effectiveness of the remedy. The site O&M plan will establish environmental monitoring details. The groundwater monitoring program will include evaluation of the groundwater collection system's effectiveness.
- **5-Year Site Reviews—**Data collected during the monitoring program will be reviewed at 5-year intervals to determine whether human health and the environment continue to be protected and whether additional RA is warranted. Alternative remedial technologies will be considered if it is determined that remedial objectives are not achieved.

SECTION 2

System Description

Section 2 is intended to provide the operator with a brief overview of the site's groundwater extraction system. The record drawings in Appendix A provide more detail on the system components and layout.

2.1 Description of the Groundwater Extraction System

Section 2.1 is intended to provide the operator with a brief overview of the site's groundwater extraction system. The groundwater extraction system was installed at the CSSS in spring 2011 and consists of 16 extraction wells divided between 3 locations and includes 3 pump houses, 3 wind turbines, and a sump powered by a solar panel. The as-built drawings located in Appendix A provide more detail on the system components and layout. The discharge from the groundwater extraction system is regulated by the City of Kokomo Individual Wastewater Permit (IDWP) #IDWP-024 issued June 9, 2018 (Appendix B).

Extraction wells were designed based on the information collected as part of the 2001 predesign investigation (CH2M 2001) and data collected prior to and during the installation of groundwater extraction wells in fall and winter 2010/2011, along with groundwater modeling using data from fall 2009 that helped refine the alignment of extraction wells (CH2M 2009). The areas where extraction wells were installed are shown in Figure 1-2 and listed in the following subsections.

2.1.1 Markland Avenue Quarry

The extraction system for the Markland Avenue Quarry includes two wells designed to collect intermediate and lower groundwater at Martin Marietta Quarry to contain contaminants within current boundaries. The extracted groundwater is treated with sulfuric acid in the pump house using an inline dosing pump to decrease the pH of the water, and then it is discharged to the Kokomo POTW.

The current allowable discharge rate per IWDP-024 is 35 gallons per minute and 50,400 gallons per day. This pump house had historically maintained a relatively consistent flow rate prior to 2019; however, it has not been operated since November 19, 2018, due to issues meeting the instantaneous pH readings required by IWDP-024 with the acid delivery system.

A permit modification request (October 19, 2018) was submitted to the City of Kokomo to increase the pH limits for Discharge Point #003 to 12 pH units. The City of Kokomo denied the permit request via email on December 16, 2019, and the acid delivery system will be updated in spring 2020. The updates will include installing an acid tote storage locker, a continuous dosing pump, and an inline screw mixer to deliver acid continuously and homogeneously in the discharge line.

2.1.2 East Bank Wildcat Creek, Northwest of Markland Avenue Quarry

The extraction system for the area consists of seven wells installed parallel to Wildcat Creek's eastern bank, approximately 1,500 feet northwest of the Markland Avenue Quarry. The array is designed to intercept contaminants before they enter the hydraulically connected Wildcat Creek. Each well is expected to pump at a rate of 22 gallons per minute (gpm)—the entire system will extract at a rate of 154 gpm, which is the maximum allowable rate in accordance with the discharge permit (IDW 024).The East Bank Wildcat Creek system is designed to intercept contaminants prior to entering the hydraulically connected creek. The shallow groundwater is extracted and discharged to the Kokomo POTW. This system includes seven extraction wells (figure 1-2) with a current operating flow rate of approximately

172 gallons per minute. The current allowable discharge rate per IWDP-024 is 172 gallons per minute and 247,680 gallons per day. The goals of the system are to:

Allow natural attenuation (for intermediate and lower groundwater).

Continue onsite source control to reduce or eliminate potential future migration of shallow, onsite contaminants into sitewide groundwater.

This pump house and associated conveyance piping and pumps had deteriorated over time with fouling, decreasing the flow rates, and were rehabilitated in 2018.

2.1.3 West Markland Avenue (Former Acid Lagoons Area)

The West Markland Avenue extraction system (Figure 1-2) includes a line of seven wells situated parallel to West Markland Avenue just west of South Berkley Road. The goal of the West Markland Avenue (Lagoons) system is to extract contaminated groundwater from the area northwest of the former acid lagoons area. This shallow water is extracted and discharged to the Kokomo POTW. This system includes 7 extraction wells with a design flow rate of 77 gallons per minute. The current allowable discharge rate per IWDP-024 is 77 gallons per minute and 110,880 gallons per day. The goals of the system are to:

Allow natural attenuation (for intermediate and lower groundwater).

Continue onsite source control to reduce or eliminate potential future migration of shallow, onsite contaminants into sitewide groundwater.

This pump house and associated conveyance piping and pumps had deteriorated over time with fouling, decreasing the flow rates. The system was not operational throughout 2018 and was rehabilitated in September and October 2019.

2.1.4 Pete's Run

Pete's Run sump is controlled by a solar panel and the amount of water in the associated manhole. This pump has maintained a relatively consistent flow rate for the past 3 years. It is currently operating at approximately 2 gallons per minute. The current allowable discharge rate per IWDP-024 is 12.5 gallons per minute and 18,000 gallons per day.

In July 2019, the sump pump, pump riser, and flow totalizer were removed from the sump and tested to determine functionality. It was determined they should be replaced. A new sump pump, riser, and flow meter were installed in October 2019. The riser was installed such that confined-space entry would not be required to pull them in the future. When the pump was restarted, it was determined that the solar control box was not functioning properly. Additionally, due to weathering and scratches, the Plexiglas cover on the solar panel was not letting in enough sunlight to operate the pump and was removed to increase efficiency.

2.2 Groundwater Extraction System

The groundwater extraction system consists of sixteen 6-inch extraction wells installed approximately 50 feet below ground and equipped with electric submersible pumps. The required electrical service and instrumentation is housed in three separate small pump houses, one for each of the three groundwater target areas.

2.2.1 Extraction Pumps and Piping

The groundwater is extracted from EW-16 at the Markland Avenue Quarry using a redi-flo4, 2-horsepower, 3-phase, 230-volt Grundfos electric submersible pump. The wells located east of the Wildcat Creek area extract water using 1.5-horsepower, single-phase Grundfos electrical submersible pumps. The remaining extraction wells (EW-1 through EW-7 and EW-15) use 0.5-horsepower, single-phase Grundfos electric submersible pumps.

The pump installed in EW-16 is equipped with a variable -frequency drive to control the speed of the pump motors and, consequently, the flow rate. The remaining pumps are controlled using CU300 controllers. At Pete's Run, a SWT-75 combination pump and solar panel was installed due to the absence of nearby electrical. The pump installed is an SWT submersible positive displacement diaphragm pump powered by a 75-watt solar panel.

The individual HDPE lines from each well are equipped with a flow meter, check valve, and sample tap prior to connecting to the main manifold inside the pump house. At the manifold, water from each well within a well array is combined into a single stream and discharged to the Kokomo POTW through nearby sanitary sewers at each location. A totalizing flow meter measures and logs the flow rate and volume of discharged water. an inline pH meter were installed at the request of the POTW to determine acidity of the groundwater daily. The flow meter and pH probe wirelessly transmit data to the Kokomo POTW to monitor the water quality using a PrimeX system (installed by the POTW).

Each extraction system is equipped with an autodialer to notify the operations personnel of a malfunction or system shutdown and to provide start and stop access to each groundwater extraction pump. There is one autodialer for each pump house, and remote access will allow for shut off of each individual well array but not each individual well.

The maximum flow rate of groundwater discharged from the shallow aquifer to the Kokomo POTW is 296.5 gpm. The overall configuration of the proposed sitewide collection systems allows for a gradual reduction over time in the total discharge to the Kokomo POTW—the reduction occurs as specific areas are shut off or as their pumping rates are reduced.

2.2.2 Autodialer

The autodialer is a remote alarming and monitoring device that receives alarm conditions from a monitoring point and automatically dials the list of emergency contacts (that is, O&M contractor) until it gets an answer. The system reports the alarm location and status by prerecorded voice messages.

The autodialer also allows the operations contractor, Kokomo POTW, and IDEM to dial into the system for a status report or to start or stop the groundwater extraction pumps.

SECTION 3

System Operation and Maintenance

Section 3 describes the system operation and maintenance.

3.1 Standard Operating Conditions

The groundwater extraction system will be operated by continuously discharging groundwater at the target fixed pumping rates per extraction well. Groundwater shall be monitored to meet discharge and reporting requirements as stated in the City of Kokomo discharge permit #IWDP-024 issued June 9, 2018 (Appendix B). The 16 extraction wells are designed to operate 24 hours per day, 7 days per week. The total target flow rate to provide the necessary groundwater capture for the 3 groundwater extraction well arrays is up to 284 gpm. The Pete's Run sump is designed to flow intermittently at 12.5 gpm only when saturated conditions force the pumps to run when solar power is available. The flow rates may be adjusted as needed to meet project objectives; however, the maximum flow rate should not exceed 296.5 gpm.

3.2 System Startup and Shutdown

The extraction pumps' start and stop operations are remotely controlled through the autodialer. The Kokomo POTW may remotely stop the extraction pumps during wet periods to control flow to the combined sanitary sewers. If this occurs, as part of routine operations, the system will be inspected upon startup at the end of the wet period. Adjustment of the motor speed must be completed manually at each area pump house.

3.3 System Alarms

The groundwater extraction system is designed to operate continuously without operator attention. If the pumps stop, the autodialer will call the operator to report the alarm. The operator will restart the system once the alarm condition has been removed. Occasional short-term shutdowns of the pumps due to a power outage or pump failure is not expected to have a significant impact to the containment of the contaminant plumes

3.4 Routine Inspection and Maintenance

The groundwater system should be inspected biweekly during active extraction operations. A work control and maintenance record system to manage and document the accomplishment of preventative and corrective maintenance work performed will be established and recorded in an annual preventative maintenance plan. Appendix C contains A list of preventative maintenance and periodic inspections. Appendix D contains forms that are required to be completed during the biweekly inspections.

All corrective maintenance and repair work, including service call work, will be accomplished during the normal work day.

Each pump house will have the necessary public information and signage posted on the exterior of the pump house buildings. Specifically, the sign will state the following:

- Header shall read "Caution"
- Text shall read "Hazardous Waste Material Storage Area—Unauthorized Persons Keep Out"

3.5 Emergency Response

The following procedures will be followed in the unlikely event of a groundwater, oil, or gasoline release from the system or from maintenance vehicles. Additionally, the health and safety plan requirements and procedures are to be followed.

1. Shut system down.
2. Take such *immediate* action as necessary to dam, block, restrain, or otherwise *act to most effectively* prevent a spill from entering waters of the state or minimize damage to waters of the state from a spill.
3. Evaluate release. All releases of oil, gasoline, groundwater, or other liquids from the system or any equipment onsite to the ground surface must be reported immediately to appropriate managers for evaluation of appropriate next steps and to determine whether the release is reportable to IDEM or the Federal National Response Center. A release of groundwater from most of the systems would have very little or no impact on the environment, particularly belowground. An aboveground release from the quarry area may be of concern due to the higher concentrations. All releases must be reported to the engineer; however, the following will not require reporting to IDEM or the Federal National Response Center: Spills of less than one 1 pound or 1 pint.
4. Spills of integral operating fluids that are used in the operation of general motor vehicles include, but are not limited to, the following: gasoline, oil, brake fluid, and anti-freeze fluid, which are typically contained within secure containers within the integrity of onsite vehicles. Spills that have a total volume of less than or equal to 55 gallons and that do not damage waters of the state and are cleaned up do not require reporting to the state.
5. Perform repair to the system.

The following procedure will be followed in the unlikely event of a groundwater release from the system:

1. Shut system down.
2. Evaluate release. A release from most of the systems would have very little or no impact on the environment, particularly belowground. An aboveground release from the quarry area may be of concern due to the higher concentrations.
3. Perform repair to the system.

SECTION 4

Sampling, Monitoring, and Reporting

The breathing zone outside the pump houses and sanitary sewer manholes where force mains discharge may have a high probability for contaminated groundwater being exposed to the atmosphere; therefore, environmental air monitoring for potential release of VOCs will be conducted on a routine basis using an appropriate instrument (for example, photoionization device or flame ionization device).

The IWDP-024 permit through the City of Kokomo for the CSSS site was effective January 27, 2014, through January 26, 2017. The permit was extended through June 8, 2018. A new permit was issued in May 2018, with a new effective date of June 9, 2018, through June 9, 2023. The effective date was later delayed by the City of Kokomo until September 29, 2018. The updated permit required increased monitoring at each discharge point. Discharge monitoring reports were submitted to the City of Kokomo by the 28th of each month for the previous month's sampling. Appendix F contains the discharge monitoring report form. The forms include a description of well performance, and maintenance logs include a log of alarms and corrective actions completed during the month. Analytical results of discharge sampling will be entered into the discharge monitoring reports and submitted to the supervising engineer along with analytical results.

Analytical sampling requirements for compliance with the discharge permit includes:

- monthly composite sampling of arsenic, cadmium, chromium, copper, lead, mercury, molybdenum, nickel, selenium, silver, zinc, fluoride, phosphorus, carbonaceous biochemical oxygen demand, chemical oxygen demand, total suspended solids, and ammonia-N
- monthly grab sampling of cyanide and oil and grease (polar and non-polar)
- quarterly grab sampling of benzene, toluene, ethylbenzene, and xylene; VC; 1,1-dichloroethene; trans-1,2-dichloroethene; TCE; and PCE
- Semiannual grab sampling of total toxic organics and phenols

The analytical results will be included in the monthly discharge report including the full laboratory analytical report. Results are not required to be validated.

Samples will be collected, preserved, and packaged in accordance with the site-specific Quality Assurance Project Plan (QAPP and QAPP Addendum 1, CH2M 2018a and 2019c). Sampling should also follow the Applicable Publications and References located in Appendix E.

pH and flow measurements are collected using PrimeX equipment and logging at Discharge Points #001, #002, and #003. pH and flow rate are not collected via telemetry or data logging software at Discharge Point #004 due to the nature of the system (sump pump operated via solar panel). The average daily flow for Discharge Point #004 is estimated based on the month beginning and month end reading from the flow totalizer, and pH is collected during biweekly O&M visits.

The CSSS Slug Control Plan, as required by IWDP-024 (CH2M 2019b), was submitted to the City of Kokomo October 8, 2018. The City of Kokomo approved the plan October 19, 2018. An updated Slug Control Plan was submitted to the City of Kokomo December 11, 2019 (CH2M 2019b).

Groundwater monitoring of the contamination plume at the CSSS will be completed, which includes low-flow groundwater sampling of the groundwater monitoring wells with samples analyzed for target compound list VOCs. A subset is sampled semiannually for additional MNA parameters, which include alkalinity, nitrate, nitrite, dissolved iron, dissolved manganese, sulfate, sulfide, dissolved gases (methane, ethane, and ethene), and total organic carbon. Groundwater quality parameters, including oxidation reduction potential, pH, specific conductance, dissolved oxygen, temperature, and turbidity,

will be recorded during purging. In addition to groundwater quality parameters, flow rate and depth to water are monitored. Organic vapor levels were also monitored using a photoionization detector during inspection and sampling.

- The annual groundwater sampling consists of collecting static water levels at 68 monitoring wells, with analytical samples collected from 50 of these wells for VOCs, and a subset of 6 wells will be analyzed for MNA parameters (alkalinity, anions [nitrate, nitrite, and sulfate], sulfide, dissolved gases [methane, ethane, and ethene], dissolved metals [iron and manganese], and total organic carbon).
- The semiannual sampling consists of collecting static water levels and analytical samples from six wells. Analyses included VOCs and MNA parameters (alkalinity, anions [nitrate, nitrite, and sulfate], sulfide, dissolved gases [methane, ethane, and ethene], dissolved metals [iron and manganese], and total organic carbon).

SECTION 5

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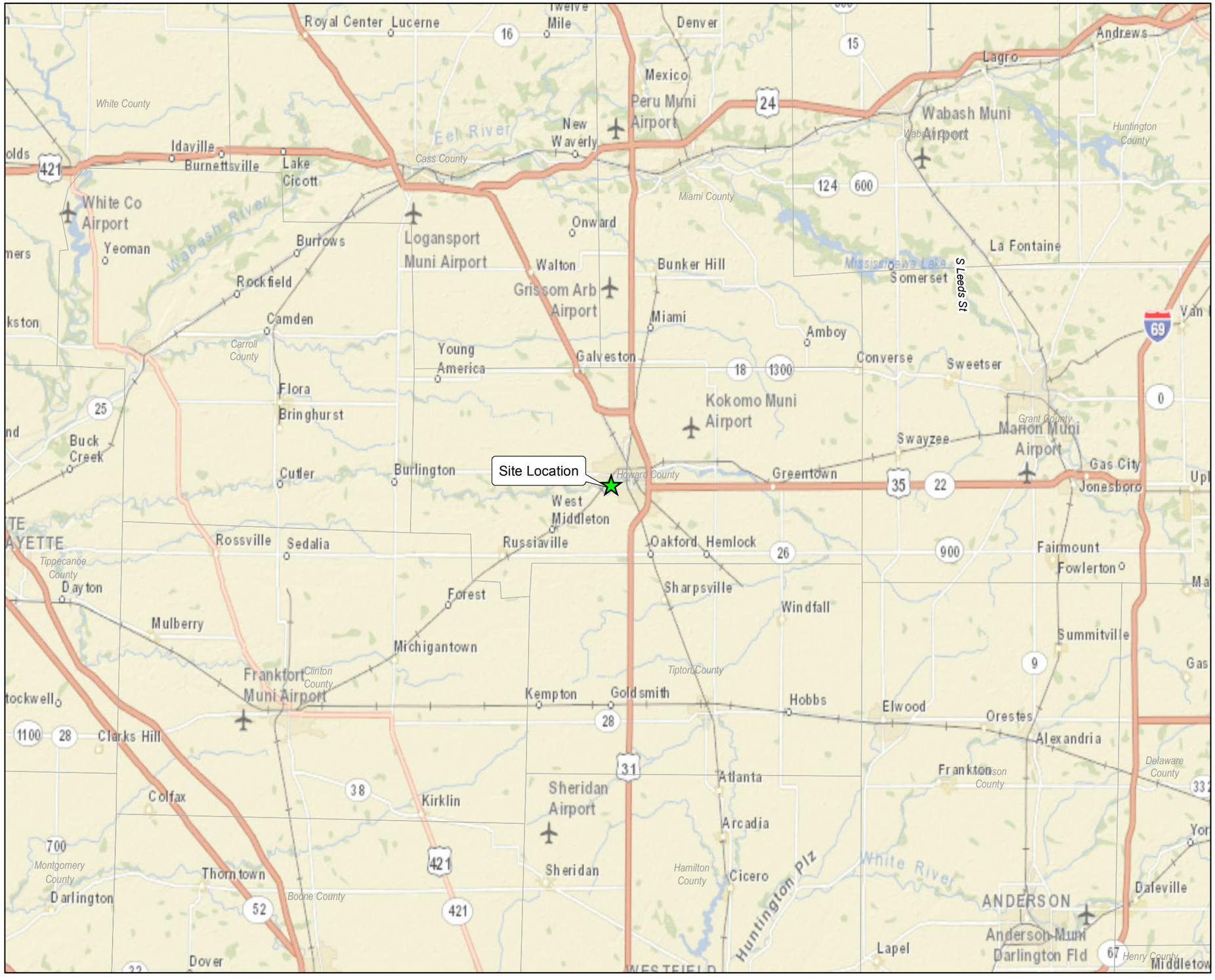
Figures



VICINITY MAP

LEGEND

☆ Site Location

Notes:

1. Basemap provided by Esri ArcGIS Online Street Map

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Figure 1-1. Site Location
Operation and Maintenance Plan
Continental Steel Superfund Site
Kokomo, Indiana

ch2m.

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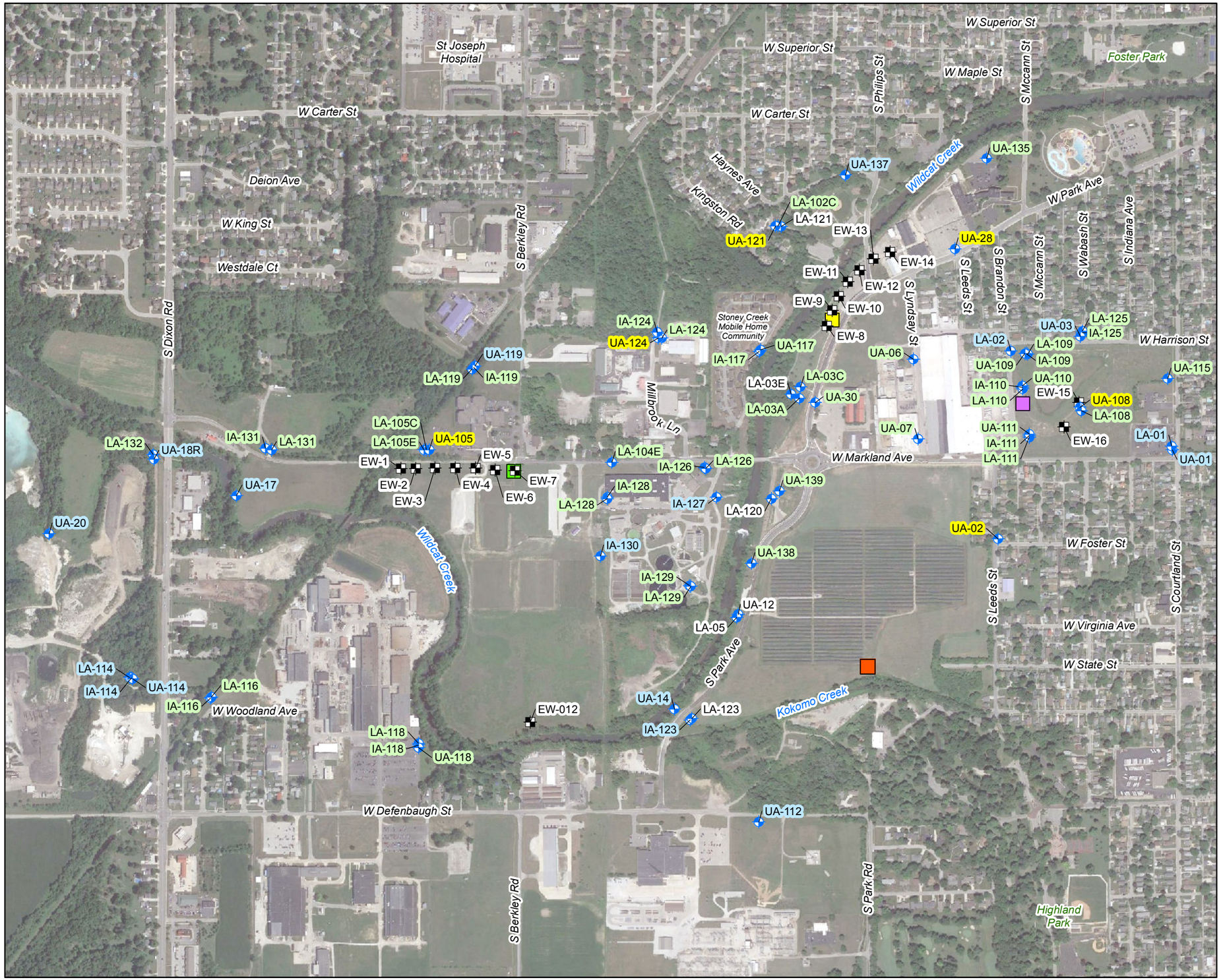
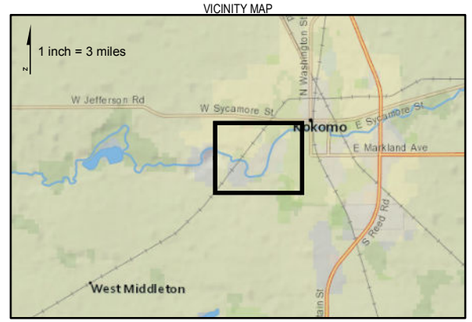


VICINITY MAP



LEGEND

- Monitoring Well
- Extraction Well

Pump House

- East Bank Wildcat Creek - IWDP-024 Discharge Point #002
- Markland Avenue Quarry - IWDP-024 Discharge Point #003
- Pete's Run Cut-off Wall (Sump) - IWDP-024 Discharge Point #004
- West Markland Avenue (Lagoons) - IWDP-024 Discharge Point #001

Recommended Monitoring:

- UA-### Gauging and VOC monitoring
- UA-### Water level elevation gauging only
- UA-### Gauging, VOC, and MNA monitoring
- UA-### Not included in site-wide monitoring program

Notes:

1. 2018 Google Earth Aerial Photography
3. MNA - Monitored Natural Attenuation
4. VOC - Volatile Organic Compound
5. MNA geochemical parameters include: nitrate, nitrite, dissolved iron, dissolved manganese, ethane, ethene, methane, alkalinity, total organic carbon, sulfide, sulfate

N

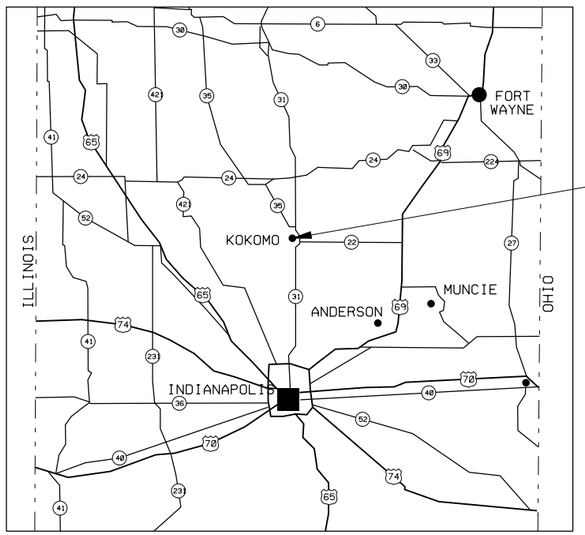
0 375 750
Feet

Figure 1-2. Site Features and Groundwater Monitoring Program
Operation and Maintenance Plan
Continental Steel Superfund Site
Kokomo, Indiana

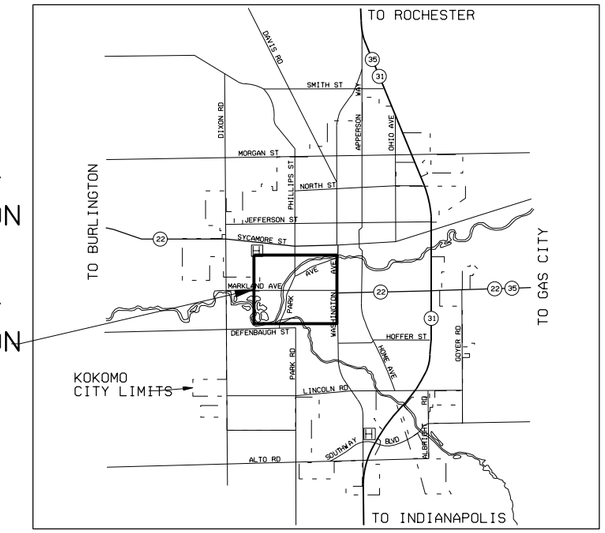
Appendix A
Groundwater Extraction System
As-Built Drawings

CONTINENTAL STEEL SUPERFUND SITE
SITEWIDE GROUNDWATER (OU1) EXTRACTION

US ENVIRONMENTAL PROTECTION AGENCY
KOKOMO, INDIANA



VICINITY MAP
NTS
N



LOCATION MAP
NTS
N

DRAWING INDEX

SHEET NO.	DRAWING NO.	TITLE
GENERAL		
1	G-1	TITLE SHEET, VICINITY/LOCATION MAPS, AND DRAWING INDEX
2	G-2	ABBREVIATIONS
3	G-3	SITEWORK LEGEND AND DESIGNATION LEGENDS
INSTRUMENTATION AND CONTROL		
4	N-1	ONE LINE DIAGRAM
CIVIL		
5	C-1	OVERALL SITE KEY PLAN
6	C-2	SITE C2 - WEST MARKLAND AVENUE - SITE PLAN
7	C-3	SITE C3 - EAST BANK WILDCAT CREEK - SITE PLAN
8	C-4	SITE C4 - MARKLAND AVENUE QUARRY - SITE PLAN
9	C-5	SITE C5 - PETE'S RUN CUTOFF WALL SITE PLAN AND DETAILS
10	C-6	DETAILS
ELECTRICAL		
11	E-1	CONTROL CABINET DETAILS

NO.	DATE	DSGN	DR	CHK	APVD
	01/12	WM ANDRAE	JM HOLMQUIST	WM ANDRAE	MP NIEBAUER
				REVISION	BY APVD
				AS-BUILT DRAWING.	DLM MPN

SITEWIDE GROUNDWATER (OU1) EXTRACTION
CONTINENTAL STEEL SUPERFUND SITE
US ENVIRONMENTAL PROTECTION AGENCY
KOKOMO, INDIANA

CH2MHILL

GENERAL
TITLE SHEET,
VICINITY/LOCATION MAPS
AND DRAWING INDEX

NTS
VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	MARCH 2010
PROJ	391693
DWG	G-1
SHEET	1

AS-BUILT DRAWINGS

ABBREVIATIONS

@	AT
AB	ANCHOR BOLT
ABDN	ABANDONED
ACBD	ACOUSTICAL BOARD
ACCU	AIR-COOLED CONDENSING UNIT
ACST	ACOUSTICAL TILE
ACT	ACOUSTICAL
ACU	AIR CONDITIONING UNIT
AD	AREA DRAIN
ADDL	ADDITIONAL
ADJ	ADJACENT
AHR	ANCHOR
AHU	AIR HANDLING UNIT
AL	ALUMINUM
ALTN	ALTERNATE
ANOD	ANODIZED
APPROX	APPROXIMATE
APVD	APPROVED
ARCH	ARCHITECTURAL
ARD	ACID RESISTANT DRAIN
ASSY	ASSEMBLY
ASU	AIR SUPPLY UNIT
AVG	AVERAGE
BC	BOOSTER HEATING COIL
BETW	BETWEEN
BF	BOTTOM FACE
BG	LOW WALL GRILLE
BLDG	BUILDING
BM	BEAM
BOD	BOTTOM OF DUCT
BOD_5	BIOCHEMICAL OXYGEN DEMAND (5 DAY TEST)
BOT	BOTTOM
BRG	BEARING
CAB.	CABINET
C/C	CHLORINE CONTACT
CD	CEILING DIFFUSER
CEM PLAS	CEMENT PLASTER
CF	CEILING FAN
CG	CEILING GRILLE
CHEM	CHEMICAL
CHKD	CHECKERED
CFM	CUBIC FEET PER MINUTE
CJ	CONSTRUCTION JOINT
CI	CAST IRON
CISP	CAST IRON SOIL PIPE
CL	CENTER LINE
CL_2	CHLORINE
CLDI	CEMENT LINED DUCTILE IRON
CLG	CEILING
CLP	CLAY PIPE
CLR	CLEAR
CMP	CORRUGATED METAL PIPE
CMU	CONCRETE MASONRY UNITS
COL	COLUMN
CONC	CONCRETE
CONN	CONNECTION
CONST	CONSTRUCTION
CONT	CONTINUOUS
COR	CORNER
CP	CONCRETE PIPE
CPLG	COUPLING
CPVC	CHLORINATED POLYVINYL CHLORIDE
CR	CEILING REGISTER
C TO C	CENTER TO CENTER
CTR	CENTER
CTRD	CENTERED
CU FT	CUBIC FEET
C/W	COMPLETE WITH
△	CENTRAL ANGLE
DBA	DEFORMED BAR ANCHOR
DBL	DOUBLE
DECHLOR	DECHLORINATION
DEG °	DEGREE
DET	DETAIL
DG	DOOR GRILLE
DIA	DIAMETER
DIAG	DIAGONAL
DIM	DIMENSION
DIP	DUCTILE IRON PIPE
DIR	DIRECTION
DISCH	DISCHARGE
DS	DOWNSPOUT
DN	DOWN
DRWR	DRAWER
DWG	DRAWING
DWL	DOWEL

E	EAST
E	EXTERNAL
EA	EACH
ELB	ELBOW
EC	ELECTRIC CONVECTOR
ECC	ECCENTRIC
EDH	ELECTRIC DUCT HEATER
EF	EACH FACE OR EXHAUST FAN
EFL	EFFLUENT
EL	ELEVATION
ELEC	ELECTRICAL
EQL	EQUAL
EQL SP	EQUALLY SPACED
EQPT	EQUIPMENT
EW	EACH WAY
EXA	EXHAUST AIR
EXP JT	EXPANSION JOINT
EXT	EXTERIOR
EXST	EXISTING
FAB	FABRICATION
F FL EL	FINISHED FLOOR ELEVATION
FACIL	FACILITY
FC	FLEXIBLE CONNECTION
FCA	FLANGED COUPLING ADAPTER
FCTY, FACT	FACTORY
FEXT	FIRE EXTINGUISHER
FD	FLOOR DRAIN OR FIRE DAMPER
FDN	FOUNDATION
FLEX	FLEXIBLE
FLG	FLANGE
FLR	FLOOR
FNSH	FINISH
FTC	FIN TUBE CONVECTOR
G	GAS
GA	GAUGE
GB	GRAB BAR
GBD	GRAVITY BACKDRAFT DAMPER
GAL	GALLON
GALV	GALVANIZED
GALVS	GALVANIZED STEEL
GIV	GRAVITY INTAKE VENTILATOR
GPD	GALLONS PER DAY
GPM	GALLONS PER MINUTE
GRV	GRAVITY RELIEF VENTILATOR
GUH	GAS UNIT HEATER
GVL	GRAVEL
GW	GROUNDWATER
GWB	GYPSUM WALLBOARD
GYP PLAS	GYPSUM PLASTER
H.A.S	HEADED ANCHOR STUD
HCR	HIGH CAPACITY REGISTER
HD	HUB DRAIN
HDNR	HARDENER
HDPE	HIGH DENSITY POLYETHYLENE
HDR	HEADER
HGT	HEIGHT
HORIZ	HORIZONTAL
HM	HOLLOW METAL
HR	HOUR
HTR	HIGH THROW REGISTER
HV	HOSE VALVE
I&C	INSTRUMENTATION AND CONTROL
ID	INSIDE DIAMETER
IF	INSIDE FACE
INDOT	INDIANA DEPARTMENT OF TRANSPORTAION
INFL	INFLUENT
INSTL	INSTALL
INSUL	INSULATION
INVT	INVERT
ITG	INSULATED TEMPERED GLASS
JT	JOINT
L	LENGTH OF CURVE
LB	POUNDS
LB/D	POUNDS PER DAY
LG	LONG
LLV	LONG LEG VERTICAL
LNTL	LINTEL
LONG	LONGITUDINAL
LR	LONG RADIUS
LT	LIGHT

MATL	MATERIAL
MAU	MAKE UP AIR UNIT
MAX	MAXIMUM
MB	MACHINE BOLT
MCC	MOTOR CONTROL CENTER
MD	MOTORIZED DAMPER
MECH	MECHANICAL
MFR	MANUFACTURER
MGD	MILLION GALLONS PER DAY
MG/L	MILLIGRAMS PER LITER
MH	MANHOLE
MIN	MINIMUM
MISC	MISCELLANEOUS
MO	MASONRY OPENING
MON	MONUMENT
MTG	MOUNTING
MTL	METAL
MTRG	METERING
N	NORTH
NIC	NOT IN CONTRACT
NO.	NUMBER
NOM	NOMINAL
NORM	NORMAL
NTS	NOT TO SCALE
OA	OUTSIDE AIR
OC	ON CENTER
OD	OUTSIDE DIAMETER OR OVERFLOW DRAIN
OF	OUTSIDE FACE
O/H	OVERHEAD
O TO O	OUT TO OUT
OPNG	OPENING
OPP	OPPOSITE
PC	POINT OF CURVATURE
PE	POLYETHYLENE
PI	POINT OF INTERSECTION
P&ID	PROCESS AND INSTRUMENTATION DIAGRAM
PJF	PREMOLDED JOINT FILLER
PL	PLATE
PLAM	PLASTIC LAMINATE
PLYWD	PLYWOOD
POC	POINT ON CURVE
POT	POINT ON TANGENT
PR	PAIR
PRCST	PRECAST
PS	PUMP STATION
PSF	POUNDS PER SQUARE FOOT
PSI	POUNDS PER SQUARE INCH
PT	POINT OF TANGENCY
PTD	PAPER TOWEL DISPENSER
PTD/R	PAPER TOWEL DISPENSER/RECEPTACLE
PVC	POLYVINYL CHLORIDE OR POINT OF VERTICAL CURVATURE
PVI	POINT OF VERTICAL INTERSECTION
PVMT	PAVEMENT
PVT	POINT OF VERTICAL TANGENCY
QDRNT	QUADRANT
R OR RAD	RADIUS OR RISER
RC	REINFORCED CONCRETE
RCP	REINFORCED CONCRETE PIPE
RD	ROOF DRAIN
RDCR	REDUCER
REHAB	REHABILITATION/REHABILITATED
REINF	REINFORCE
REQD	REQUIRED
RESIL	RESILIENT
RM	ROOM
RO	ROUGH OPENING
RR	REDUCER
RST	REINFORCING STEEL

S	SOUTH
SA	SUPPLY AIR
SAT	SUSPENDED ACOUSTICAL TILE
SCHED	SCHEDULE
SD	SOAP DISPENSER OR SLOT DIFFUSER
SECT	SECTION
SG	SAFETY GLASS
SH	SHEET
SHTG	SHEETING
SIM	SIMILAR
SLV	SHORT LEG VERTICAL
S.O.	SHUTOFF
SPECD	SPECIFIED
SPECS	SPECIFICATIONS
SPG	SPACING
SQ	SQUARE
SST, SS	STAINLESS STEEL
STA	STATION
STD	STANDARD
STIF	STIFFENER
STOR	STORAGE
STR	STRAIGHT
STRUCT	STRUCTURAL
STL	STEEL
SYMM	SYMMETRICAL
T	TREAD OR TANGENT LENGTH
TAR	TRANSFER AIR REGISTER
T&B	TOP AND BOTTOM
TC	TOP OF CONCRETE
TCU	TERMINAL CONTROL UNIT
TEMP	TEMPERED
TF	TOP FACE
TG	TONGUE AND GROOVE
THK	THICK
THRD	THREADED
T.O.	TOP OF
TPD	TONS PER DAY
TPI	TURNOUT POINT OF INTERSECTION
TRANSV	TRANSVERSE
TSS	TOTAL SUSPENDED SOLIDS
TST	TOP OF STEEL
TTD	TOILET TISSUE DISPENSER
TW	TOP OF WALL
TYP	TYPICAL
UH	UNIT HEATER
UON	UNLESS OTHERWISE NOTED
V	VENT
VAT	VINYL ASBESTOS TILE
VERT	VERTICAL
VCP	VITRIFIED CLAY PIPE
VD	VOLUME DAMPER
VOC	VOLATILE ORGANIC COMPOUND
VTR	VENT THRU ROOF
VWC	VINYL WALL COVERING
W	WEST
W/	WITH
WD	WOOD
WG	WIRE GLASS
WH	WATER HEATER
WK	WEEK
WR GWB	WATER RESISTANT GYPSUM WALLBOARD
WR	WASTE RECEPTACLE
WS	WATER STOP OR WATER SURFACE OR WELDED STEEL
WSG	WALL SUPPLY GRILLE
WSR	WALL SUPPLY REGISTER
WWM	WELDED WIRE MESH
XFMR	TRANSFORMER
YR	YEAR

NOTES:

1. CONTACT THE CONTRACTOR FOR ABBREVIATIONS NOT LISTED.
2. THIS IS A STANDARD ABBREVIATION SHEET. SOME ABBREVIATIONS MAY APPEAR ON THIS SHEET, BUT NOT ON THE PLANS.

NO.	DATE	DR	CHK	APVD
			DLM	MPN
	01/12	AS-BUILT DRAWING.	BY	APVD
DSGN	WM ANDRAE	JM HOLMQUIST	WM ANDRAE	MP NIEBAUER

SITEWIDE GROUNDWATER (OU1) EXTRACTION
CONTINENTAL STEEL SUPERFUND SITE
US ENVIRONMENTAL PROTECTION AGENCY
KOKOMO, INDIANA

CH2MHILL

GENERAL
ABBREVIATIONS

NTS

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	MARCH 2010
PROJ	391693
DWG	G-2
SHEET	2

AS-BUILT DRAWINGS

CIVIL LEGEND

EXISTING (OR OTHER CONTRACT)	THIS CONTRACT	
96.5 / 96.5	794 / 790	CONTOUR LINE (FEET, NAVD)
93.6 OR 93.6	X887	SPOT ELEVATION
		GROUND SLOPE DESIGNATION
5+00	5+00	ROAD CENTERLINE STATIONING
		CULVERT
CB OR SWI	CB OR SWI	CATCH BASIN, STORMWATER INLET
		DI (DROP INLET)
		DRAINAGE WAY OR DITCH
		DRAWING MATCH LINE
		CENTERLINE, BUILDING, ROAD, ETC.
		STAGING, STOCKPILE, AND PLAN HOLDING AREA LIMITS
		EASEMENT LINE
SS		SANITARY SEWER
SD		STORM SEWER
W		WATER LINE
E		UNDERGROUND ELECTRIC LINE
T		UNDERGROUND TELEPHONE LINE
G		GAS LINE
SBS		SLUDGE LINE
		EXISTING FENCE TO REMAIN
		TEMPORARY FENCE
		PERMANENT FENCE
		POWER POLE WITH GUY SUPPORT
P	P	RELOCATED OVERHEAD POWER LINE
OR	OR	REMODELED EXISTING PLANT STRUCTURE
	OR	NEW STRUCTURE-THIS CONTRACT
		GRAVEL AREA
		EXISTING TREES TO REMAIN
		UTILITY OR TELEPHONE POLE
		ROCKS
		TREES AND SHRUBS
		PAVED ROAD
		NON-PAVED ROAD
		RAILROAD TRACKS
		GROUNDWATER ELEVATION
⊙ PU-8		PIEZOMETER
• LA108		LOWER AQUIFIER MONITORING WELL
◒ IA108		INTERMEDIATE AQUIFIER MONITORING WELL
○ UA108		UPPER AQUIFIER MONITORING WELL
	⊗	EXTRACTION WELL

EXISTING (OR OTHER CONTRACT)	THIS CONTRACT	
		EXISTING STRUCTURE *
		EXISTING STRUCTURE TO BE REMOVED *
		AC PAVEMENT *
		GRAVEL SURFACE *
		CONCRETE WALK *
		RIPRAP
3:1	4:1	EMBANKMENT SLOPE AS INDICATED
		LIGHT STANDARD
		PROPERTY LINE/RIGHT OF WAY
		FIRE HYDRANT
		SIGN
		SILT FENCE
		BENCHMARK
		PI (POINT OF INTERSECTION)
35.7		VPI (VERTICAL POINT OF INTERSECTION) AND FINISH GRADE ELEVATION
		HORIZONTAL CONTROL POINT
		RADIAL POINT

YARD PIPING

DOUBLE LINE SINGLE LINE

	EXISTING PIPE
	NEW PIPE
	EXISTING PIPE TO BE REMOVED OR ABANDONED

EXISTING	NEW	
		GATE VALVE
		BUTTERFLY VALVE
FLOW SEATING PORT		ECCENTRIC PLUG VALVE
		INDICATOR POST VALVE
		CATHODIC PROTECTION TEST STATION
		CATHODIC PROTECTION ANODE

SECTION / DETAIL DESIGNATIONS

ON DRAWING WHERE SECTION OR DETAIL IS TAKEN:

1 / C-1 — SHEET/DRAWING NUMBER WHERE SHOWN

B — SECTION, SCALE — ON DRAWING WHERE SECTION IS SHOWN:

2 — DETAIL, SCALE — ON DRAWING WHERE DETAIL IS SHOWN:

DRAWING TITLE, SCALE — ON DRAWING WHERE ONLY A TITLE IS REQUIRED WITH NO REFERENCE (eg: ELEVATIONS)

SECTION CALLOUT WHERE SECTION IS ON THE SAME SHEET AND CUT EXTENDS TO A FIXED LIMIT

SECTION CALLOUT WHERE SECTION IS ON ANOTHER SHEET AND CUT EXTENDS THROUGHOUT ENTIRE SHEET

1 — KEYED NOTES

DRAWING NUMBER DESIGNATION

S-2: S — INDICATES DISCIPLINE(S) OR CATEGORY:; 2 — INDICATES DRAWING NUMBER

- C CIVIL
- E ELECTRICAL
- G GENERAL
- N INSTRUMENTATION AND CONTROL

GENERAL NOTES:

1. * SYMBOL - ONLY WHERE REQUIRED FOR CLARITY.
2. EXISTING STRUCTURES AND FACILITIES ARE SHOWN AS SCREENED BACKGROUND. NEW STRUCTURES ARE SHOWN IN HEAVY LINE WEIGHTS.
3. EXISTING PIPING AND EQUIPMENT IS SHOWN SCREENED. NEW PIPING AND EQUIPMENT IS SHOWN HEAVY-LINED.
4. THIS IS A STANDARD LEGEND SHEET. SOME SYMBOLS MAY APPEAR ON THIS SHEET AND NOT ON THE PLANS.

NO.	DATE	DSGN	DR	CHK	APVD	BY	APVD
	01/12	WM ANDRAE	JM HOLMQUIST	WM ANDRAE	MP NIEBAUER	DLM	MPN

AS-BUILT DRAWING.
REVISION

SITEWIDE GROUNDWATER (OU1) EXTRACTION
CONTINENTAL STEEL SUPERFUND SITE
US ENVIRONMENTAL PROTECTION AGENCY
KOKOMO, INDIANA

CH2MHILL

GENERAL

SITEWORK LEGEND AND DESIGNATION LEGENDS

NTS
VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING. 0 1"

DATE	MARCH 2010
PROJ	391693
DWG	G-3
SHEET	3

AS-BUILT DRAWINGS

ROTAMETER FLOW RATE INDICATOR

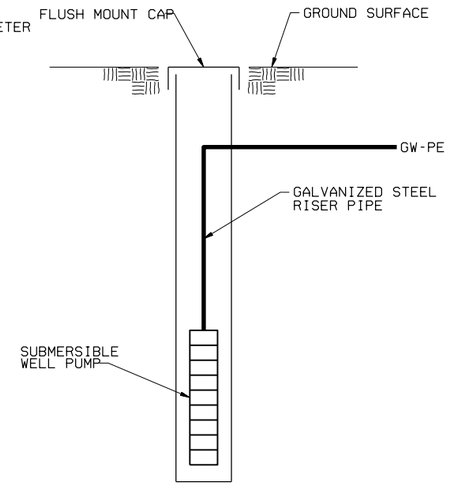
EXTRACTION SYSTEM		QUANTITY	FLOW RATE	SIZE	MANUFACTURER/MODEL
EAST BANK WILDCAT CREEK (SITE C3)	7	22 GPM	2-INCH		ABB 10A2235AL BRONZE BODY ROTASIGHT FLOW RATE INDICATOR OR EQUAL, VERTICAL INLET AND OUTLET
WEST MARKLAND AVENUE (SITE C2)	7	11 GPM	1.5-INCH		ABB 10A2235AP BRONZE BODY ROTASIGHT FLOW RATE INDICATOR OR EQUAL, VERTICAL INLET AND OUTLET
MARKLAND AVENUE QUARRY (SITE C4)	1	5 GPM	1-INCH		ABB 10A2235AL BRONZE BODY ROTASIGHT FLOW RATE INDICATOR OR EQUAL, VERTICAL INLET AND OUTLET
MARKLAND AVENUE QUARRY (SITE C4)	1	30 GPM	2-INCH		ABB 10A2235AP BRONZE BODY ROTASIGHT FLOW RATE INDICATOR OR EQUAL, VERTICAL INLET AND OUTLET

MAGNETIC FLOW RATE INDICATOR/TOTALIZER

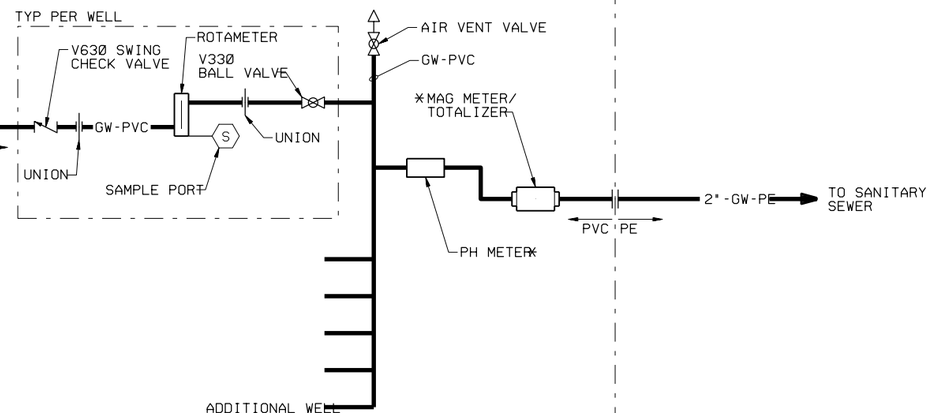
EXTRACTION SYSTEM		QUANTITY	FLOW RATE	SIZE	MANUFACTURER/MODEL
MARKLAND AVENUE QUARRY (SITE C4)	1	35 GPM	2-INCH		ABB 10A1475WN09PD29AC11C1111C1 MINI-MAG ELECTRO-MAGNETIC FLOWMETER WITH 50XE4000 CONVERTER, TEFZEL LINED, HAST C ELECTRODE OR EQUAL
EAST BANK WILDCAT CREEK (SITE C3)	1	154 GPM	4-INCH		ABB 10A1475WN09PD29AC11C1111C1 MINI-MAG ELECTRO-MAGNETIC FLOWMETER WITH 50XE4000 CONVERTER, TEFZEL LINED, HAST C ELECTRODE OR EQUAL
WEST MARKLAND AVENUE (SITE C2)	1	77 GPM	2-INCH		ABB 10A1475WN09PD29AC11C1111C1 MINI-MAG ELECTRO-MAGNETIC FLOWMETER WITH 50XE4000 CONVERTER, TEFZEL LINED, HAST C ELECTRODE OR EQUAL

INFLUENT PIPE SIZE

EXTRACTION SYSTEM		FLOW RATE	PIPE DIAMETER
MARKLAND AVENUE QUARRY (SITE C4)	35 GPM	2-INCH	
EAST BANK WILDCAT CREEK (SITE C3)	22 GPM	2-INCH	
WEST MARKLAND AVENUE (SITE C2)	11 GPM	1.5-INCH	



EXTRACTION WELL, TYP



*PH AND MAG METER / TOTALIZER ARE CONNECTED TO "OMNI-SITES" TELEMETRY FOR REAL TIME MONITORING.

BUILDING

NO.	DATE	REVISION	DR	CHK	APVD
	01/12	AS-BUILT DRAWING.	JM HOLMQUIST	WM ANDRAE	MP NIEBAUER
DSGN	MP NIEBAUER		DLM	BY	MPN APVD

SITEWIDE GROUNDWATER (OU1) EXTRACTION
CONTINENTAL STEEL SUPERFUND SITE
US ENVIRONMENTAL PROTECTION AGENCY
KOKOMO, INDIANA

CH2MHILL

INSTRUMENTATION AND CONTROL

ONE LINE DIAGRAM

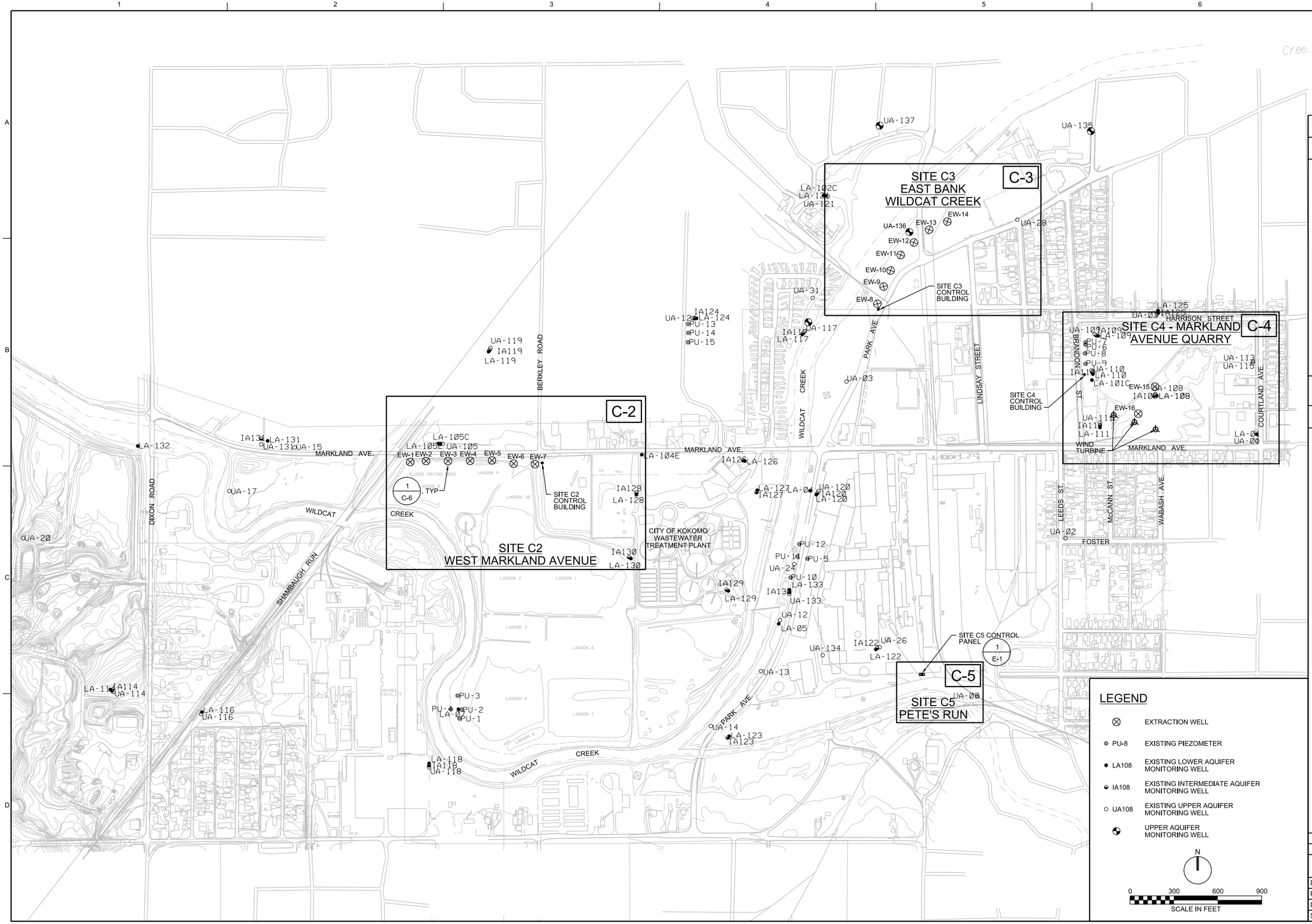
NTS

VERIFY SCALE

BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	MARCH 2010
PROJ	391693
DWG	N-1
SHEET	4

AS-BUILT DRAWINGS



NO.	DATE	DSGN	DR	CHK	APVD	BY	APVD
	01/12	MP NIEBAUER	JM HOLMQUIST	WM ANDRAE	MP NIEBAUER	DLM	MPN
				REVISION		AS-BUILT DRAWING.	

SITEWIDE GROUNDWATER (OU1) EXTRACTION
CONTINENTAL STEEL SUPERFUND SITE
US ENVIRONMENTAL PROTECTION AGENCY
KOKOMO, INDIANA

CH2MHILL

CIVIL

OVERALL SITE KEY PLAN

1" = 600'-0"

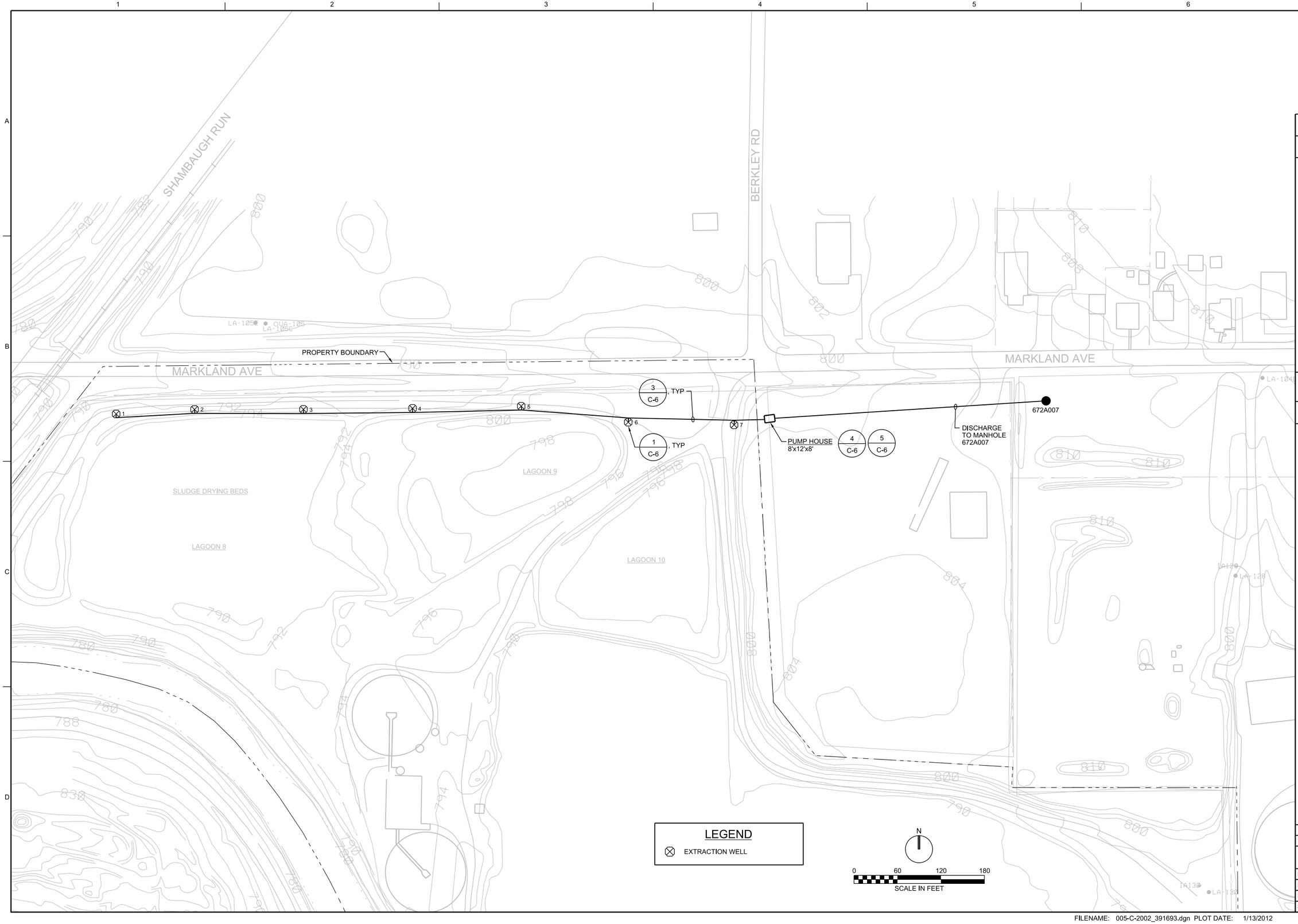
VERIFY SCALE

BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	MARCH 2010
PROJ	391693
DWG	C-1
SHEET	5

AS-BUILT DRAWINGS

FILENAME: 005-C-2001_391693.dgn PLOT DATE: 1/13/2012 PLOT TIME: 11:32:32 AM



NO.	DATE	BY	CHK	APVD
	01/12	DLM	WM ANDRAE	MP NIEBAUER
		MPN	APVD	

AS-BUILT DRAWING.

REVISION

DSGN MP NIEBAUER | DR JM HOLMQUIST | CHK WM ANDRAE | APVD MP NIEBAUER

SITEWIDE GROUNDWATER (OU1) EXTRACTION
CONTINENTAL STEEL SUPERFUND SITE
US ENVIRONMENTAL PROTECTION AGENCY
KOKOMO, INDIANA

CH2MHILL

CIVIL
SITE C2
WEST MARKLAND AVENUE
SITE PLAN

1" = 60'-0"
VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	MARCH 2010
PROJ	391693
DWG	C-2
SHEET	6

AS-BUILT DRAWINGS

1 2 3 4 5 6

A B C D

LA-102C
OUA-121

OUA-28

PARK AVE

WILDCAT CREEK

LINDSAY ST

HARRISON ST

UA-136

1
C-6
, TYP

3
C-6
, TYP

14 13 12 11 10 9 8

PUMP HOUSE
8'x12'x8'

4
C-6

5
C-6

DISCHARGE,
CONNECT TO
MANHOLE

618D031

LEGEND

- EXTRACTION WELL
- UPPER AQUIFER MONITORING WELL

N

0 50 100 150
SCALE IN FEET

NO.	DATE	DR	CHK	APVD
	01/12	JM HOLMQUIST	WM ANDRAE	MP NIEBAUER
DSGN	MP NIEBAUER			

AS-BUILT DRAWING.

	DLM	MPN
REVISION	BY	APVD

SITEWIDE GROUNDWATER (OU1) EXTRACTION
CONTINENTAL STEEL SUPERFUND SITE
US ENVIRONMENTAL PROTECTION AGENCY
KOKOMO, INDIANA

CH2MHILL

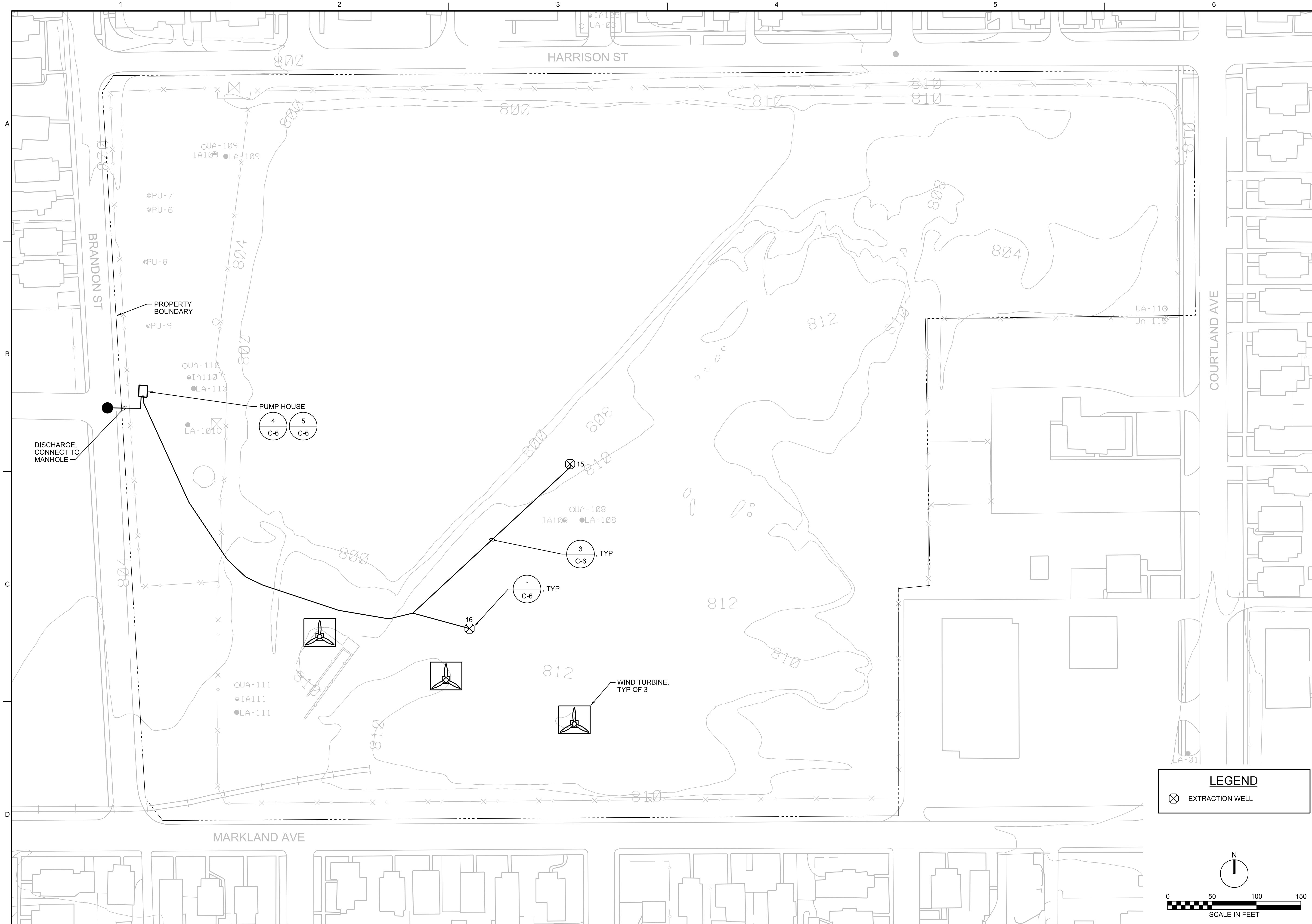
CIVIL
SITE C3
EAST BANK WILDCAT CREEK
SITEPLAN

1" = 50'-0"
VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	MARCH 2010
PROJ	391693
DWG	C-3
SHEET	7

AS-BUILT DRAWINGS

FILENAME: 005-C-2003_391693.dgn PLOT DATE: 1/13/2012 PLOT TIME: 11:32:40 AM



CH2MHILL

CIVIL

SITE C4

MARKLAND AVENUE QUARRY

SITE PLAN

SITEWIDE GROUNDWATER (OU1) EXTRACTION

CONTINENTAL STEEL SUPERFUND SITE

US ENVIRONMENTAL PROTECTION AGENCY

KOKOMO, INDIANA

NO.	DATE	REVISION	BY	APVD
	01/12	AS-BUILT DRAWING.	DLM	MPN

DSGN	DR	CHK	APVD
MP NIEBAUER	JM HOLMQUIST	WM ANDRAE	MP NIEBAUER

1" = 50'-0"

VERIFY SCALE

BAR IS ONE INCH ON ORIGINAL DRAWING.

0 1"

DATE	MARCH 2010
PROJ	391693
DWG	C-4
SHEET	8

AS-BUILT DRAWINGS

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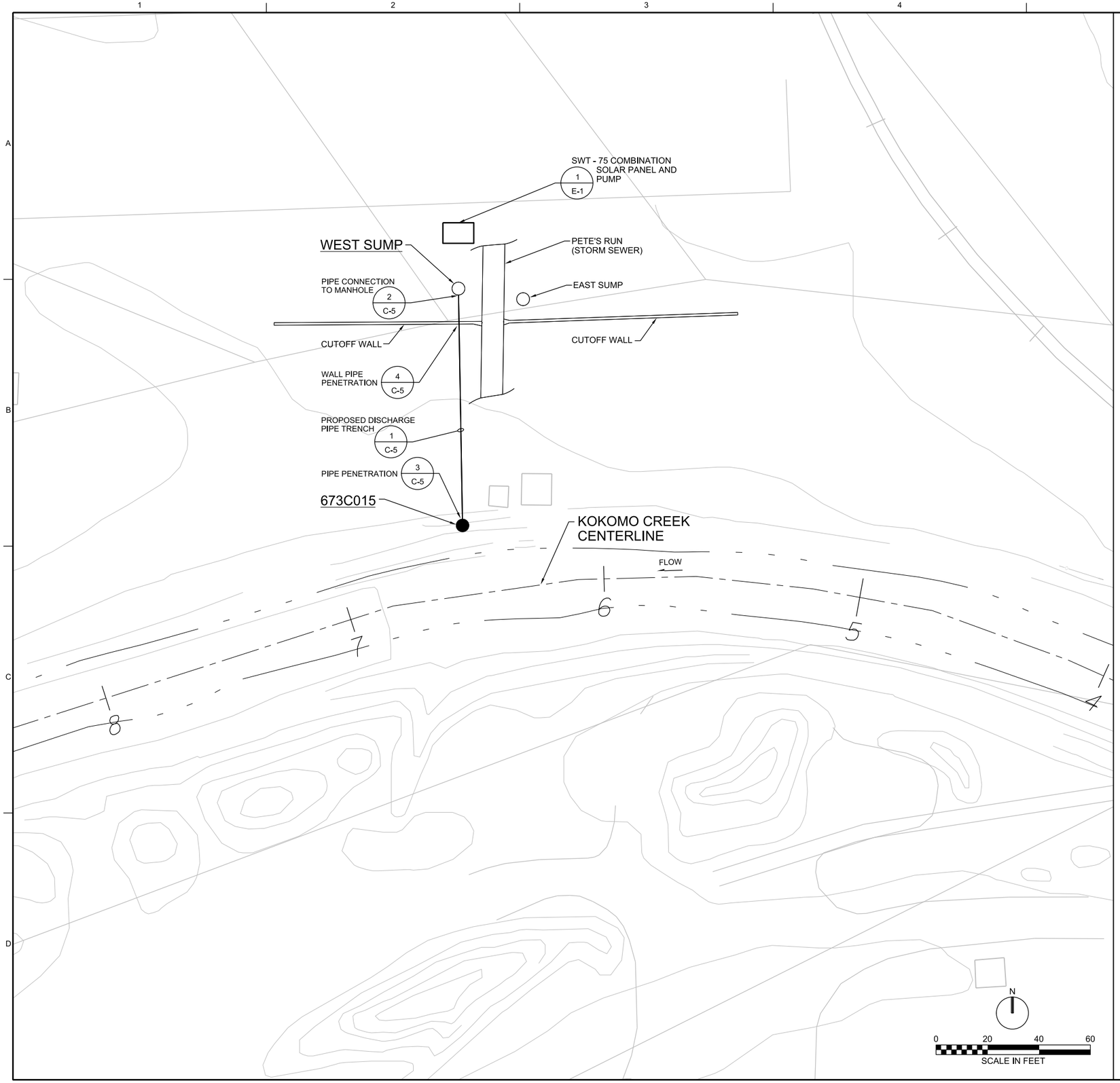
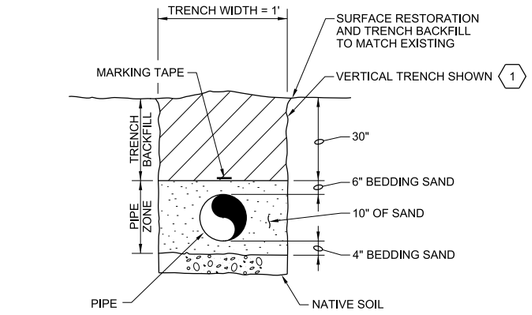


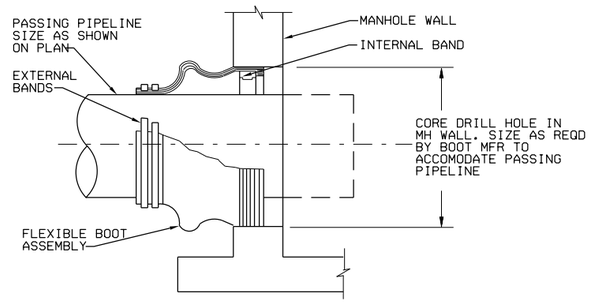


KEY NOTE:

1 SLOPE TRENCH WALLS OR SHORE EXCAVATIONS FOR CONSTRUCTION AND SAFETY ARE IN ACCORDANCE WITH CURRENT OSHA REQUIREMENTS.

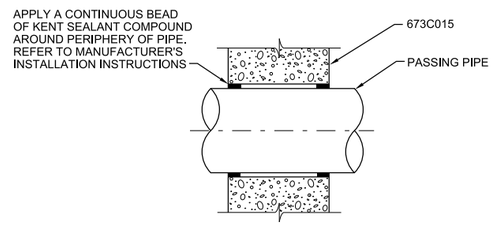
1 TYPICAL PIPE TRENCH SECTION

NTS



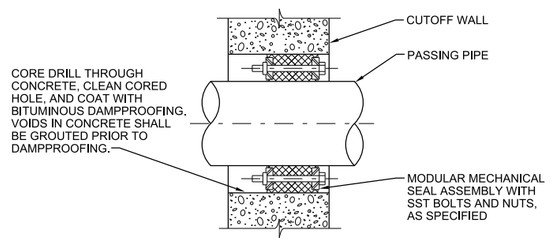
2 PIPE TO MANHOLE CONNECTION UP TO 16" DIAMETER

NTS



3 PIPE PENETRATION WITH KENT SEAL

NTS



4 PIPE PENETRATION WITH LINK SEAL

NTS

NO.	DATE	DSGN	DR	CHK	APVD
	01/12	S RAMAMURTHY	DA KIERZEK	WM ANDRAE	MP NIEBAUER
				APVD	
				BY	APVD
				DLM	MPN

AS-BUILT DRAWING.
REVISION

SITEWIDE GROUNDWATER (OU1) EXTRACTION
CONTINENTAL STEEL SUPERFUND SITE
US ENVIRONMENTAL PROTECTION AGENCY
KOKOMO, INDIANA

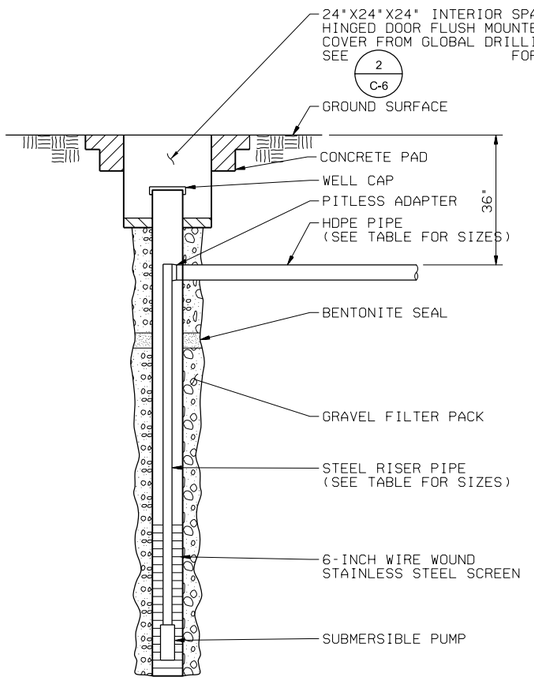
CH2MHILL

CIVIL
SITE C5
PETE'S RUN CUTOFF WALL
SITE PLAN AND DETAILS

1" = 20'-0"
VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	MARCH 2010
PROJ	391693
DWG	C-5
SHEET	9

AS-BUILT DRAWINGS



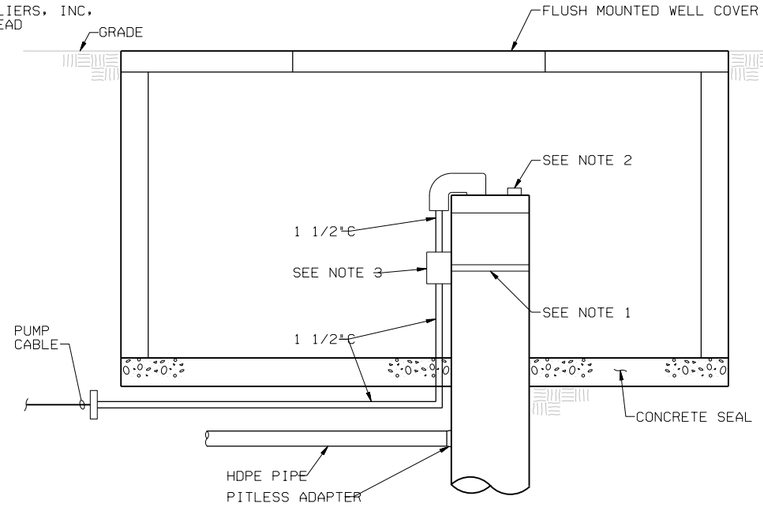
INFLUENT PIPE SIZE

EXTRACTION SYSTEM	FLOW RATE	PIPE DIAMETER
MARKLAND AVENUE QUARRY	35 GPM	1.5-INCH
EAST BANK WILDCAT CREEK	22 GPM	1.5-INCH
WEST MARKLAND AVENUE	11 GPM	1.5-INCH

RISER PIPE SIZE

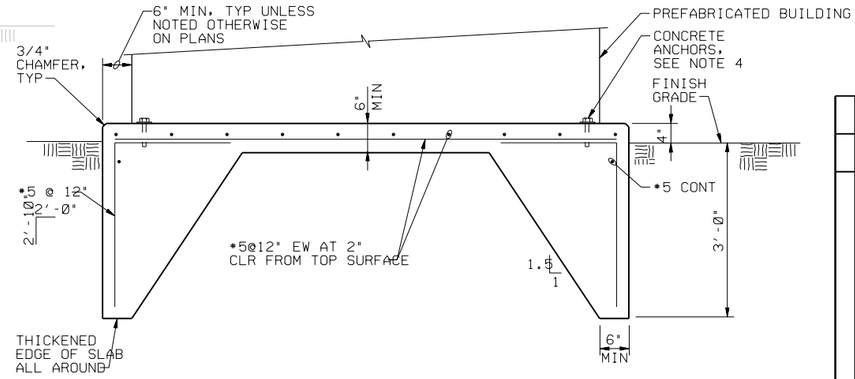
EXTRACTION SYSTEM	FLOW RATE	PIPE DIAMETER
MARKLAND AVENUE QUARRY	35 GPM	1.5-INCH
EAST BANK WILDCAT CREEK	22 GPM	1.5-INCH
WEST MARKLAND AVENUE	11 GPM	1.5-INCH

1 WELL DETAIL
NTS
C-1
C-2
C-3
C-4



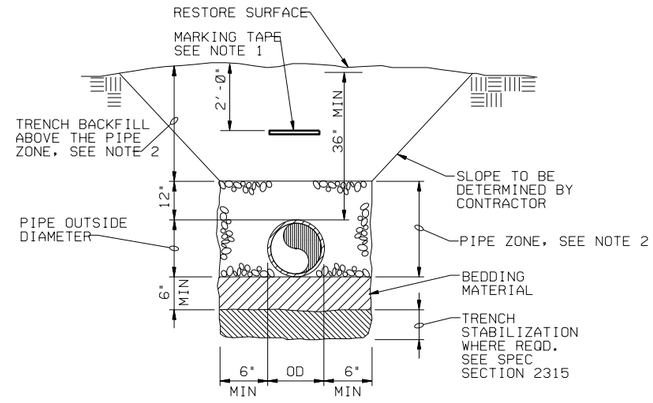
NOTES:
1. STRAP NEMA 4X JUNCTION BOX TO WELL PIPE.
2. 1 1/2" BUSHING IN WELL CAP.
3. SPLICE TO PUMP CABLES.

2 WELL HEAD DETAIL
NTS



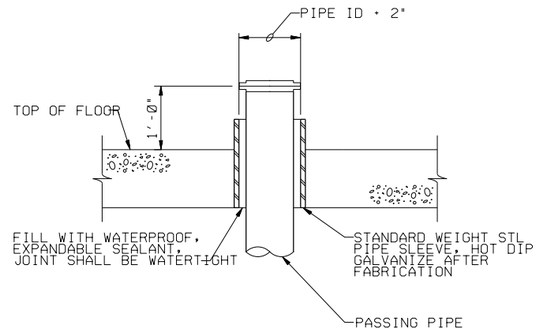
NOTES:
1. PAD SIZE SHALL BE MINIMUM INDICATED OR AS SHOWN ON THE PLANS OR AS INDICATED BY THE MANUFACTURER AND APPROVED BY THE ENGINEER.
2. THE SIZE, NUMBER, TYPE, LOCATION, AND THREAD PROJECTION OF THE ANCHOR BOLTS SHALL BE DETERMINED BY THE EQUIPMENT MANUFACTURER AND AS APPROVED BY THE ENGINEER. ANCHOR BOLTS SHALL BE HELD IN POSITION WITH A TEMPLATE OR OTHER ACCEPTABLE MEANS, MATCHING THE BASE PLATE, WHILE PAD IS BEING PLACED.
3. ANCHORS SHALL BE INSTALLED WITH 4" MINIMUM EDGE DISTANCE IN EACH DIRECTION.
4. WHEN ANCHORAGE OF EQUIPMENT TO PAD IS REQUIRED, USE CONCRETE ANCHORS SPECIFIED.

4 CONCRETE EQUIPMENT PAD
NTS
C-2
C-3
C-4



NOTES:
1. PROVIDE MARKING TAPE AS SHOWN.
2. USE CONTROLLED LOW STRENGTH FILL AS SPECIFIED WHERE TRENCH WILL BE COVERED BY PAVEMENT.

3 TRENCH DETAIL
NTS
C-2
C-3
C-4



5 FLOOR PENETRATION DETAIL
NTS
C-2
C-3
C-4

NO.	DATE	DSGN	DR	CHK	APVD
	01/12	MP NIEBAUER	JM HOLMQUIST	WM ANDRAE	MP NIEBAUER
				REVISION	
				AS-BUILT DRAWING.	
				DLM	MPN
				BY	APVD

SITEWIDE GROUNDWATER (OU1) EXTRACTION
CONTINENTAL STEEL SUPERFUND SITE
US ENVIRONMENTAL PROTECTION AGENCY
KOKOMO, INDIANA

CH2MHILL

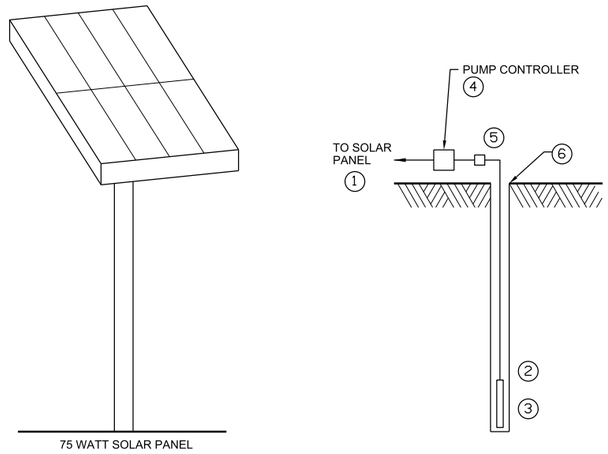
CIVIL

DETAILS

AS-BUILT DRAWINGS

NTS	
VERIFY SCALE	
BAR IS ONE INCH ON ORIGINAL DRAWING. 0 1"	
DATE	MARCH 2010
PROJ	391693
DWG	C-6
SHEET	10

FILENAME: 005-C-5001_391693.dgn PLOT DATE: 1/13/2012 PLOT TIME: 11:32:50 AM



1 SITE C5 (PETE'S RUN)
NTS

C-1
C-5

MATERIAL LIST

1. OPERATES AT 12 TO 30 VOLTS OF DIRECT CURRENT SUPPLIED FROM THE SOLAR PANEL.
2. WIRING FOR PUMP IS PRE-WIRED AT THE FACTORY.
3. INCLUDES AUTOMATIC WATER SENSOR SHUTOFF.
4. PUMP CONTROLLER IS A MICROPROCESSOR USED TO MONITOR POWER BETWEEN THE SWT PUMP AND SOLAR PANELS.
5. FLOW METER / TOTALIZER.
6. SUMP IS COVERED BY A MANHOLE.

GENERAL NOTE:

A. SEE DRAWING C-1 FOR SUMP LOCATIONS.

NO.	DATE	DSGN	DR	CHK	APVD
	01/12	JA MCKINNEY	MA REICHERT	JA MCKINNEY	APVD

AS-BUILT DRAWING.

BY	APVD
DLM	MPN

REVISION

MP NIEBAUER

SITEWIDE GROUNDWATER (OU1) EXTRACTION
CONTINENTAL STEEL SUPERFUND SITE
US ENVIRONMENTAL PROTECTION AGENCY
KOKOMO, INDIANA

CH2MHILL

ELECTRICAL

PETE'S RUN SUMP DETAILS

NTS

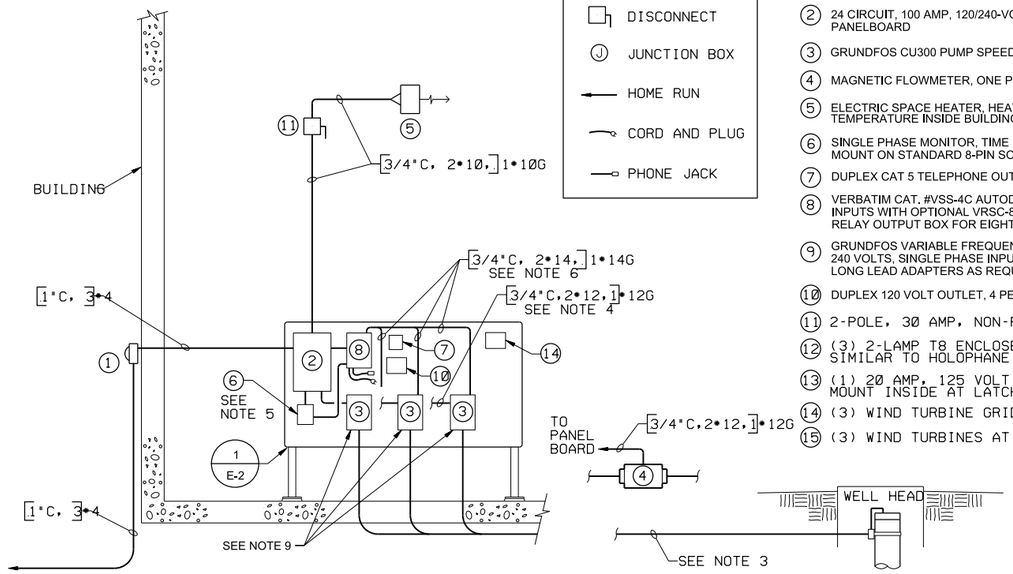
VERIFY SCALE

BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	MARCH 2010
PROJ	391693
DWG	E-1
SHEET	11

AS-BUILT DRAWINGS

FILENAME: 006-E-0001_391693.dgn PLOT DATE: 1/13/2012 PLOT TIME: 11:32:52 AM



LEGEND

- DISCONNECT
- (J) JUNCTION BOX
- HOME RUN
- CORD AND PLUG
- PHONE JACK

MATERIAL LIST

1. METER AND SOCKET AS REQUIRED BY UTILITY.
2. 24 CIRCUIT, 100 AMP, 120/240-VOLT, SERVICE ENTRANCE RATED PANELBOARD
3. GRUNDFOS CU300 PUMP SPEED CONTROLLER
4. MAGNETIC FLOWMETER, ONE PER SITE INSIDE BUILDING.
5. ELECTRIC SPACE HEATER, HEATER SIZE BASED ON 50-65 DEGREE TEMPERATURE INSIDE BUILDING.
6. SINGLE PHASE MONITOR, TIME MARK MODEL 2601, 90-120VAC, MOUNT ON STANDARD 8-PIN SOCKET (51x120) IN NEMA 1 ENCLOSURE.
7. DUPLEX CAT 5 TELEPHONE OUTLET.
8. VERBATIM CAT. #VSS-4C AUTODIALER FOR MONITORING 4 CONTACT INPUTS WITH OPTIONAL VRSC-8-1E SUPERVISORY CONTROL WITH RELAY OUTPUT BOX FOR EIGHT 120-VOLT OUTPUT RELAYS.
9. GRUNDFOS VARIABLE FREQUENCY DRIVE, FR4, 1.5 HORSEPOWER, 240 VOLTS, SINGLE PHASE INPUT, 240 VOLTS, 3-PHASE OUTPUT. PROVIDE LONG LEAD ADAPTERS AS REQUIRED BY MANUFACTURER. SEE NOTE 7.
10. DUPLEX 120 VOLT OUTLET, 4 PER BUILDING, ONE ON EACH INSIDE WALL.
11. 2-POLE, 30 AMP, NON-FUSED DISCONNECT FOR UNIT HEATER
12. (3) 2-LAMP T8 ENCLOSED AND GASKETED LIGHT FIXTURES PER BUILDING, SIMILAR TO HOLOPHANE ERS04YNBMP042EP2USTSLMHT.
13. (1) 20 AMP, 125 VOLT TOGGLE LIGHT SWITCH PER BUILDING. MOUNT INSIDE AT LATCH SIDE OF DOOR.
14. (3) WIND TURBINE GRID INTERFACE MODULES AT SITE C2 ONLY.
15. (3) WIND TURBINES AT SITE C2 ONLY.

RISER DIAGRAM
NTS

C2 SITE PANELBOARD

VOLTAGE: 240/120 VOLTS
1 PHASE, 3 WIRE
MOUNTING: SURFACE
INTERRUPTING RATING - 10,000 AMPS, RMS, SYMMETRICAL

ENCLOSURE: NEMA 1
100 AMP BUS
NEUTRAL - FULL
TYPE:100 AMP MAIN BREAKER

DESCRIPTION	LOAD AMPS	BKR SIZE	BKR POLES	CKT NO.	SINGLE PHASE	CKT NO.	BKR POLES	BKR SIZE	LOAD AMPS	DESCRIPTION
WELL PUMP 1	4.0	20	2	1	A	2	2	20	4.0	WELL PUMP 5
WELL PUMP 1	4.0			3	B	4			4.0	WELL PUMP 5
WELL PUMP 2	4.0	20	2	5	A	6	2	20	4.0	WELL PUMP 6
WELL PUMP 2	4.0			7	B	8			4.0	WELL PUMP 6
WELL PUMP 3	4.0	20	2	9	A	10	2	20	4.0	WELL PUMP 7
WELL PUMP 3	4.0			11	B	12			4.0	WELL PUMP 7
WELL PUMP 4	4.0	20	2	13	A	14	1	20	6.0	BUILDING RECEPTACLES
WELL PUMP 4	4.0			15	B	16	1	20	1.0	SINGLE PHASE MONITOR
BUILDING LIGHTS	4.0	20	1	17	A	18	1	30	21.0	UNIT HEATER
MAGNETIC FLOWMETER	1.0	15	1	19	B	20	1	30	21.0	UNIT HEATER
PHONE DIALER RECEPTACLE	1.5	20	1	21	A	22	2	20		SPARE
SPARE		20	1	23	B	24				

LOADS - PHASE A
LOADS - PHASE B
TOTAL LOADS: CONNECTED KVA

C3 SITE PANELBOARD

VOLTAGE: 240/120 VOLTS
1 PHASE, 3 WIRE
MOUNTING: SURFACE
INTERRUPTING RATING - 10,000 AMPS, RMS, SYMMETRICAL

ENCLOSURE: NEMA 1
100 AMP BUS
NEUTRAL - FULL
TYPE:100 AMP MAIN BREAKER

DESCRIPTION	LOAD AMPS	BKR SIZE	BKR POLES	CKT NO.	SINGLE PHASE	CKT NO.	BKR POLES	BKR SIZE	LOAD AMPS	DESCRIPTION
WELL PUMP 8	4.0	20	2	1	A	2	2	20	4.0	WELL PUMP 12
WELL PUMP 8	4.0			3	B	4			4.0	WELL PUMP 12
WELL PUMP 9	4.0	20	2	5	A	6	2	20	4.0	WELL PUMP 13
WELL PUMP 9	4.0			7	B	8			4.0	WELL PUMP 13
WELL PUMP 10	4.0	20	2	9	A	10	2	20	4.0	WELL PUMP 14
WELL PUMP 10	4.0			11	B	12			4.0	WELL PUMP 14
WELL PUMP 11	4.0	20	2	13	A	14	1	20	6.0	BUILDING RECEPTACLES
WELL PUMP 11	4.0			15	B	16	1	20	1.0	SINGLE PHASE MONITOR
BUILDING LIGHTS	4.0	20	1	17	A	18	2	30	21.0	UNIT HEATER
MAGNETIC FLOWMETER	1.0	15	1	19	B	20			21.0	UNIT HEATER
PHONE DIALER RECEPTACLE	1.5	20	1	21	A	22	2	20		SPARE
SPARE		20	1	23	B	24				

LOADS - PHASE A
LOADS - PHASE B
TOTAL LOADS: CONNECTED KVA

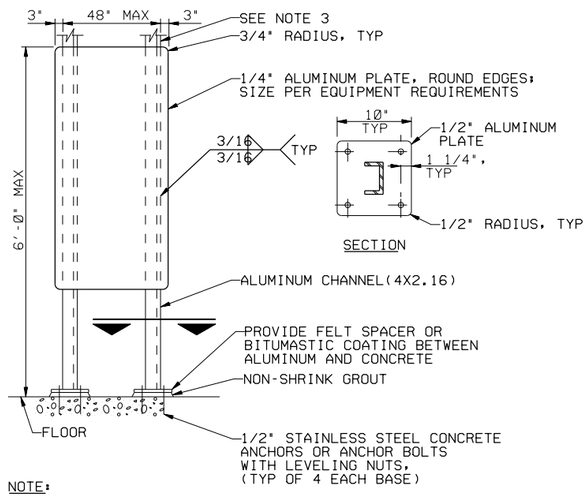
C4 SITE PANELBOARD

VOLTAGE: 240/120 VOLTS
1 PHASE, 3 WIRE
MOUNTING: SURFACE
INTERRUPTING RATING - 10,000 AMPS, RMS, SYMMETRICAL

ENCLOSURE: NEMA 1
100 AMP BUS
NEUTRAL - FULL
TYPE:100 AMP MAIN BREAKER

DESCRIPTION	LOAD AMPS	BKR SIZE	BKR POLES	CKT NO.	SINGLE PHASE	CKT NO.	BKR POLES	BKR SIZE	LOAD AMPS	DESCRIPTION
WELL PUMP 15	4.0	20	2	1	A	2	2	20	4.0	WELL PUMP 16
WELL PUMP 15	4.0			3	B	4			4.0	WELL PUMP 16
SPARE		20	2	5	A	6	2	20	4.0	SPARE
				7	B	8			4.0	
SPACE				9	A	10			4.0	SPACE
SPACE				11	B	12			4.0	SPACE
BUILDING LIGHTS	4.0	20	1	13	A	14	1	20	6.0	BUILDING RECEPTACLES
MAGNETIC FLOWMETER	1.0	15	1	15	B	16	1	20	1.0	SINGLE PHASE MONITOR
PHONE DIALER RECEPTACLE	1.5	20	1	17	A	18	2	30	21.0	UNIT HEATER
SPARE		20	1	19	B	20			21.0	UNIT HEATER
SPARE		20	1	21	A	22				SPACE
SPARE		20	1	23	B	24				SPACE

LOADS - PHASE A
LOADS - PHASE B
TOTAL LOADS: CONNECTED KVA



NOTE:

1. USE STAINLESS STEEL MOUNTING HARDWARE. USE WASHER AND SPLIT LOCK WASHER UNDER ALL NUTS.

1 ELECTRICAL EQUIPMENT SUPPORT DETAIL
NTS

ELECTRICAL DRAWING NOTES:

1. PROVIDE 100 AMP, 120/240-VOLT, SINGLE PHASE SERVICE FROM UTILITY. COORDINATE ALL INSTALLATION REQUIREMENTS WITH UTILITY AND PAY ALL FEES AS REQUIRED.
2. PROVIDE INTERIOR WIRING FOR TELEPHONE OUTLET. COORDINATE INSTALLATION WITH TELEPHONE SERVICE PROVIDER.
3. PROVIDE [1-1/2" PVC INNERDUCT, 2#8, 1#10] FOR WELLS UP TO 600 FEET FROM SOURCE. PROVIDE [1-1/2"C PVC INNERDUCT, 2#6, 1#10] FOR WELLS GREATER THAN 600 FEET. DIRECT BURIAL RACEWAY - LAY INNERDUCT IN CONTINUOUS LENGTHS, SDR 13 WALL THICKNESS, SIDE BY SIDE IN TRENCH. DO NOT STACK RACEWAYS IN TRENCH. INSTALL 30-INCHES BELOW GRADE WITH 6-INCH MAGNETIC WARNING TAPE.
4. SITE C4 FOR PUMP 15 [3/4"C, 2#10, 1#10G] VFD.
5. PHONE DIALER TO INITIATE CALL ON LOW VOLTAGE.
6. OUTPUT FROM PHONE DIALER TO TURN PUMPS ON AND OFF.
7. ITEM (9) IS APPLICABLE TO WELL 15 ONLY.
8. SITE C4 HAS ONE (3) AND ONE (9) CONTROLLERS.
9. SEE SITE PANELBOARD SCHEDULE FOR THE NUMBER OF CONTROLLERS AT EACH LOCATION.

NO.	DATE	DSGN	DR	CHK	APVD
	01/12	JA MCKINNEY	MA REICHERT	JA MCKINNEY	MP NIEBAUER
			REVISION		BY
			AS-BUILT DRAWING.		DLM

SITEWIDE GROUNDWATER (OU1) EXTRACTION
CONTINENTAL STEEL SUPERFUND SITE
US ENVIRONMENTAL PROTECTION AGENCY
KOKOMO, INDIANA

CH2MHILL

ELECTRICAL

RISER DIAGRAM, SUPPORT DETAIL, AND PANELBOARD SCHEDULES

NTS
VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	MARCH 2010
PROJ	391693
DWG	E-2
SHEET	12

AS-BUILT DRAWINGS

Appendix B
City of Kokomo Discharge Permit

CERTIFIED MAIL
7016 0600 0000 0462 1854
RETURN RECEIPT REQUESTED

August 5, 2019

Jacobs Engineering
1610 N 2nd Street, Suite 201
Milwaukee WI 53212

Attn: Sara Maihofer

The City of Kokomo is modifying your current wastewater discharge permit to incorporate revised user-specific local discharge limits. The limits reflect allocations of the current maximum allowable industrial loadings (MAILs) contained in Title V, Chapter 55 of the Code of Ordinances for the City of Kokomo.

This "modification" is authorized by Title V, Chapter 55, Section 173, Paragraph (A), Subparagraphs (1) and (2). This action is not considered a "significant" permit revision; since the re-calculated local discharge limits are based on existing MAILs used when the permit was initially issued. The MAILs used in the calculation are not more restrictive; accordingly, the pollutant allocations and resultant concentration limits have merely been updated to reflect more recent industrial user flows and average pollutant discharges.

The modified permit will be effective and enforceable at 12:00 AM on 9/23/2019. A copy of the entire permit is provided for your use.

Regards,

Chris Cooper
Superintendent

Enclosures (1)

Copy: Jack Harrison, Assistant Superintendent
File

CITY of KOKOMO

CITY OF KOKOMO, INDIANA

SANITATION UTILITY

AUTHORIZATION TO DISCHARGE INDUSTRIAL WASTEWATER

INDIVIDUAL WASTEWATER DISCHARGE PERMIT (IWDP)

The USEPA Region 5 - Superfund Division (EPA5) is in charge of Groundwater Extraction (GWE) projects at four locations within the Continental Steel Superfund Site (CSSS). Badger Technical Services, LLC (BTS) is the environmental engineering firm that directly oversees the GWE operations. EPA5 does not currently use wastewater pretreatment equipment. The discharge is subject to the terms and conditions of this IWDP, and the City of Kokomo's Sewer Use & Wastewater Pretreatment Ordinance (Title V, Chapter 55 of the Code of Ordinances for the City of Kokomo). EPA5 is required to comply with effluent limitations, monitoring requirements, and other conditions set forth in this IWDP.

WASTEWATER DISCHARGE PERMIT NUMBER:	**IWDP – 024**
EFFECTIVE DATE:	**09 JUNE 2018**
REVISION DATE:	**22 JULY 2019**
EXPIRATION DATE:	**09 JUNE 2023**

In order to receive authorization to discharge beyond 11:59 PM on the date of expiration, EPA5 shall submit a wastewater discharge permit renewal application to the Superintendent no later than 120 days prior to the date this IWDP expires. Failure to do so will let the IWDP expire, leaving the discharger without a valid IWDP. Continuation of discharge of wastewater to the POTW after expiration of the IWDP will be an enforceable offense.

Signed this 5th day of August 2019

Superintendent, City of Kokomo Sanitation Utility

- EPA5 is in charge of Groundwater Extraction (GWE) projects and at four locations within the Continental Steel Superfund Site (CSSS). Badger Technical Services (BTS) is the environmental engineering firm that directly oversees the GWE operations. EPA5 does not currently treat wastewater before discharging it to the POTW.

- The POTW has determined that EPA5 is a non-categorical discharger; therefore, it was not necessary to determine whether EPA5 met the criteria for a "new source" as that term is defined in 40 CFR 401.11(e) and 40 CFR 403.3(m). The POTW has classified EPA5 as a Significant Industrial User (SIU).

- EPA5 is classified under SIC code 9511 and NAICS code 924110. BTS is classified under SIC code 8711 and NAICS code 541620.

- GWE operations generate contaminated groundwater which is collected by sixteen extraction wells at three different locations on or near the CSSS. Groundwater from a fourth location is extracted from two sumps near a storm sewer on the CSSS site. The GWE wastewater is discharged untreated to the POTW from the following GWE sites:

  - West Markland Avenue (Site C2) – The GWE Site is located South of Markland Avenue and West of Berkley Road along the North edge of what was once Lagoons 8, 9 and 10. Extraction wells 1 through 7 are located at this site.

  - East Bank Wildcat Creek (Site C3) – The GWE Site is located in a parking lot situated directly East of the Wildcat Creek and West of Phillips Street (at the intersection of South Phillips Street and Park Avenue). Extraction wells 8 through 14 are located at this site.

  - Markland Avenue Quarry (Site C4) – The GWE Site is bordered by Harrison Street and Markland Avenue (on the North and South) and Courtland Avenue and Brandon Street (on the East and West). Extraction wells 15 through 16 are located at this site.

  - Pete's Run Cut-off Wall (Site C5) – The GWE Site is bordered by the Highland Park & the Kokomo Creek (on the South) and South Leeds Street (on the East). There are no extraction wells at this site. Groundwater from the site is collected in sumps and then discharged to the POTW.

- The POTW has previously agreed to "voluntarily assist" the USEPA and IDEM in the clean-up of the CSSS through the "provision of various municipal services" to the above-referenced agencies "free of charge". Former Mayor Robert Sargent, acting on behalf of the City of Kokomo, issued a letter (i.e., "the Agreement") to USEPA on 09-17-1993 which set forth the terms and conditions with which the City of Kokomo would voluntarily comply concerning the CSSS cleanup. The POTW intends to honor the terms of the Agreement; therefore, certain conditions of this IWDP are mediated by the terms of the Agreement. Accordingly, particular attention should be given to the notations to Tables 1A through 1D and the below-listed effluent discharge restrictions.

- EPA5 has four discharge points and four sampling points:

  - *Discharge Point #001:* The discharge point for Site C2 has been designated "Discharge Point #001" and is located at the west side of the driveway forming the west entrance to the WWTP. Discharge Point #001 is the point at which the 2-inch PVC discharge lateral from the bank of seven groundwater extraction wells discharges to the POTW at sewer node #672A007.

  - *Discharge Point #002:* The discharge point for Site C3 has been designated "Discharge Point #002" and is located at the Northwest corner of the intersection of Phillips Street and Park Avenue. Discharge Point #002 is the point at which the 4-inch PVC discharge lateral from the bank of seven groundwater extraction wells discharges to the POTW at sewer node #618D031.

  - *Discharge Point #003:* The discharge point for Site C4 has been designated "Discharge Point #003" and is located at the Syndicate Sales entrance on Brandon Street between Markland Avenue and Harrison Street. Discharge Point #003 is the point at which the 2-inch PVC discharge lateral from the bank of two groundwater extraction wells discharges to the POTW at sewer node #619C083.

  - *Discharge Point #004:* The discharge point for Site C5 has been designated "Discharge Point #004" and is located at the North edge of Highland Park, South of the CSSS and slightly West of the location where the Pete's Run Storm Sewer penetrates the CSSS Cut-off Wall. Discharge Point #004 is the point at which the discharge lateral from the west sump discharges to the POTW at sewer node #673C015.

- The EPA5 discharge is currently classified as a continuous discharge at discharge point 001 (Site C-2), discharge point 002 (Site C-3), and discharge point 003 (Site C-4). The EPA5 discharge from discharge point 004 (Site C-5) is currently classified as a batch discharge.

- Based on 24-months of data for July 2015 through June 2017 reported by EPA5 in their Discharge Monitoring Reports (i.e., DMRs), the average daily flow to the POTW from EPA5 at Discharge Point 001 was 6,847 gallons per day. The average daily flow to the POTW at Discharge Point 002 was 89,347 gallons per day. The average daily flow to the POTW at Discharge Point 003 was 23,272 gallons per day. The average daily flow to the POTW at Discharge Point 004 was 1,800 gallons per day. These values were obtained by dividing the total metered discharge for the period at each discharge point by the total number of calendar days in the 2-year period (i.e., 731 days).

- Local Discharge Limitations have been re-calculated and included in this new IWDP. Please review this IWDP in its entirety as it includes several important modifications from previous IWDPs. As in the prior IWDP, significant discharge limitations have been included for TTO, BTEX, MTBE, PAHs, Chloroethene, 1,1-Dichloroethene, 1,2-trans-Dichloroethene, Trichloroethene, and Tetrachloroethene. This IWDP contains new discharge limitations for various Metals, Cyanide, Phenols, and Oils & Greases. Other monitoring requirements have been included for flow and surcharge parameters (i.e., $CBOD_5$, COD, TSS, Ammonia-N) for high strength waste. The requirements of this IWDP are designed to protect the receiving waters, prevent treatment plant inhibition, and ensure that the biosolids generated in the POTW's biosolids processing facility comply with federal requirements.

PART I

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

1. Beginning on the effective date of this IWDP and lasting until the expiration date, EPA5 is authorized to discharge untreated wastewater to the POTW through discharge point #001, discharge point #002, discharge point #003, and discharge point #004.

2. Discharge from Site C-2 through discharge point #001 shall be limited and monitored by EPA5 as specified in Table 1A until this IWDP is modified to change those requirements.

3. Discharge from Site C-3 through discharge point #002 shall be limited and monitored by EPA5 as specified in Table 1B until this IWDP is modified to change those requirements.

4. Discharge from Site C-4 through discharge point #003 shall be limited and monitored by EPA5 as specified in Table 1C until this IWDP is modified to change those requirements.

5. Discharge from Site C-5 through discharge point #004 shall be limited and monitored by EPA5 as specified in Table 1D until this IWDP is modified to change those requirements.

6. EPA5 shall ensure that wastewater transported through discharge points #001, #002, #003, and #004 shall comply with Local Discharge Limitations included in Tables 1A through 1D that are enforceable at discharge points #001, #002, #003, and #004. EPA5 shall determine compliance with Local Discharge Limitations enforceable at discharge points #001, #002, #003, and #004 through sampling and analysis of wastewater obtained at each discharge point.

7. Local Discharge Limitations contained in Tables 1A through 1D shall include all Uniform Discharge Limitations established in Title V, Chapter 55, Section 019, Paragraph (B) of the Code of Ordinances for the City of Kokomo. Tables 1A through 1D shall also include Domestic Background Discharge Limitations established in Title V, Chapter 55, Section 019, Paragraph (C) of the Code of Ordinances for the City of Kokomo where no User-specific Discharge Limit is established for a specific pollutant of concern. Finally, Tables 1A through 1D shall include User-specific Local Discharge Limits for all pollutants of concern for which EPA5 has been granted an allocation of the MAILs published in Title V, Chapter 55, Section 019, Paragraph (D) of the Code of Ordinances for the City of Kokomo. The Superintendent has calculated such User-specific Limitations in accordance with the procedures in Title V, Chapter 55, Section 019, Paragraph (E) through (G) of the Code of Ordinances for the City of Kokomo.

B. DETERMINATION OF APPLICABILITY OF CATEGORICAL EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS CONTAINED IN 40 CFR CHAPTER I, SUBCHAPTER N, PARTS 405 THROUGH 471.

1. The POTW has not identified any operations regulated by categorical discharge standards at this time. Accordingly, the POTW has determined that EPA5 is a non-categorical discharger.

2. The POTW will periodically review EPA5 operations for applicability of categorical pretreatment regulations and revise this determination if warranted.

TABLE 1A						
		Ordinance #6619 Local Discharge Limitations Enforceable at Discharge Point #001			Monitoring Requirements	
Regulated Parameters	Notes	Instantaneous Maximum (mg / L)	Daily Maximum (mg / L)	Monthly Average (mg / L)	Frequency	Sample Type
Arsenic	1, 2, 5, 6, 22, 23, 24, 26		0.7079		1 X Month	Composite
Cadmium	1, 2, 5, 6, 22, 23, 24, 26		0.0001		1 X Month	Composite
Chromium	1, 2, 5, 6, 22, 23, 24, 26		0.4816		1 X Month	Composite
Copper	1, 2, 5, 6, 22, 23, 24, 26		0.1026		1 X Month	Composite
Cyanide	1, 5, 6, 20, 22, 23, 24, 26		0.0122		1 X Month	Grab
Fluoride	1, 2, 5, 6, 19, 22, 24	Monitor & Report			1 X Month	Composite
Lead	1, 2, 5, 6, 22, 23, 24, 26		0.0352		1 X Month	Composite
Mercury	1, 2, 5, 6, 22, 23, 24, 26		0.0041		1 X Month	Composite
Molybdenum	1, 2, 5, 6, 22, 24	Monitor & Report			1 X Month	Composite
Nickel	1, 2, 5, 6, 22, 23, 24, 26		4.8699		1 X Month	Composite
Phosphorus	1, 2, 5, 6, 17, 22, 24	Monitor & Report			1 X Month	Composite
Selenium	1, 2, 5, 6, 22, 23, 24, 26		0.0768		1 X Month	Composite
Silver	1, 2, 5, 6, 22, 23, 24, 26		0.0001		1 X Month	Composite
Zinc	1, 2, 5, 6, 22, 23, 24, 26		0.0786		1 X Month	Composite
TTO	1, 8, 15, 23, 24, 26		2.13		Semi-Annual	Grab
Phenols	1, 8, 18, 21, 23, 24, 26	13.2	6.6		Semi-Annual	Grab
BTEX	1, 7, 11, 23, 24, 26		0.040 / 0.010		Quarterly	Grab
MTBE	10, 12, 23, 24, 26		0.030		N/A	N/A
PAHs	10, 13, 23, 24, 26		0.050	0.020	N/A	N/A
Chloroethene (i.e., Vinyl Chloride)	1, 7, 14, 23, 24, 26		0.172	0.097	Quarterly	Grab
1,1-Dichloroethene	1, 7, 14, 23, 24, 26		0.060	0.022	Quarterly	Grab
1,2-trans-Dichloroethene	1, 7, 14, 23, 24, 26		0.066	0.025	Quarterly	Grab
Trichloroethene	1, 7, 14, 23, 24, 26		0.328	0.230	Quarterly	Grab
Tetrachloroethene	1, 7, 14, 23, 24, 26		0.236	0.165	Quarterly	Grab
O&G, Polar	1, 6, 16, 21, 23, 24, 26	265	132		1 X Month	Grab
O&G, Nonpolar	1, 6, 16, 21, 23, 24, 26	57	28		1 X Month	Grab
pH	1, 3, 23, 24, 26		6-10 (S.U.s)		Daily	Grab
Flow	1, 3, 24, 25	Monitor & Report			Daily	
$CBOD_5$	1, 2, 4, 6, 22, 24	Monitor & Report			1 X Month	Composite
COD	1, 2, 4, 6, 22, 24	Monitor & Report			1 X Month	Composite
TSS	1, 2, 4, 6, 22, 24	Monitor & Report			1 X Month	Composite
Ammonia-N	1, 2, 4, 6, 22, 24	Monitor & Report			1 X Month	Composite

- The above listed discharge limitations and monitoring requirements are minimum requirements necessary to achieve compliance. Nothing in this IWDP shall prevent EPA5 from achieving discharge concentrations that are more protective (i.e., restrictive) than the requirements of this table.

TABLE 1B						
		Ordinance #6619 Local Discharge Limitations Enforceable at Discharge Point #002			Monitoring Requirements	
Regulated Parameters	Notes	Instantaneous Maximum (mg / L)	Daily Maximum (mg / L)	Monthly Average (mg / L)	Frequency	Sample Type
Arsenic	1, 2, 5, 6, 22, 23, 24, 26		0.3681		1 X Month	Composite
Cadmium	1, 2, 5, 6, 22, 23, 24, 26		0.0001		1 X Month	Composite
Chromium	1, 2, 5, 6, 22, 23, 24, 26		0.2788		1 X Month	Composite
Copper	1, 2, 5, 6, 22, 23, 24, 26		0.1026		1 X Month	Composite
Cyanide	1, 5, 6, 20, 22, 23, 24, 26		0.0496		1 X Month	Grab
Fluoride	1, 2, 5, 6, 19, 22, 24	Monitor & Report			1 X Month	Composite
Lead	1, 2, 5, 6, 22, 23, 24, 26		0.0008		1 X Month	Composite
Mercury	1, 2, 5, 6, 22, 23, 24, 26		0.0001		1 X Month	Composite
Molybdenum	1, 2, 5, 6, 22, 24	Monitor & Report			1 X Month	Composite
Nickel	1, 2, 5, 6, 22, 23, 24, 26		0.3087		1 X Month	Composite
Phosphorus	1, 2, 5, 6, 17, 22, 24	Monitor & Report			1 X Month	Composite
Selenium	1, 2, 5, 6, 22, 23, 24, 26		0.1025		1 X Month	Composite
Silver	1, 2, 5, 6, 22, 23, 24, 26		0.0001		1 X Month	Composite
Zinc	1, 2, 5, 6, 22, 23, 24, 26		0.0786		1 X Month	Composite
TTO	1, 8, 15, 23, 24, 26		2.13		Semi-Annual	Grab
Phenols	1, 8, 18, 21, 23, 24, 26	13.2	6.6		Semi-Annual	Grab
BTEX	1, 7, 11, 23, 24, 26		0.040 / 0.010		Quarterly	Grab
MTBE	10, 12, 23, 24, 26		0.030		N/A	N/A
PAHs	10, 13, 23, 24, 26		0.050	0.020	N/A	N/A
Chloroethene (i.e., Vinyl Chloride)	1, 7, 14, 23, 24, 26		0.172	0.097	Quarterly	Grab
1,1-Dichloroethene	1, 7, 14, 23, 24, 26		0.060	0.022	Quarterly	Grab
1,2-trans-Dichloroethene	1, 7, 14, 23, 24, 26		0.066	0.025	Quarterly	Grab
Trichloroethene	1, 7, 14, 23, 24, 26		0.328	0.230	Quarterly	Grab
Tetrachloroethene	1, 7, 14, 23, 24, 26		0.236	0.165	Quarterly	Grab
O&G, Polar	1, 6, 16, 21, 23, 24, 26	265	132		1 X Month	Grab
O&G, Nonpolar	1, 6, 16, 21, 23, 24, 26	57	28		1 X Month	Grab
pH	1, 3, 23, 24, 26		6-10 (S.U.s)		Daily	Grab
Flow	1, 3, 24, 25	Monitor & Report			Daily	
$CBOD_5$	1, 2, 4, 6, 22, 24	Monitor & Report			1 X Month	Composite
COD	1, 2, 4, 6, 22, 24	Monitor & Report			1 X Month	Composite
TSS	1, 2, 4, 6, 22, 24	Monitor & Report			1 X Month	Composite
Ammonia-N	1, 2, 4, 6, 22, 24	Monitor & Report			1 X Month	Composite

- The above listed discharge limitations and monitoring requirements are minimum requirements necessary to achieve compliance. Nothing in this IWDP shall prevent EPA5 from achieving discharge concentrations that are more protective (i.e., restrictive) than the requirements of this table.

TABLE 1C						
		Ordinance #6619 Local Discharge Limitations Enforceable at Discharge Point #003			Monitoring Requirements	
Regulated Parameters	Notes	Instantaneous Maximum (mg / L)	Daily Maximum (mg / L)	Monthly Average (mg / L)	Frequency	Sample Type
Arsenic	1, 2, 5, 6, 22, 23, 24, 26		0.0029		1 X Month	Composite
Cadmium	1, 2, 5, 6, 22, 23, 24, 26		0.0030		1 X Month	Composite
Chromium	1, 2, 5, 6, 22, 23, 24, 26		0.3929		1 X Month	Composite
Copper	1, 2, 5, 6, 22, 23, 24, 26		0.1026		1 X Month	Composite
Cyanide	1, 5, 6, 20, 22, 23, 24, 26		0.0199		1 X Month	Grab
Fluoride	1, 2, 5, 6, 19, 22, 24	Monitor & Report			1 X Month	Composite
Lead	1, 2, 5, 6, 22, 23, 24, 26		1.1972		1 X Month	Composite
Mercury	1, 2, 5, 6, 22, 23, 24, 26		0.0020		1 X Month	Composite
Molybdenum	1, 2, 5, 6, 22, 24	Monitor & Report			1 X Month	Composite
Nickel	1, 2, 5, 6, 22, 23, 24, 26		0.5711		1 X Month	Composite
Phosphorus	1, 2, 5, 6, 17, 22, 24	Monitor & Report			1 X Month	Composite
Selenium	1, 2, 5, 6, 22, 23, 24, 26		0.2945		1 X Month	Composite
Silver	1, 2, 5, 6, 22, 23, 24, 26		0.0001		1 X Month	Composite
Zinc	1, 2, 5, 6, 22, 23, 24, 26		3.0822		1 X Month	Composite
TTO	1, 8, 15, 23, 24, 26		2.13		Semi-Annual	Grab
Phenols	1, 8, 18, 21, 23, 24, 26	13.2	6.6		Semi-Annual	Grab
BTEX	1, 7, 11, 23, 24, 26		0.040 / 0.010		Quarterly	Grab
MTBE	10, 12, 23, 24, 26		0.030		N/A	N/A
PAHs	10, 13, 23, 24, 26		0.050	0.020	N/A	N/A
Chloroethene (i.e., Vinyl Chloride)	1, 7, 14, 23, 24, 26		0.172	0.097	Quarterly	Grab
1,1-Dichloroethene	1, 7, 14, 23, 24, 26		0.060	0.022	Quarterly	Grab
1,2-trans-Dichloroethene	1, 7, 14, 23, 24, 26		0.066	0.025	Quarterly	Grab
Trichloroethene	1, 7, 14, 23, 24, 26		0.328	0.230	Quarterly	Grab
Tetrachloroethene	1, 7, 14, 23, 24, 26		0.236	0.165	Quarterly	Grab
O&G, Polar	1, 6, 16, 21, 23, 24, 26	265	132		1 X Month	Grab
O&G, Nonpolar	1, 6, 16, 21, 23, 24, 26	57	28		1 X Month	Grab
pH	1, 3, 23, 24, 26		6-10 (S.U.s)		Daily	Grab
Flow	1, 3, 24, 25	Monitor & Report			Daily	
$CBOD_5$	1, 2, 4, 6, 22, 24	Monitor & Report			1 X Month	Composite
COD	1, 2, 4, 6, 22, 24	Monitor & Report			1 X Month	Composite
TSS	1, 2, 4, 6, 22, 24	Monitor & Report			1 X Month	Composite
Ammonia-N	1, 2, 4, 6, 22, 24	Monitor & Report			1 X Month	Composite

- The above listed discharge limitations and monitoring requirements are minimum requirements necessary to achieve compliance. Nothing in this IWDP shall prevent EPA5 from achieving discharge concentrations that are more protective (i.e., restrictive) than the requirements of this table.

TABLE 1D						
		Ordinance #6619 Local Discharge Limitations Enforceable at Discharge Point #004			Monitoring Requirements	
Regulated Parameters	Notes	Instantaneous Maximum (mg / L)	Daily Maximum (mg / L)	Monthly Average (mg / L)	Frequency	Sample Type
Arsenic	1, 2, 5, 6, 22, 23, 24, 26		0.0029		1 X Month	Composite
Cadmium	1, 2, 5, 6, 22, 23, 24, 26		0.0001		1 X Month	Composite
Chromium	1, 2, 5, 6, 22, 23, 24, 26		0.0011		1 X Month	Composite
Copper	1, 2, 5, 6, 22, 23, 24, 26		0.1026		1 X Month	Composite
Cyanide	1, 5, 6, 20, 22, 23, 24, 26		0.0199		1 X Month	Grab
Fluoride	1, 2, 5, 6, 19, 22, 24	Monitor & Report			1 X Month	Composite
Lead	1, 2, 5, 6, 22, 23, 24, 26		0.0102		1 X Month	Composite
Mercury	1, 2, 5, 6, 22, 23, 24, 26		0.0001		1 X Month	Composite
Molybdenum	1, 2, 5, 6, 22, 24	Monitor & Report			1 X Month	Composite
Nickel	1, 2, 5, 6, 22, 23, 24, 26		0.1389		1 X Month	Composite
Phosphorus	1, 2, 5, 6, 17, 22, 24	Monitor & Report			1 X Month	Composite
Selenium	1, 2, 5, 6, 22, 23, 24, 26		0.3586		1 X Month	Composite
Silver	1, 2, 5, 6, 22, 23, 24, 26		0.0001		1 X Month	Composite
Zinc	1, 2, 5, 6, 22, 23, 24, 26		0.7860		1 X Month	Composite
TTO	1, 8, 15, 23, 24, 26		2.13		Semi-Annual	Grab
Phenols	1, 8, 18, 21, 23, 24, 26	13.2	6.6		Semi-Annual	Grab
BTEX	1, 7, 11, 23, 24, 26		0.040 / 0.010		Quarterly	Grab
MTBE	10, 12, 23, 24, 26		0.030		N/A	N/A
PAHs	10, 13, 23, 24, 26		0.050	0.020	N/A	N/A
Chloroethene (i.e., Vinyl Chloride)	1, 7, 14, 23, 24, 26		0.172	0.097	Quarterly	Grab
1,1-Dichloroethene	1, 7, 14, 23, 24, 26		0.060	0.022	Quarterly	Grab
1,2-trans-Dichloroethene	1, 7, 14, 23, 24, 26		0.066	0.025	Quarterly	Grab
Trichloroethene	1, 7, 14, 23, 24, 26		0.328	0.230	Quarterly	Grab
Tetrachloroethene	1, 7, 14, 23, 24, 26		0.236	0.165	Quarterly	Grab
O&G, Polar	1, 6, 16, 21, 23, 24, 26	265	132		1 X Month	Grab
O&G, Nonpolar	1, 6, 16, 21, 23, 24, 26	57	28		1 X Month	Grab
pH	1, 3, 23, 24, 26		6-10 (S.U.s)		Daily	Grab
Flow	1, 3, 24, 25	Monitor & Report			Daily	
$CBOD_5$	1, 2, 4, 6, 22, 24	Monitor & Report			1 X Month	Composite
COD	1, 2, 4, 6, 22, 24	Monitor & Report			1 X Month	Composite
TSS	1, 2, 4, 6, 22, 24	Monitor & Report			1 X Month	Composite
Ammonia-N	1, 2, 4, 6, 22, 24	Monitor & Report			1 X Month	Composite

- The above listed discharge limitations and monitoring requirements are minimum requirements necessary to achieve compliance. Nothing in this IWDP shall prevent EPA5 from achieving discharge concentrations that are more protective (i.e., restrictive) than the requirements of this table.

NOTES TO TABLES 1A THROUGH 1D:

[1] EPA5 must perform monitoring at discharge points #001, #002, #003, and #004 at the frequencies specified in Tables 1A through 1D, respectively, to determine the contribution from each discharge stream. EPA5 shall determine compliance with Local Discharge Limitations enforceable at discharge points #001, #002, #003, and #004 through sampling and analysis of the wastestreams that contribute to each discharge point. Results of analysis for this parameter at discharge points #001, #002, #003, and #004 must be provided to the POTW in the required monthly discharge monitoring report.

[2] Composite Sampling shall be performed when analyzing for this pollutant. Composite samples shall be flow-proportioned. The "date of collection" for composite samples shall be the date on which the "sample collection period" ends (i.e., the date on which the final discrete sample is collected for use in the creation of a composite sample). Manually collected composite samples shall have at least four sample intervals. Individual samples shall be taken at uniform time intervals during the discharge and the final composite sample shall be flow proportioned using actual flow data obtained during the sampling period to determine the percent of each discrete sample that shall be used in the final composite sample.

[3] All "flow" shall be monitored and recorded daily (gallons/day), not estimated, by a non-resettable flow-measurement device. The total flow from Sites C-2, C-3, C-4, and C-5 entering discharge points #001, #002, #003, and #004, respectively, shall be metered before the flow reaches the entry point into the POTW. The measured flow (i.e., total flow discharged individually from Sites C-2, C-3, C-4, and C-5) shall be reported for each discharge point in the required monthly Discharge Monitoring Report (DMR). The flow at each discharge points #001, #002, #003, and #004 shall be measured daily and reported monthly. Monitoring at discharge points #001, #002, #003, and #004 for "pH" shall also be performed daily and reported monthly.

[4] Monitoring for this pollutant shall be performed in accordance with the requirements of Tables 1A through 1D. Excess strength surcharges shall not apply for amounts of this pollutant in excess of the thresholds established in the Title V, Chapter 55, Section 103 of the Code of Ordinances for the City of Kokomo. The POTW has previously agreed as part of the September 1993 Agreement to "voluntarily assist" the USEPA and IDEM in the clean-up of the CSSS through the "provision of various municipal services" to the above-referenced agencies "free of charge".

[5] All metals shall be analyzed as Total Metals. This analytical procedure will be reviewed if or when the State or Federal Government modifies the requirement.

[6] MONTHLY MONITORING for this parameter shall be conducted at equally spaced time intervals. EPA5 shall make every effort to perform monthly monitoring at equally spaced time intervals (i.e., 30-days); or during the same week of each Month in which monitoring is required. EPA5 shall notify the Pretreatment Program Coordinator if a deviation from this practice is necessary. EPA5 shall submit the results of analysis as part of the required monthly DMR and in accordance with the requirements of Part I.F.2 of this IWDP.

[7] QUARTERLY MONITORING for this parameter shall be conducted each year during the months of March, June, October, and December. EPA5 shall submit the results of analysis during the months of April, July, November, and January; as part of the required monthly DMR and in accordance with the requirements of Part I.F.2 of this IWDP.

[8] SEMI-ANNUAL MONITORING for this parameter shall be conducted each year during the months of June and December. EPA5 shall submit the results of analysis during the months of July and January; as part of the required monthly DMR and in accordance with the requirements of Part I.F.2 of this IWDP.

[9] ANNUAL MONITORING for this parameter shall be conducted each year during the month of December. EPA5 shall submit the results of analysis during the month of January; as part of the required monthly DMR and in accordance with the requirements of Part I.F.2 of this IWDP.

[10] The permittee is not required to regularly monitor for this pollutant; however, the permittee shall ensure that wastewater discharged to the POTW from Discharge points #001, #002, #003, and #004 shall comply with the discharge limitations established for this pollutant in Tables 1A through 1D.

[11] For purposes of this IWDP, the term "BTEX" is an acronym for the compounds Benzene, Toluene, Ethyl benzene, Xylene. The Limits contained in Tables 1A through 1D are for total BTEX parameters (i.e., 0.040 mg/L) and for each parameter individually (i.e., 0.010 mg/L).

[12] For purposes of this IWDP, the term "MTBE" is an acronym for the compound Methyl t-Butyl Ether.

[13] For purposes of this IWDP, the term "PAHs" is an acronym for a class of compounds known as "Polynuclear Aromatic Hydrocarbons". All compounds listed in Section VI of Table 2 shall be subject to the PAH limitation listed in Tables 1A through 1D. The discharge limitation for PAHs listed in Tables 1A through 1D shall apply individually to each of the PAH compounds included in Section VI of Table 2.

[14] This compound is a "Halogenated Hydrocarbon Compound" listed in Section VIII of Table 2.

[15] For purposes of this IWDP, the terms "Total Toxic Organics" and "TTO" shall be defined as the value resulting from the summation of all quantifiable values reported that are greater than 0.01 mg/L; following analysis for the toxic organic compounds listed in Table 2 of this IWDP. The sum of all values shall not exceed the discharge limitation listed in Table 1A through 1D of this IWDP. Refer to Section I.D of this IWDP for additional information regarding TTO monitoring requirements.

[16] Analysis for this pollutant shall be accomplished using EPA 1664, Revision B. Determination of the amount of Polar Oil & Grease shall be accomplished by subtracting the silica gel treated hexane extractable material ("Total Petroleum Hydrocarbons") from the total recoverable hexane extractable material ("Oils and Grease").

[17] The term "Phosphorus" as used in Tables 1A through 1D refers to "Total Phosphorus." Analysis for this parameter shall be accomplished using EPA Methods 365.1, 365.2, 365.3 or 365.4 per 40 CFR Part 136.

[18] The term "Phenols" as used in Tables 1A through 1D refers to "Total Recoverable Phenolics." Analysis for this parameter shall be accomplished using EPA Methods 420.1 or 420.2 per 40 CFR Part 136.

[19] The term "Fluoride" as used in Tables 1A through 1D refers to "Total Fluoride." Analysis for this parameter shall be accomplished using the Preliminary Distillation step in Method 4500-F^- B; followed by the Ion Selective Electrode measurement in Method 4500-F^- C (consult Standard Methods for the Examination of Water and Wastewater, 20th Edition or subsequent edition, as approved by 40 CFR Part 136).

[20] The term "Cyanide" as used in Tables 1A through 1D refers to "Total Cyanide." Analysis for this parameter shall be accomplished using an approved method per 40 CFR Part 136 that is able to achieve the Limit of Quantitation specified below in Note #22 to Tables 1A through 1D.

[21] Discrete samples (i.e., individual grab samples) obtained and analyzed for this parameter shall be compared to the Instantaneous Maximum Limit (i.e., IML). Where multiple discrete samples are obtained during the same day, each individual sample shall comply with the IML; while the average of the results obtained for all samples collected during the same day must comply with the Daily Maximum Limit (i.e., DML).

[22] Analyses for the pollutants in Tables 1A through 1D that are also included in the following table must be performed by a method able to achieve a LIMIT OF QUANTITATION (i.e., LOQ) for each pollutant that is equal to or less than the values listed in the following table:

POLLUTANT	REQUIRED LOQ
Ammonia	20.0 mg/L
$cBOD_5$	200.0 mg/L
COD	500.0 mg/L
Suspended Solids, Total	250.0 mg/L
Arsenic, Total	0.0029 mg/L
Cadmium, Total	0.0001 mg/L
Chromium, Total	0.0011 mg/L
Copper, Total	0.1026 mg/L
Cyanide, Total	0.0040 mg/L
Fluoride, Total	0.57 mg/L
Lead, Total	0.0008 mg/L
Mercury, Total	0.0001 mg/L
Molybdenum, Total	0.0045 mg/L
Nickel, Total	0.0010 mg/L
Phosphorus, Total	4.7 mg/L
Selenium, Total	0.0001 mg/L
Silver, Total	0.0001 mg/L
Zinc, Total	0.0786 mg/L

[23] If the discharge limitations in Tables 1A through 1D are exceeded, the POTW may elect to exercise its right to require appropriate "pretreatment" in accordance with paragraph 5.A. of the Agreement.

[24] The requirement to monitor and report data for this pollutant is included in this IWDP in accordance with paragraph 5.C. of the Agreement.

[25] EPA5 will comply with the following flow-restrictions for each discharge point. The following restrictions concerning the "rate of discharge" of CSSS effluent to the POTW are included in this IWDP in accordance with paragraph 5.D. of the Agreement. These restrictions shall not be exceeded unless prior approval is obtained from the Superintendent:

Discharge Point #001: The allowable discharge rate shall not exceed 77 gallons per minute at any time during any discharge event. The total volume discharged from the groundwater remediation unit shall not exceed 110,880 gallons per day (i.e., 24-hour period).

Discharge Point #002: The allowable discharge rate shall not exceed 172 gallons per minute at any time during any discharge event. The total volume discharged from the groundwater remediation unit shall not exceed 247,680 gallons per day (i.e., 24-hour period).

Discharge Point #003: The allowable discharge rate shall not exceed 35 gallons per minute at any time during any discharge event. The total volume discharged from the groundwater remediation unit shall not exceed 50,400 gallons per day (i.e., 24-hour period).

Discharge Point #004: The allowable discharge rate shall not exceed 12.5 gallons per minute at any time during any discharge event. The total volume discharged from the groundwater remediation unit shall not exceed 18,000 gallons per day (i.e., 24-hour period).

[26] If the effluent discharged to the POTW from the CSSS exceeds the discharge limitations in Tables 1A through 1D, or otherwise violates "applicable pretreatment requirements", and/or is "likely to cause a violation" of the terms of the POTW's "NPDES permit", the POTW may elect to exercise its right to "suspend" or otherwise prohibit discharge from the CSSS in accordance with paragraph 5.E. of the Agreement.

C. DISCHARGE PROHIBITIONS

1. General Prohibitions:

   a. EPA5 shall not discharge pollutant parameters in concentrations and/or quantities that exceed the Discharge Limitations in Part I.A, Part I.B, and Tables 1A through 1D of this IWDP.

   b. EPA5 shall not discharge any pollutants into the POTW that cause "pass through" or "interference" as those terms are defined in Title V, Chapter 55, Section 004 of the Code of Ordinances for the City of Kokomo.

   c. EPA5 will comply with the following flow-restrictions for each discharge point. The following restrictions concerning the "rate of discharge" of CSSS effluent to the POTW are included in this IWDP in accordance with paragraph 5.D. of the Agreement.

      (1) *Discharge Point #001:* The allowable discharge rate shall not exceed 77 gallons per minute at any time during any discharge event. The total volume discharged from the groundwater remediation unit shall not exceed 110,880 gallons per day (i.e., 24-hour period).

      (2) *Discharge Point #002:* The allowable discharge rate shall not exceed 172 gallons per minute at any time during any discharge event. The total volume discharged from the groundwater remediation unit shall not exceed 247,680 gallons per day (i.e., 24-hour period).

      (3) *Discharge Point #003:* The allowable discharge rate shall not exceed 35 gallons per minute at any time during any discharge event. The total volume discharged from the groundwater remediation unit shall not exceed 50,400 gallons per day (i.e., 24-hour period).

      (4) *Discharge Point #004:* The allowable discharge rate shall not exceed 12.5 gallons per minute at any time during any discharge event. The total volume discharged from the groundwater remediation unit shall not exceed 18,000 gallons per day (i.e., 24-hour period).

   d. The requirements of Part I.C.1.c.(1) through (4) shall not be exceeded unless prior approval is obtained from the Superintendent.

2. Specific Prohibitions:

   In addition to Part I.C.1, above, EPA5 shall not discharge:

   a. Pollutants that create a fire or explosion hazard in the POTW, including but not limited to wastestreams with a closed-cup flashpoint of less than 140 degrees Fahrenheit (60 degrees Celsius) using the test methods specified in 40 CFR 261.21;

b. Pollutants that will cause corrosive structural damage to the POTW, including specific discharges with a pH lower than 6.0 or higher than 10.0 standard units;

c. Solid or viscous pollutants in amounts that will cause obstruction to the flow in sewers, or other interference with the operation of the POTW, but in no case solids greater than ¾ inch in dimension;

d. Any pollutant, including oxygen demanding pollutants, e.g. biochemical oxygen demand (BOD), released in a discharge at a flow rate and/or pollutant concentration which, either singly or by interaction with other pollutants, will cause interference in the POTW;

e. Wastewater having a temperature greater than 140 degrees Fahrenheit or that will inhibit biological activity in the treatment plant resulting in interference or causing damage. In no case shall wastewater be discharged that causes the temperature at the introduction to the Kokomo Wastewater Treatment Plant to exceed 40 degrees Celsius (104 degrees Fahrenheit);

f. Petroleum Oil, non-biodegradable cutting oil, or products of mineral oil origin, in amounts that will cause interference or pass through;

g. Pollutants that result in the presence of toxic gases, vapors or fumes within the POTW in a quantity that may cause acute worker health and safety problems;

h. Any other Prohibited Discharge identified in the Sewer Use and Wastewater Pretreatment Ordinance.

D. TTO MONITORING REQUIREMENTS

1. General Requirements

a. The Total Toxic Organics (TTO) limitation is defined as the summation of all quantifiable values that are greater than 0.01 mg/l for the toxic organic compounds listed in Table 2. The sum of all values shall not exceed any TTO limitation(s) in Part I.A, Part I.B, or Tables 1A through 1D of this IWDP.

b. All samples for toxic organic compounds must be collected, preserved and stored in accordance with 40 CFR 136, Appendix A. Samples for volatile organics must be analyzed within 14 days of collection. Samples for semi-volatile organics, PCBs and pesticides must be extracted within seven (7) days of collection and analyzed within forty (40) days of extraction.

c. Toxic organics shall be analyzed using U.S. EPA methods 624 (volatile organics), 625 (semi-volatile organics) and 608 (PCBs and pesticides) in 40 CFR 136, or other equivalent methods approved by U.S. EPA. Equivalent methods must be at least as sensitive and specific as methods 624, 625 and 608.

d. EPA5 shall comply with the requirements of Title V, Chapter 55, Section 022 concerning TTO Monitoring.

E. SLUG DISCHARGE PREVENTION AND CONTROL

1. Slug Discharge Definition

For purposes of this IWDP, the terms "SLUG", "SLUG LOAD", "SLUG LOADING" and "SLUG DISCHARGE" shall refer to any discharge meeting at least one of the following criteria:

a. Any discharge of a non-routine, episodic nature, including but not limited to an accidental spill or a non-customary batch discharge, which has a reasonable potential to cause interference or pass through, or in any other way violate the POTW's NPDES permit conditions;

b. Any discharge at a flow rate or concentration, which could cause a violation of the prohibited discharge standards in Part I.C.1.b, and/or Part I.C.2 of this IWDP or Title V, Chapter 55, Section 016 of the Code of Ordinances for the City of Kokomo.

c. Any discharge which exceeds, in either concentration or loading of any constituent, or in quantity of flow, any of the following criteria:

(1) A value equal to or greater than the average 24-hour concentration (in milligrams per liter) for a given constituent multiplied by a factor of five. The average 24-hour concentration value shall be calculated using all available data (representative of normal operation) from the most recent six-month period prior to the suspected slug discharge.

(2) A value equal to or greater than the average 24-hour loading (in pounds per day) for a given constituent multiplied by a factor of five. The average 24-hour loading value shall be calculated using all available data (representative of normal operation) from the most recent six-month period prior to the suspected slug discharge.

(3) A value equal to or greater than the average 24-hour discharge flow (in million-gallons per day) multiplied by a factor of five. The average 24-hour discharge flow value shall be calculated using all available data (representative of normal operation) from the most recent six-month period prior to the suspected slug discharge.

2. Prohibition

Slug discharges as defined in Part I.E.1 of this IWDP are prohibited, and shall constitute a violation of this IWDP.

3. Slug Discharge Control Plan

a. Not later than 120 days from the effective date of this IWDP, EPA5 shall develop and submit to the Superintendent a written Slug Discharge Control Plan if it does not already have such a plan. The written Slug Discharge Control Plan shall comply with the requirements of Part I.E.3.c of this IWDP and Title V, Chapter 55, Section 137 of the Code of Ordinances for the City of Kokomo.

b. Alternatively, where an existing Slug Discharge Control Plan is in effect, EPA5 shall revise and update the existing plan to reflect current facility operations concerning the potential for slug discharges, including necessary prevention and control measures. Such revised plans must also be submitted not later than 120 days from the effective date of this IWDP.

c. EPA5 shall ensure that the Slug Discharge Control Plan contains, at a minimum, the following elements:

(1) A description of discharge practices, including non-routine batch discharges;

(2) A description of stored chemicals;

(3) Procedures for immediately notifying the POTW of Slug Discharges, including any Discharge that would violate a prohibition Part I.C.1.b and/or Part I.C.2 of this IWDP, with procedures for follow-up written notification within five days;

(4) Procedures to prevent adverse impact from accidental spills or slug discharges, including:

i. inspection and maintenance of storage areas;

ii. handling and transfer of materials;

iii. loading and unloading operations;

iv. control of plant site run-off;

v. worker training;

vi. building of containment structures or equipment;

vii. measures for containing toxic organic pollutants (including solvents), and/or

viii. measures and equipment for emergency response

4. Annual Review

After initial development and implementation, EPA5 shall annually review the plan's effectiveness and update the Slug Discharge Control Plan as necessary to reflect changes in the facility, operations, and other pertinent information to ensure its continued effectiveness in the prevention and control of slug discharges. Documentation of annual plan review shall be submitted to the Pretreatment Program Coordinator along with an updated version of the plan. Annual documentation shall be due not later than 1 year from the due date established in Part I.E.3.a or Part I.E.3.b above, and annually thereafter.

5. Notification Requirements

a. In the event of a slug discharge, EPA5 shall comply with the notification requirements of Part II.A.6 of this IWDP and the requirements of Title V, Chapter 55, Section 195 of the Code of Ordinances for the City of Kokomo.

b. EPA5 shall permanently post a notification on the user's bulletin board or other prominent place advising employees who to call in the event of a slug discharge. Employers shall ensure that all employees are advised of the emergency notification procedure.

c. EPA5 is required to notify the POTW immediately of any changes at its facility affecting the potential for a Slug Discharge.

d. EPA5 shall otherwise comply with the notification requirements of Parts II.A.5, II.A.6, II.A.7, II.A.8.d, and II.A.11 of this IWDP.

F. MONITORING AND REPORTING

1. Representative Sampling

EPA5 shall ensure that samples and measurements taken as required herein shall be representative of the volume, flow and nature of the monitored discharge.

2. Reporting

a. Monthly Reporting Requirements

(1) EPA5 shall submit monthly Discharge Monitoring Reports (DMR's) to the Superintendent containing results obtained during the previous month and shall be postmarked no later than 28th day of the month following each completed monitoring period. The first report shall be postmarked by the 28th day of the month following the month in which this IWDP becomes effective.

(2) EPA5 shall ensure that DMR's include the following certification statement and comply with the signatory requirements of 40 CFR 403.12 (l):

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate and complete. I am aware there are significant penalties for submitting false information, including the possibility of fines and imprisonment for knowing violations."

b. Semi-Annual Reporting Requirements

(1) As discussed in Part I.B of this IWDP, EPA5 has been determined to be a non-categorical discharger. Accordingly, EPA5 is not required to submit Semi-Annual Reports to the POTW at this time.

(2) In the event that the POTW determines that EPA5 is a categorical discharger, this IWDP will be revised to include Semi-Annual reporting requirements.

c. Miscellaneous Reporting Requirements

All correspondence, notices and reports shall be forwarded to the Pretreatment Program Coordinator as in the following example:

Attention: Pretreatment Program Coordinator
City of Kokomo Wastewater Treatment Plant
1501 West Markland Avenue
Kokomo, Indiana 46901

3. Definitions

a. Effluent Limitations

(1) Daily Discharge: The total mass or average concentration or other measurement of pollutant specified (e.g., pH, temperature) that is discharged over the calendar day or any other 24-hour period that reasonably represents the calendar day for purposes of sampling.

(2) Daily Maximum (Discharge) Limitation: The maximum allowable daily discharge.

(3) Monthly Average Discharge (Average Monthly Discharge): The total mass or flow-weighted concentration of all daily discharges sampled and/or measured during a calendar month on which daily discharges are sampled and measured, divided by the number of daily discharges sampled and/or measured during such month.

(4) Monthly Average (Discharge) Limitation: The maximum allowable monthly average discharge for any calendar month.

b. Sample Type

(1) Composite: The 24-hour composite sampling requirement shall be interpreted as a composite of individual flow proportional samples and shall be representative of the entire process flow. Manually collected composite samples shall have at least four sample intervals. Individual samples shall be taken at uniform time (or flow) intervals at least once every one hour.

(2) Grab: A sample that is taken from a wastestream on a one-time basis with no regard to the flow of the wastestream and without consideration of time.

c. Publicly Owned Treatment Works ("POTW")

The "treatment works," as defined by Section 212 of the Clean Water Act (as amended), owned by the City of Kokomo. This definition includes any devices or systems used in the collection, pumping, storage, treatment, recycling and reclamation of sewage or industrial wastes of a liquid nature and any conveyances that transport wastewater to the treatment plant. This definition does not include pipes, sewers or other conveyances not connected to the wastewater treatment facility.

d. Superintendent

The "Superintendent," as defined by Title V, Chapter 55 of the Code of Ordinances for the City of Kokomo, refers to the wastewater system superintendent designated by the Board of Public Works and Safety to control the operation of the POTW, and who is charged with certain duties and responsibilities under that Chapter, or a duly authorized representative.

4. Test Procedure

Except where specified otherwise herein, EPA5 shall monitor the discharge using sampling and analytical methods that conform to 40 CFR 136, current version. Equivalent methods are allowable if EPA5 obtains prior written approval from the Superintendent.

5. Recording the Results

For each measurement or sample taken pursuant to the requirements of this IWDP, EPA5 shall record the following information:

a. The exact place, date, type and time of sampling;

b. The dates the analyses were performed;

c. The person(s) who performed the analyses;

d. The analytical techniques or methods used; and

e. The results of all required analyses.

f. Chain of custody

6. Additional Monitoring by Permittee

If EPA5 monitors any pollutant at the location(s) designated herein more frequently than required by this IWDP, using approved analytical methods as specified above, the results of such monitoring shall be included in the calculation and reporting of the values to the Superintendent in EPA5's monthly Discharge Monitoring Report. The date and time that the additional samples were collected must also be reported so that the increased frequency will be apparent during review of the DMR.

7. Records Retention

All records and information resulting from the monitoring activities required by this IWDP, including all records of analyses performed and calibration and maintenance of instrumentation and recording from continuous monitoring instrumentation, shall be retained for a minimum of three (3) years. The retention period shall be extended:

a. automatically during the course of any unresolved litigation regarding the discharge of pollutants by EPA5, or regarding promulgated effluent guidelines applicable to EPA5; or

b. as requested by the Superintendent.

8. Calibration of Instrumentation

The maximum time between each recalibration of instrumentation used to achieve compliance with this IWDP will not exceed one (1) calendar year.

G. SCHEDULE OF COMPLIANCE

1. General Requirements

EPA5 shall achieve compliance with the final effluent limitations (Effluent Limitations and Monitoring Requirements) as follows:

a. Performance of Determination

Within thirty (30) days from the effective date of this IWDP, EPA5 shall determine the method by which it intends to comply with the final effluent limitations.

b. Construction Not Required

If EPA5 determines that construction is not required to comply with the final limitations in this IWDP, the final effluent limitations will be enforceable beginning on the effective date of this IWDP.

c. Construction Required

(1) If EPA5 determines that construction will be required to achieve compliance with the final effluent limitations contained in Tables 1A through 1D of this IWDP, EPA5 shall notify the Superintendent in writing within forty-five (45) days of the effective date of this IWDP of the need for construction.

(2) Notwithstanding the need for construction, where such notification is not provided to the Superintendent, the final effluent limitations shall be enforceable beginning on the effective date of this IWDP.

(3) EPA5 is responsible for operating its wastewater treatment facility to achieve the maximum treatment level possible until the completion of the necessary construction.

(4) The Superintendent shall have the authority to implement "interim" discharge limitations enforceable during the period in which construction necessary to achieve compliance with the final discharge limitations continues.

(5) EPA5 shall submit an application for a construction permit to IDEM within (120) days from the effective date of this IWDP. The application shall include plans and specifications for complying with final discharge limitations. EPA5 shall provide a copy of the application and the construction permit to the Superintendent.

(6) Initiation of construction, if necessary, shall commence no later than thirty (30) days from the effective date of the construction permit issued by IDEM.

(7) Construction shall be completed within twelve (12) months from the initiation of construction.

2. Progress Reports

EPA5 shall submit a monthly progress report to the Superintendent concerning the status of construction and its ability to achieve compliance with the final discharge limitations of this IWDP. The required report shall be due every month by the 28th day of the month until compliance has been achieved. The first progress report must be submitted on the 28th day of the month following the initial notice required in Part I.G.1.c.(1) of this IWDP.

3. Exclusions

a. Compliance with Categorical Discharge Standards

(1) The POTW has determined that EPA5 is currently a non-categorical (refer to Part I.B of this IWDP). In the event that a subsequent determination results in a change in that status to that of a categorical discharger, this IWDP shall be modified to include categorical discharge limits. In that event, the provisions in paragraphs 1 and 2 above shall not apply to EPA5 concerning any applicable Categorical Discharge Limits included in future IWDP revisions to implement Pretreatment Standards for Existing Sources (PSES) or Pretreatment Standards for New Sources (PSNS) included in any Categorical Discharge Standard applicable to the EPA5 facility for which the final compliance deadlines occurred prior to the issuance of the revised IWDP.

(2) In the event that EPA5 becomes regulated under a newly promulgated industrial category, a modified categorical discharge standard, or qualify as a "New Source" as defined in 40 CFR Part 403.3(m)(1), the provisions in paragraphs 1 and 2 above shall apply.

b. Compliance with Local Discharge Limits

(1) Evaluation of the current nature of the EPA5 facility discharge demonstrates that Local Discharge Limitations contained in this IWDP are achievable without requiring construction.

(2) In the event of modification of MAILs or pollutant allocations that result in subsequent modification of Local Discharge Limitations and the inability of EPA5 to achieve compliance with Local Discharge Limitations without construction, the provisions in paragraphs 1 and 2 above shall apply.

H. REOPENING CLAUSE

1. This IWDP shall be modified, or, alternatively, revoked and reissued, to comply with any applicable effluent limitation or standard issued or approved under Section 307(b) of the Clean Water Act, if the effluent limitation or standard that is so issued or approved:

    a. Contains different conditions or is otherwise more restrictive (i.e., protective) than any effluent limitation in the IWDP; or

    b. Controls any pollutant not limited in the IWDP.

2. This IWDP may also be modified, revoked and reissued, or terminated, if there is a material or significant change in MAILs, pollutant allocations, or other factors used by the POTW to determine Local Discharge Limitations contained in this IWDP.

3. The IWDP, as modified or reissued under this paragraph, shall also contain any other requirements of the Clean Water Act then applicable.

PART II

A. MANAGEMENT REQUIREMENTS

1. Operator Certification

EPA5 shall have the industrial waste pretreatment facilities under the direct supervision of an operator certified by the Indiana Department of Environmental Management as required by IC 13-18-11; 327 IAC 5-22-5 and 327 IAC 5-22-7 through 327 IAC 5-22-10.

2. Facilities Operation

EPA5 shall at all times maintain in good working order and operate as efficiently as possible, all treatment or control facilities or systems installed or used by EPA5 to achieve compliance with the terms and conditions of this IWDP.

3. Adverse Impact

EPA5 shall take all reasonable steps to minimize any adverse impact to the POTW resulting from noncompliance with any effluent limitations specified in this IWDP, including such accelerated or additional monitoring necessary to determine the nature and impact of the non-complying discharge.

4. Containment Facilities

When cyanide or cyanogen compounds are used in any of the processes at this facility EPA5 shall provide approved facilities for the containment of any losses of these compounds in accordance with the requirements of 327 IAC 2-2.

5. Change in Discharge or Conditions

a. General

(1) All discharges authorized herein shall be consistent with the terms and conditions of this IWDP and in compliance with the City of Kokomo's Sewer Use and Wastewater Pretreatment Ordinance (Title V, Chapter 55 of the Code of Ordinances for the City of Kokomo).

(2) The discharge of any pollutant identified in this IWDP more frequently than, or at a level in excess of that authorized by this IWDP, shall constitute a violation of the IWDP.

(3) EPA5 shall comply with the requirements of Title V, Chapter 55, Section 194 of the Code of Ordinances for the City of Kokomo for any "significant change" to operations which might alter the nature, quality, or volume of the facility discharge as that term is therein defined.

b. Notification Requirement

Any anticipated facility expansions, production increases, process modifications, or other "significant change" which might alter the nature, quality, or volume of the facility discharge to the POTW must be reported in writing to the Superintendent at least 45 days prior to the anticipated change as required by Title V, Chapter 55, Section 194, Paragraph (C) of the Code of Ordinances for the City of Kokomo.

c. Action by the Superintendent

Following such notification, the Superintendent may take actions authorized under Title V, Chapter 55, Section 194, Paragraph (A) an (B) of the Code of Ordinances for the City of Kokomo. The Superintendent may also take any other appropriate action authorized by Title V, Chapter 55 of the Code of Ordinances for the City of Kokomo.

6. Reports of Potential Problems

a. General

EPA5 shall comply with the requirements of Title V, Chapter 55, Section 195 of the Code of Ordinances for the City of Kokomo which pertain to reports of potential problems.

b. Initial Notification

EPA5 shall immediately telephone and notify the Superintendent concerning any discharge that will cause, or has the potential to cause, problems or negative effects to the POTW.

(1) Such discharges include, but are not limited to, accidental discharges, discharges of a non-routine or episodic nature, non-customary batch discharges, or slug discharges.

(2) Such notifications shall include the location of the discharge, the type of waste, the concentration and volume (if known), and corrective actions taken by EPA5.

c. Follow-up Notification

EPA5 shall submit a written report to the Superintendent not later than five (05) days following the initial notice, unless the Superintendent waives the requirement to do so. The written report shall include a description of the cause(s) of the discharge and a description of the preventative measures EPA5 has implemented to reduce or eliminate the potential for similar future discharges.

d. Notification not an Exemption from Liability

Notifications provided under Part II.A.6.b and Part II.A.6.c of this IWDP shall not relieve EPA5 of any expense, loss, damage, or other liability which might be incurred as a result of damage to the POTW, natural resources, or any other damage to person or property; nor shall such notification relieve the user of any fines, penalties, or other liability which may be imposed pursuant to this chapter.

7. Noncompliance Notification

a. General

EPA5 must notify the Superintendent within twenty-four (24) hours after becoming aware of wastewater analyses that document any non-compliant condition or event; such as but not limited to exceedances of discharge limits, slug discharges, or other noncompliance with the requirements of Title V, Chapter 55 of the Code of Ordinances for the City of Kokomo.

b. Requirement for Repeat Analysis

EPA5 shall repeat the sampling and analysis and submit the results of the repeat analysis to the Superintendent within thirty (30) days after becoming aware of the non-compliance. EPA5 shall not be required to perform repeat sampling and analysis; provided that:

(1) The Superintendent monitors at EPA5's facility at least once per month; or

(2) If the Superintendent obtains samples at a point between EPA5's initial sampling event and the point when EPA5 receives the results of the initial sampling.

(3) If EPA5 obtains additional samples after the initial sample was obtained and prior to the 24-hour reporting deadline following receipt of the results of analysis for the initial sample (e.g., as part of regular sampling requirement per this IWDP).

c. Additional Required Information

In addition, EPA5 shall provide the Superintendent with the following information, along with the results of repeat analysis, in writing, within thirty (30) days after becoming aware of such condition:

(1) A description of the discharge and cause of noncompliance; and

(2) The period of noncompliance, including exact dates and times; or, if not corrected, the anticipated time and noncompliance is expected to continue, and steps being taken to reduce, eliminate, and prevent recurrence of the non-complying discharge.

8. Bypassing

a. General

"Bypassing" shall be defined as the diversion of a wastestream from any portion of a facility, where such facility is necessary to maintain compliance with the terms and conditions of this IWDP.

b. Prohibition

Any bypassing as herein defined is prohibited unless it meets one of the below-described exemptions from prohibition.

c. Exemptions from Prohibition

(1) In those cases where it would be unavoidable to prevent loss of life or severe property damage. "Severe property damage" means the substantial physical damage of property, damage to treatment facilities which would cause them to become inoperable, or substantial and permanent loss of natural resources which can reasonably be expected to occur in the absence of a bypass. **Severe property damage does not mean economic loss caused by delays in production.**

(2) Where there were no feasible alternatives to bypassing, such as the use of auxiliary treatment facilities, retention of untreated wastes, or scheduling/performing maintenance during normal periods of equipment downtime. **This exception is not applicable where adequate back-up equipment should have been installed in the exercise of reasonable engineering judgment to prevent bypassing during normal periods of equipment downtime or preventative maintenance.**

(3) Where excessive storm drainage or runoff would damage any facilities necessary for compliance with the effluent limitations and prohibitions of this IWDP.

d. Notification Requirements

The following notification requirements shall apply for anticipated and unanticipated bypassing:

(1) Anticipated Bypass Events

If EPA5 knows (or should have known) in advance of the need for bypassing, EPA5 shall provide written notification of the need for bypassing. This notification shall be provided at least ten days before the date of the anticipated bypass. If it is not possible to provide notification at least ten days in advance, EPA5 must immediately notify the Superintendent by telephone upon becoming aware of the need for bypassing.

(2) Unanticipated Bypass Events

EPA5 shall orally report any unanticipated bypassing as soon as possible, but in no case later than 24 hours after becoming aware of the bypass event. EPA5 shall also provide written report within five days of becoming aware of the unanticipated bypass event. The written report shall contain a description of the event and its cause; the duration of the event, including exact dates and times; the anticipated time it is expected to continue, if the bypass event has not been corrected; and the measures taken or planned to reduce, eliminate and prevent recurrence of the event.

e. POTW Approval

The Superintendent may approve an anticipated bypass event, after considering its adverse effects, if the Superintendent determines that it meets the exceptions outlined above. The Superintendent may impose any conditions determined to be necessary to minimize any adverse effects. **EPA5 shall not proceed with any anticipated bypass event until approval is received from the Superintendent.**

9. Removed Substances

Solids, sludges, filter backwash, or other pollutants removed from or resulting from treatment or control of wastewaters shall be disposed of in a manner such as to be in compliance with all Indiana statutory provisions and regulations relative to refuse, liquid and/or solid waste disposal.

10. Power Failures

When a power source is used to operate wastewater treatment facilities to maintain compliance with the effluent limitations and prohibitions of this IWDP, EPA5 shall either:

a. Provide an alternative power source sufficient to operate facilities utilized by EPA5 to maintain compliance with the effluent limitations and conditions of this IWDP; or

b. Upon the reduction, loss, or failure of one or more of the primary sources of power to facilities utilized by EPA5 to maintain compliance with the effluent limitations and conditions of this IWDP, EPA5 shall halt, reduce, or otherwise control production and/or discharge in order to maintain compliance with the effluent limitations and conditions of this IWDP.

11. Upset

a. For the purposes of this IWDP, "UPSET" means an exceptional incident in which there is unintentional and temporary noncompliance with categorical pretreatment standards because of factors beyond the reasonable control of EPA5.

b. As discussed in Part I.B of this IWDP, EPA5 is a non-categorical discharger. As such, EPA5 is not required to comply with numeric categorical pretreatment standards; therefore, the discharge from EPA5 does not have the potential to involve "temporary or unintentional noncompliance with categorical pretreatment standards" (i.e., Upset).

c. In the event that EPA5 should become subject to a categorical pretreatment standard in the future, this IWDP shall be revised to include detailed Upset provisions concerning establishment of an affirmative defense for situations involving "temporary or unintentional noncompliance with categorical pretreatment standards" caused by "factors beyond the reasonable control" of EPA5.

B. RESPONSIBILITIES

1. Right of Entry/Access to Records

Upon the presentation of the proper credentials, EPA5 shall allow the Wastewater Superintendent or the Wastewater Superintendent's authorized representatives:

a. To enter those parts of EPA5's premises related to the generation or treatment of wastes or wastewater, the location of an effluent source, or in which any records are required to be kept under the terms and conditions of this IWDP for the purposes of inspection, sampling, records examination and copying, and the performance of any additional duties necessary to determine whether EPA5 is in compliance with this IWDP, and any applicable Local, State and Federal Environmental Statutes, Laws, Ordinances, Codes or Regulations; and

b. At reasonable times to have access to and copy any records required to be kept under the terms or conditions of this IWDP and any applicable Local, State and Federal Environmental Statutes, Laws, Ordinances, Codes or Regulations. Where records or other information are not available for examination and/or copying at the time of inspection, EPA5 will provide these documents within a reasonable amount of time. The phrase "reasonable amount of time" shall mean within ten calendar days from the date they are requested, unless additional time is allowed by the Superintendent due to extenuating circumstances; and

c. To inspect any monitoring equipment or monitoring method required in this IWDP; and to sample any discharge of pollutants.

d. EPA5 shall otherwise comply with all requirements of Title V, Chapter 55, Section 215 of the Code of Ordinances for the City of Kokomo.

2. Transfer of Ownership or Control

In the event of any change in control or ownership of facilities from which the authorized discharge emanates, this IWDP may be transferred to new owner or operator provided that EPA5 gives at least 60 working days advance notice to the Superintendent and the Superintendent approves the IWDP transfer. The notice to the Superintendent must include a

written certification by the new owner/operator that meets the requirements of Title V, Chapter 55, Section 174 of the City Code. EPA5 shall notify the succeeding owner/controller of the existence of this IWDP by letter, a copy of which shall be forwarded to the Superintendent. **Failure to provide the Superintendent advance notice of a transfer renders this IWDP void as of the date of facility transfer.**

3. Penalties for False Reporting

Any person that knowingly makes any false material statement, representation, or certification in any application, record, report, plan, or other document filed or required to be maintained by this IWDP or knowingly falsifies, tampers with, or renders inaccurate any monitoring device or method required to be maintained by this IWDP may be subject to the provisions of IC 35-44-2-1 or other State or Federal criminal statutes.

When appropriate, matters involving possible violation of applicable criminal laws shall be referred to the Howard County Prosecutor for consideration regarding criminal prosecution. The City also reserves the right to report suspected criminal violations to the appropriate State or Federal enforcement agency for possible criminal prosecution.

4. Permit Modification

After notice and opportunity for hearing, this IWDP may be modified, suspended, or revoked, in whole or in part, during its term for cause including, but not limited to, the following:

a. Violation of any terms or conditions of this IWDP;

b. Obtaining this IWDP by misrepresentation or failure to disclose fully all relevant facts; or

c. A change in any condition that requires either a temporary or permanent reduction or elimination of the authorized discharge.

5. Toxic Pollutants

Notwithstanding Part II.B.4 above, if a toxic effluent pretreatment standard or prohibition (including any schedule of compliance specified in such effluent pretreatment standard or prohibition) is established under Section 307(b) of the Clean Water Act for a toxic pollutant which is present in the discharge and such standard or prohibition is more restrictive (i.e., protective) than any limitation for such pollutant in this IWDP, this IWDP shall be revised or modified in accordance with the toxic effluent pretreatment standard or prohibition and EPA5 so notified.

6. Civil and Criminal Liability

a. Except as provided in Part II.A.8 concerning 'Bypassing' and Part II.A.10 concerning 'Power Failures', nothing in this IWDP shall be construed to relieve EPA5 from civil or criminal penalties for non-compliance. This is true whether or not such non-compliance is due to factors beyond EPA5's control, such as accidents, equipment breakdowns, or labor disputes.

b. Any person that has violated, or continues to violate, any provision of Title V, Chapter 55 of the Code of Ordinances for the City of Kokomo, this IWDP, or order issued hereunder, or any other pretreatment standard or requirement, shall be liable to the City for civil penalties as provided by applicable Local, State and Federal Law.

c. Any person that willfully or negligently violates IWDP conditions or limitations implementing Sections 301, 302, 306, 307, 308, 318 or 405 of the Clean Water Act shall be reported to the appropriate State or Federal enforcement agency and be subject to criminal penalties or by imprisonment, or both.

d. When appropriate, matters involving possible violation of applicable criminal laws shall be referred to the Howard County Prosecutor for consideration regarding criminal prosecution.

7. Oil and Hazardous Substance Liability

Nothing in this IWDP shall be construed to preclude the institution of any legal action or relieve EPA5 from any responsibilities, liabilities, or penalties to which EPA5 is or may be subject.

8. Property Rights

The issuance of this IWDP does not convey any property rights in either real or personal property, or any exclusive privileges, nor does it authorize any injury to private property or any invasion of personal rights or infringement of Federal, State, or local laws or regulations.

9. Severability

a. If any provision of this IWDP is determined to be void or unenforceable by a court of competent jurisdiction, the remainder of the IWDP shall remain in full force and effect, as if the unenforceable provision had never been included.

b. If a court of competent jurisdiction determines that any possible construction or application of this IWDP is either contrary to Federal, State or Local Law, or is otherwise unenforceable; then ipso facto such constructions or applications shall be reformed to comply with such laws, ordinances or legal decisions.

10. Construction Permit

EPA5 shall not construct, install, or modify any water pollution control facilities without a valid construction permit issued by the Indiana Department of Environmental Management.

11. Employee Protections

a. General

Section 507 of the Act, as codified in 33 U.S.C. section 1251 et seq., provides that —No person shall fire, or in any other way discriminate against, or cause to be fired or discriminated against, any employee or any authorized representative of employees by reason of the fact that such employee or representative has filed, instituted, or caused to be filed or instituted any proceeding under this Act, or has testified or is about to testify in any proceeding resulting from the administration or enforcement of the provisions of this Act.

b. Protected Activity

In the implementation of the Control Authority's Delegated Pretreatment Program, the Control Authority implements those parts of the Act applicable to the National Pretreatment Program. Control Authority enforcement personnel regularly interact with Users and employees of Users covered by the requirements of the Act. Such employees are afforded protections from discrimination when they engage in protected activities such as but not limited to participation in compliance assurance activities conducted by Control Authority enforcement personnel.

c. Prohibition of Discriminatory Actions

EPA5 shall comply with Title V, Chapter 55, Section 315 of the Code of Ordinances for the City of Kokomo by ensuring that employees are not fired or in any other way suffer discriminatory or adverse action as a result of their participation in any form of protected activity defined by the Act or relevant case law concerning whistleblower protections.

d. Employee Notification Requirement

EPA5 shall further ensure compliance with the employee notification requirement of Title V, Chapter 55, Section 316 and Section 317(D) of the Code of Ordinances for the City of Kokomo. Failure to comply with this requirement shall constitute an enforceable offense under Title V, Chapter 55, Section 319 of the Code of Ordinances for the City of Kokomo. In the event of noncompliance with the notification requirement, the Superintendent will take appropriate enforcement action as provided in Title V, Chapter 55, Section 276 of the Code of Ordinances for the City of Kokomo.

e. Acceptable Notification

The Superintendent will accept the use of Department of Labor Fact Sheets #DEP FS-3668 or #DWPP FS-3785 as sufficient to meet the abovementioned notification requirements. These Fact Sheets are included in Appendix I of this IWDP.

TABLE 2
TOXIC ORGANICS

I. ETHERS

Ether, bis (2-chloroethlyl)
Ether, bis (2-chloroisopropyl)
Ether, 2-chloroethyl vinyl
Ether, 4-chlorophenyl phenyl
Ether, 4 bromophenyl phenyl
Bis (2-chloroethoxy) methane

II. PTHALATES

Pthalate, dimethyl; DMP
Pthalate, diethyl; DEP
Pthalate, di-n-butyl; DBP
Pthalate, di-n-octyl; DOP
Pthalate, bis (2-ethylhexyl); DEHP
Pthalate, butyl benzyl; BBP

III. NITROGEN COMPOUNDS

Nitrosamine, dimethyl-
Nitrosamine, diphenyl-
Nitrosamine, di-n-propyl-
Benzidine
Benzidine, 3,3'-dichloro-
Hydrazine, 1,2-diphenyl-
Acrylonitrile

IV. PHENOLS

Phenol
Phenol, 2-chloro-
Phenol, 2,4-dichloro-; 2,4-DCP
Phenol, 2,4,6-trichloro-
Phenol, pentachloro-; PCP
Phenol, 2-nitro-
Phenol, 4-nitro-
Phenol, 2,4-dinitro-; 2,4-DNP
Phenol, 2,4-dimethyl-
m-Cresol, p-chloro-

o-cresol, 4,6-dinitro-; DNOC

V. AROMATICS

Benzene
Benzene, chloro-
Benzene, 1,2-dichloro-
Benzene, 1,3-dichloro-
Benzene, 1,4-dichloro-
Benzene, 1,2,4-trichloro-
Benzene, hexachloro-; HCB
Benzene, ethyl-
Benzene, nitro-
Toluene
Toluene, 2,4-dinitro-; DNT
Toluene, 2,6-dintro-

VI. POLYNUCLEAR AROMATIC HYDROCARBONS (PAH's)

2-Chloronapthalene
Benzo (a) anthracene
Benzo (b) fluoranthene; B(b)F
Benzo (k) fluoranthene; B(k)F
Benzo (a) pyrene; B(a)P
Ideno (1,2,3 -- cd) pyrene; IP
Dibenzo (a,h) anthracene; DBA
Benzo (ghi) perylene
Acenaphthene
Acenaphtylene
Anthracene
Chrysene
Fluoranthene
Fluorene
Naphthalene
Phenanthrene
Pyrene

VII. PCB's

PCB-1016; Arochlor 1016
PCB-1221; Arochlor 1221
PCB-1232; Arochlor 1232
PCB-1242; Arochlor 1242
PCB-1248; Arochlor 1248
PCB-1254; Arochlor 1254
PCB-1260; Arochlor 1260

VIII. HALOGENATED HYDRO-CARBONS; HALOGENATED ALIPHATICS

Methane, chloro-; methyl chloride
Methane, dichloro-; methylene chloride
Methane, thrichloro-; chloroform
Methane, tetrachloro-; carbon tetrachloride
Methane, bromo-; methyl bromide
Methane, dichlorobromo-
Methane, chlorodibromo-
Methane, tribromo-; bromoform
Ethane, chloro-
Ethane, 1,1-dichloro-
Ethane, 1,2-dichloro-
Ethane, 1,1,1-trichloro-
Ethane, 1,1,2-trichloro-
Ethane, 1,1,2,2-tetrachloro-
Ethane, hexachloro-
Ethylene, chloro-; vinyl chloride
Ethylene, 1,1-dichloro-; 1,1-DCE
Ethylene, 1,2-trans-dichloro-
Ethylene, trichloro-; TCE
Ethylene, tetrachloro-; perchloroethylene
Propane, 1,2-dichloro-
Propylene, 1,3-dichloro-
Butadiene, hexachloro-; HCBD
Cyclopentadiene, hexachloro-; HCCPD

IX. PESTICIDES

alpha-Endosulfan
Endosulfan sulfate
beta-Endosufan
Hexachlorocyclohexanes:
alpha-BHC
beta-BHC
gamma-BHC
delta-BHC; Lindane
Aldrin; HHDN
Dieldrin; HEOD
4,4'-DDE
4,4'-DDT; p,p'-DDT
4,4'-DDD; p,p'-DDD; p,p'-TDE
Endrin
Endrin aldehyde
Heptachlor
Heptachlor epoxide
Chlordane
Toxaphene

X. OXYGENATED COMPOUNDS

Acrolein

XI. MISCELLANEOUS

Isophorone
2,3,7,8-tetrachlorodibenzo-p-dioxin; TCDD; dioxin

APPENDIX I

DEPARTMENT OF LABOR FACT SHEETS FOR EMPLOYEE PROTECTION NOTIFICATION REQUIREMENT

Appendix C
Preventative Maintenance and Periodic Inspections

APPENDIX C

Preventive Maintenance and Periodic Inspections

Preventive maintenance and periodic inspections shall include as a minimum, but are not limited to, the items identified below.

CONTINENTAL STEEL SUPERFUND SITE
OU1 GROUNDWATER TREATMENT SYSTEM
PREVENTIVE MAINTENANCE AND PERIODIC INSPECTION SCHEDULE

Maintenance/Inspection Activity	Frequency of Service			
	A	**SA**	**Q**	**M**
Submersible Pump Maintenance				
Troubleshooting/Maintenance	As needed			
Flow Meters				
Maintenance	As needed			
Inspect valve parts for damage/wear	X			
Motor Control Center/Electric Panels				
Inspect for damage or any malfunctioning parts	X			
Solar Panel/Wind Turbine				
Inspect for scratches, abrasions, cracks, pinholes, soft spots	X			

Appendix D
Forms for Monthly Maintenance Reporting

WEEKLY OBSERVATION REPORT

DATE: _____

SCHEDULE: _____ PROJECT NO: _____

LINE: _____

INSP: _____

Items of Work Completed	Extraction System	Remarks

Remarks:

Continental Steel Superfund Site
Groundwater Extraction Inspection Report Check List

Extraction System: West Markland Avenue (Lagoons Area)

Inspection Date: _____

Time Arrived: _____

Time Departed: _____

Weather	Sunny	Partly Cloudy	Overcast	Rain	Snow
Temperature	32° or below	33°–50°	51°–70°	71°–90°	
Winds	5–20 mph	20–40 mph	40–60 mph	60 and up	
Humidity	Dry	Medium	Humid		

Flow Rates

Flowmeter	Rate (gpm)	Totalizer (gal)
EW-1		
EW-2		
EW-3		
EW-4		
EW-5		
EW-6		
EW-7		

Inspection Performed By: _____

Title: _____

Company: _____

Additional Attendees: _____

Photos Taken: Yes ☐ No ☐

Site Conditions

Items to note:

	Yes	No
• Does the vegetation around the pump house require cutting?	☐	☐
Recommendations for Actions:		
• Are the pump house exteriors free of damage and are the doors closed and locked?	☐	☐
Recommendations for Actions:		
• Are there any signs of leaks?	☐	☐
Recommendations for Actions:		
• Is there any malfunctioning instrumentation?	☐	☐
Recommendations for Actions:		
• Other observations:	☐	☐
Recommendations for Actions:		

Report prepared by:

_____ _____

Date

Continental Steel Superfund Site
Groundwater Extraction Inspection Report Check List

Extraction System: Wildcat Creek Area (Park Street)

Inspection Date: _____

Time Arrived: _____

Time Departed: _____

Weather	Sunny	Partly Cloudy	Overcast	Rain	Snow
Temperature	32° or below	33°–50°	51°–70°	71°–90°	
Winds	5–20 mph	20–40 mph	40–60 mph	60 and up	
Humidity	Dry	Medium	Humid		

Flow Rates

Flowmeter	Rate (gpm)	Totalizer (gal)
EW-8		
EW-9		
EW-10		
EW-11		
EW-12		
EW-13		
EW-14		

Inspection Performed By: _____

Title: _____

Company: _____

Additional Attendees: _____

Photos Taken: Yes ☐ No ☐

Site Conditions

Items to note:

	Yes	No
• Does the vegetation around the pump house require cutting?	☐	☐
Recommendations for Actions:		
• Are the pump house exteriors free of damage and are the doors closed and locked?	☐	☐
Recommendations for Actions:		
• Are there any signs of leaks?	☐	☐
Recommendations for Actions:		
• Is there any malfunctioning instrumentation?	☐	☐
Recommendations for Actions:		
• Other observations:	☐	☐
Recommendations for Actions:		

Report prepared by:

_____ _____

Date

Continental Steel Superfund Site
Groundwater Extraction Inspection Report Check List

Extraction System: Markland Quarry Area

Inspection Date: _____

Time Arrived: _____

Time Departed: _____

Weather	Sunny	Partly Cloudy	Overcast	Rain	Snow
Temperature	32° or below	33°–50°	51°–70°	71°–90°	
Winds	5–20 mph	20–40 mph	40–60 mph	60 and up	
Humidity	Dry	Medium	Humid		

Flow Rates

Flowmeter	Rate (gpm)	Totalizer (gal)
EW-15		
EW-16		

Inspection Performed By: _____

Title: _____

Company: _____

Additional Attendees: _____

_____

Photos Taken: Yes ☐ No ☐

Site Conditions

Items to note:

	Yes	No
• Does the vegetation around the pump house require cutting?	☐	☐
Recommendations for Actions:		
• Are the pump house exteriors free of damage and are the doors closed and locked?	☐	☐
Recommendations for Actions:		
• Are there any signs of leaks?	☐	☐
Recommendations for Actions:		
• Is there any malfunctioning instrumentation?	☐	☐
Recommendations for Actions:		
• Other observations:	☐	☐
Recommendations for Actions:		

Report prepared by:

_____ _____

Date

INCIDENT / EMERGENCY REPORT

Revision: 01

Project: Project No.:

Individual Injured: SSN:

Date Injured: Time: a.m. p.m.

Date Reported: Last Day Worked:

Did Individual Return To Work? Date Returned:

Where Accident Occurred

Witnesses:

Work Performing
When Injured:

Kind And Extent of Injury:

Name of Doctor: Address:

Name of Hospital: Address:

Description of Accident:

Describe Damage to Equipment or Property:

Condition or Activity Causing Accident:

What Might Prevent a Similar Accident:

Additional Recommendations or Action:

Photo(s) Taken:

Project Manager

EMERGENCY PHONE NUMBERS

	Phone	Address	Contact	First Aid Trained
POLICE DEPARTMENT			*ATTN:*	
FIRE DEPARTMENT			*ATTN:*	
PARAMEDIC			*ATTN:*	
FIRE REPORT			*ATTN:*	
AMBULANCE SERVICE			*ATTN:*	
WATER DEPARTMENT			*ATTN:*	
GAS UTILITY			*ATTN:*	
ELECTRIC UTILITY			*ATTN:*	
TELEPHONE UTILITY			*ATTN:*	
LOCAL SANITARIAN			*ATTN:*	
HOSPITAL			*ATTN:*	
OWNER			*ATTN:*	
			ATTN:	
			ATTN:	
			ATTN:	
			ATTN:	

SPARE PARTS LIST

PROJECT: _____ PROJECT NO: _____

PREPARED BY: _____

Tag Number	Equipment Description	Quantity Available

WATER LEVEL MEASUREMENT LOG SHEET

PROJECT: _____ PROJECT NO: _____

PREPARED BY: _____

Well No.	Depth to Water	Depth of Well	Casing Elevation

EQUIPMENT MAINTENANCE AND CALIBRATION LOG

PROJECT: _____ PROJECT NO: _____

CONTRACTOR: _____ DATE: _____

Equipment Description	Serial No.	Date	Calibration or Maintenance Performed	Started	Tested	Comment

Appendix E
Applicable Publications and References

APPENDIX E

Applicable Publications and References

Publications and directives listed here must be complied with by the SUBCONTRACTOR during the duration of the contract.

A. *Operations and Maintenance Manual for Continental Steel Superfund Site, Operable Unit 1*. This document is located and available at the site office.

B. *Code of Federal Regulations*, 29 CFR 1910, Occupational Safety and Health Standards, (latest Edition).

C. *Code of Federal Regulations*, 29 CFR 1926, Safety and Health Regulations for Construction, (latest Edition).

D. American National Standards Institute, ANSI Z117, Safety Requirements for Confined Spaces (latest Edition).

Appendix F
POTW Discharge Permit and Reporting Form

INDUSTRIAL WASTEWATER PRETREATMENT DISCHARGE MONITORING REPORT (DMR)

Permittee: EPA - West Markland Avenue Lagoon (C2)
Discharge Point: #1
Discharge Period (month/year):

Regulated Parameter:		pH	Cyanide	TOG	FOG	TPH	BTEX	Chloroethene (vinyl chloride)	1, 1-Dichloroethene	1, 2 t-Dichloroethene	Trichloroethene	Tetrachloroethene	Phenol	TTO	MTBE	PAH
Sample Type:		Grab	Grab	Grab	Grab	Grab	Grab	Grab	Grab	Grab	Grab	Grab	Grab	Grab	Grab	Grab
Daily Maximum Limit:		6.0-10.0	0.0122	M&R	132	28	0.040 (total) 0.010 (per analyte)	0.172	0.060	0.066	0.328	0.236	6.6	2.13	0.030	0.050
Instantaneous Maximum Limit:		-	-	-	265	57	-	-	-	-	-	-	13.2	-	-	-
Monthly Average Limit:		-	-	-	-	-	-	0.097	0.022	0.025	0.230	0.165	-	-	-	0.020
Frequency:		Daily	Monthly	Monthly	Monthly	Monthly	Quarterly	Quarterly	Quarterly	Quarterly	Quarterly	Quarterly	SA	SA	N/A	N/A
Date	**Flow (GPD)**	s.u.'s	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
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30																
31																
Mo. Average:																
High Value:																
Low Value:																
Total Flow:																

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information submitted is, to the best of my knowledge and belief, true, accurate and complete. I am aware there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

Signature of Responsible Party & Title

Date

INDUSTRIAL WASTEWATER PRETREATMENT DISCHARGE MONITORING REPORT (DMR)

Permittee: EPA - West Markland Avenue Lagoon (C2)
Discharge Point: #1
Discharge Period (month year):

Regulated Parameter:	As	Cd	Cr	Cu	Pb	Hg	Ni	Se	Ag	Zn	Mo	Fluoride	T-Phos	CBOD	COD	TSS	NH3
Sample Type:	Comp	Comp	Comp	Comp	Comp	Comp	Comp	Comp	Comp	Comp	Comp	Comp	Comp	Comp	Comp	Comp	Comp
Daily Maximum Limit:	0.7079	0.0001	0.4816	0.1026	0.0352	0.0041	4.8699	0.0768	0.0001	0.0786	M&R	M&R	M&R	M&R	M&R	M&R	M&R
Frequency:	Monthly	Monthly	Monthly	Monthly	Monthly	Monthly	Monthly	Monthly	Monthly	Monthly	Monthly	Monthly	Monthly	Monthly	Monthly	Monthly	Monthly
Date	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
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31																	
Mo. Average:																	
High Value:																	
Low Value:																	

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information submitted is, to the best of my knowledge and belief, true, accurate and complete. I am aware there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

Signature of Responsible Party & Title

Date

INDUSTRIAL WASTEWATER PRETREATMENT DISCHARGE MONITORING REPORT (DMR)

Permittee: EPA - East Bank Wildcat Creek (C3)
Discharge Point: #2
Discharge Period (month/year):

Regulated Parameter:		pH	Cyanide	TOG	FOG	TPH	BTEX	Chloroethene (vinyl chloride)	1, 1-Dichloroethene	1, 2 t-Dichloroethene	Trichloroethene	Tetrachloroethene	Phenol	TTO	MTBE	PAH
Sample Type:		Grab	Grab	Grab	Grab	Grab	Grab	Grab	Grab	Grab	Grab	Grab	Grab	Grab	Grab	Grab
Daily Maximum Limit:		6.0-10.0	0.0496	M&R	132	28	0.040 (total) 0.010 (per analyte)	0.172	0.060	0.066	0.328	0.236	6.6	2.13	0.030	0.050
Instantaneous Maximum Limit:		-	-	-	265	57	-	-	-	-	-	-	-	-	-	-
Monthly Average Limit :		-	-	-	-	-	-	0.097	0.022	0.025	0.230	0.165	-	-	-	0.020
Frequency:		Daily	Monthly	Monthly	Monthly	Monthly	Quarterly	Quarterly	Quarterly	Quarterly	Quarterly	Quarterly	SA	SA	N/A	N/A
Date	**Flow (GPD)**	s.u.'s	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
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Signature of Responsible Party & Title

Date

INDUSTRIAL WASTEWATER PRETREATMENT DISCHARGE MONITORING REPORT (DMR)

Permittee: EPA - East Bank Wildcat Creek (C3)
Discharge Point: #2
Discharge Period (month/year):

Regulated Parameter:	As	Cd	Cr	Cu	Pb	Hg	Ni	Se	Ag	Zn	Mo	Fluoride	T-Phos	CBOD	COD	TSS	NH3
Sample Type:	Comp	Comp	Comp	Comp	Comp	Comp	Comp	Comp	Comp	Comp	Comp	Comp	Comp	Comp	Comp	Comp	Comp
Daily Maximum Limit:	0.3681	0.0001	0.2788	0.1026	0.0008	0.0001	0.3087	0.1025	0.0001	0.0786	M&R	M&R	M&R	M&R	M&R	M&R	M&R
Frequency:	Monthly	Monthly	Monthly	Monthly	Monthly	Monthly	Monthly	Monthly	Monthly	Monthly	Monthly	Monthly	Monthly	Monthly	Monthly	Monthly	Monthly
Date	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
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INDUSTRIAL WASTEWATER PRETREATMENT DISCHARGE MONITORING REPORT (DMR)

Permittee: EPA - Markland Quarry (C4)
Discharge Point: #3
Discharge Period (month/year):

Regulated Parameter:		pH	Cyanide	TOG	FOG	TPH	BTEX	Chloroethene (vinyl chloride)	1, 1-Dichloroethene	1, 2 t-Dichloroethene	Trichloroethene	Tetrachloroethene	Phenol	TTO	MTBE	PAH
Sample Type:		Grab	Grab	Grab	Grab	Grab	Grab	Grab	Grab	Grab	Grab	Grab	Grab	Grab	Grab	Grab
Daily Maximum Limit:		6.0-10.0	0.0199	M&R	132	28	0.040 (total) 0.010 (per analyte)	0.172	0.060	0.066	0.328	0.236	6.6	2.13	0.030	0.050
Instantaneous Maximum Limit:		-	-	-	265	57	-	-	-	-	-	-	13.2	-	-	-
Monthly Average Limit:		-	-	-	-	-	-	0.097	0.022	0.025	0.230	0.165	-	-	-	0.020
Frequency:		Daily	Monthly	Monthly	Monthly	Monthly	Quarterly	Quarterly	Quarterly	Quarterly	Quarterly	Quarterly	SA	SA	N/A	N/A
Date	**Flow (GPD)**	s.u.'s	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
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INDUSTRIAL WASTEWATER PRETREATMENT DISCHARGE MONITORING REPORT (DMR)

Permittee: EPA - Markland Quarry (C4)
Discharge Point: #3
Discharge Period (month/year):

Regulated Parameter:	As	Cd	Cr	Cu	Pb	Hg	Ni	Se	Ag	Zn	Mo	Fluoride	T-Phos	CBOD	COD	TSS	NH3
Sample Type:	Comp	Comp	Comp	Comp	Comp	Comp	Comp	Comp	Comp	Comp	Comp	Comp	Comp	Comp	Comp	Comp	Comp
Daily Maximum Limit:	0.0029	0.0030	0.3929	0.1026	1.1972	0.0020	0.5711	0.2945	0.0001	3.0822	M&R	M&R	M&R	M&R	M&R	M&R	M&R
Frequency:	Monthly	Monthly	Monthly	Monthly	Monthly	Monthly	Monthly	Monthly	Monthly	Monthly	Monthly	Monthly	Monthly	Monthly	Monthly	Monthly	Monthly
Date	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
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INDUSTRIAL WASTEWATER PRETREATMENT DISCHARGE MONITORING REPORT (DMR)

Permittee: EPA - Pete's Run (C5)
Discharge Point: #4
Discharge Period (month/year):

Regulated Parameter:		pH	Cyanide	TOG	FOG	TPH	BTEX	Chloroethene (vinyl chloride)	1, 1-Dichloroethene	1, 2 t-Dichloroethene	Trichloroethene	Tetrachloroethene	Phenol	TTO	MTBE	PAH
Sample Type:		Grab	Grab	Grab	Grab	Grab	Grab	Grab	Grab	Grab	Grab	Grab	Grab	Grab	Grab	Grab
Daily Maximum Limit:		6.0-10.0	0.0199	M&R	132	28	0.040 (total) 0.010 (per analyte)	0.172	0.060	0.066	0.328	0.236	6.6	2.13	0.030	0.050
Instantaneous Maximum Limit:		-	-	-	265	57	-	-	-	-	-	-	13.2	-	-	-
Monthly Average Limit:		-	-	-	-	-	-	0.097	0.022	0.025	0.230	0.165	-	-	-	0.020
Frequency:		Daily	Monthly	Monthly	Monthly	Monthly	Quarterly	Quarterly	Quarterly	Quarterly	Quarterly	Quarterly	SA	SA	N/A	N/A
Date	Flow (GPD)	s.u.'s	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
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INDUSTRIAL WASTEWATER PRETREATMENT DISCHARGE MONITORING REPORT (DMR)

Permittee: EPA - Pete's Run (C5)
Discharge Point: #4
Discharge Period (month/year):

Regulated Parameter:	As	Cd	Cr	Cu	Pb	Hg	Ni	Se	Ag	Zn	Mo	Fluoride	T-Phos	CBOD	COD	TSS	NH3
Sample Type:	Comp	Comp	Comp	Comp	Comp	Comp	Comp	Comp	Comp	Comp	Comp	Comp	Comp	Comp	Comp	Comp	Comp
Daily Maximum Limit:	0.0029	0.0001	0.0011	0.1026	0.0102	0.0001	0.1389	0.3586	0.0001	0.7860	M&R	M&R	M&R	M&R	M&R	M&R	M&R
Frequency:	Monthly	Monthly	Monthly	Monthly	Monthly	Monthly	Monthly	Monthly	Monthly	Monthly	Monthly	Monthly	Monthly	Monthly	Monthly	Monthly	Monthly
Date	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
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Appendix G
Activity Hazard Analysis for Startup

ACTIVITY HAZARD ANALYSIS

Activity/Work Task: **Startup Procedures for Ground Water Extraction System**	Overall Risk Assessment Code (RAC) (Use highest code)	Rev.0	
Project Location: **Continental Steel Superfund Site**	**Risk Assessment Code (RAC) Matrix**		
Contract Number:	**Severity**	**Probability**	
Date Prepared**:**		Frequent / Likely / Occasional / Seldom / Unlikely	
Prepared by (Name/Title):	Catastrophic	E / E / H / H / M	
	Critical	E / H / H / M / L	
Reviewed by (Name/Title):	Marginal	H / M / M / L / L	
	Negligible	M / L / L / L / L	
Notes: (Field Notes, Review Comments, etc.)	Step 1: Review each **"Hazard"** with identified safety **"Controls"** and determine RAC (See above)		
	"Probability" is the likelihood to cause an incident, near miss, or accident and identified as: Frequent, Likely, Occasional, Seldom or Unlikely.	**RAC Chart**	
	"Severity" is the outcome/degree if an incident, near miss, or accident did occur and identified as: Catastrophic, Critical, Marginal, or Negligible	**E = Extremely High Risk**	
		H = High Risk	
	Step 2: Identify the RAC (Probability/Severity) as E, H, M, or L for each "Hazard" on AHA. Annotate the overall highest RAC at the top of AHA.	**M = Moderate Risk**	
		L = Low Risk	

Work Activity Sequence (Identify the principal steps involved and the sequence of work activities)	**Potential Health and Safety Hazards** (Analyze each principal step for potential hazards)	**Hazard Controls** (Develop specific controls for each potential hazard)	**RAC**
Complete HSP, AHA review	Safety hazards may have developed at the site since the pervious time workers were at the site. High noise levels are a potential safety hazard during operation of equipment.	• Wear proper PPE as specified in AHA including safety glasses with side shields, hard hat, hearing protection, safety boots, work gloves, and high visibility vest	L
Pre Start Procedures	Orientation to work area General Site Requirements	• PTSP & AHA Review • Hard Hat • Safety Glasses • Safety Toe Boots • High Vis Vest	L
Circuit Breaker Panel	Electric Shock	• Check for proper grounding and that the main breaker is in the off position.	M

Work Activity Sequence (Identify the principal steps involved and the sequence of work activities)	Potential Health and Safety Hazards (Analyze each principal step for potential hazards)	Hazard Controls (Develop specific controls for each potential hazard)	RAC
		• Set all breakers to the off position	
CU 300		• Cover should be closed and on/off light should not be operational.	L
Magnetic Flowmeter		• Digital screen display should be clear of any information.	L
Sample Check Valves	Pinch points	• Keep hands fingers out of line of pinch points. • Wear gloves	L
	Slips	• Maintain clear work area and dry up any water that gets on the floor during check • Clean as you work – minimize debris in work area.	L
	Chemical hazard	• Avoid contact with eyes and skin – wear gloves and eye protection.	L
Start Up Procedures	Electric Shock	• Turn on main circuit breaker in breaker panel box located at the top of the box. • Turn on equipment breakers from left to right. (Note)Turn the pump breakers on last. • Wind turbines will release the breaking mechanism system once the power supply is cut on. • The turbines are designed to generate power when the wind is flowing from 6 mph up to 35 mph.	M
Magnetic Flowmeter		• Follow user's manual for system configuration. Note: At the Quarry Site the flow meter pipe setting is to be placed at 2.75 or 2 3/4" nominal size for meter to read correctly. If flow meter starts to read high try adjusting the pipe setting down towards the 2" pipe setting for correction.	L
Variable Frequency Drive		• Follow user's manual for system configuration.	L
CU 300		• Push LED ON/OFF switches to the on position and the pumps will start to function.	L

Work Activity Sequence (Identify the principal steps involved and the sequence of work activities)	Potential Health and Safety Hazards (Analyze each principal step for potential hazards)	Hazard Controls (Develop specific controls for each potential hazard)	RAC
Skystream 3.7 Wind Turbine		• At the base of the Skystream system pull the handle on the power box up to the on position. • Inside the pump house move the breaker to the on position	L
Pump Station and Pump Locations			
Lagoon Pump Station Wildcat Creek Pump Station Quarry Pump Station		• 1803 W Markland Avenue. Across the street south of the vegetable market and correctional Facility. • There are seven pumps west of the pump station in this location EW-1 is the furthest and EW-7 is the closest. • 1310 W Park Avenue. North of Markland Avenue approximately ¼ mile • There are seven pumps north of the pump station five are on the site and two are across the street inside the Haynes property. The two pumps inside the gate are on the west end of the property. To get to EW-13 & EW-14 you must contact Haynes for access. • 800 W Markland Avenue. This pump station actually sits on Brandon Street. • There are two pumps southeast of the pump station on the south side of the Quarry. Pumps are EW-16 & EW-15 with EW-16 being the closer of the two. • EW-15 is the Variable Frequency Drive pump or VFD. • (NOTE)If it is determined that this pump has failed and needs to be replaced it is very heavy and best lifted with some type of machine.	

Equipment to be used (List equipment to be used in the work activity)	Inspection Requirements (List inspection requirements for the work activity)	Training Requirements (List training requirements including hazard communication)
Emergency Shut Off		
CU 300		• Turn off ON/OFF LED switch. • Flip circuit breaker to off position
Magnetic Flowmeter		• Flip circuit breaker to off position
Variable Frequency Drive		• Flip circuit breaker to off position
Skystream 3.7 Wind Turbine		• At the base of the Skystream system push the handle on the power box to the off position. • Inside the pump house move the breaker to the off position

	PRINT	SIGNATURE	
Supervisor Name:			**Date/Time:**
Safety Officer Name:			**Date/Time:**
Employee Name(s):			**Date/Time:**
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