GIS REGISTRY
Cover Sheet

May, 2009
(RR 5367)

Source Property Information

CLOSURE DATE: Oct 5, 2009

BRRTS #: 02-41-553522

FID #: 341173140

ACTIVITY NAME: South 51st Street Right-of-Way

DATCP #:

PROPERTY ADDRESS: From West Puetz Road to 300 feet North of West Cardinal Lane

COMM #:

MUNICIPALITY: Franklin, WI 53132

PARCEL ID #: Right-of-Way

***WTM COORDINATES:**

X: 684931 Y: 269813

** Coordinates are in WTM83, NAD83 (1991)*

WTM COORDINATES REPRESENT:

○ Approximate Center Of Contaminant Source

◉ Approximate Source Parcel Center

Please check as appropriate: (BRRTS Action Code)

Contaminated Media:

☐ Groundwater Contamination > ES *(236)*

- ☐ Contamination in ROW
- ☐ Off-Source Contamination

*(**note:** for list of off-source properties see "Impacted Off-Source Property")*

☒ Soil Contamination > *RCL or **SSRCL *(232)*

- ☒ Contamination in ROW
- ☐ Off-Source Contamination

*(**note:** for list of off-source properties see "Impacted Off-Source Property")*

Land Use Controls:

☐ N/A (*Not Applicable*)

☐ Soil: maintain industrial zoning *(220)*

*(**note:** soil contamination concentrations between non-industrial and industrial levels)*

☐ Structural Impediment *(224)*

☐ Site Specific Condition *(228)*

☒ Cover or Barrier *(222)*

*(**note:** maintenance plan for groundwater or direct contact)*

☐ Vapor Mitigation *(226)*

☐ Maintain Liability Exemption *(230)*

*(**note:** local government or economic development corporation)*

Monitoring Wells:

Are all monitoring wells properly abandoned per NR 141? *(234)*

○ Yes ○ No ◉ N/A

** Residual Contaminant Level*
***Site Specific Residual Contaminant Level*

GIS Registry Checklist

This Adobe Fillable form is intended to provide a list of information that is required for evaluation for case closure. It is to be used in conjunction with Form 4400-202, Case Closure Request. The closure of a case means that the Department has determined that no further response is required at that time based on the information that has been submitted to the Department.

NOTICE: Completion of this form is mandatory for applications for case closure pursuant to ch. 292, Wis. Stats. and ch. NR 726, Wis. Adm. Code, including cases closed under ch. NR 746 and ch. NR 726. The Department will not consider, or act upon your application, unless all applicable sections are completed on this form and the closure fee and any other applicable fees, required under ch. NR 749, Wis. Adm. Code, Table 1 are included. It is not the Department's intention to use any personally identifiable information from this form for any purpose other than reviewing closure requests and determining the need for additional response action. The Department may provide this information to requesters as required by Wisconsin's Open Records law [ss. 19.31 - 19.39, Wis. Stats.].

BRRTS #: 02-41-553522 PARCEL ID #:

ACTIVITY NAME: S 51ST ST ROW FRM W PUETZ RD TO 300 FT N OF WTM COORDINATES: X: Y:

CLOSURE DOCUMENTS (the Department adds these items to the final GIS packet for posting on the Registry)

- [x] **Closure Letter**
- [x] **Maintenance Plan** (*if activity is closed with a land use limitation or condition (land use control) under s. 292.12, Wis. Stats.*)
- [ ] **Conditional Closure Letter**
- [ ] **Certificate of Completion (COC)** for VPLE sites

SOURCE LEGAL DOCUMENTS

- [ ] **Deed:** The most recent deed as well as legal descriptions, for the **Source Property** (where the contamination originated). Deeds for other, off-source (off-site) properties are located in the **Notification** section.
  Note: *If a property has been purchased with a land contract and the purchaser has not yet received a deed, a copy of the land contract which includes the legal description shall be submitted instead of the most recent deed. If the property has been inherited, written documentation of the property transfer should be submitted along with the most recent deed.*
- [ ] **Certified Survey Map:** A copy of the certified survey map or the relevant section of the recorded plat map *for those properties where the legal description in the most recent deed refers to a certified survey map or a recorded plat map.* (lots on subdivided or platted property (e.g. lot 2 of xyz subdivision)).

  Figure #: **Title:**
- [ ] **Signed Statement:** A statement signed by the Responsible Party (RP), which states that he or she believes that the attached legal description accurately describes the correct contaminated property.

MAPS (meeting the visual aid requirements of s. NR 716.15(2)(h))

Maps must be no larger than 8.5 x 14 inches unless the map is submitted electronically.

- [x] **Location Map:** A map outlining all properties within the contaminated site boundaries on a U.S.G.S. topographic map or plat map in sufficient detail to permit easy location of all parcels. If groundwater standards are exceeded, include the location of all potable wells within 1200 feet of the site.
  Note: *Due to security reasons municipal wells are not identified on GIS Packet maps. However, the locations of these municipal wells must be identified on Case Closure Request maps.*

  Figure #: 1 **Title: Site Location Map**
- [x] **Detailed Site Map:** A map that shows all relevant features (buildings, roads, individual property boundaries, contaminant sources, utility lines, monitoring wells and potable wells) within the contaminated area. This map is to show the location of all contaminated public streets, and highway and railroad rights-of-way in relation to the source property and in relation to the boundaries of groundwater contamination exceeding a ch. NR 140 Enforcement Standard (ES), and/or in relation to the boundaries of soil contamination exceeding a Residual Contaminant Level (RCL) or a Site Specific Residual Contaminant Levels (SSRCL) as determined under s. NR 720.09, 720.11 and 720.19.

  Figure #: 2 **Title: Site Plan Map**
- [x] **Soil Contamination Contour Map:** For sites closing with residual soil contamination, <u>this map is to show the location of all contaminated soil and a single contour</u> showing the horizontal extent of each area of contiguous residual soil contamination that exceeds a Residual Contaminant Level (RCL) or a Site Specific Residual Contaminant Level (SSRCL)as determined under s. NR 720.09, 720.11 and 720.19.

  Figure #: 1 **Title: Soil Quality Map**

BRRTS #: 02-41-553522 ACTIVITY NAME: S 51ST ST ROW FRM W PUETZ RD TO 300 FT N OF

MAPS (continued)

☒ **Geologic Cross-Section Map:** A map showing the source location and vertical extent of residual soil contamination exceeding a Residual Contaminant Level (RCL) or a Site Specific Residual Contaminant Level (SSRCL). If groundwater contamination exceeds a ch. NR 140 Enforcement Standard (ES) when closure is requested, show the source location and vertical extent, water table and piezometric elevations, and locations and elevations of geologic units, bedrock and confining units, if any.

Figure #: 3 **Title: Cross Section**

Figure #: **Title:**

☐ **Groundwater Isoconcentration Map:** For sites closing with residual groundwater contamination, this map shows the horizontal extent of all groundwater contamination exceeding a ch. NR140 Preventive Action Limit (PAL) and an Enforcement Standard (ES). Indicate the direction and date of groundwater flow, based on the most recent sampling data.
Note: *This is intended to show the total area of contaminated groundwater.*

Figure #: **Title:**

☐ **Groundwater Flow Direction Map:** A map that represents groundwater movement at the site. If the flow direction varies by more then 20° over the history of the site, submit 2 groundwater flow maps showing the maximum variation in flow direction.

Figure #: **Title:**

Figure #: **Title:**

TABLES (meeting the requirements of s. NR 716.15(2)(h)(3))

Tables must be no larger than 8.5 x 14 inches unless the table is submitted electronically. Tables must not contain shading and/or cross-hatching. The use of **BOLD** or *ITALICS* is acceptable.

☒ **Soil Analytical Table:** A table showing remaining soil contamination with analytical results and collection dates.
Note: This is one table of results for the contaminants of concern. Contaminants of concern are those that were found during the site investigation, that remain after remediation. It may be necessary to create a new table to meet this requirement.

Table #: 1 **Title: Soil Analytical Results**

☐ **Groundwater Analytical Table:** Table(s) that show the most recent analytical results and collection dates, for all monitoring wells and any potable wells for which samples have been collected.

Table #: **Title:**

☐ **Water Level Elevations:** Table(s) that show the previous four (at minimum) water level elevation measurements/dates from all monitoring wells. If present, free product is to be noted on the table.

Table #: **Title:**

IMPROPERLY ABANDONED MONITORING WELLS

For each monitoring well not properly abandoned according to requirements of s. NR 141.25 include the following documents.
Note: *If the site is being listed on the GIS Registry for only an improperly abandoned monitoring well you will only need to submit the documents in this section for the GIS Registry Packet.*

☒ **Not Applicable**

☐ **Site Location Map:** A map showing all surveyed monitoring wells with specific identification of the monitoring wells which have not been properly abandoned.
Note: *If the applicable monitoring wells are distinctly identified on the Detailed Site Map this Site Location Map is not needed.*

Figure #: **Title:**

☐ **Well Construction Report:** Form 4440-113A for the applicable monitoring wells.

☐ **Deed:** The most recent deed as well as legal descriptions for each property where a monitoring well was not properly abandoned.

☐ **Notification Letter:** Copy of the notification letter to the affected property owner(s).

BRRTS #: 02-41-553522 ACTIVITY NAME: S 51ST ST ROW FRM W PUETZ RD TO 300 FT N OF

NOTIFICATIONS

Source Property

☐ **Letter To Current Source Property Owner:** If the source property is owned by someone other than the person who is applying for case closure, include a copy of the letter notifying the current owner of the source property that case closure has been requested.

☐ **Return Receipt/Signature Confirmation:** Written proof of date on which confirmation was received for notifying current source property owner.

Off-Source Property

Group the following information per individual property and label each group according to alphabetic listing on the "Impacted Off-Source Property" attachment.

☐ **Letter To "Off-Source" Property Owners:** Copies of all letters sent by the Responsible Party (RP) to owners of properties with groundwater exceeding an Enforcement Standard (ES), and to owners of properties that will be affected by a land use control under s. 292.12, Wis. Stats.
Note: *Letters sent to off-source properties regarding residual contamination must contain standard provisions in Appendix A of ch. NR 726.*

Number of "Off-Source" Letters:

☐ **Return Receipt/Signature Confirmation:** Written proof of date on which confirmation was received for notifying any off-source property owner.

☐ **Deed of "Off-Source" Property:** The most recent deed(s) as well as legal descriptions, for all affected deeded **off-source property(ies).** This does not apply to right-of-ways.
Note: *If a property has been purchased with a land contract and the purchaser has not yet received a deed, a copy of the land contract which includes the legal description shall be submitted instead of the most recent deed. If the property has been inherited, written documentation of the property transfer should be submitted along with the most recent deed.*

☐ **Letter To "Governmental Unit/Right-Of-Way" Owners:** Copies of all letters sent by the Responsible Party (RP) to a city, village, municipality, state agency or any other entity responsible for maintenance of a public street, highway, or railroad right-of-way, within or partially within the contaminated area, for contamination exceeding a groundwater Enforcement Standard (ES) and/or soil exceeding a Residual Contaminant Level (RCL) or a Site Specific Residual Contaminant Level (SSRCL).

Number of "Governmental Unit/Right-Of-Way Owner" Letters:

State of Wisconsin \ DEPARTMENT OF NATURAL RESOURCES

Jim Doyle, Governor
Matthew J. Frank, Secretary
Gloria L. McCutcheon, Regional Director

Southeast Region Headquarters
2300 N. Dr. Martin Luther King, Jr. Drive
Milwaukee, Wisconsin 53212-0436
Telephone 414-263-8500
FAX 414-263-8606
TTY 711

October 5, 2009

Mr. John Bennett
City of Franklin
9229 West Loomis Road
Franklin, WI 53132

Subject: Final Case Closure with Land Use Limitations or Conditions
S. 51st St. Right-of-Way, From W. Puetz Rd. to 300 ft. North of West Cardinal Lane
Franklin, Wisconsin 53132
FID #: 341173140; BRRTS #: 02-41-553522

Dear Mr. Bennett:

The Department of Natural Resources (Department) has completed the review of the request for closure of the case described above. The Department reviews environmental remediation cases for compliance with state rules and statutes to maintain consistency in the closure of these cases. Information submitted to the Department for the closure request includes: soil documents for GIS registry; and cap maintenance plan regarding residual polyaromatic hydrocarbon compounds (PAHs) impacted soils that remain on the right-of-way of the subject property.

Based on the correspondence and data provided in the case file, it appears that your case meets the requirements of ch. NR 726, Wisconsin Administrative Code. The Department considers this case closed and no further investigation or remediation is required at this time.

Please be aware that pursuant to s. 292.12 Wis. Stats., compliance with the requirements of this letter is a responsibility to which you and any subsequent property owners must adhere. If these requirements are not followed or if additional information regarding site conditions indicates that contamination on or from the site poses a threat to public health, safety, welfare, or the environment, the Department may take enforcement action under s. 292.11 Wis. Stats., to ensure compliance with the specified requirements, limitations or other conditions related to the property or this case may be reopened pursuant to s. NR 726.09, Wis. Adm. Code. It is the Department's intent to conduct inspections in the future to ensure that the conditions included in this letter including compliance with referenced maintenance plans are met.

Impervious Barrier Required

Pursuant to s. 292.12(2)(a), Wis. Stats., the paved surfaces; or other impervious cap that currently exists in the location shown on the attached map **(Figure 1: Soil Quality Map, South 51st St. Right-of-Way from W. Puetz Rd. to 300 feet N. of W. Cardinal Ln. Franklin, WI)** shall be maintained in compliance with the attached maintenance plan in order to limit precipitation infiltration into the subsurface and prevent direct contact with residual soil contamination that might otherwise pose a threat to human health. If soil in the specific location(s) described above is excavated in the future, the property owner at the time of excavation must sample and analyze the excavated soil to determine if residual contamination remains.

If sampling confirms that contamination is present the property owner at the time of excavation will need to determine whether the material would be considered solid or hazardous waste and ensure that any storage, treatment or disposal is in compliance with applicable statutes and rules. In addition, all current and future owners and occupants of the property need to be aware that excavation of the contaminated soil may pose an inhalation or other direct contact hazard and as a result special precautions may need to be taken during excavation activities to prevent a health threat to humans.

The following activities are prohibited on any portion of the above described impervious barrier area of the property where pavement, a building foundation, soil cover, engineered cap or other barrier is required as shown on the attached map *(Figure 1: Soil Quality Map, S. 51st Street Right-of- Way, From W. Puetz Rd…. Franklin, WI.)* ***unless prior written approval has been obtained from the Wisconsin Department of Natural Resources: 1) removal of the existing barrier; 2) replacement with another barrier; 3) excavating or grading of the land surface; 4) filling on capped or paved areas; 5) plowing for agricultural cultivation; or 6) construction or placement of a building or other structure.***

In addition, depending on site-specific conditions, construction over contaminated materials may result in vapor migration into enclosed structures or migration along newly placed underground utility lines. The potential for vapor inhalation and mitigation should be evaluated when planning any future redevelopment, and measures should be taken to ensure the continued protection of public health, safety, welfare and the environment at the site.

Your site will be listed on the DNR Remediation and Redevelopment GIS Registry of Closed Remediation Sites. Information that was submitted with your closure request application will be included on the GIS Registry. To review the sites on the GIS Registry web page, visit http://dnr.wi.gov/org/aw/rr/gis/index.htm. If your property is listed on the GIS Registry because of remaining contamination and you intend to construct or reconstruct a well, you will need prior Department approval in accordance with s. NR 812.09(4)(w), Wis. Adm. Code. To obtain approval, Form 3300-254 needs to be completed and submitted to the DNR Drinking and Groundwater program's regional water supply specialist. This form can be obtained on-line http://www.dnr.state.wi.us/org/water/dwg/3300254.pdf or at the web address listed above.

The Department appreciates your efforts to restore the environment at this site. If you have any questions regarding this closure decision, please contact Eric Amadi at (414) 263-8639.

Sincerely,

James A. Schmidt

James A. Schmidt
Southeast Region Remediation & Redevelopment Team Supervisor

cc: Stephen Meer - Sigma Environmental Services, Inc / SER Case File #: 02-41-553522

Attachments: Maintenance Plan and Figure 1: Soil Quality Map, S. 51st St. ROW, Franklin, WI.

BARRIER OPERATION AND MAINTENACNE PLAN
S. 51st STREET RIGHT-OF-WAY from W. PUETZ ROAD TO
300 FEET NORTH OF W. CARDINAL LANE
FRANKLIN, WISCONSIN
JUNE 2009

BRRTS#: 02-41-553522

In accordance with Ch. NR 724.13(2), Wis. Admin. Code, this Barrier Operation and Maintenance Plan (BOMP) is designed to limit direct contact with and limit infiltration of surface precipitation to the known residual soil contamination as shown in Figure 1. Site investigation activities at the site have shown shallow fill/soil at the site to contain relatively low-level polynuclear aromatic hydrocarbons (PAHs) at concentrations greater than Interim Guidance Residual Contaminant Levels. The asphalt or concrete pavement, or any replacement barrier, will function as intended unless disturbed.

Disturbance Management. The site owner shall take the following steps to assure that uncontrolled disturbances of the barrier do not occur:

- A copy of this BOMP will be available on-site from the property owner to all interested parties.
- A copy of this BOMP will be provided to all private utilities seeking easements for the purpose of installing facilities on the property.
- A copy of this BOMP will be provided to all contractors and repair workers during any intrusive subsurface work on this portion of the property.
- On-site personnel employed by future property owners will be made familiar with the contents and restriction requirements of this BOMP.

Inspections of Barrier. Inspections will be required to assure that the barrier is functioning as intended:

- Annual inspections of the constructed surfaces will be performed by authorized personnel from the site owner, and will include observations about the integrity of the constructed surfaces in the vicinity of the residual soil impacts. Inspections will be compared to the previous inspection notes to monitor the relative condition of the constructed surface.
- As necessary, the engineered barriers will be repaired to maintain integrity. Repairs may include, but are not limited to, patching or replacing the pavement where it has degraded or otherwise broken.

- An inspection log will be maintained on-site to record any disturbances of the barrier and the steps that have been taken to repair and maintain the integrity of the barrier. The inspection log will be made available for inspection by representatives of the Wisconsin Department of Natural Resources, its successors and/or other state or municipal agency upon reasonable prior request. The on-site inspection log will be maintained as long as inspection and maintenance of the barrier is required. A copy of the log is attached hereto.

Planned Breaches of Barrier. In the event that a planned breach of the barrier is required, the following precautions shall be taken:

- The site owner shall be given 48-hour notice of any planned breach.

- During breaches of the barrier, if material is excavated from beneath the barrier, the excavated material will be periodically screened for the presence of volatile organic vapors using a photo-ionization detector (PID), organic vapor monitor (OVM), or other comparable instrument. If an unexpected soil condition is observed during excavation activities (e.g. PID readings exceeding 10 ppm, obvious volatile organic compound (VOC) odor, free product in soil, or drums) the impacted soil should be sampled and disposed of at a licensed landfill facility in accordance with applicable solid and hazardous waste rules and regulations.

- Any material excavated from beneath the barrier that does not contain unexpected conditions as described above may be returned to the excavation prior to the restoration of the barrier. The excavation zone and any soils excavated will be secured from public access until the barrier is restored. While on-site, the excavated soil will be placed on an impervious surface (e.g., existing concrete and/or plastic) and covered with plastic. Soil that cannot be returned to the excavation will be sampled and disposed of at a licensed landfill facility in accordance with applicable solid and hazardous waste rules and regulations. All contaminated soils that are stored, treated, excavated, removed, or transported off-site shall be managed per procedures and reporting requirements set forth in ch. NR 500, Wisconsin Administrative Code.

- The barrier will be restored to meet original conditions. This work, including the proper disposal of excess soils, should be completed within 72 hours following the completion of any on-site work, or as soon as reasonably practical.

- Details of the barrier breach, the handling of excavated soils, individuals responsible for the work, and the restoration of the barrier shall be recorded in the barrier maintenance log.

- This BOMP can be amended or withdrawn by the property owner or successors with the written approval of the Wisconsin Department of Natural Resources.

Contact Information.

Responsible party contact:

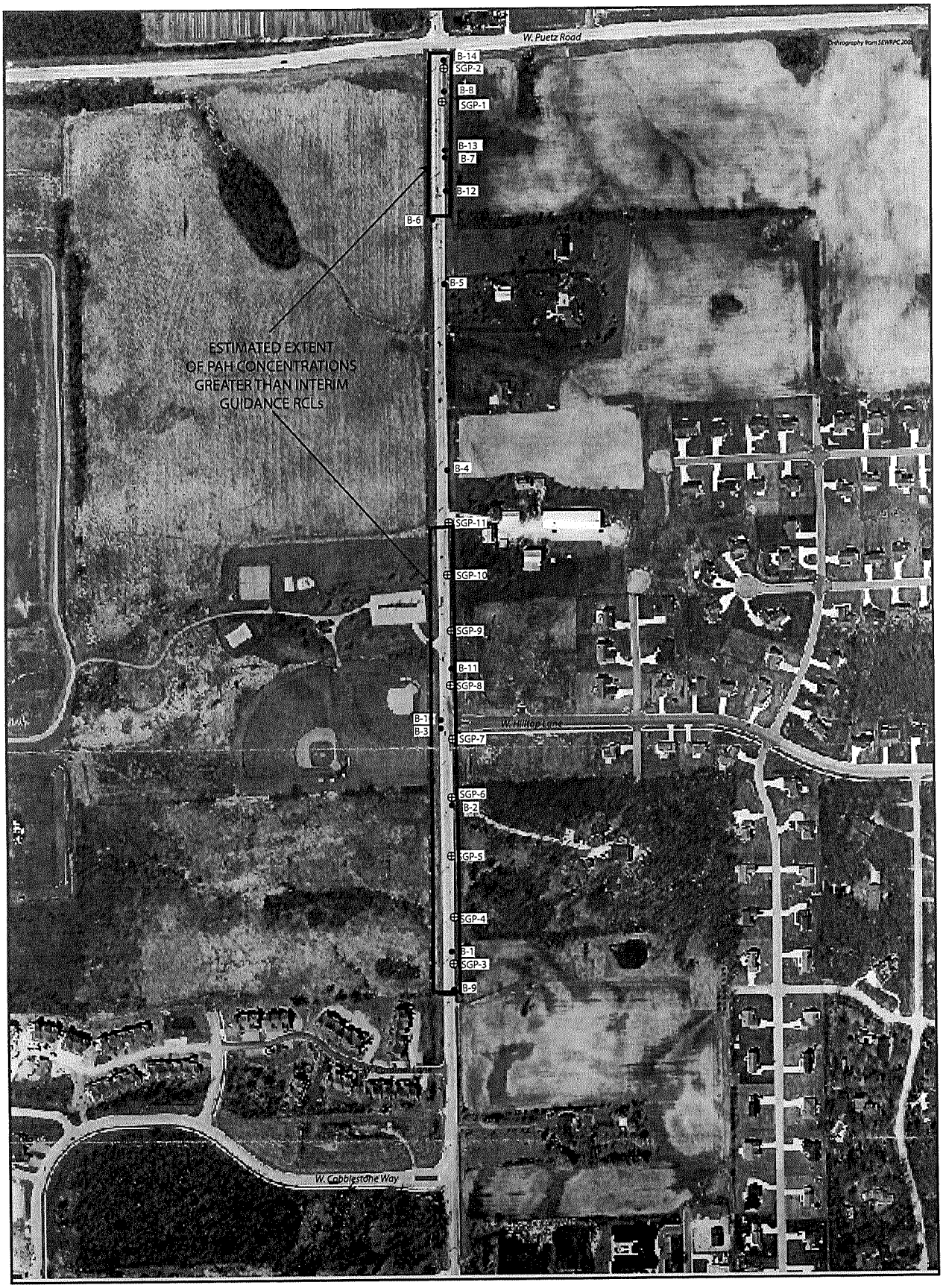
Mr. John M. Bennett, P.E.
City Engineer
City of Franklin
9229 West Loomis Road
Franklin, WI 53132

Environmental consultant contact:

Mr. Joshua Neudorfer
Sigma Environmental Services, Inc.
1300 West Canal Street
Milwaukee, WI 53233
Telephone: (414) 643-4200
Fax: (414) 643-4210

For Wisconsin Department of Resources:

Wisconsin Department of Natural Resources
Remediation and Redevelopment Program
2300 N. Dr. Martin Luther King Jr. Drive
Milwaukee, WI 53212



● = PSI Boring Location
(location based on Figure provided by PSI)

⊕ = Sigma Boring Location
(location based on field measurement)

0 ——— 400 feet
Scale

Site Name: City of Franklin

Address: S. 51st Street from W. Puetz Road
to 300 Feet North of W. Cardinal Lane
Franklin, WI

APPROXIMATE PROJECT BOUNDARY

THE SIGMA GROUP
Single Source. Sound Solutions.

www.thesigmagroup.com
1300 West Canal Street
Milwaukee, WI 53233
414-643-4200

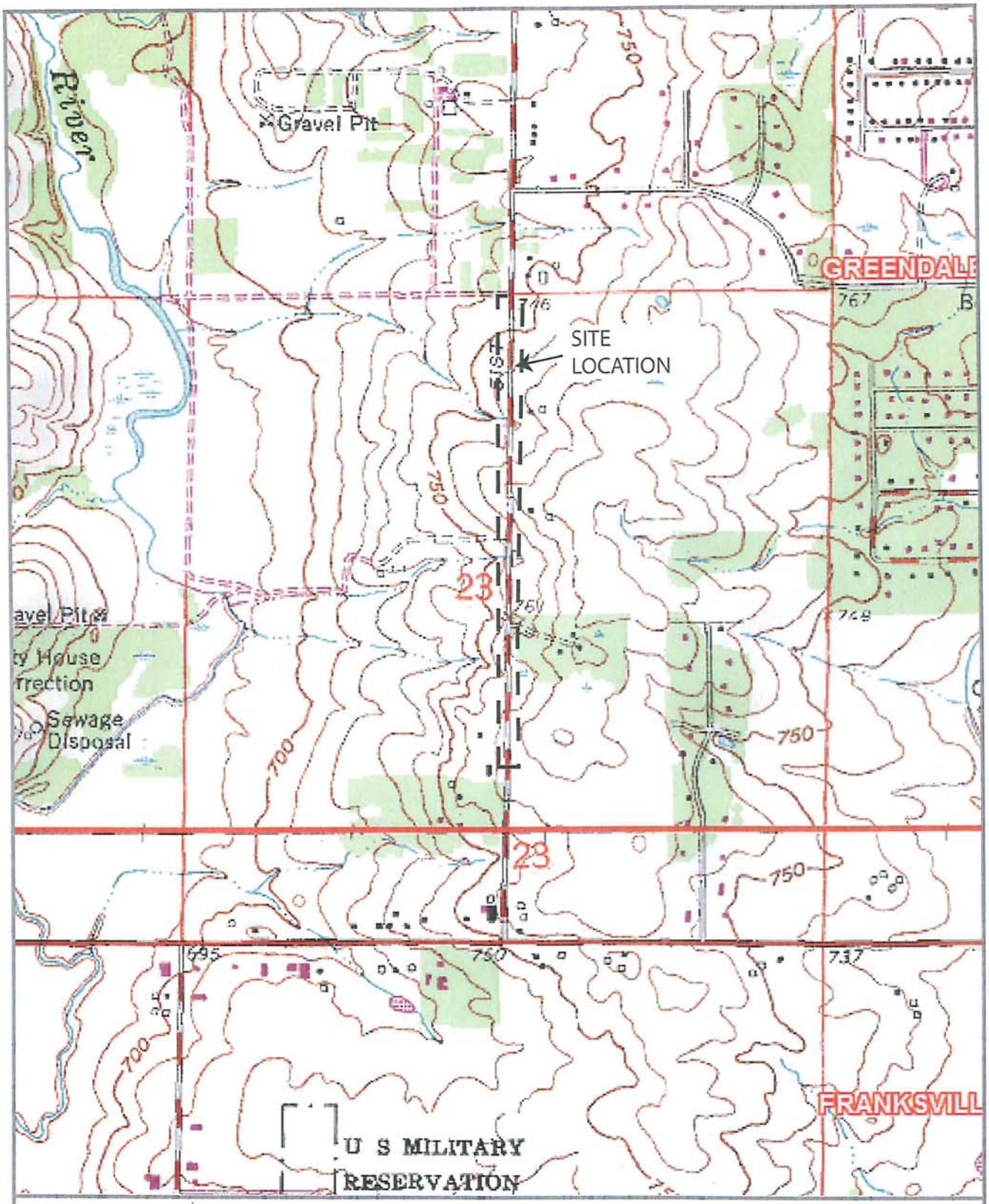
N

FIGURE 1
SOIL QUALITY MAP

Exhibit A

Barrier Inspection Log

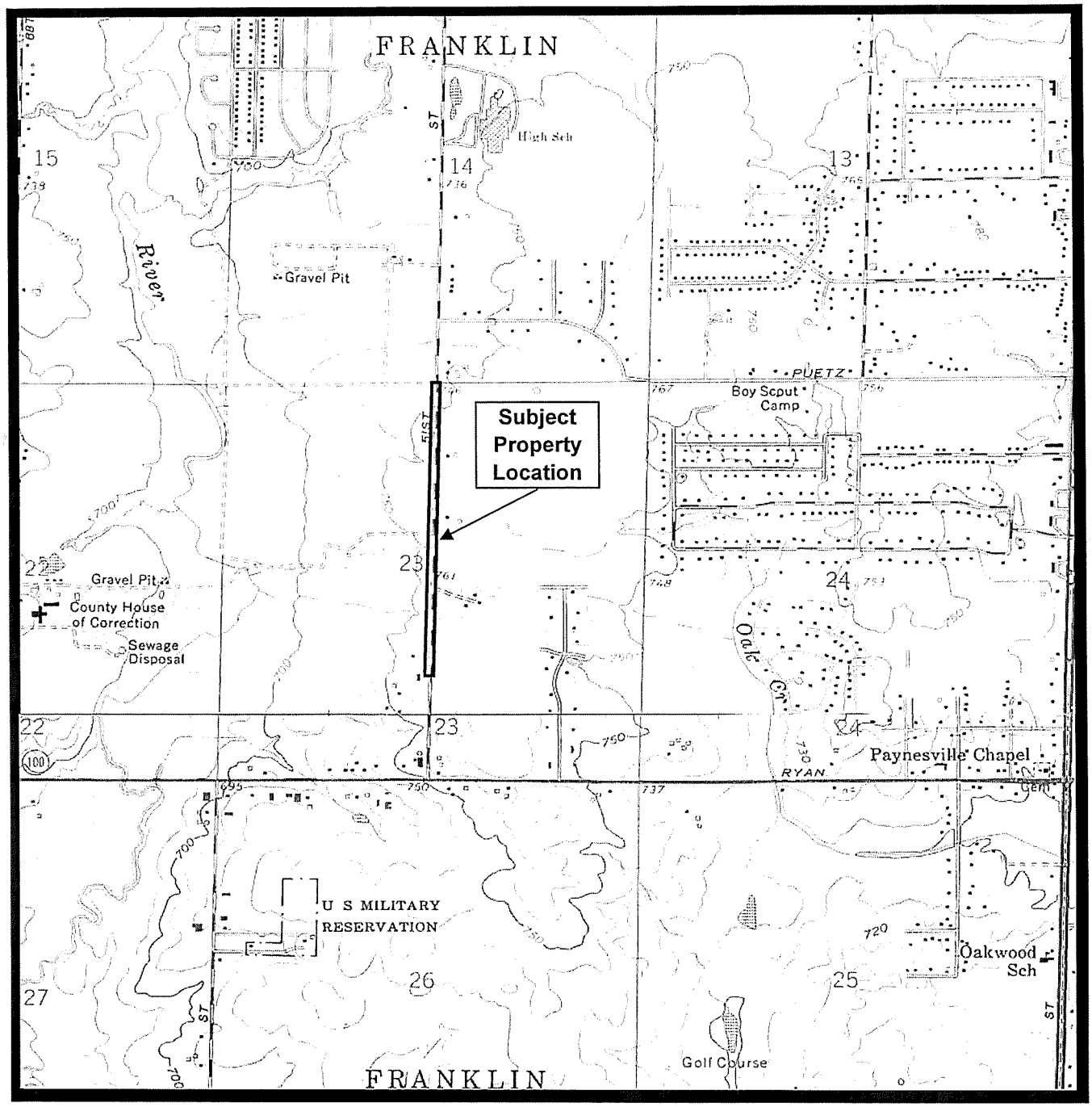
Inspection Date	Inspector	Condition of Cap	Recommendations	Have recommendations from previous inspection been implemented? Who did work, what was done & when?



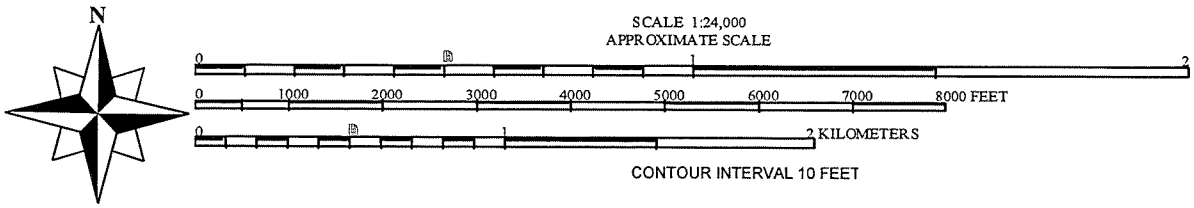
Site/Client: City of Franklin
Address: S. 51st Street from W. Puetz Road to 300 feet North of W. Cardinal Lane
Franklin, WI - Section 23, Township 5 North, Range 21 East
Project: #11630

FIGURE 1
SITE LOCATION MAP

THE SIGMA GROUP
Single Source. Sound Solutions.
www.thesigmagroup.com
1300 West Canal Street
Milwaukee, WI 53233
414-643-4200

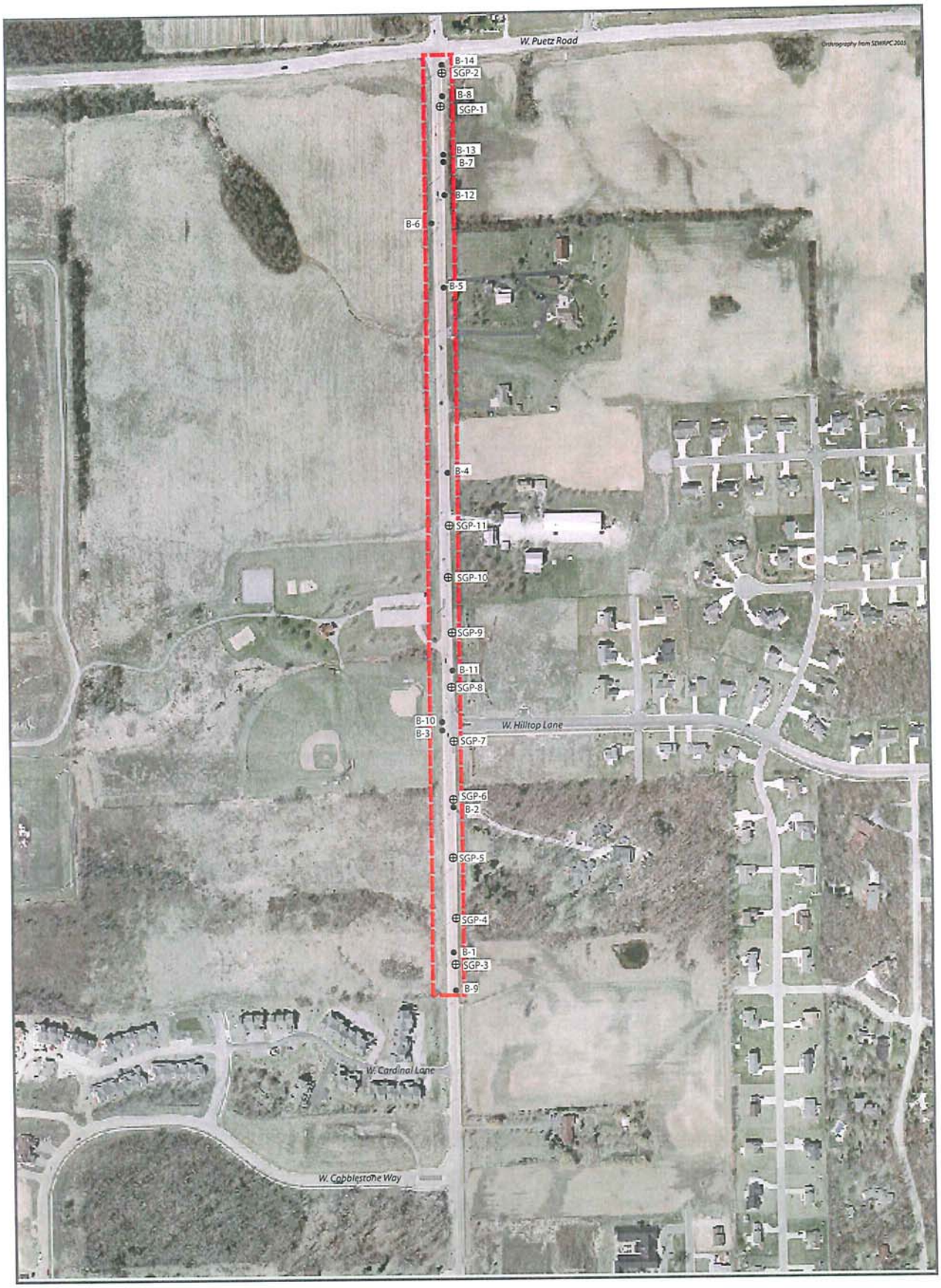


Source: United States Geological Survey, Franksville & Greendale, Wisconsin, 7.5-Minute Topographic Maps, 1958, photorevised 1971 and 1976



East 1/2 of the Northwest 1/4 & West 1/2 of the Northeast 1/4 & Northeast 1/4 of the Southwest 1/4 & Northwest 1/4 of the Southeast 1/4, Section 23, Township 5 North, Range 21 East

psi Information To Build On Engineering • Consulting • Testing	Environmental Services W228 N727 Westmound Drive Waukesha, Wisconsin 53186 (262) 970-9022 Fax (262) 970-9032	City of Franklin, Wisconsin South 51st Street from West Puetz Road to 300-feet North of West Cardinal Lane **Site Location Map**	DATE: 3/24/2009	PROJECT NO: 054-9G002 **Figure 1**



● = PSI Boring Location
(location based on Figure provided by PSI)

⊕ = Sigma Boring Location
(location based on field measurement)

0 — 400 feet
Scale

Site Name: City of Franklin

Address: S. 51st Street from W. Puetz Road to 300 Feet North of W. Cardinal Lane
Franklin, WI

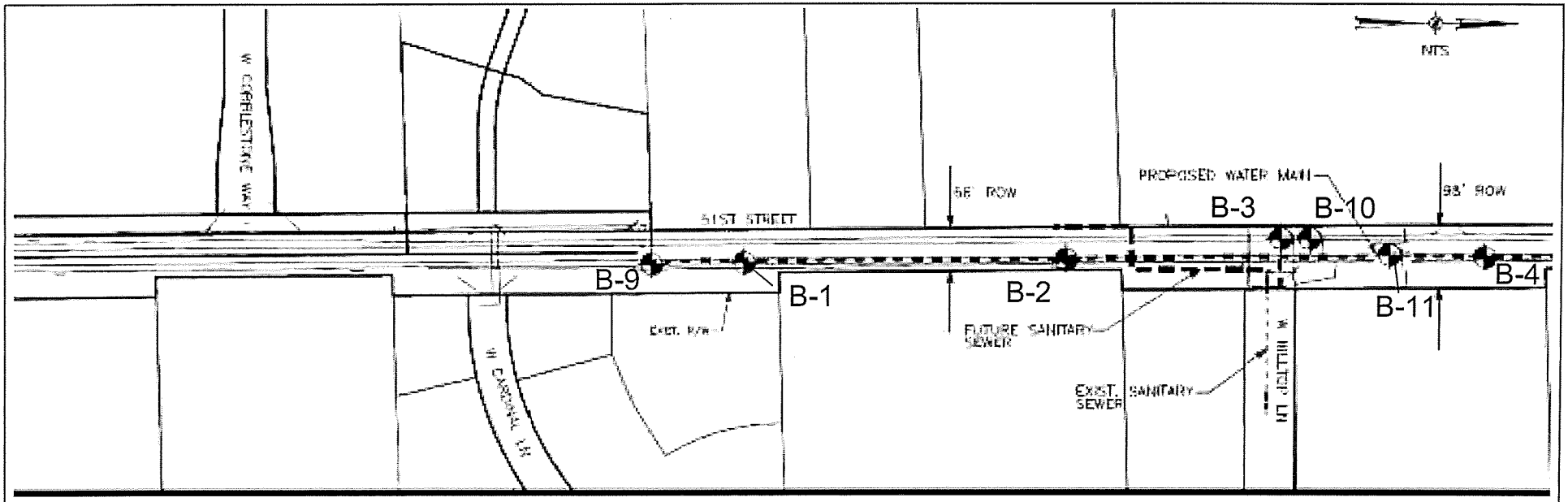
APPROXIMATE PROJECT BOUNDARY

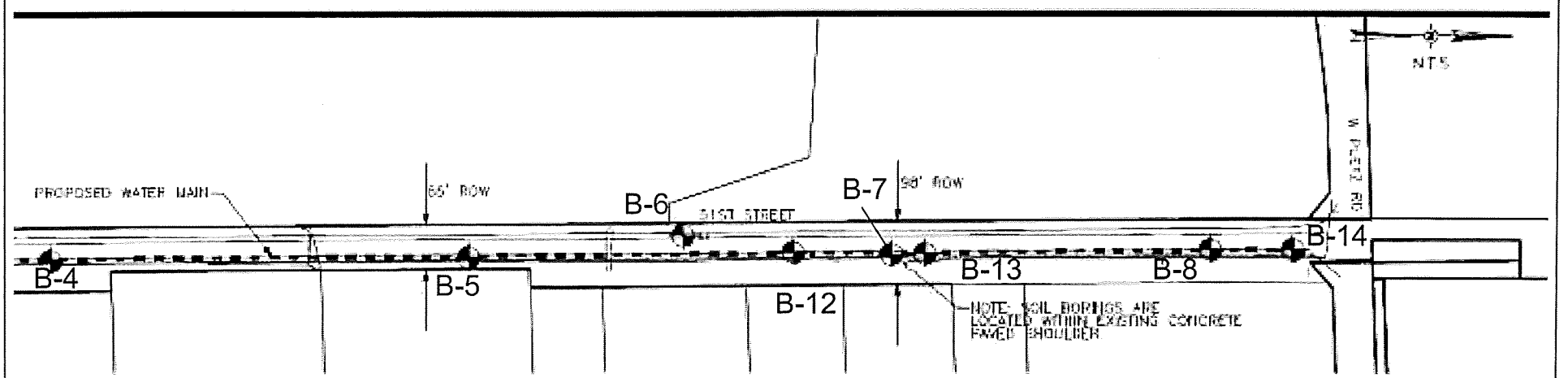
THE SIGMA GROUP
Single Source. Sound Solutions.

www.thesigmagroup.com
1300 West Canal Street
Milwaukee, WI 53233
414-643-4200

N

FIGURE 2
SITE PLAN MAP





psi *Information To Build On*

Engineering • Consulting • Testing

Professional Service Industries, Inc.
W228 N727 Westmound Drive
Suite A
Waukesha, WI 53186
Phone (262) 970-9022
Fax (262) 970-9032

Title of Drawing: Boring Location Plan
Project Name: Proposed Reconstruction and Water Main S. 51st Street
Location: Franklin, WI

Project Number: 054-9G002

Figure: 2

1300 W Canal St
Milwaukee, WI 53233
Telephone: 414-643-4200
Fax: 414-643-4210

FIGURE 3 - CROSS SECTION

N >

LIENT City of Franklin

ROJECT NUMBER 11630

PROJECT NAME S. 51st Street

PROJECT LOCATION Franklin, WI

USCS Low Plasticity Clay
USCS Low Plasticity Gravelly Clay
Clay
USCS Sandy Silt
USCS Low Plasticity Organic silt or clay
USCS Silt
USCS Low Plasticity Sandy Clay

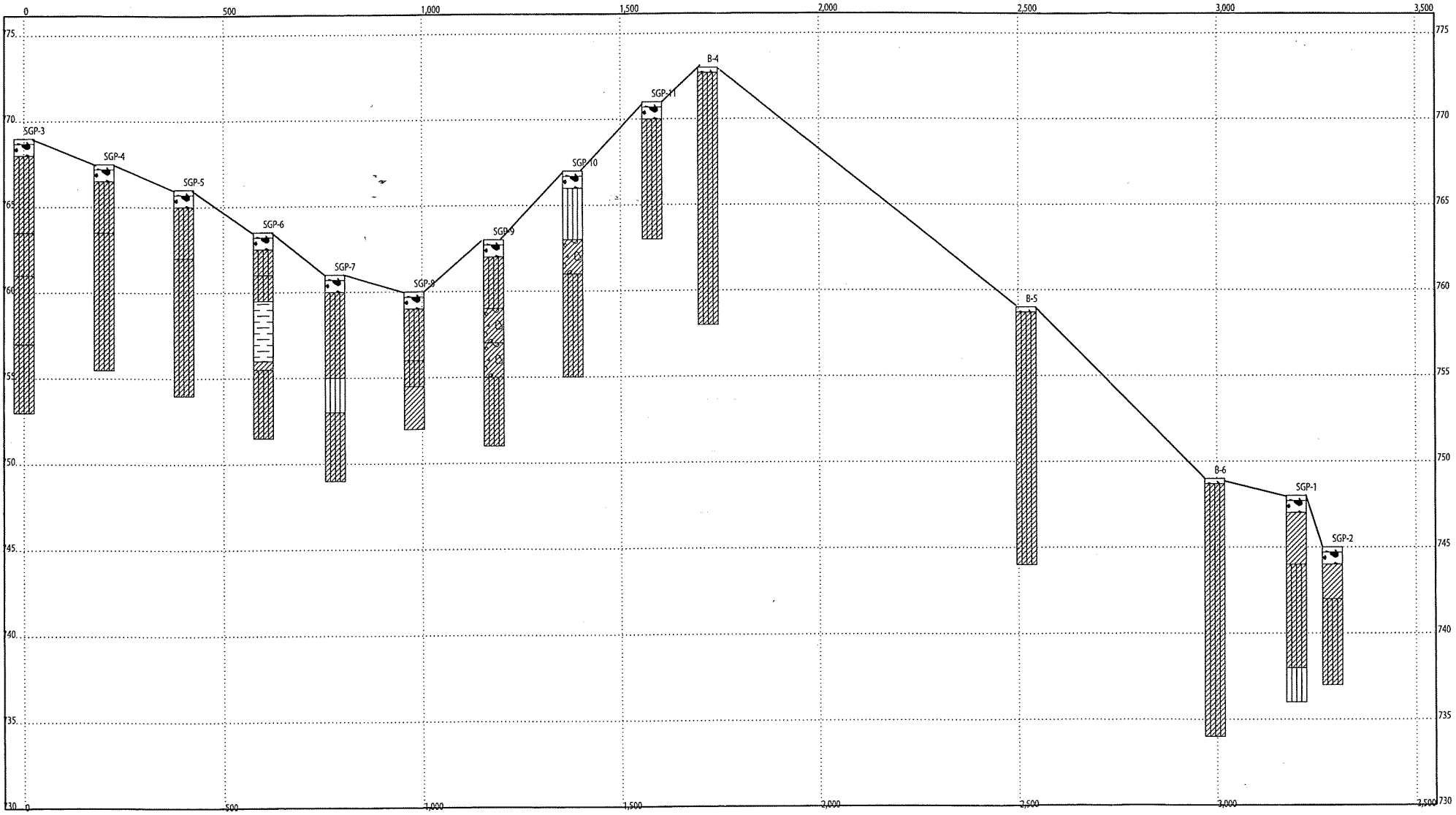


TABLE 1
SOIL ANALYTICAL QUALITY RESULTS
POLYNUCLEAR AROMATIC HYDROCARBONS
CITY OF FRANKLIN
S. 51st Street from W. Puetz Road to 300 Feet North of W. Cardinal Lane
Franklin, WI
Project Reference #11630

Soil Boring Identification:					SGP-1	SGP-2	SGP-3	SGP-4	SGP-5	SGP-6	SGP-7	SGP-8	SGP-9	SGP-10	SGP-11
Sample Depth (ft):					4-6	4-6	8-10	6-8	2-4	4-6	6-8	4-6	8-10	6-8	2-4
			NR 720 RCL Table 2												
			Protection of Groundwater	Low Permeability											
Diesel Range Organics	mg/kg		100	250	<10	<10	52.6	<10	<10	<10	<10	<10	<10	<10	<10
Parameter	Units	Suggested Generic RCLs for PAH Compounds in Soil			Collection Date										
		Groundwater Pathway	Non-Industrial (10^{-6} Risk)	Industrial	04/21/09	04/21/09	04/21/09	04/21/09	04/21/09	04/21/09	04/21/09	04/21/09	04/21/09	04/21/09	04/21/09
Acenaphthene	µg/kg	38,000	9,000,000	60,000,000	302	<19	2,990	<19	<19	149	<19	<19	44 J	56 J	<19
Acenphthylene	µg/kg	700	180,000	360,000	111	<11	1,860	<11	<11	142	<11	<11	15 J	95	<11
Anthracene	µg/kg	3,000,000	50,000,000	300,000,000	930	<19	22,400	38 J	<19	740	<19	32 J	127	166	<19
Benzo(a)anthracene	µg/kg	17,000	880	3,900	**1,020**	18.8 J	**42,000**	53	<16	**950**	32 J	28.7 J	155	54	<16
Benzo(a)pyrene	µg/kg	48,000	88.0	390	**670**	<25	**26,700**	34 J	<25	**670**	<25	<25	**119**	<25	<25
Benzo(b)fluoranthene	µg/kg	360,000	880	3,900	**1,030**	<18	**40,000**	55 J	<18	**1,060**	39 J	29.1 J	198	44 J	<18
Benzo(ghi)perylene	µg/kg	6,800,000	18,000	39,000	400	<19	14,500	27.4 J	<19	450	<19	<19	83	<19	<19
Benzo(k)fluoranthene	µg/kg	870,000	8,800	39,000	410	<16	**11,400**	23.7 J	<16	340	<16	<16	76	20.5 J	<16
Chrysene	µg/kg	37,000	88,000	390,000	800	<18	30,200	51 J	<18	750	34 J	29.7 J	176	52 J	<18
Dibenz(a,h)anthracene	µg/kg	38,000	88.0	390	**109**	<22	**4,900**	<22	<22	**109**	<22	<22	22.4 J	<22	<22
Fluoranthene	µg/kg	500,000	6,000,000	40,000,000	2,570	31.4 J	70,000	119	<13	2,190	53	74	440	179	<13
Fluorene	µg/kg	100,000	6,000,000	40,000,000	800	8.9 J	7,300	20.4 J	<8.3	430	<8.3	18.4 J	65	530	<8.3
Indeno(1,2,3-cd)pyrene	µg/kg	680,000	880	3,900	390	<12	**14,200**	20.3 J	<12	380	15.6 J	<12	74	14.9 J	<12
1-Methylnaphthalene	µg/kg	23,000	11,000,000	70,000,000	124	<15	1,110	<15	<15	60	<15	<15	<15	370	<15
2-Methylnaphthalene	µg/kg	20,000	6,000,000	40,000,000	153	<17	800	<17	<17	63	<17	<17	<17	580	<17
Naphthalene	µg/kg	400	200,000	110,000	410	<13	2,060	<13	<13	252	<13	14.5 J	20.4 J	2,730	<13
Phenanthrene	µg/kg	1,800	180,000	390,000	3,200	35 J	41,000	103	<14	1,750	26.5 J	75	410	750	<14
Pyrene	µg/kg	8,700,000	5,000,000	30,000,000	1,820	23.6 J	56,000	86	<15	1,560	42 J	51	315	106	<15

Notes: Laboratory analyses performed by:

µg/kg = micrograms per kilogram (equivalent to parts per billion)

NA = Not Analyzed

NS = No Standard

Suggested Generic Interim RCL = Generic residual contaminant level for protection of groundwater (gw) or direct contact (dc) pathway from wdnr publication rr-519-97 "Soil Cleanup Levels for Polycyclic Aromatic Hydrocarbons (PAHs) Interim Guidance" target risk of 1 x 10-6 used for non-industrial scenario in accordance with nr 720.19(5)(a).

Exceedances: **BOLD** = concentration exceeds suggested generic RCL for direct contact pathway

BOX = concentration exceeds suggested generic RCL for protection of groundwater pathway

TABLE 1

Summary of Soil Sample Analytical Results
City of Franklin
Proposed Water Main Installation and Road Construction
South 51st Street from West Puetz Road to 300-Feet North of West Cardinal Lane
Franklin, Wisconsin

Analytical Parameter	Depth / Date / Units	B-10 0.5' - 6' 3/24/09	B-13 0.5' - 8.5' 3/24/09	NR 720 RCL Direct Contact/ Non-Industrial	NR 746 RCL Groundwater Pathway	Suggested PAH Generic Soil Cleanup Levels: Groundwater Pathway	Suggested PAH Generic Soil Cleanup Levels: Direct Contact/ Non-Industrial	USGS Background
PID	i.u.	3.3	7.4	---	---	---	---	---
DRO	mg/kg	**1030**	4.4	100	---	---	---	---
GRO	mg/kg	4.1	8.2	100	---	---	---	---
Detected VOCs								
Naphthalene	ug/kg	<25.0	7800	---	2,700	---	---	---
Detected PAHs								
Acenaphthene	ug/kg	2,520	<1.1	---	---	38,000	900,000	---
Acenaphthylene	ug/kg	1,130 J	<2.1	---	---	700	18,000	---
Anthracene	ug/kg	11,900	<5.6	---	---	3,000,000	5,000,000	---
Benzo(a)anthracene	ug/kg	**11,600**	<10.2	---	---	17,000	88	---
Benzo(a)pyrene	ug/kg	**9,270**	<4.4	---	---	48,000	8.8	
Benzo(b)fluoranthene	ug/kg	**7,810**	9.1 J	---	---	360,000	88	
Benzo(ghi)perylene	ug/kg	**4,730**	<5.2	---	---	6,800,000	1,800	
Benzo(k)fluoranthene	ug/kg	**7,700**	<7.6	---	---	870,000	880	
Chrysene	ug/kg	**12,000**	5.2 J	---	---	37,000	8,800	---
Dibenz(a,h)anthracene	ug/kg	**1,730**	<5.7	---	---	38,000	8.8	
Fluoranthene	ug/kg	31,200	6.2J	---	---	500,000	600,000	
Fluorene	ug/kg	6,750	<1.1	---	---	100,000	600,000	
Indeno(1,2,3-cd)pyrene	ug/kg	**4,160**	<5.1	---	---	680,000	88	
1-Methylnaphthalene	ug/kg	1,060 J	<2.3	---	---	23,000	1,100,000	---
2-Methylnaphthalene	ug/kg	1,520	<2.3	---	---	20,000	600,000	---
Naphthalene	ug/kg	4,330	<1.5	---	---	400	20,000	---
Phenanthrene	ug/kg	28,900	10.9 J	---	---	1,800	18,000	---
Pyrene	ug/kg	22,200	4.8 J	---	---	8,700,000	500,000	---
RCRA Metals								
Arsenic	mg/kg	**6.1**	**4.3**	0.039	---	---	---	< 0.1 - 73
Barium	mg/kg	56.9	61.3	---	---	---	---	10 - 1,500
Cadmium	mg/kg	0.089 J	0.051 J	8	---	---	---	NAP
Chromium	mg/kg	18.8	25.2	14/16,000*	---	---	---	1-1,000
Lead	mg/kg	12.6	8.2	50	---	---	---	< 10 - 300
Mercury	mg/kg	0.041	0.018	---	---	---	---	0.01 - 3.4
Selenium	mg/kg	0.13 J	0.12 J	---	---	---	---	< 0.01 - 3.9
Silver	mg/kg	0.064 J	0.057 J	---	---	---	---	NAP

Notes:
Boxed concentrations exceed protection of groundwater RCL
Bold concentrations exceed non-industrial direct contact standarc
--- - Not analyzed/Not Established
J - concentration detected between the laboratory Limit of Detection and the Limit of Quantitatioı
i.u. - instrument units
mg/kg -milligrams per kilogram, parts per million
ug/kg -micrograms per kilogram, parts per billion
NAP - Not Applicable
PAH - polynuclear aromatic hydrocarbons
DRO - diesel range organics
GRO - gasoline range organics
PID - photoionization detectoı
RCL - residual contaminant level
ug/kg -micrograms per kilogram, parts per billion
VOC - volatile organic compounds
RCRA - Resource, Conservation and Recovery Act
USGS - United States Geological Survey
* - Total Chromium laboratory analytical results are comprised of a 6 to 1 ratio of trivalent chromium to hexavalent chromium; therefore, it is more appropriate to evaluate detected chromium contaminants with respect to this ratio.