AMERICAN ENGINEERING TESTING, INC.

CONSULTANTS
• ENVIRONMENTAL
• GEOTECHNICAL
• MATERIALS
• FORENSICS

March 24, 2006

Klodt, Inc.
50 Groveland Terrace, Suite A
Minneapolis, MN 55403

Attn: Mr. John Bell

RE: Response Action/Development Response Action Plan
Hiawatha Flats
Minneapolis, Minnesota
MPCA Leak No. 16076
AET Project No. 03-02255

Dear Mr. Bell:

American Engineering Testing, Inc. has prepared this Response Action/Development Response Action Plan for the Hiawatha Flats project that KK-Five Corporation is intending to develop in Minneapolis, Minnesota. Enclosed are two copies of the report. Two copies of this report have also been forwarded to the Minnesota Pollution Control Agency.

We appreciate the opportunity to assist you with this project. If you have any questions regarding the information presented in this report, please contact me.

Sincerely,
American Engineering Testing, Inc.

Charles W. Bisek

Charles W. Bisek
Senior Environmental Scientist

Phone: 651-659-1310
Fax: 651-659-1379
Email: cbisek@amengtest.com

Enclosures


RECEIVED
MAR 2 8 2006
AIRPOL REM DIVISION
PLANS SECTION

TABLE OF CONTENTS
AET Project No. 03-02255

TABLE OF CONTENTS
AET Project No. 03-02255

TABLES

FIGURES

RESPONSE ACTION/DEVELOPMENT RESPONSE ACTION PLAN
HIAWATHA FLATS
MINNEAPOLIS, MINNESOTA
AET No. 03-02255

1.0 INTRODUCTION

American Engineering Testing, Inc., (AET) was authorized by Klodt, Inc. (Klodt) to prepare a Response Action Plan (RAP)/Development Response Action Plan (DRAP) for the proposed Hiawatha Flats project in Minneapolis, MN (hereafter referred to as the Site). This RAP/DRAP is being submitted to Minnesota Pollution Control Agency (MPCA) Voluntary Investigation and Cleanup (VIC) Program and the Petroleum Brownfields Program (PBP) for approval of the proposed response actions.

The Hiawatha Flats project is located between East 43rd and 44th Streets and slightly east of Hiawatha Avenue in Minneapolis. Figure 1 shows the location of the Site. The Hiawatha Flats project includes the re-development of 4.16 acres of industrial property into a residential development that includes two apartment buildings.

KK-Five Corporation recently acquired the parcels that comprise the Hiawatha Flats project.

AET completed a Phase I Environmental Site Assessment (ESA) for the Site. AET also performed Phase II/Additional Environmental Site Assessments (hereafter referred to as Phase II ESAs) at the Site. Soil impacts identified during the assessment work include petroleum constituents (diesel range organics) and non-petroleum constituents (arsenic, trichloroethene, and trichlorofluoromethane).

This RAP/DRAP addresses both petroleum and non-petroleum impacts at the Site. The response actions proposed in this RAP/DRAP involve excavating and either managing the soils on the Site or disposing of the impacted soils off-site. Following excavation, this RAP/DRAP incorporates the use of engineered barriers to minimize residual impacts and potential risks to human health and the environment.

2.0 RAP/DRAP OBJECTIVES AND SCOPE

2.1 Objectives

The objective of this RAP/DRAP is to outline a plan for properly managing and, if necessary, disposing of impacted soil which will be encountered during development of the Site in order to protect the public health, welfare and environment from any contaminants associated with the Site. KK-Five Corporation is currently seeking "Approvals" to this RAP/DRAP from the MPCA VIC program and PBP. KK-Five Corporation is also requesting a "No Association" assurance relative to the non-petroleum contamination that has been identified. KK-Five Corporation will also be requesting "General Liability" and "Closure" from the MPCA PBP and a "Limited No Further Action" assurance from VIC. These assurances are necessary to protect KK-Five Corporation, owners, and financiers of the project from environmental liability exposure as provided under Minnesota Statute Section 115B.175.

2.2 Scope

This RAP/DRAP has been designed and developed to achieve the objectives which are described above. This RAP/DRAP addresses both petroleum and non-petroleum impacts in soils at the Site.

AET believes that the response actions proposed at Hiawatha Flats, as described in detail in the section below, are both consistent with anticipated future use of the Site and protective of human health and the environment. The response actions presented below and described in greater detail later in this RAP/DRAP are based on the proposed residential use of the Site as well as

contamination resulting from the former use of the parcels that comprise the Site. The response actions presented below have been prepared based on the above information and incorporate a combination of managing petroleum impacted soils removed during development and incorporating engineered barriers (i.e., buildings, impermeable parking lot/driveway surfaces, imported fill cover) in design and construction.

The established cleanup criteria for the Site are based on current information and Minnesota Pollution Control Agency (MPCA) guidelines to limit future risk to human health, safety, and the environment, and include the following:

- Soils encountered in conjunction with development of the Site that exhibit vapor headspace readings below 5 ppm will be either left in-place or blended with non-impacted soils and used as controlled fill below the buildings, impermeable parking lot/driveway surfaces, or four feet or more below finished grades in green space areas. An alternative to re-using these impacted soils at the Site is to dispose of them off-site.
- Soils encountered in conjunction with development of the Site that exhibit PID readings of 5 ppm or more will be disposed off-site.
- If impacted soils with organic vapors above 10 ppm are present within utility trenches at the Site, two options will be considered for continued corrective action: 1) excavation will continue and additional confirmation samples will be collected and analyzed by PID until the vapor headspace goals have been achieved; 2) a vapor barrier will be installed for control of organic vapors within utility trenches.
- Soils impacted with DRO at or above the standard laboratory reporting limit (typically about 7 mg/kg) will be removed from below the proposed buildings. Soils impacted with DRO at or below concentrations of 200 mg/kg can be blended with non impacted soil and used as fill below impermeable parking lot/driveway surfaces or at depths of four feet or more below the surface in green space areas.
- Soils impacted with arsenic at concentrations above its corresponding Residential SRV will be excavated and disposed off-site. The excavations will be deemed complete when

laboratory analysis for arsenic indicates soil contamination below the assigned cleanup goal within accessible zones (12′ below lowest floors, parking lot/driveways and green space areas) of the excavation limits.

- All soils exported from the Site will have representative soil samples collected and submitted to a laboratory for analytical testing to determine the presence or absence of DRO and arsenic impacts. In addition, soils excavated from the Site for re-use on the Site will be monitored and screened with a PID during excavation activities.

3.0 SITE BACKGROUND/SUMMARY OF ASSESSMENT/INVESTIGATION WORK

3.1 Historical Land Use

The Hiawatha Flats project is comprised of about 4.16 acres located west of Snelling Avenue between East 43rd and 44th Streets in an industrially developed area and adjacent to a residentially developed area in Minneapolis. The location of the Site is shown on Figure 1.

Development initially began at the south end of the Site in about 1925. Various buildings and additions have been constructed since that time. Historical use of buildings at the Site has included a laundry, creamery, a beverage bottling company, laboratory, manufacturing, production of hair care products, production of organic fertilizer, etc. The most recent occupant of the Site was Tiro Industries (production of hair products). The Site is currently vacant. In addition, various underground storage tanks (USTs) used to store gasoline, diesel fuel, and drain oil had been in use but reportedly have since been removed. A UST used to store alcohol is still present near the southeast corner of the Site. Figure 2 is a Site Survey that shows the configuration of the Site, existing buildings, etc.

3.2 Previous Assessments/Investigations

AET previously performed a Phase I ESA for the Site, the results of which were included in the report of AET Project No. 03-02255 dated January 19, 2005. The Phase I ESA performed by AET identified the following recognized environmental conditions associated with the Site.

- Former spills.
- Use of buildings as a laundry, creamery, car shop, machine shop, repair building, and manufacturing facility.
- ASTs, USTs, dispensing pumps, associated piping, and oil burners.
- Floor drains, associated separators and piping, and dry well.

AET also performed Phase II ESA services at the Site. The Phase II results were summarized in the reports of AET project no. 03-02255ii.u dated March 25, 2005 and April 27, 2005. Refer to the above reports for background and supplemental information. The locations of borings that AET performed at the Site are shown on Figure 3. The borings are identified as GP-1 through GP-19, HA-1 and HA-1A, and 1 through 8.

The MPCA indicates that a LUST incident was reported at the Site address (Tiro Industries at 3612 East 44th Street) on August 12, 1992 and they subsequently assigned Leak #5538 to the Site. We reviewed the MPCA file pertaining to Leak #5538. Information in the file indicates the LUST site is actually located at another Tiro facility, i.e., at 2700 East 28th Street, or about two miles north of the Site.

3.2.1 Soil Profiles

The results of borings completed at the Hiawatha Flats site generally identify fill soils overlying alluvial soils and till. A relatively thin layer of topsoil was encountered near the surface or below the fill in some of the borings.

The fill encountered in the borings is comprised of silty sand, lean clay, and sand. Pieces of bituminous pavement, concrete, and bricks were observed in some of the fill samples. Also, possible cinders were observed in fill at one boring location (GP-12) and pieces of glass were observed in fill at another boring location (GP-16). Fill samples from borings GP-1, GP-7, and GP-9 also exhibited slight petroleum odors.

Topsoil comprised of black lean clay or organic clay was encountered below the fill in some of the borings.

The alluvial soils encountered in the borings are comprised of fine alluvium underlain by coarse alluvium. The fine alluvium is present close to the surface and is comprised of lean clay; the coarse alluvium is sand and sand with silt, with varying amounts of gravel.

Till comprised of clayey sand was encountered in most of the deeper borings.

3.2.2 Soil Vapor Impacts

For purposes of this plan we consider vapor readings - as measured with a PID – greater than 5 ppm in proposed residential use areas as elevated. Borings in which elevated PID readings were recorded are summarized in Table 1. Figure 3.1 identifies locations where elevated PID readings were encountered.

AET did not perform vapor intrusion screening at the Site.

3.2.3 Soil Impacts

Petroleum Impacts

DRO was the only petroleum related contamination identified. For purposes of this plan we consider petroleum contamination (DRO) detected above the laboratory reporting limit in the proposed residential building areas as elevated petroleum analytical results. DRO was detected at

concentrations ranging from 10 to 280 mg/kg in 17 of the 56 soil samples analyzed, with an average concentration of 53 mg/kg. The results of soil analytical testing results performed by AET in which DRO was detected above the laboratory reporting limit are summarized in Table 2. Figure 3.2 identifies locations where DRO contamination was encountered.

In conjunction with performing the Phase II ESAs at the Site, a number of borings were drilled and samples were collected/analyzed from locations of former USTs and dispensers. These borings include GP-2 through GP-5, GP-7 through GP-9, GP-12, and 1. DRO contamination was detected in soil samples collected at two of these borings (GP-9 and GP-12). Soil samples collected and analyzed from depths below where contamination was detected did not identify any petroleum contamination.

As requested by Klodt, AET notified the State Duty Officer regarding the contamination that was identified, and the MPCA subsequently assigned Leak No. 10676 to the Site.

Non-Petroleum Impacts

Laboratory analysis performed on soil samples collected in conjunction with the Phase II ESAs at the Site included RCRA metals, PAHs, VOCs, and PCBs. Various non-petroleum contaminants were detected in soil samples submitted for analysis. These contaminants included the RCRA metals, arsenic, barium, cadmium, chromium, and lead and the VOCs trichloroethene (TCE) and trichlorofluoromethane.

To assess the magnitude of non-petroleum soil contamination identified by the Phase II ESAs, we compared the detected concentrations of analytes identified in the Phase II ESAs to MPCA established Residential Soil Reference Values – SRVs (1/06 version) and Tier 1 Soil Leaching Values – SLVs (updated 11-2-99).

Residential SRVs are based on the assumption that human exposure to the contaminants occurs in a residential setting such as the use proposed at the Site. When a representative site contaminant concentration exceeds the SRV, unacceptable risk to human health is concluded to exist.

SLVs are used to assess the potential for contaminants within the soil to leach to the groundwater where exposures can occur through ingestion of ground water. Tier 1 SLVs are initial screening values which do not account for site specific conditions.

Because groundwater below the Site is quite deep, i.e., about 28′ below the ground surface, the potential for contaminants to leach and reach the groundwater table is judged low. In addition, as discussed below, only one analyte was detected above its respective SLV, and at a concentration only slightly above its SLV. Therefore it is our opinion that risk for contamination to leach to groundwater is low. Based on the above, we propose to use the residential SRVs, versus SLVs, as cleanup goals for the non-petroleum contaminants.

Of the non-petroleum contaminants detected in the soil samples, the only contaminant that was detected at concentrations that exceed its respective Residential SRV is arsenic. Arsenic was detected in the 19 samples analyzed at concentrations ranging from 1.1 to 15.0 mg/kg, or an average concentration of 5.6 mg/kg. Of the 19 samples analyzed, the results of 7 samples exceed the 5.0 mg/kg Residential SRV for arsenic.

TCE was detected in 1 of the 25 samples analyzed for VOCs. The measured concentration of 0.30 mg/kg is below the Residential SRV of 29 mg/kg and slightly above the Tier 1 SLV of 0.14 mg/kg.

Trichlorofluoromethane was also detected in only 1 of the 25 samples analyzed for VOCs. Its measured concentration of 0.97 mg/kg is below both the Residential SRV of 67 mg/kg and the Tier 1 SLV of 22 mg/kg. Because trichlorofluoromethane was also detected in the trip blank, its presence in the soil is considered suspect.

The results of soil analytical testing results performed by AET in which arsenic was detected above it Residential SRV are summarized in Table 3. Figure 3.3 identifies locations where arsenic contamination was encountered.

3.2.4 Groundwater Impacts

Groundwater was measured at about elevation 808′ in most of the deeper borings that AET drilled at the Site. This elevation corresponds to a depth of about 28′ below ground surface.

Groundwater samples were not collected/analyzed at the Site.

3.3 Existing Site Conditions

The buildings present at the Site at the time we performed the Phase I and II ESAs are still present. The exterior includes areas of concrete, bituminous pavement, and dirt surfaces. Figure 2 is a survey that shows the locations of the buildings, adjacent roadways, etc.

3.4 Site Development Plan

Figures 3 through 3.3 show the layout of the proposed development including building locations, roads, parking/drive areas, proposed grades, etc. Plans are to develop the Site in two phases. Phase I will be constructed in the year 2006 and Phase II will likely be constructed the following year.

Two residential apartment buildings are proposed at the Site. Building A, the east building, will contain 66 units; Building B, along the west, will contain 163 units. Both buildings will have underground parking with the floor slabs established at elevation 828.5′ in Building A and 830.25′ in Building B. Both buildings will be of wood frame construction and three (Building A) to five (Building B) stories high.

A driveway will extend between East 43rd and 44th Streets between the two buildings. A driveway will also extend along the west side of Building B. Exterior parking spaces are planned adjacent to the driveway between the buildings. Stormwater infiltration chambers will be installed below areas of the driveway. The buildings will be connected to sanitary sewer mains present below East 43rd and 44th Streets and the water services will enter from East 43rd Street.

4.0 DRAP TASKS

4.1 General Operations

Environmental work will be performed in conformance with Occupational Safety and Health Administration, MPCA, and Minnesota Department of Transportation regulations. An AET environmental technician/scientist will be present during grading operations at the Site.

4.2 Methods and Techniques

The following list summarizes the response actions for the Site:

- During Site grading/excavating work, on-site personnel will be alert for evidence of contamination within the soils. Soils exhibiting evidence of petroleum contamination, such as obvious odors or the presence of staining, will be observed by an environmental technician for determination of the soil as impacted or non-impacted. In addition, soil samples will be collected for vapor headspace screening using a PID and samples may be submitted to a laboratory for analytical testing.
- Soils encountered in conjunction with development of the Site that exhibit vapor headspace readings below 5 ppm will be either left in-place or blended with non-impacted soils and used as controlled fill below the buildings, impermeable parking lot/driveway surfaces, or four feet or more below finished grades in green space areas. An alternative to re-using these impacted soils at the Site is to dispose of them off-site.

- Soils encountered in conjunction with development of the Site that exhibit PID readings of 5 ppm or more will be disposed off-site. Figure 3.1 identifies boring/sample locations where PID readings of 5 or more were encountered.
- If impacted soils with organic vapors above 10 ppm are present within utility trenches at the Site, two options will be considered for continued corrective action; 1) excavation will continue and additional confirmation samples will be collected and analyzed by PID until the vapor headspace goals have been achieved; 2) a vapor barrier will be installed for control of organic vapors within utility trenches.
- Soils impacted with DRO at or above the standard laboratory reporting limit (typically about 7 mg/kg) will be removed from below the proposed buildings. Figure 3.2 identifies boring/sample locations where DRO was detected. Soils impacted with DRO at or below concentrations of 200 mg/kg can be blended with non impacted soil and used as fill below impermeable parking lot/driveway surfaces or at depths of four feet or more below the surface in green space areas.
- Soils impacted with arsenic at concentrations above its corresponding Residential SRV will be excavated from the targeted areas noted on Figure 3.3. The excavations will be deemed complete when laboratory analysis for arsenic indicates soil contamination below the assigned cleanup goal within accessible zones (12' below lowest floors, parking lot/driveways and green space areas) of the excavation limits. These soils will be disposed off-site.
- All soils exported from the Site will have representative soil samples collected and submitted to a laboratory for analytical testing to determine the presence or absence of DRO and arsenic impacts. In addition, soils excavated from the Site for re-use on the Site will be monitored and screened with a PID during excavation activities.

4.2.1 Site Security and Access Control

Parts of the Site are currently enclosed with chain link fencing. This fencing and additional temporary fencing as necessary will be utilized during the response action work. Warning signs will be placed at the entrances for added security.

4.2.2 Site Clearing and Demolition

Initial clearing will include the demolition of buildings, concrete slabs, and asphalt pavements. In conjunction with demolition activities, below grade plumbing, drains, waste traps, dry wells, etc. will be removed. A UST that was used to store alcohol is present near the southeast corner of the Site. This UST, and any other USTs and/or ASTs that may be present will be removed per MPCA procedures. Soil screening and sampling protocol for UST removal activity will be performed in accordance with the MPCA Guidance for Leak/Release clean-ups. Similar screening and sampling will be performed in conjunction with removing below grade plumbing, drains, waste traps, dry wells, etc. Demolition debris will be transported to a demolition or sanitary landfill or, if it is determined to be environmentally clean, it may be recycled or reused on the Site.

Site clearing activities will also include sealing of the well along the west side of the Site that is being taken out of service.

4.2.3 Excavation Area Locations and Boundaries

The current topography at the Site is relatively flat with surface elevations between about 834½′ and 836½′. As shown on Figures 3 through 3.3, proposed finished grades at the Site range from about 836′ to 838′. Based on comparing existing grades to proposed grades, we understand that approximately 15,000 cubic yards of excess soil will be generated in conjunction with grading the first phase. This volume of soil will need to be exported off-site for disposal.

Plans are to perform grading in the Phase I area of Hiawatha Flats this year and in the area of Phase II next year.

4.2.4 Excavation and Segregation

The excavation areas will be surveyed and marked in the field after clearing and demolition activities have been completed. The soil will be excavated and segregated with earth moving equipment (i.e. backhoe, loader, etc.) and hauled off the Site for disposal based upon contaminant characterization by PID and fixed laboratory analysis. Representatives from AET will be present during the segregation process to monitor soils and collect soil samples. Samples for screening will be collected every 50 to 100 cubic yards during excavation. The contractor will excavate down to the proposed base elevation. The field technician will then assess the subgrade by collecting and screening confirmation soil samples. Based upon visual observation and/or the results of organic vapor readings, the field technician will determine the need for additional excavation. If necessary, excavated soils will be stockpiled for characterization or for re-use at the Site.

4.2.5 Stockpiled Soil Activity and Sampling

Any impacted soil excavated at the Site and not taken directly to a landfill will be temporarily stored in stockpiles. Stockpiles containing impacted soil will be covered with polyethylene sheeting to prevent water infiltration or wind erosion. The contractor will be responsible for securing the stockpile covers at the end of each day. Possible stockpile locations are shown on Figures 3 through 3.3.

4.2.6 Loading and Hauling

Impacted soil to be disposed off-site will be loaded into trucks for transport to the selected disposal facility. Prior to leaving the Site all transport vehicles will be inspected and any loose soil on the exterior of the vehicle or tires will be removed.

4.2.7 Imported Fill Requirements

The contractor will be responsible for providing clean imported fill to the Site. Representative samples of fill material with documentation as to the source and environmental condition of the import material will be submitted for review by AET a minimum of seven days prior to use.

Documentation may include a current (less than 180 days old) Phase I Environmental Site Assessment (prepared in accordance with VIC Guidance Document No. 8) of the fill source areas, laboratory analysis of representative samples from the source area, or previous environmental reports by others.

Fill material imported from off-site shall meet the following environmental contaminant conditions:

- Less than MPCA Tier 1 SLVs or Residential SRVs, whichever is more restrictive.
- Non-detect DRO.
- Less than 100 mg/kg lead.
- No olfactory evidence of contamination and less than 1 ppm organic vapors (organic vapors measured with photoionization detector (PID) per MPCA bag headspace procedures).

4.3 Disposal

The disposal options considered for the contaminated soil encountered at the Site include:

- On-site management as replacement fill for excavations or under buildings, impermeable parking lot/driveway surfaces, or green spaces, provided response action goals can be met.
- Off-site disposal facility permitted to accept DRO and arsenic impacted soils (sanitary landfill cover, sanitary landfill, or industrial waste landfill). Uncontaminated debris will be disposed at a demolition landfill. Various landfills in the Twin Cities metropolitan area will be considered for disposal and chosen based on price and acceptability. Hazardous waste, if encountered, will be disposed at an appropriate hazardous waste facility.

4.4 Short Term Monitoring

Soil excavation activities will be observed and monitored by an AET environmental technician. During excavation, soils exhibiting vapor impacts exceeding response action goals will be removed and either managed at the Site or disposed off-site. Soil screening will be conducted at a frequency of approximately every 50 to 100 cubic yards of excavated soil. The soil samples collected directly from the backhoe bucket will be screened with a PID for the presence of vapors with ionization

potentials less than the lamp voltage of 10.6-eV. The PID is calibrated for direct reading in parts-per-million (ppm) volume/volume of a benzene equivalent. Soil samples are collected and screened according to the bag-headspace field screening procedure, which consists of placing freshly collected soil into a polyethylene freezer "baggie" (i.e. bag), sealing the bag to contain an air pocket (i.e. headspace), and allowing 10 to 20 minutes for vapors to disperse from the soil to the headspace. The reported screening result is the highest reading upon inserting the PID probe into the bag headspace and is typically attained within two to five seconds of probe insertion.

Excavation activities will be monitored to identify impacted soil and potential risks to workers and the general public in accordance with the Site Safety Plan. Personnel trained in the recognition of the suspected environmental issues of concern will utilize field screening methods and monitoring equipment to aid in determining potential health and safety hazards and impacted materials.

4.5 Engineering Controls

4.5.1 Dust Controls

The contractor will utilize dust control measures during excavating, stockpiling, hauling, and backfilling. These measures shall include water spraying if necessary.

4.5.2 Vehicle Decontamination Station

The contractor will construct a decontamination station if conditions warrant. Truck decontamination procedures will include the removal of any gross soil or debris remaining on the exterior of the truck box with a broom and/or shovel prior to exiting the Site. Vehicle traffic through impacted areas will be limited.

4.5.3 Permits

The contractor will be responsible for obtaining and administering all applicable permits required for excavating, hauling, disposal and/or treatment of the impacted soil.

4.6 Institutional Controls

We do not anticipate any institutional controls for the Hiawatha Flats project.

4.7 Confirmation Sampling/Achievement of Response Action Goals

Confirmation samples for PID screening will be collected at the base and sidewalls of the excavations. For documentation purposes in accordance with typical PBP guidelines, a representative portion (approximately 10%) of PID samples will also be analyzed for DRO. The number of soil samples collected will be in accordance with MPCA's Risk-Based Site Characterization and Sampling Guidance, Section 7.

The soil samples for off-site laboratory analysis will be collected directly from the backhoe bucket or with a stainless steel spade and placed in laboratory-prepared glass sample jars. The samples will be transported to the laboratory within prescribed holding times and will be accompanied by proper chain-of-custody forms. Excavation activities will cease after all cleanup goals are met.

The following analytical methods will be performed on soil samples collected for this project:

- Diesel Range Organics – EPA 8015 mod./Wisconsin Method
- Arsenic

Quality assurance and quality control (QAQC) samples will be collected. Blind duplicates will be collected for every 10 samples collected for laboratory analysis.

5.0 DOCUMENTATION REPORT

Upon completion of the response actions, a documentation report will be submitted to the MPCA in accordance with VIC and PBP standards. At a minimum, the report will include the following:

- Description of construction activities including photographs of key activities;
- Description of field screening methods and results;

- As-built drawings showing contours of final excavation bottom;
- Results of soil confirmatory chemistry analysis;
- Documentation of final disposal of all materials transported off-site, including demolition debris, impacted soil, hazardous wastes, metal, and wood;

The final documentation report will be submitted within 120 days after completion of the development response actions.

6.0 SCHEDULE

A detailed schedule will be forwarded to the MPCA prior to implementation. Under the current plan, this work is to start in the spring of 2006.

7.0 SITE HEALTH AND SAFETY PLAN

The awarded contractor will be responsible for submitting a Site Health and Safety Plan suitable for managing the impacted materials identified during the Phase II ESAs at the Site. The Site Health and Safety Plan will be submitted to AET for review and comments, and later submission to the MPCA for approval prior to Site work. The on-site health and safety program must address:

- 40 hour hazardous waste trained personnel for remedial activity
- Provisions for on-site personnel decontamination
- Protective clothing (i.e. Tyvek, etc.) requirements
- Guidelines for donning protective clothing
- Site controls and access during remedial activity

Safety is of paramount importance with potentially unstable ground. Frequent visual and verbal contact will be maintained with operators of heavy equipment in the sampling vicinity. Care will be taken not to enter depressions or scale mounds that would constitute confined spaces, where engulfment, immersion, or falls are possible, or where harmful vapors may collect. Most observation

and soil collection will be performed from a stable and level ground surface with the help of heavy equipment operated by an experienced excavation contractor.

8.0 CONTINGENCY PLAN

Unforeseen contamination from unknown buried drums, tanks, pipelines, or disposal areas may be uncovered during excavation activities. Soil determined to be impacted based on appearance and chemical analysis will be managed according to the standards stated in this RAP/DRAP or other appropriate regulatory standards..

Suspect asbestos containing material (ACM), if encountered during excavation work, will be sampled by a licensed asbestos inspector to assess the proper separation, handling and disposal of the material. If ACM abatement is required, a licensed asbestos abatement contractor will provide the proper handling and disposal of ACM. If necessary, an Emissions Control Plan for potential asbestos containing materials will be prepared and submitted to the MPCA prior to initiating field activities.

If strong odors or abundant dust are noted, exposed surfaces will be covered to minimize the possibility of off-site odor and dust emissions. Also the contractor's methods will be restricted as needed to control odors and dust.

The MPCA will be contacted immediately if suspected hazardous waste is encountered during excavation work. Arrangements will be made prior to the Site grading activity to subcontract with a hazardous waste contractor to characterize, consolidate and arrange for disposal of hazardous waste. Materials remaining on-site that are characterized as hazardous waste will be placed in Department of Transportation rated containers and stored on-site on an impervious surface in a secured area until disposal arrangements are determined. Storage on the Site will not exceed 120 days.

If USTs or ASTs are discovered during Site grading or demolition activity, the tank removal will be managed in accordance with MPCA rules and local ordinances.

9.0 CLOSURE

The services performed by AET for this project have been conducted in a manner consistent with that level of skill and care ordinarily exercised by other members of the profession currently practicing in this area, under similar budgetary and time constraints.

This RAP/DRAP was prepared based on our current understanding of conditions and plans at the Site. If conditions differing from our original findings are identified, AET should be immediately contacted to review these conditions and determine if there are any material impacts on any of our recommendations. Any alterations to this RAP/DRAP will be communicated to Klodt, the MPCA, and other involved parties Klodt may reasonably request.

Report Prepared By:
American Engineering Testing, Inc.

Charles W. Bisek.
Senior Environmental Scientist

Report Reviewed By:
American Engineering Testing, Inc.

Robert A. Kaiser
Vice President, Environmental Division

Table 1
Summary of Elevated PID Screening Results
Hiawatha Flats, Minneapolis, MN
(results in ppm)
AET Project No. 03-02255

Boring Location	Sample Depth (ft)	Results	Rationale for Sampling this Location
GP-1	4-6	5.0	Miscellaneous storage
GP-2	6-8	6.5	Former UST
GP-4	2-4	5.0	Former UST
GP-5	4-6	5.5	Former UST
	6-8	6.0	
GP-7	0-2	5.9	Alcohol UST
	2-4	7.0	
GP-9	4-6	24.5	Former fuel dispensing pump
HA-1A	4-6	22.3	Dry well in boiler room

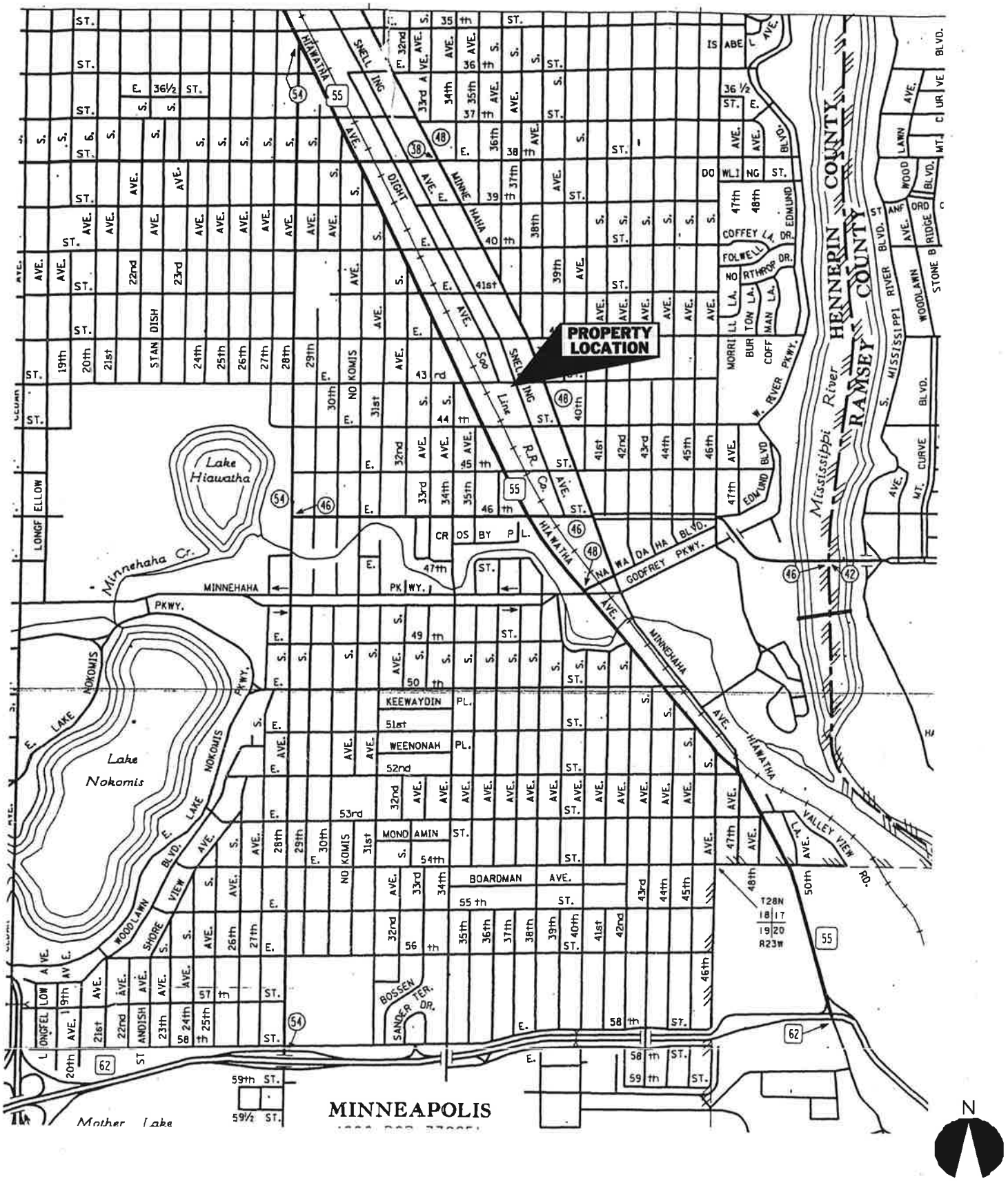
Table 2
Summary of DRO Analytical Results
Hiawatha Flats, Minneapolis, MN
(results in mg/kg)
AET Project No. 03-02255

Boring Location	Sample Depth (ft)	DRO	Rationale for Sampling this Location
GP-1A	0-2	32	Miscellaneous storage
GP-1	4-6	35	Miscellaneous storage
GP-6A	0-2	18	Miscellaneous storage
GP-6	4-6	16	Miscellaneous storage
GP-9	4-6	14	Former fuel dispensing pump
GP-10	2-4	11	Floor drain
GP-12	2-2½	21	Petro UST
GP-13	0-2	99	Organic fertilizer storage
	2-4	110	Storage area
GP-15	5-6	14	Pit in production area
GP-17	1-2	16	Fungicide manufacture area
GP-18	1-2	68	Drain cleanout
HA-1	0-½	80	Dry well in boiler room
	2-2½	280	
6	0-2	10	Nonspecific use
7	0-2	46	Nonspecific use
8	0-2	24	Organic fertilizer storage

Table 3
Summary of Arsenic Analytical Results
Hiawatha Flats, Minneapolis, MN
(results in mg/kg)
AET Project No. 03-02255

Boring Location	Sample Depth (ft)	Arsenic	Rationale for Sampling this Location
GP-6	4-6	9.4	Miscellaneous storage
GP-14	1-2	10	Trench drain
GP-17	1-2	5.8	Fungicide manufacture
GP-18	1-2	14	Drain cleanout
	7-8	15	
7A	0-2	13	Non-specific use
8	0-2	6.4	Organic fertilizer storage

Note: Residential SRV for Arsenic is 5.0 mg/kg and the Tier 1 SLV is 15.1 mg/kg.



AMERICAN ENGINEERING TESTING, INC.	**PROJECT:**	**Hiawatha Flats, Minneapolis, MN**		**AET #03-02255**
	SUBJECT:	**Location Map**		**DATE March-06**
	SCALE:	**None**	**DRAWN BY:**	**CHECKED BY:** CBick
				FIGURE 1

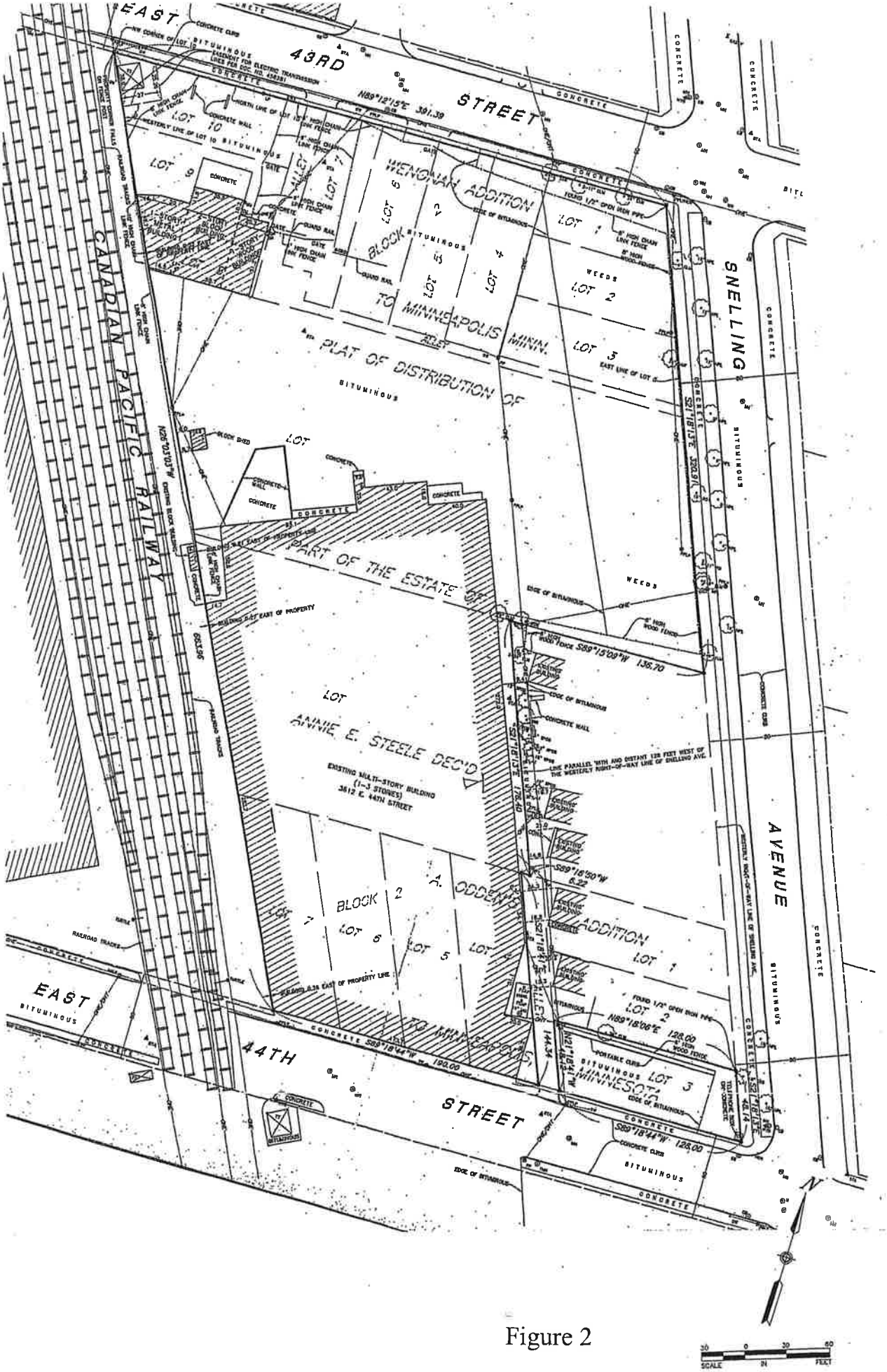
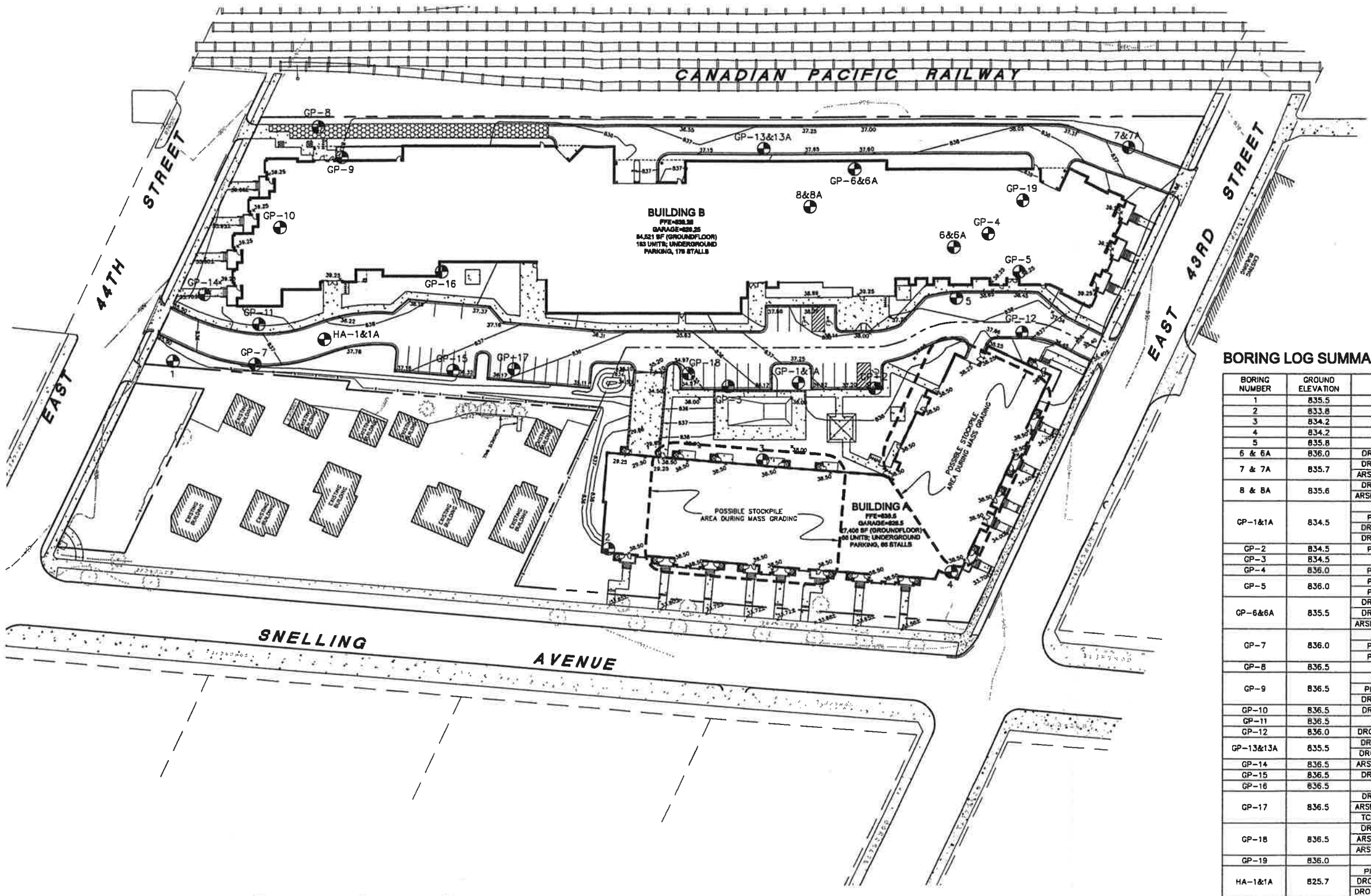


Figure 2

Hiawatha Flats
Site Survey

AET No. 03-02255



BORING LOG SUMMARY

BORING NUMBER	GROUND ELEVATION	NOTES
1	835.5	
2	833.8	
3	834.2	
4	834.2	
5	835.8	
6 & 6A	836.0	DRO = 10 MG/KG @ 0'-2'
7 & 7A	835.7	DRO = 46 MG/KG @ 0'-2'
		ARSENIC = 13 MG/KG @ 0'-2'
8 & 8A	835.6	DRO = 24 MG/KG @ 0'-2'
		ARSENIC = 6.4 MG/KG @ 0'-2'
GP-1&1A	834.5	PETRO ODOR @ 3'-8'
		PID = 5.0 PPM @ 4'-6'
		DRO = 32 MG/KG @ 0'-2'
		DRO = 35 MG/KG @ 4'-6'
GP-2	834.5	PID = 6.5 PPM @ 6'-8'
GP-3	834.5	
GP-4	836.0	PID = 5.0 PPM @ 2'-4'
GP-5	836.0	PID = 5.5 PPM @ 4'-6'
		PID = 6.0 PPM @ 6'-8'
GP-6&6A	835.5	DRO = 18 MG/KG @ 0'-2'
		DRO = 16 MG/KG @ 4'-6'
		ARSENIC = 9.4 MG/KG @ 4'-6'
GP-7	836.0	PETRO ODOR @ 0'-4'
		PID = 5.9 PPM @ 0'-2'
		PID = 7.0 PPM @ 2'-4'
GP-8	836.5	
GP-9	836.5	PETRO ODOR @ 4'-6'
		PID = 24.5 PPM @ 4'-6'
		DRO = 14 MG/KG @ 4'-6'
GP-10	836.5	DRO = 11 MG/KG @ 2'-4'
GP-11	836.5	
GP-12	836.0	DRO = 21 MG/KG @ 2'-2.5'
GP-13&13A	835.5	DRO = 99 MG/KG @ 0'-2'
		DRO = 110 MG/KG @ 2'-4'
GP-14	836.5	ARSENIC = 10 MG/KG @ 0'-2'
GP-15	836.5	DRO = 14 MG/KG @ 5'-6'
GP-16	836.5	
GP-17	836.5	DRO = 16 MG/KG @ 1'-2'
		ARSENIC = 5.8 MG/KG @ 1'-2'
		TCE = 0.3 MG/KG @ 1'-2'
GP-18	836.5	DRO = 68 MG/KG @ 1'-2'
		ARSENIC = 14 MG/KG @ 1'-2'
		ARSENIC = 15 MG/KG @ 7'-8'
GP-19	836.0	
HA-1&1A	825.7	PID = 22.3 PPM @ 4'-6'
		DRO = 80 MG/KG @ 0'-0.5'
		DRO = 280 MG/KG @ 2'-2.5'

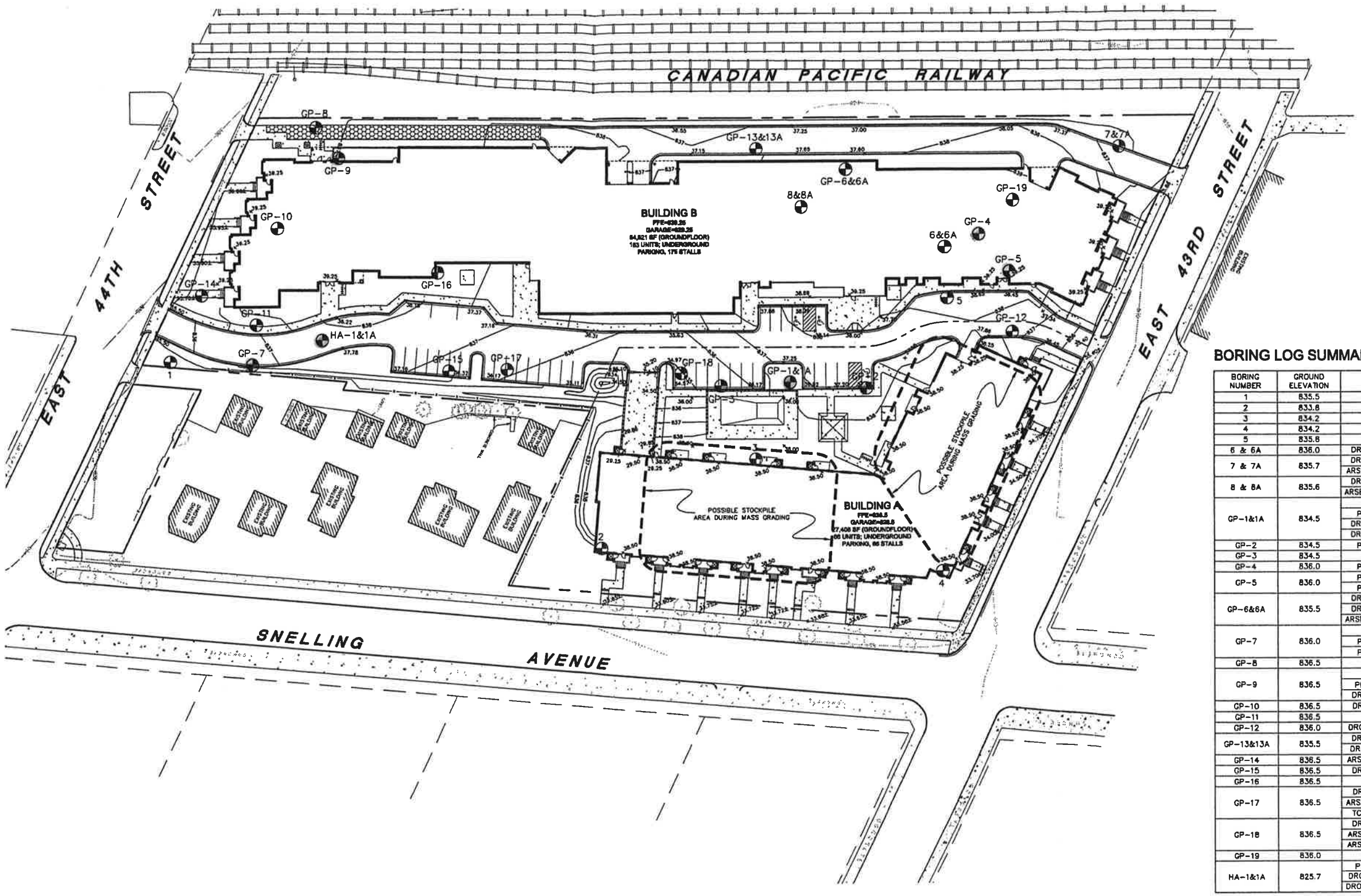
RLK
Duluth, MN
Ham Lake, MN
Hibbing, MN
Minnetonka, MN
Phone: 952 933 0972
Fax: 952 933 1155
www.rlkinc.com
6110 Blue Circle Drive • Suite 100 • Minnetonka, MN 55343

Hiawatha Flats

Figure 3

AMERICAN ENGINEERING TESTING NO. 03-02255

Date: 3/15/06



BORING LOG SUMMARY

BORING NUMBER	GROUND ELEVATION	NOTES
1	835.5	
2	833.8	
3	834.2	
4	834.2	
5	835.6	
6 & 6A	836.0	DRO = 10 MG/KG @ 0'-2'
7 & 7A	835.7	DRO = 46 MG/KG @ 0'-2'
		ARSENIC = 13 MG/KG @ 0'-2'
8 & 8A	835.6	DRO = 24 MG/KG @ 0'-2'
		ARSENIC = 6.4 MG/KG @ 0'-2'
GP-1&1A	834.5	PETRO ODOR @ 3'-6'
		PID = 5.0 PPM @ 4'-6'
		DRO = 32 MG/KG @ 0'-2'
		DRO = 35 MG/KG @ 4'-6'
GP-2	834.5	PID = 6.5 PPM @ 6'-8'
GP-3	834.5	
GP-4	836.0	PID = 5.0 PPM @ 2'-4'
GP-5	836.0	PID = 5.5 PPM @ 4'-6'
		PID = 6.0 PPM @ 6'-8'
GP-6&6A	835.5	DRO = 18 MG/KG @ 0'-2'
		DRO = 16 MG/KG @ 4'-6'
		ARSENIC = 9.4 MG/KG @ 4'-6'
GP-7	836.0	PETRO ODOR @ 0'-4'
		PID = 5.9 PPM @ 0'-2'
		PID = 7.0 PPM @ 2'-4'
GP-8	836.5	
GP-9	836.5	PETRO ODOR @ 4'-6'
		PID = 24.5 PPM @ 4'-6'
		DRO = 14 MG/KG @ 4'-6'
GP-10	836.5	DRO = 11 MG/KG @ 2'-4'
GP-11	836.5	
GP-12	836.0	DRO = 21 MG/KG @ 2'-2.5'
GP-13&13A	835.5	DRO = 99 MG/KG @ 0'-2'
		DRO = 110 MG/KG @ 2'-4'
GP-14	836.5	ARSENIC = 10 MG/KG @ 0'-2'
GP-15	836.5	DRO = 14 MG/KG @ 5'-6'
GP-16	836.5	
GP-17	836.5	DRO = 16 MG/KG @ 1'-2'
		ARSENIC = 5.8 MG/KG @ 1'-2'
		TCE = 0.3 MG/KG @ 1'-2'
GP-18	836.5	DRO = 68 MG/KG @ 1'-2'
		ARSENIC = 14 MG/KG @ 1'-2'
		ARSENIC = 15 MG/KG @ 7'-8'
GP-19	836.0	
HA-1&1A	825.7	PID = 22.3 PPM @ 4'-6'
		DRO = 80 MG/KG @ 0'-0.5'
		DRO = 280 MG/KG @ 2'-2.5'

RLK ENGINEERING
Duluth, MN
Hayward, WI
Hibbing, MN
Minneapolis, MN
Phone: 952 933 0972
Fax: 952 933 1153
www.rlkinc.com
6110 Blue Circle Drive • Suite 100 • Minnetonka, MN 55343

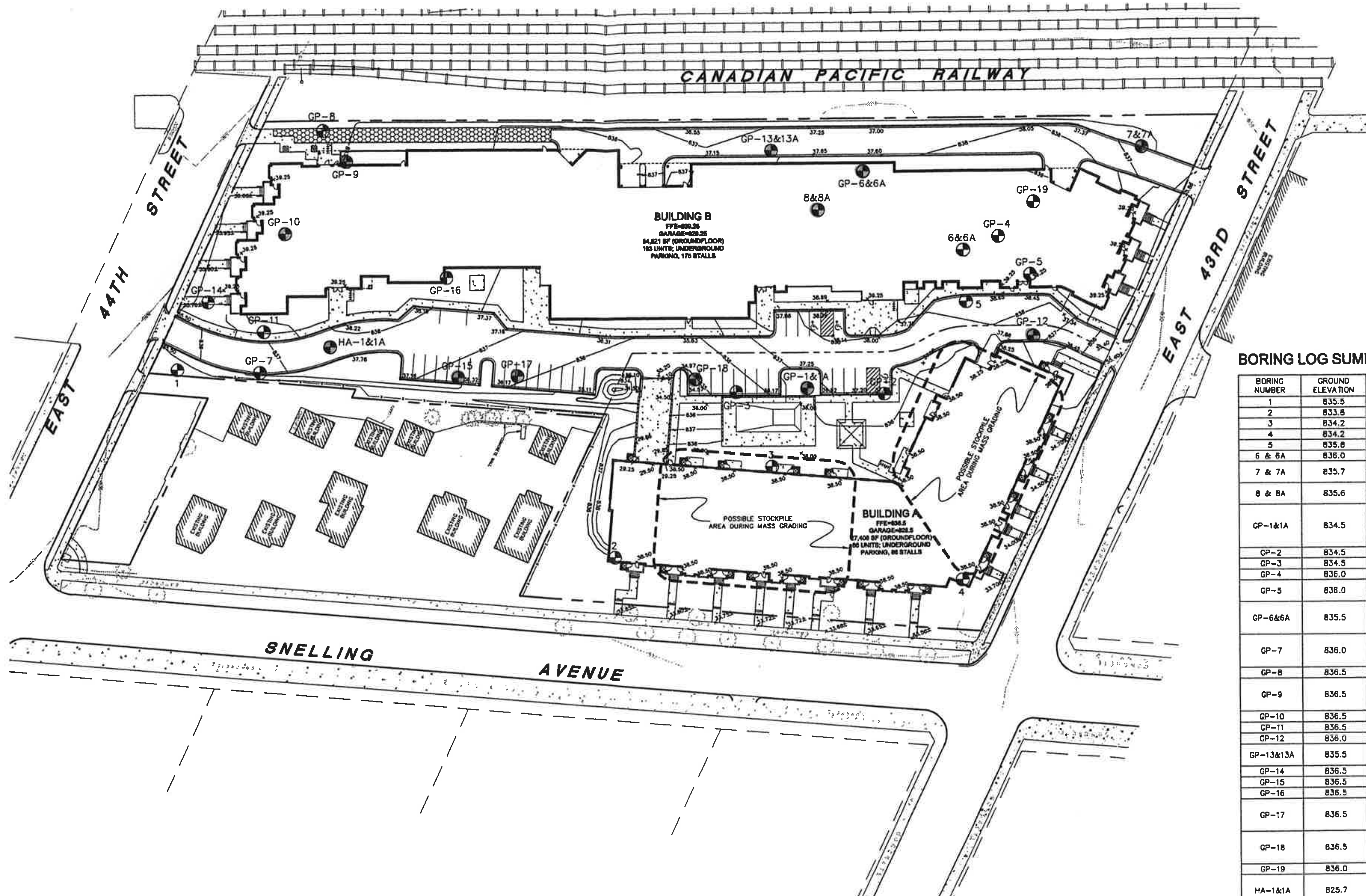
Hiawatha Flats

AMERICAN ENGINEERING TESTING NO. 03-02255

Figure 3.1

- PID Impacts

Date: 3/15/06



BORING LOG SUMMARY

BORING NUMBER	GROUND ELEVATION	NOTES
1	835.5	
2	833.8	
3	834.2	
4	834.2	
5	835.8	
6 & 6A	836.0	DRO = 10 MG/KG @ 0'-2'
7 & 7A	835.7	DRO = 46 MG/KG @ 0'-2' ARSENIC = 13 MG/KG @ 0'-2'
8 & 8A	835.6	DRO = 24 MG/KG @ 0'-2' ARSENIC = 6.4 MG/KG @ 0'-2'
GP-1&1A	834.5	PETRO ODOR @ 3'-6' PID = 5.0 PPM @ 4'-6' DRO = 32 MG/KG @ 0'-2' DRO = 35 MG/KG @ 4'-6'
GP-2	834.5	PID = 6.5 PPM @ 6'-8'
GP-3	834.5	
GP-4	836.0	PID = 5.0 PPM @ 2'-4'
GP-5	836.0	PID = 5.5 PPM @ 4'-6' PID = 6.0 PPM @ 6'-8'
GP-6&6A	835.5	DRO = 18 MG/KG @ 0'-2' DRO = 16 MG/KG @ 4'-6' ARSENIC = 9.4 MG/KG @ 4'-6'
GP-7	836.0	PETRO ODOR @ 0'-4' PID = 5.9 PPM @ 0'-2' PID = 7.0 PPM @ 2'-4'
GP-8	836.5	
GP-9	836.5	PETRO ODOR @ 4'-6' PID = 24.5 PPM @ 4'-6' DRO = 14 MG/KG @ 4'-6'
GP-10	836.5	DRO = 11 MG/KG @ 2'-4'
GP-11	836.5	
GP-12	836.0	DRO = 21 MG/KG @ 2'-2.5'
GP-13&13A	835.5	DRO = 99 MG/KG @ 0'-2' DRO = 110 MG/KG @ 2'-4'
GP-14	836.5	ARSENIC = 10 MG/KG @ 0'-2'
GP-15	836.5	DRO = 14 MG/KG @ 5'-6'
GP-16	836.5	
GP-17	836.5	DRO = 16 MG/KG @ 1'-2' ARSENIC = 5.8 MG/KG @ 1'-2' TCE = 0.3 MG/KG @ 1'-2'
GP-18	836.5	DRO = 68 MG/KG @ 1'-2' ARSENIC = 14 MG/KG @ 1'-2' ARSENIC = 15 MG/KG @ 7'-8'
GP-19	836.0	
HA-1&1A	825.7	PID = 22.3 PPM @ 4'-6' DRO = 80 MG/KG @ 0'-0.5' DRO = 280 MG/KG @ 2'-2.5'

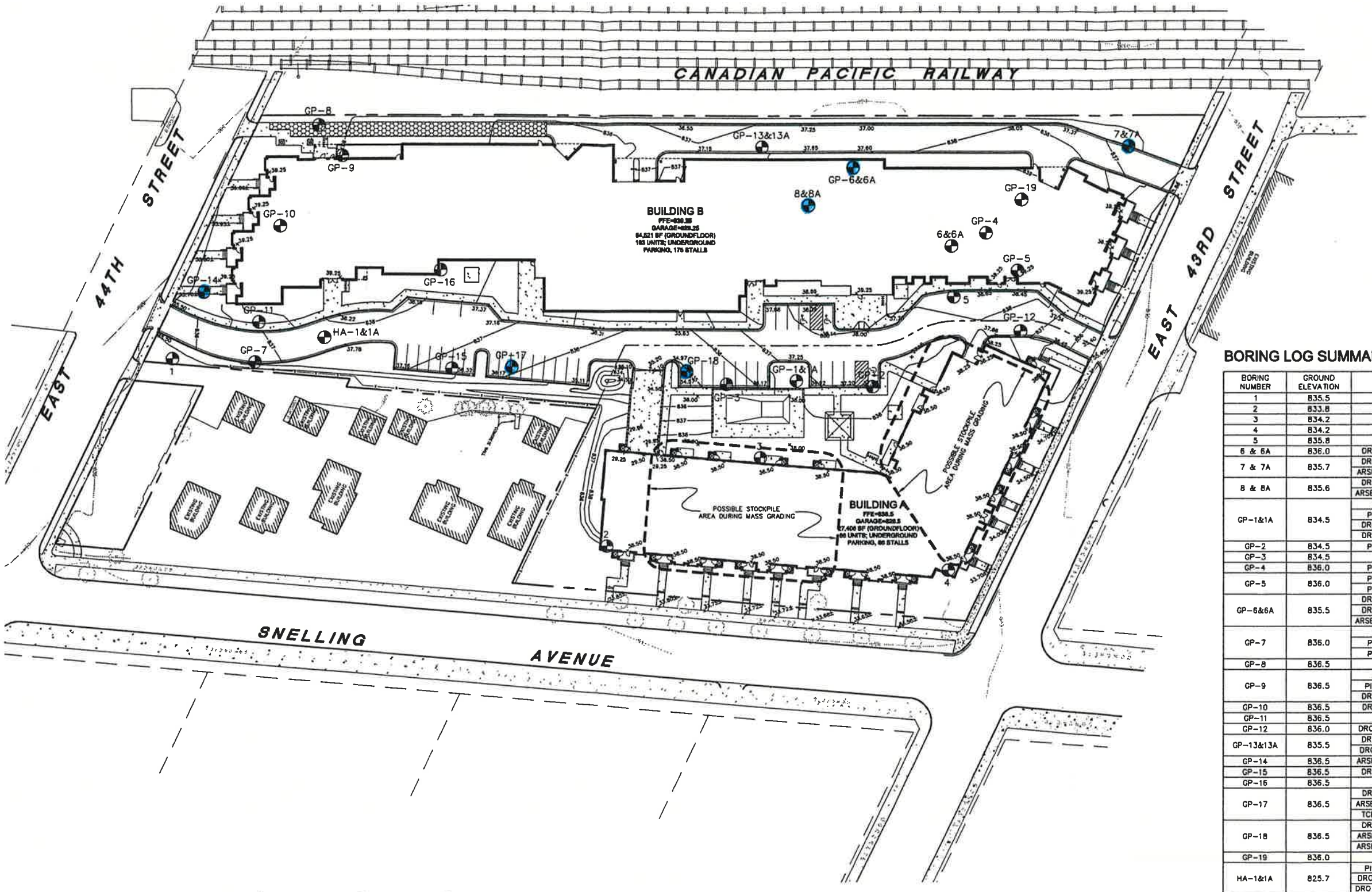
RLK
6110 Blue Circle Drive • Suite 100 • Minnetonka, MN 55343

Hiawatha Flats

AMERICAN ENGINEERING TESTING NO. 03-02255

Figure 3.2
● DRO Impacts

Date: 3/15/06



BORING LOG SUMMARY

BORING NUMBER	GROUND ELEVATION	NOTES
1	835.5	
2	833.8	
3	834.2	
4	834.2	
5	835.8	
6 & 6A	836.0	DRO = 10 MG/KG @ 0'-2'
7 & 7A	835.7	DRO = 46 MG/KG @ 0'-2'
		ARSENIC = 13 MG/KG @ 0'-2'
8 & 8A	835.6	DRO = 24 MG/KG @ 0'-2'
		ARSENIC = 6.4 MG/KG @ 0'-2'
GP-1&1A	834.5	PETRO ODOR @ 3'-6'
		PID = 5.0 PPM @ 4'-6'
		DRO = 32 MG/KG @ 0'-2'
		DRO = 35 MG/KG @ 4'-6'
GP-2	834.5	PID = 6.5 PPM @ 6'-8'
GP-3	834.5	
GP-4	836.0	PID = 5.0 PPM @ 2'-4'
GP-5	836.0	PID = 5.5 PPM @ 4'-6'
		PID = 6.0 PPM @ 6'-8'
GP-6&6A	835.5	DRO = 18 MG/KG @ 0'-2'
		DRO = 16 MG/KG @ 4'-6'
		ARSENIC = 9.4 MG/KG @ 4'-6'
GP-7	836.0	PETRO ODOR @ 0'-4'
		PID = 5.9 PPM @ 0'-2'
		PID = 7.0 PPM @ 2'-4'
GP-8	836.5	
GP-9	836.5	PETRO ODOR @ 4'-8'
		PID = 24.5 PPM @ 4'-6'
		DRO = 14 MG/KG @ 4'-6'
GP-10	836.5	DRO = 11 MG/KG @ 2'-4'
GP-11	836.5	
GP-12	836.0	DRO = 21 MG/KG @ 2'-2.5'
GP-13&13A	835.5	DRO = 99 MG/KG @ 0'-2'
		DRO = 110 MG/KG @ 2'-4'
GP-14	836.5	ARSENIC = 10 MG/KG @ 0'-2'
GP-15	836.5	DRO = 14 MG/KG @ 5'-6'
GP-16	836.5	
GP-17	836.5	DRO = 16 MG/KG @ 1'-2'
		ARSENIC = 5.8 MG/KG @ 1'-2'
		TCE = 0.3 MG/KG @ 1'-2'
GP-18	836.5	DRO = 68 MG/KG @ 1'-2'
		ARSENIC = 14 MG/KG @ 1'-2'
		ARSENIC = 15 MG/KG @ 7'-8'
GP-19	836.0	
HA-1&1A	825.7	PID = 22.3 PPM @ 4'-6'
		DRO = 80 MG/KG @ 0'-0.5'
		DRO = 280 MG/KG @ 2'-2.5'

RLK INCORPORATED
6110 Blue Circle Drive • Suite 100 • Minnetonka, MN 55343
Duluth, MN
Hibbing, MN
Minnetonka, MN
Phone: 952 933 0972
Fax: 952 933 1153
www.rlkinc.com

Hiawatha Flats

AMERICAN ENGINEERING TESTING NO. 03-02255

Figure 3.3

- Arsenic Impacts

Date: 3/15/06