

May 3, 2002

Project No. CMXX-01-0492

Mr. Mark Koplitz  
Minnesota Pollution Control Agency  
VPIC Program  
520 Lafayette Road North  
St. Paul, Minnesota 55155-4194

Dear Mr. Koplitz:

Re: Development Response Action Plan and Construction Contingency Plan;  
Proposed Development, Paved Parking Lots, 1245 Penn Avenue and  
2201 and 2215 Plymouth Avenue North; Minneapolis, Minnesota

## **1.0. Introduction**

### **1.1. Purpose**

This Development Response Action Plan (DRAP) presents a proposed plan for handling petroleum-impacted soils that are expected to be encountered during geotechnical soil correction activities associated with the planned development of the properties located at 1245 Penn Avenue and 2201 and 2215 Plymouth Avenue North in Minneapolis, Minnesota (the site). Also included is a Construction Contingency Plan (CCP) for handling non-petroleum-related soil contamination and waste if encountered. Non-petroleum-related soil contamination is not expected to be encountered at the site.

This DRAP/CCP was prepared by Braun Intertec Corporation (Braun Intertec), on behalf of the Minneapolis Community Development Agency (MCDA), under Contract Number 17369, Release Number 5.

### **1.2. Site Description**

The 1.1 acre site currently consists of paved parking lots located on the southwest corner of the intersection of Penn Avenue North and Plymouth Avenue North in Minneapolis, Minnesota and includes 3 properties with the following addresses: 1245 Penn Avenue and 2201 and 2215 Plymouth Avenue North. No structures are located at the site. The site is owned by the MCDA. The site location is illustrated on Figure 1. A site map is included as Figure 2.

## **2.0. Background**

The MCDA intends to sell the site for redevelopment. At this time, the redevelopment plans are preliminary; and will likely consist of either a slab-on-grade commercial/retail building or residential building(s) that may include basements.

A house was previously located at 1245 Penn Avenue North, a physician's clinic with an attached house was located at 2215 Plymouth Avenue North, and a gasoline filling station was located at 2201 Plymouth Avenue North. A petroleum release was reported at 2201 Plymouth Avenue North on November 8, 1988 and assigned Leak #0967 by the Minnesota Pollution Control Agency (MPCA). Closure of the release site file was issued by the MPCA on December 24, 1997.

## **2.1. Previous Environmental Investigation Reports and Documents**

### **2.1.1. Reports Issued From November 1987 To January 1993**

The following reports were generated by Braun Intertec concerning portions of the site during the period November 1987 to January 1993. Please refer to the December 17, 2001 *Phase I Environmental Site Assessment* report for a summary of the results of each of these reports.

- *Underground Storage Tank Investigation; 2201 Plymouth Avenue North; Minneapolis, Minnesota; E87-300; November 12, 1987.*
- *Underground Storage Tank Investigation; 2201 Plymouth Avenue North; Minneapolis, Minnesota; E87-300; December 11, 1987.*
- *Remedial Investigation; 2201 Plymouth Avenue North; Minneapolis, Minnesota; EG-418; February 21, 1990.*
- *Excavation Observation; 1245 Penn Avenue South (sic); Minneapolis, Minnesota; EG-645; April 5, 1990.*
- *Soil Borings; 1245 Penn Avenue North; Minneapolis, Minnesota; EG-732; July 6, 1990.*
- *Groundwater Monitoring; 2201 Plymouth Avenue North; Minneapolis, Minnesota; EG-938; August 27, 1990.*
- *Excavation Observation; 2215 Plymouth Avenue North; Minneapolis, Minnesota; EG-1087; January 10, 1991.*
- *Remedial Investigation; 2201 and 2215 Plymouth Avenue North; Minneapolis, Minnesota; CMKX-91-0207; May 29, 1992.*
- *Groundwater Monitoring Report; Minneapolis Community Development Agency; 2201 and 2215 Plymouth Avenue North; Minneapolis, Minnesota; CMKX-91-0207; January 5, 1993.*

### **2.1.2. Reports Issued From December 2001 To Date**

The following reports were generated by Braun Intertec during the period December 2001 to date. A summary of the results of these reports is included below.

- *Phase I Environmental Site Assessment; Paved Parking Lots; 1245 Penn Avenue and 2201 and 2215 Plymouth Avenue North; Minneapolis, Minnesota; CMXX-01-0492; December 17, 2001.*

- *Focused Phase II Environmental Assessment; Paved Parking Lots; 1245 Penn Avenue and 2201 and 2215 Plymouth Avenue North; Minneapolis, Minnesota; CMXX-01-0492; February 21, 2002.*
- *Focused Feasibility Study; Paved Parking Lots; 1245 Penn Avenue and 2201 and 2215 Plymouth Avenue North; Minneapolis, Minnesota; CMXX-01-0492; May 2, 2002.*

### **Phase I Environmental Site Assessment**

Braun Intertec completed a Phase I Environmental Site Assessment (Phase I ESA) of the site dated December 17, 2001 in general conformance with the scope and limitations of ASTM Practice E 1527-00 and MPCA Voluntary Investigation and Cleanup (VIC) Program Guidance Document No. 8.

Our review of historical documents indicated that the site was undeveloped in 1885. In the 1930s, two residential dwellings, a physician's office, and a gasoline filling station were located at the site. By the late 1980s, no structures were located at the site.

Our review of previous environmental documents indicated that numerous soil borings, groundwater monitoring wells, and soil and groundwater laboratory analyses had been completed at portions of the site from 1987 to 1993. Environmental investigations were conducted at 2201 Plymouth Avenue North, the location of a former gasoline filling station, and at 1245 Penn Avenue North and 2215 Plymouth Avenue North, to evaluate the extent and magnitude of soil and groundwater contamination associated with the former petroleum product underground storage tanks (USTs) and former operations conducted at the filling station. Petroleum-impacted soil was found to be present at 2201 Plymouth Avenue North from the near surface to a depth of approximately 40 feet below land surface (bls), and to be present in the northern portion of 1245 Penn Avenue North and the southern portion of the 2215 Plymouth Avenue North property at depths from approximately 25 to 40 feet bls.

Groundwater monitoring wells were installed at depths ranging from 63 to 68 1/2 feet bls, within the upper portion of the St. Peter Sandstone. During initial groundwater sampling, low concentrations of several volatile organic compounds (VOCs), including acetone, chloroform, ethyl benzene, methyl ethyl ketone, toluene, and xylenes, were detected in samples collected from the monitoring wells. During subsequent groundwater sampling events, no VOCs, total hydrocarbons (THCs) as gasoline or fuel oil, or total lead were detected in groundwater samples.

The Phase I ESA revealed no additional indications of recognized environmental conditions, beyond the previously identified petroleum-contaminated soil, in connection with the site.

### **Focused Phase II Environmental Site Assessment**

Braun Intertec prepared a Focused Phase II ESA report for the site dated February 21, 2002. The primary purpose of the Focused Phase II ESA was to evaluate soil conditions in the vicinity of the former physician's office at 2215 Plymouth Avenue North for indications of environmental contamination, and to complement previous environmental investigations conducted on the remainder of the site. The Focused Phase II ESA included completing 3 soil borings to depths up to 40 feet bls; evaluating soil samples collected from the borings for indications of contamination, including screening the soil samples for the presence of total organic vapors with a photoionization

detector (PID); and laboratory chemical analysis of soil samples for VOCs, gasoline-range organics (GRO), diesel-range organics (DRO), polyaromatic hydrocarbons (PAHs), polychlorinated biphenyls (PCBs), and the eight Resource Conservation and Recovery Act (RCRA) metals.

The results of the Focused Phase II ESA indicated that minor concentrations of RCRA metals were detected in soil samples collected from all 3 borings; however, none were detected above the MPCA - Soil Reference Values (SRVs) for residential land use and concentrations were within naturally-occurring levels.

### **Focused Feasibility Study**

Braun Intertec prepared a Focused Feasibility Study (FFS) dated April 16, 2002. The purpose of the FFS was to develop appropriate remedial response action alternatives for petroleum-impacted soil, evaluate the alternatives, and recommend a particular alternative for remedial action. Three response action alternatives were evaluated: in-situ soil vapor extraction; soil excavation and off site disposal; and soil excavation and off site disposal combined with installation of under-slab vapor mitigation system(s) beneath the proposed building(s) to be constructed at the site.

Based on the analysis of alternatives, limited soil excavation and off site disposal was recommended as the preferred alternative. The FFS assumes that the volume of petroleum-impacted soil to be removed and disposed, for geotechnical soil correction activities, will be approximately 1,000 cubic yards. This estimated volume of petroleum-impacted soil corresponds to an approximate depth of 7 1/2 feet bls.

## **2.2. Site Hydrogeology**

The surficial, unconsolidated deposits in the vicinity of the site consist of Quaternary-age Des Moines Lobe till deposits. The underlying bedrock consists of limestone (Platteville Formation) overlying shale (Glenwood Formation) overlying sandstone (St. Peter Sandstone).

Soil borings conducted at the site generally encountered unconsolidated material to depths of up to 40 feet bls, underlain by limestone bedrock. The unconsolidated materials consisted up to 15 feet of fill deposits overlying a reddish brown, stiff, lean clay ranging in thickness from 15 to 24 feet. Underlying the clay, a poorly graded, fine- to medium-grained, brown sand was generally encountered ranging from 9 to 17 feet in thickness. The sand was generally found to be underlain by up to 8 feet of silt and/or silty, clayey sands to the bedrock surface.

Bedrock encountered in deeper borings conducted at the site encountered up to 15 feet of dolomitic limestone overlying up to 5 feet of shale overlying a fine- to medium-grained, friable sandstone. The limestone bedrock was encountered at depths ranging from 36 to 40 feet bls.

Groundwater monitoring wells installed at the site indicated that the depth to the water table ranged from 58 to 59 feet bls. The water table was found to be present in the St. Peter Sandstone. Groundwater flow was towards the east-southeast. Initial groundwater quality sampling results indicated that low levels of several VOCs were present at concentrations below the Minnesota Department of Health (MDH) Recommended Allowable Limits (RALs), which were used as action levels at the time. VOCs were not detected during subsequent groundwater sampling events. The monitoring wells were abandoned in accordance with the MDH Water Well Code in November 1992.

### 2.3. Site Contaminants

In summary, the results of the afore-mentioned reports indicated that petroleum-impacted soils are present at varying depths within a fairly large lateral area of the site. Petroleum-related contaminants detected at the site include DRO; THC as gasoline; and benzene, ethyl benzene, toluene, and xylenes (BETX). Additionally, total lead was detected at concentrations slightly exceeding typical naturally-occurring concentrations. The slightly elevated lead concentrations correlate with detections of petroleum contaminants and are most likely a result of release(s) of leaded gasoline.

The depth of petroleum-impacted soil varies with distance from the source area. The source area appears to be the former location of USTs that were present near the northeast corner of the former gasoline filling station located at 2201 Plymouth Avenue North. Petroleum-impacted soil identified within the upper 7 1/2 feet at the site appear to be confined to an area, with lateral dimensions of approximately 30 feet by 90 feet, located along the northern side of the former filling station property as depicted in Figure 3. The estimated extent of petroleum-impacted soil within the depth range from 7 1/2 to 15 feet bls is depicted in Figure 4 and indicates that the lateral extent of impacted soil in this depth interval extends farther south than the shallower extent of impacted soil. Likewise, the lateral extent of petroleum-impacted soil further increases with depth until the bedrock surface is encountered at depths ranging from 36 to 40 feet bls. The estimated total lateral extent of petroleum-impacted soils is shown in Figure 5.

### 3.0. Responsibilities

The following are the key personnel involved in the project:

Property Owner Representative Phone Number Fax	Minneapolis Community Development Agency Mr. Steve Maki (612) 673-5033 (612) 673-5186
Environmental Consultant Project Manager Phone Number Fax	Braun Intertec Corporation Mr. Christopher McElligott (952) 833-4769 (952) 833-4701
Earthwork Contractor Project Manager Phone Number	not yet available
MPCA Emergency (State Duty Officer)	(651) 649-5451
Local Emergency	911

## **4.0. Proposed Development Response Action Plan**

In order to construct the proposed development, geotechnical soil correction of the site will be necessary. In general, this will most likely consist of removing approximately the upper 1 to 9 feet of existing geotechnically unsuitable fill and soil to facilitate emplacement of engineered backfill to support the foundation and floor slab for the proposed building(s). During geotechnical soil correction excavation activities, it is likely that one or more isolated areas of petroleum-impacted soils will be encountered.

### **4.1. Soils Evaluation**

A Braun Intertec environmental field technician will be on site to screen soils for the presence of contamination during earth-moving activities. The field technician will observe soils for visual and incidental olfactory indications of contamination. Direct olfactory evaluation of grossly contaminated soil is not recommended for safety reasons, but incidental observations will be noted and acted on.

At least one soil sample will be collected from the backhoe bucket for screening with a photoionization detector (PID) equipped with a 10.6 eV lamp for every 10 to 15 cubic yards of potentially-contaminated soil excavated. This frequency may change for the various areas of the site. The environmental field technician will follow MPCA-approved headspace methodology to monitor soil for the presence of organic vapors.

The headspace analytical procedure is used to field-screen organic vapor levels in soils. The procedure consists of half-filling a new quart-sized sealable bag with a soil sample. The bag is quickly closed and headspace development proceeds for at least 10 minutes. The bag is shaken vigorously for 15 seconds, both at the beginning and the end of headspace development. After headspace development, the PID probe is inserted into the bag to one-half the headspace depth. The highest reading observed on the PID is then recorded.

Petroleum-impacted soils that are encountered during the geotechnical soil correction excavation activities will be excavated and disposed off site or reused on site based upon PID readings, and visual and incidental olfactory indications as follows:

- Petroleum-impacted soils that exhibit organic vapor concentrations, as measured by a PID headspace reading, of less than 10 parts per million (ppm), exhibit no significant visual or olfactory characteristics indicating potential contamination, and are geotechnically suitable, may be reused on site as controlled fill at the discretion of the contractor. If used for "green space," a minimum 2-foot-thick cover of clean fill will be placed over the impacted soils. If the impacted soils are not geotechnically suitable for reuse on site, they will be transported off site and disposed at a permitted waste disposal facility.
- Petroleum-impacted soils that exhibit PID headspace readings of 10 ppm or greater, and less than 200 ppm, and are geotechnically suitable for use as engineered fill, may be segregated for reuse at the site under future paved parking and/or drive areas. Otherwise, they will be transported off site for disposal at a permitted waste disposal facility.

- Petroleum-impacted soils that exhibit PID headspace readings of 200 ppm or greater, and/or display visual or olfactory evidence of gross contamination, will be transported off site for disposal at a permitted waste disposal facility.

The proposed plan for potentially utilizing petroleum-impacted soils as controlled fill in the parking and drive areas of the proposed development includes the following items:

1. Petroleum-impacted soil will be placed no deeper than 5 feet below the finished elevation of the parking and/or drive areas. Petroleum-impacted soils will not be placed adjacent to the proposed building foundation or utility trenches to avoid possible vapor impacts.
2. The soils will be placed within one contiguous location of the parking and/or drive areas.
3. The soils will be placed within the parking and/or drive area subcuts in successive layers, each with a maximum thickness of 1 foot. Each layer will be compacted to geotechnical specifications and tested for compaction prior to placing the subsequent layer. Prior to placing the subsequent layer, a sufficient number of soil PID readings will be obtained from each layer in order to document the organic vapor levels of the emplaced soils.

The use of petroleum-impacted soil as fill underneath bituminous parking and drive areas on the site will likely not pose a significant risk to human health or the environment. By using petroleum-impacted soil beneath a relatively impermeable layer of bituminous, the risk of exposure to humans is greatly reduced after paving. However, workers who may excavate into these areas should be made aware of the possible presence of petroleum-impacted soils.

If soils contaminated with non-petroleum-related constituents are encountered during the site preparation activities, they will be handled in accordance with the CCP (see Section 5.0). Additionally, Braun Intertec will notify the MCDA, development owner and the MPCA prior to proceeding. Additional assessment of the site, including additional laboratory analytical tests, likely would be required to characterize the identified contamination. Based on previous remedial investigation activities performed at the site, we do not anticipate encountering significant non-petroleum-related contaminants.

#### **4.2. Confirmation Organic Vapor Readings for Unexcavated Soils**

When petroleum-impacted soils (as indicated by visual, olfactory, or headspace/PID data) are excavated, confirmation PID readings will be taken from the excavated area where they were found at the finished excavation base or sidewalls to document the organic vapor concentrations of soils left in place. In addition, petroleum-impacted soils reused at the site as described in Section 4.1 will be screened with a PID to document the condition of those soils.

#### **4.3. Soil Stockpile Management and Sampling Plan**

If it becomes necessary to stockpile petroleum-impacted soils for staging prior to reuse on site or to await disposal characterization results, the soils will be staged on site in one or more stockpiles. The stockpiles will be numbered, a sketch will be made of each location, and a description will be made of the type of material and where it originated. Soils from different areas with suspected different contaminants, soils exhibiting different visual or olfactory characteristics, or soils with significantly different PID measurements will be stored separately.

Stockpiled soils will be placed on 6-mil polyethylene sheeting and covered with 6-mil polyethylene sheeting at the end of each workday and they will be secured in place. The stockpiles will be bermed to prevent stormwater run-on and/or runoff.

If petroleum-impacted soils are geotechnically unsuitable for reuse on site as engineered fill and are therefore to be transported off site for disposal, soil samples will be collected from the contaminated stockpiles. All samples will be transported under refrigerated conditions and accompanied by Braun Intertec Chain-of-Custody records. All analyses will be performed at the Braun Intertec laboratory within U.S. Environmental Protection Agency (USEPA) holding times. The samples will be analyzed for characterization parameters to be determined in consultation with the receiving landfill, most likely VOCs, GRO, DRO, and total lead. VOCs, GRO and DRO samples will be grab samples. Total lead samples will be composite samples.

The number of stockpile samples collected will be in accordance with stockpile sampling requirements of the MPCA Leaking Underground Storage Tank (LUST) program, specifically:

<u>Cubic Yards of Soil in Stockpile</u>	<u>Number of Grab Samples</u>
less than 50	1
51 - 500	2
501 - 1,000	3
1,001 - 2,000	4
2,001 - 4,000	5
each additional 2,000	one additional sample

Sample locations will be marked and appropriately labeled until analytical results are obtained and evaluated. In evaluating whether soil can be directly disposed of at an approved landfill without pretreatment, the soil contaminant concentrations obtained from each stockpile will be averaged.

In the event that unforeseen free wastes or stains or odors are encountered, appropriate analytical parameters will be determined based upon the appearance of the wastes or stains. MPCA VPIC project staff will be consulted in selecting analytical parameters if this event arises.

#### **4.4. Stockpile Disposal or Reuse**

Based on the results of the laboratory analyses, stockpiled soils will be reused or disposed of as follows:

- Soils that contain no indication of contamination from the laboratory tests will be used at the discretion of the development construction contractor.
- Soils exhibiting detectable contaminant concentrations and that are geotechnically unsuitable for use on site as engineered fill under paved parking and/or drive areas will be properly disposed of at an appropriately permitted landfill.

#### **4.5. Schedule**

Construction of the proposed development has not yet been scheduled.

## **5.0. Construction Contingency Plan**

During geotechnical soil correction activities associated with construction of the proposed development, non-petroleum-related contaminants or waste, while not expected, may be encountered at the site.

If soils or materials contaminated with non-petroleum-related constituents are encountered during the site preparation activities, Braun Intertec will notify the MCDA, development owner, and the MPCA prior to proceeding.

### **5.1. Soils Evaluation**

As previously mentioned in the Section 4.1, a Braun Intertec environmental field technician (certified and licensed as an asbestos inspector) will be on site to screen soils for the presence of petroleum-related and non-petroleum-related contamination during earth-moving activities. Petroleum-impacted soils will be handled as described in the DRAP. The field technician also will observe soils for visual and incidental olfactory indications of non-petroleum-related contamination and waste, as well as evidence of suspect asbestos-containing material (ACM). Direct olfactory evaluation of grossly contaminated soil is not recommended for safety reasons, but incidental observations will be noted and acted on.

Soils or materials that exhibit visual indications of potential non-petroleum contamination, such as discoloration or staining, will be segregated during excavation and stockpiled on plastic. These materials will be placed in separate piles depending on similar visual characteristics. If suspect ACM is encountered, protocol outlined in the July 1999 MPCA Asbestos Guidance on Excavation Projects will be followed.

Non-petroleum-impacted soils that are encountered during the excavation activities will be excavated, and reused on site or properly disposed off site, based upon laboratory chemical analyses as follows:

- Soils that exhibit contaminant concentrations less than the MPCA Tier 2 Residential Soil Reference Values (SRVs) and Soil Leaching Values (SLVs), and are geotechnically suitable, may be reused on site or disposed off site at the discretion of the contractor.
- Soils that exhibit contaminant concentrations in excess of the MPCA Tier 2 Residential SRVs or SLVs will be properly treated and/or disposed off site.

### **5.2. Soil Stockpile Management and Sampling Plan**

Non-petroleum-contaminated soils or potentially contaminated soils or materials will be stockpiled to await contaminant characterization results. Depending on different visual or other characteristics, the soils or materials will be stockpiled on site in one or more stockpiles. The stockpiles will be numbered, a sketch will be made of each location, and a description will be made of the suspected type of material and where it originated. Soils or materials from different areas with suspected different contaminants will be stored separately.

Stockpiled soils will be placed on 6-mil polyethylene sheeting and covered with 6-mil polyethylene sheeting at the end of each workday and they will be secured in place. The stockpiles will be bermed to prevent stormwater run-on and/or runoff.

Soil samples will be collected from the stockpiles and submitted to the Braun Intertec laboratory for chemical analyses. All samples will be transported under refrigerated conditions and accompanied by Braun Intertec Chain-of-Custody records. All analyses will be performed at the Braun Intertec laboratory within USEPA holding times. Depending on the suspected contaminants in each stockpile, samples will be analyzed for one or more of the following parameters: priority pollutant metals, RCRA metals, toxicity characteristic leaching procedure (TCLP) metals, polynuclear aromatic hydrocarbons (PAHs), semi-volatile organic compounds, VOCs, GRO, DRO and additional characterization parameters to be determined in consultation with the receiving facility.

The number of stockpile samples collected will be in accordance with the following table:

<u>Cubic Yards of Soil in Stockpile</u>	<u>Number of Grab Samples</u>
Less than 500	1 per 100 cubic yards
501-1,000	1 per 250 cubic yards
1,001 or more	1 per 500 cubic yards

Sample locations will be marked and appropriately labeled until analytical results are obtained and evaluated. In evaluating whether soil can be directly disposed of at an approved landfill without pretreatment, the soil contaminant concentrations obtained from each stockpile will be averaged.

In the event that unforeseen free wastes or stains or odors are encountered, appropriate analytical parameters will be determined based upon the appearance of the wastes or stains. MPCA VPIC Program project staff will be consulted in selecting analytical parameters if this event arises.

Where indications of contamination are minor, the potentially contaminated soil will be stockpiled separately and construction will continue. If significant contamination is encountered, the Braun Intertec project manager and the MCDA site representative will be contacted immediately to discuss further actions at the site.

### **5.3. Confirmation Soil Sampling for Unexcavated Soils**

When non-petroleum-contaminated soils or potentially contaminated soils or materials, as indicated by visual, olfactory, or headspace/PID evidence, are excavated, confirmation soil samples will be collected in the area of contaminated soil from the finished excavation base or sidewalls and held for PID headspace analysis and possible laboratory analysis. If laboratory analysis of the confirmation samples is needed, the number of soil samples will be collected based on the following:

<u>Area of Excavation Floor (square feet)</u>	<u>Number of Grab Samples</u>
Less than 500	2
500-1,000	3
1,000-1,500	4
1,500-2,500	5
2,500-4,000	6
4,000-6,000	7
6,000-8,500	8

<u>Area of Excavation Sidewall (square feet)</u>	<u>Number of Grab Samples</u>
Less than 500	4
500-1,000	5
1,000-1,500	6
1,500-2,000	7
2,000-3,000	8
3,000-4,000	9
>4,000	1 sample per 45 lineal feet of sidewall

Braun Intertec will discuss the need for laboratory analytical tests to characterize the unexcavated soils with the MCDA and the MPCA prior to initiating any laboratory analyses. In such situations, soil samples will be analyzed for parameters in accordance with the scheme described for stockpile sampling.

#### **5.4. Possible USTs**

It is assumed that all USTs formerly located at the site have been removed. During excavation activities, if a metal surface indicating the presence of a tank(s) is encountered, the area around the tank(s) will be carefully excavated. The tank(s) will be tested to evaluate the presence of product. If product is present, it will be removed by pumping prior to removal and disposal of the tank(s). The tank(s) will be removed by a licensed UST removal contractor and will be completed in accordance with MPCA requirements.

#### **6.0. Site Health and Safety Plan**

A Site Health and Safety Plan will be submitted to the MCDA under separate cover and will be maintained at the site at all times. Braun Intertec will provide the Health and Safety Plan to the General Contractor for reference and will provide technical assistance when required. However, subcontractor compliance with the Health and Safety Plan will be the responsibility of the General Contractor.

#### **7.0. Reporting**

A DRAP Implementation Report will be prepared following the conclusion of the various DRAP, and if applicable Construction Contingency Plan, activities previously described.

The Implementation Report will include the results of field soil screening activities; quantities and areas from which contaminated soils were excavated; documentation of the locations, depths and PID readings of petroleum-impacted soils emplaced under the parking and/or drive areas (if applicable); soil analytical results; and contaminated soil disposition records.

This report will be furnished to the MPCA, MCDA, and development owner.

## 8.0. General

In performing its services, Braun Intertec uses that degree of care and skill ordinarily exercised under similar circumstances by reputable members of its profession practicing in the same locality. No other warranty is made or intended.

If you have questions regarding this DRAP/CCP, please call Alicia Wagner Brown at (952) 833-4778 or Chris McElligott at (952) 833-4769.

Sincerely,

BRAUN INTERTEC CORPORATION



For: Alicia W. Brown  
Project Manager



Christopher D. McElligott, PE  
Senior Remediation Engineer

I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.

Print Name: Christopher D. McElligott

Signature: Chris D. McElligott

Date 5/3/02 License # 21123

Reviewed by: Michael L. Bratrud, PG, Associate Principal

Attachments:  
Figures 1 through 5

c: Mr. Steve Maki, MCDA

MINNEAPOLIS NORTH, MINN.

45093-A3-TF-024

1967  
REVISED 1993  
DMA 7374 III SE--SERIES V872



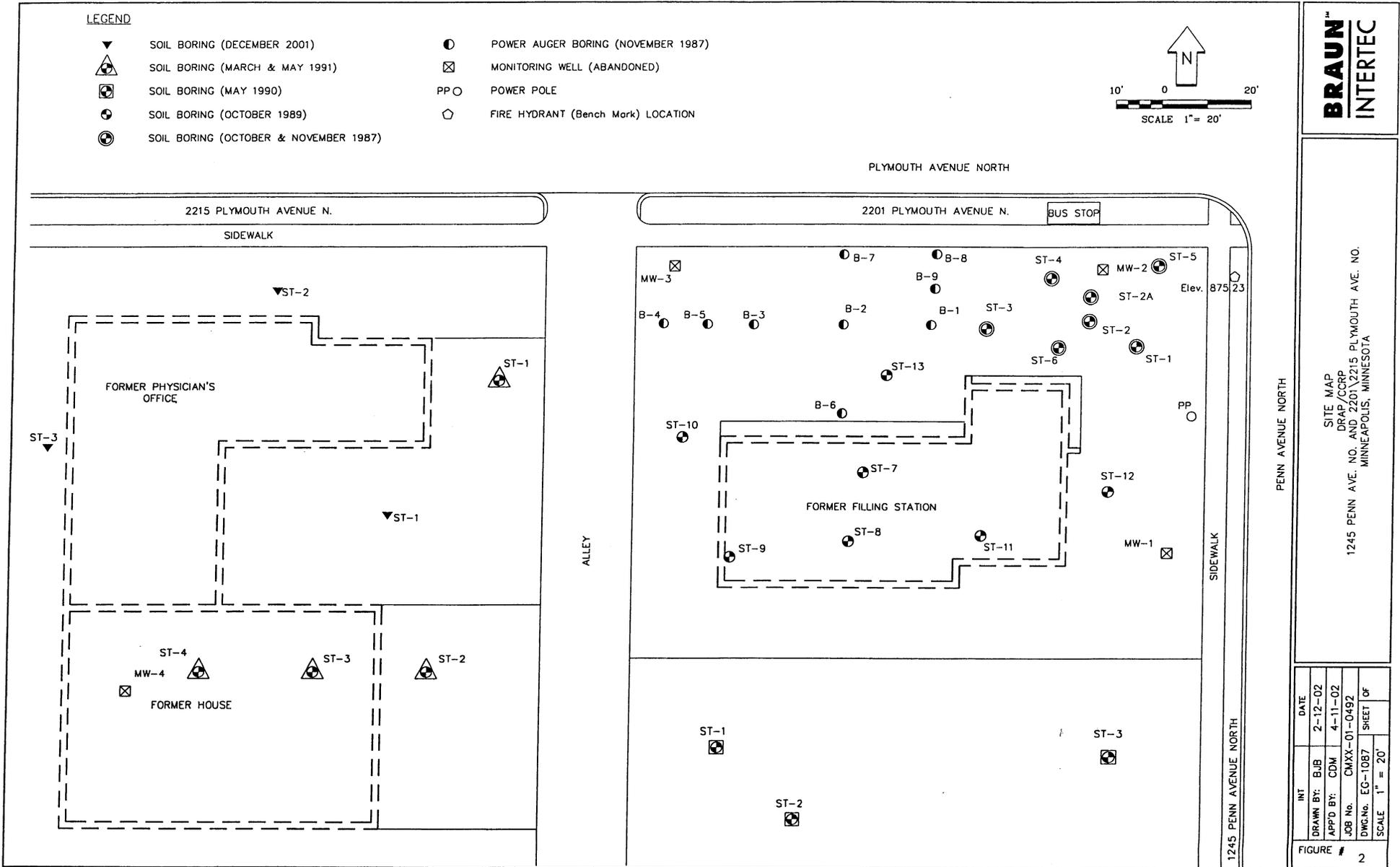
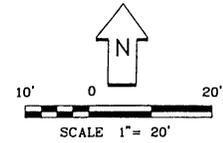
**BRAUN**  
**INTERTEC**

SITE LOCATION MAP  
DRAP/CCP  
1245 PENN AVE. NO. AND 2201/2215 PLYMOUTH AVE. NO.  
MINNEAPOLIS, MINNESOTA

INT	REVISION	SHEET
DRAWN BY: JAG	4-11-02	
APP'D BY: CDM	4-11-02	OF
JOB No. CMXX-01-0492		
DWG. No. MX10492	FIGURE NO.	
SCALE 1:24,000	1	

**LEGEND**

- ▼ SOIL BORING (DECEMBER 2001)
- ▲ SOIL BORING (MARCH & MAY 1991)
- ⊗ SOIL BORING (MAY 1990)
- ⊙ SOIL BORING (OCTOBER 1989)
- ⊕ SOIL BORING (OCTOBER & NOVEMBER 1987)
- POWER AUGER BORING (NOVEMBER 1987)
- ⊠ MONITORING WELL (ABANDONED)
- PP ○ POWER POLE
- ⬡ FIRE HYDRANT (Bench Mark) LOCATION



**BRAUN<sup>®</sup>**  
**INTERTEC**

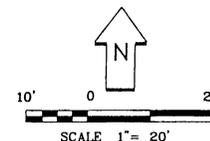
SITE MAP  
DRAWN/CCRP  
1245 PENN AVE. NO. AND 2201/2215 PLYMOUTH AVE. NO.  
MINNEAPOLIS, MINNESOTA

INT	DATE
DRAWN BY: BJB	2-12-02
APP'D BY: CDM	4-11-02
JOB No. CMXX-01-0492	
DWG.No. EG-1087	SHEET OF
	SCALE 1" = 20'

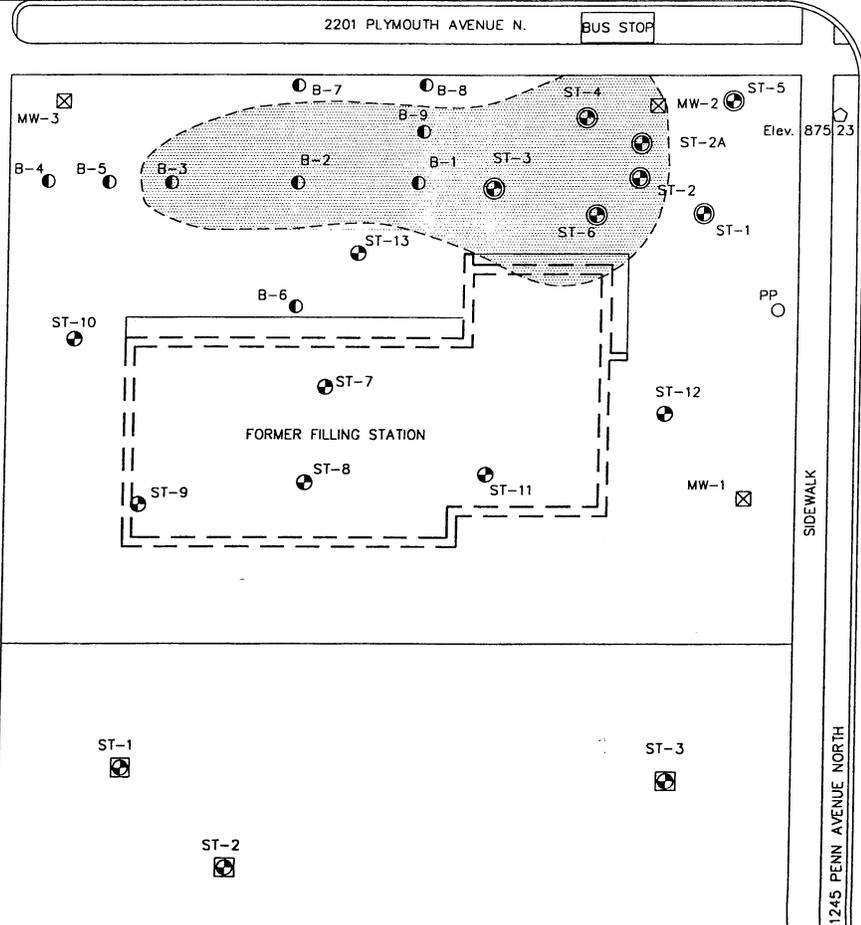
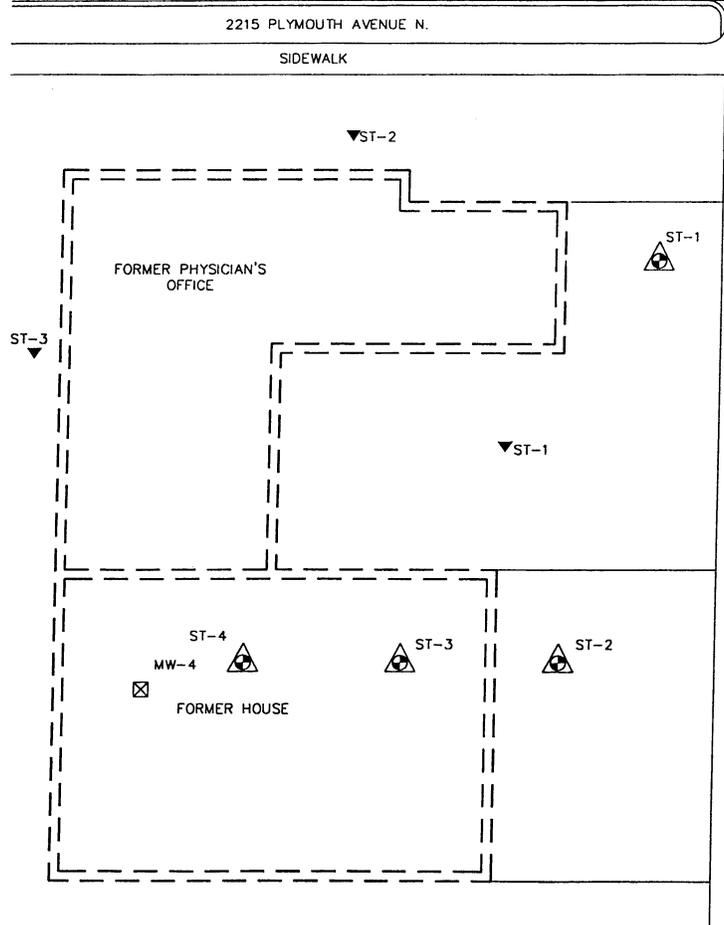
FIGURE # 2

**LEGEND**

- ▼ SOIL BORING (DECEMBER 2001)
- ▲ SOIL BORING (MARCH & MAY 1991)
- ⊗ SOIL BORING (MAY 1990)
- ⊕ SOIL BORING (OCTOBER 1989)
- ⊙ SOIL BORING (OCTOBER & NOVEMBER 1987)
- POWER AUGER BORING (NOVEMBER 1987)
- ⊠ MONITORING WELL (ABANDONED)
- ⊙ POWER POLE
- ⬡ FIRE HYDRANT (Bench Mark) LOCATION
- ▨ ESTIMATED EXTENT OF PETROLEUM-IMPACTED SOIL (0-7.5' BELOW LAND SURFACE)



PLYMOUTH AVENUE NORTH



**BRAUN<sup>SM</sup>**  
**INTERTEC**

ESTIMATED EXTENT OF PETROLEUM-IMPACTED SOILS (0-7.5')  
DRAP/CCRP  
1245 PENN AVE. NO. AND 2201 V2215 PLYMOUTH AVE. NO.  
MINNEAPOLIS, MINNESOTA

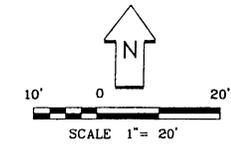
INT	DATE
DRAWN BY: BJB	2-12-02
APP'D BY: CDM	4-11-02
JOB No. CMXX-01-0492	
DWG.No. EG-1087	SHEET OF
SCALE 1" = 20'	3

PENN AVENUE NORTH

1245 PENN AVENUE NORTH

**LEGEND**

- ▼ SOIL BORING (DECEMBER 2001)
- ▲ SOIL BORING (MARCH & MAY 1991)
- ◻ SOIL BORING (MAY 1990)
- SOIL BORING (OCTOBER 1989)
- ⊙ SOIL BORING (OCTOBER & NOVEMBER 1987)
- POWER AUGER BORING (NOVEMBER 1987)
- ⊠ MONITORING WELL (ABANDONED)
- PP POWER POLE
- FIRE HYDRANT (Bench Mark) LOCATION
- ▨ ESTIMATED EXTENT OF PETROLEUM-IMPACTED SOIL (7.5'-15' BELOW LAND SURFACE)

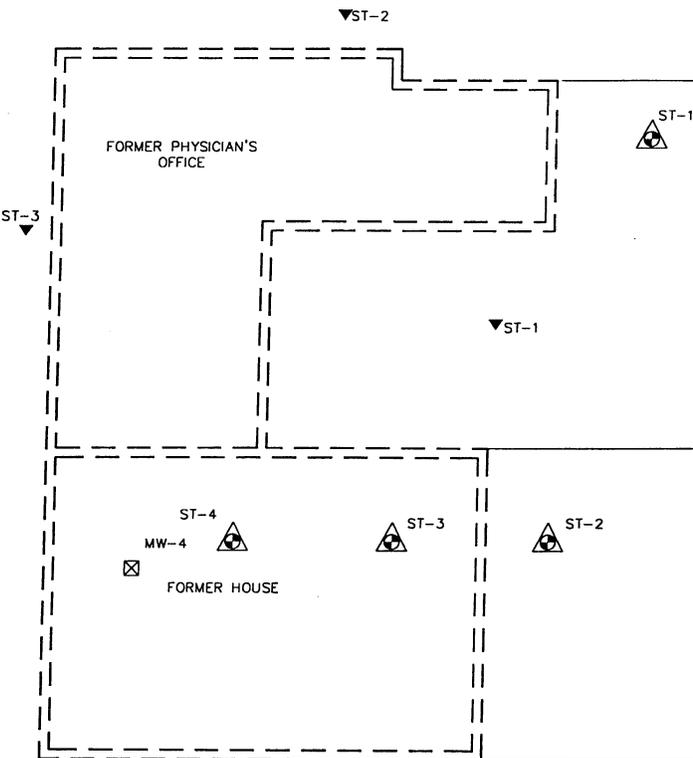


PLYMOUTH AVENUE NORTH

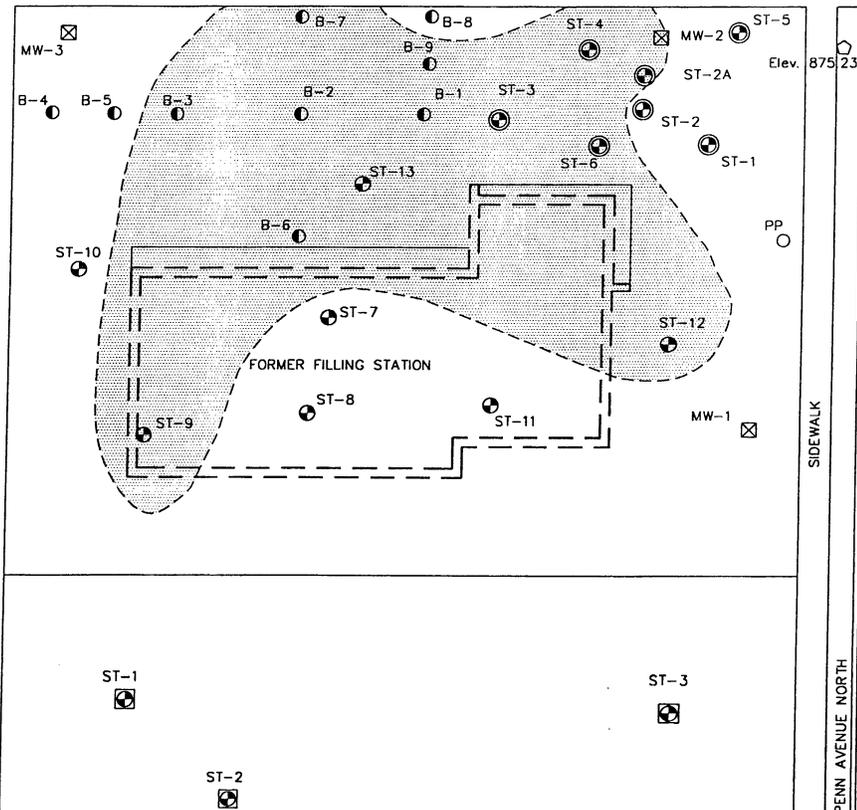
2215 PLYMOUTH AVENUE N.

SIDEWALK

2201 PLYMOUTH AVENUE N. BUS STOP



ALLEY



SIDEWALK

1245 PENN AVENUE NORTH

PENN AVENUE NORTH

**BRAUN**  
**INTERTEC**

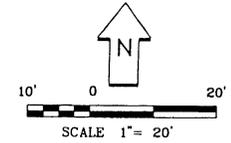
ESTIMATED EXTENT OF PETROLEUM-IMPACTED SOILS (7.5'-15')  
DRAWN/CCRP  
1245 PENN AVE. NO. AND 2201/2215 PLYMOUTH AVE. NO.  
MINNEAPOLIS, MINNESOTA

INT	DATE
DRAWN BY: BJB	2-12-02
APP'D BY: CDM	4-11-02
JOB No. CMXX-01-0492	
DWG. No. EG-1087	SHEET OF
SCALE 1" = 20'	

FIGURE # 4

**LEGEND**

- ▼ SOIL BORING (DECEMBER 2001)
- ▲ SOIL BORING (MARCH & MAY 1991)
- ⊗ SOIL BORING (MAY 1990)
- ⊙ SOIL BORING (OCTOBER 1989)
- ⊕ SOIL BORING (OCTOBER & NOVEMBER 1987)
- POWER AUGER BORING (NOVEMBER 1987)
- ⊠ MONITORING WELL (ABANDONED)
- ⊙ POWER POLE
- FIRE HYDRANT (Bench Mark) LOCATION
- ▨ ESTIMATED TOTAL EXTENT OF PETROLEUM-IMPACTED SOIL



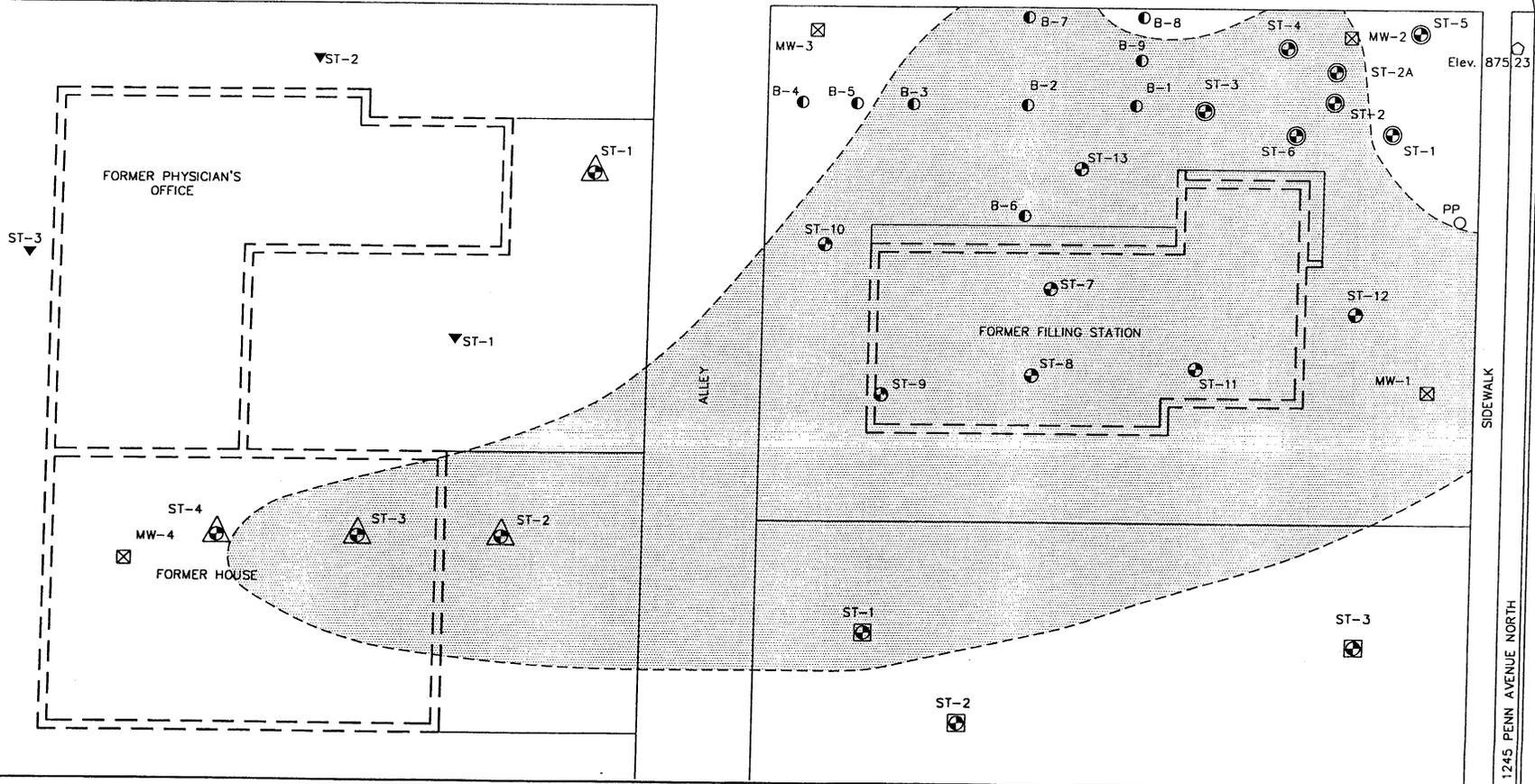
PLYMOUTH AVENUE NORTH

2215 PLYMOUTH AVENUE N.

SIDEWALK

2201 PLYMOUTH AVENUE N.

BUS STOP



PENN AVENUE NORTH

SIDEWALK

1245 PENN AVENUE NORTH

**BRAUN**  
**INTERTEC**

ESTIMATED TOTAL EXTENT OF PETROLEUM-IMPACTED SOILS  
DRAP/CRP  
1245 PENN AVE. NO. AND 2201\2215 PLYMOUTH AVE. NO.  
MINNEAPOLIS, MINNESOTA

INT	DATE
DRAWN BY: BJB	2-12-02
APP'D BY: CDM	4-11-02
JOB No. CMXX-01-0492	
DWG.No. EG-1087	SHEET OF
SCALE 1" = 20'	

FIGURE # 5