DAMES & MOORE
A DAMES & MOORE GROUP COMPANY

LIMITED SUBSURFACE INVESTIGATION WORK PLAN

PRAEFKE BRAKE
133 OAK STREET
WEST BEND, WISCONSIN

PREPARED FOR
STANDARD MOTOR PRODUCTS CO.

November 1, 1999
Dames & Moore No. 18663-007-133

A Work Plan Prepared for:

Standard Motor Products Co.
37-18 Northern Boulevard
Long Island, New York

LIMITED SUBSURFACE INVESTIGATION WORK PLAN

Praefke Brake
133 Oak Street
West Bend, Wisconsin
Dames & Moore No.: 18663-007-133

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November 1, 1999

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FIGURES

Figure 1 Site Location Map

Figure 2 Site Plan

Figure 3 Proposed Soil Boring Location Map

1.0 EXECUTIVE SUMMARY

The Praefke Brake property (Subject Property) is located at 133 Oak Street in the city of West Bend, Washington County, Wisconsin and consists of 7.05 acres of land in a mixed-use industrial and residential area. Current occupants of the site and its buildings include Praefke Brake and Supply Company (Praefke).

The subject property has a long history of industrial use dating to at least 1919 when the Schmidt and Stork Wagon Company used a portion of the Subject Property for the manufacture of wagons and caskets. In 1940, the Subject Property was purchased by Pick Manufacturing (Pick) which used the same portion of the Subject Property for the construction of target frames and tent poles for the Army. During this same time, Mr. Al Luff (Luff) used an adjoining portion of the Subject Property as a junkyard. Numerous other industrial and commercial enterprises have also occupied the property.

Environmental investigations, including analysis of soil and ground water samples, were performed at the site by several consultants beginning in approximately 1986. Currently, ground water remediation activities are being performed by Praefke and data analysis and reporting activities are being performed by Natural Resource Technology, Inc. on behalf of Praefke. In part, these investigations concluded that site soils and groundwater were contaminated with pentachlorophenol. However, the extent of pentachlorophenol impacts to site soils was not fully determined by these past investigations. The actual source of the pentachlorophenol is not known.

Dames & Moore is recommending the extent of pentachlorophenol impacts to soils be further evaluated through the completion of a limited subsurface investigation at the site. The scope of the proposed investigation consists of collection of soil samples for field characterization and potential laboratory analysis. This scope of work will be accomplished through the advancement of twelve soil borings. Three of the soil borings will be located within the estimated area of maximum pentachlorophenol soil impact (focus area) and nine borings will be advanced outside the focus area. The push probe borings will be advanced to a depth of approximately 12 feet below ground surface (bgs); however, the actual depth of the borings will be determined during field activities.

Soil samples will be collected at continuous intervals to the base of each boring and will be screened in the field and will be physically described. A minimum of one soil sample from each soil boring location will be submitted for laboratory analysis of pentachlorophenol content.

Following the completion of the subsurface investigation, Dames & Moore will prepare a summary report that includes the findings, conclusions, and recommendations for the site.

2.0 INTRODUCTION

Dames & Moore was retained to conduct a limited subsurface investigation at the property located at 133 Oak Street in the city of West Bend, Washington County, Wisconsin (Subject Property). A site location map is attached as Figure 1 and a site plan is attached as Figure 2.

The purpose of the investigation described herein is to assess the extent and magnitude of pentachlorophenol impacts to soils at the Subject Property. The scope of work necessary to achieve this goal is the installation of twelve soil borings and the collection of soil samples for field characterization and potential laboratory analysis.

The following information represents the Workplan for the activities to be conducted to investigate the identified impacts.

3.0 INVESTIGATION ACTIVITIES

Dames & Moore will conduct the limited subsurface investigation activities to more accuratley assess the horizontal and vertical extent of pentachlorophenol impact at the Subject Property. The scope of Dames & Moore's investigation will consist of the installation of twelve soil borings and the collection of soil samples for field characterization and potential laboratory analysis. The proposed locations of the soil borings are included on the attached Figure 3.

The following is a summary of the field methodologies used during soil sample collection, and other aspects of the field activities.

3.1 SOIL BORINGS

Soil boring installation and sample collection will be conducted using standard methodologies and sample collection techniques. The soil borings will be advanced using push probe techniques. The boreholes will be 1-inch in diameter and will be advanced to approximately 12 feet below ground surface. Upon completion of the soil boring, soil boring logs and borehole abandonment forms will be completed.

During soil boring activities, soil samples will be collected for characterization and description, field photoionization detector (PID) screening, and potential laboratory analysis. Samples will be collected in two-foot intervals continuing until the end of the boring. All soil samples will be placed in re-sealable plastic bags for in-field screening using a PID equipped with a 10.6 eV lamp and stored in a location away from direct sunlight and temperature extremes. Field screening results will be included on soil boring logs. Soil samples will be selected for laboratory analysis based on the results of in-field observations and field screening. The samples intended for laboratory analysis will be collected in appropriate laboratory-supplied jars and placed on ice in an insulated cooler.

Soil samples will be selected for laboratory analysis based on the results of field screening and visual observations. Each soil sample selected will be analyzed for pentachlorophenol content using EPA method 8270. All spoil generated during advancement of the soil borings will be placed in labeled, DOT-approved 55-gallon drums and stored on-site pending disposal.

3.2 SOIL SAMPLING RATIONAL

Approximately twelve soil borings will be advanced to assess the horizontal and vertical extent of pentachlorophenol contaminated soils. Three soil borings will be advanced inside the area estimated to contain maximum pentachlorophenol soil impacts (focus area), as shown in Figure 3. The soil borings will be installed to assess the vertical extent of pentachlorophenol soil impact. The other nine soil borings will be advanced outside the focus area to assess the horizontal and vertical extent of the pentachlorophenol soil impacts.

3.3 QUALITY CONTROL PROCEDURES

Preservation of sample integrity will be accomplished through cooling the samples to approximately 4°C and storing the samples in a cooler, on ice, until delivery to the project laboratory. The temperature of samples upon receipt by the laboratory will be documented by analysis of a temperature blank included with each cooler.

Additionally, sample integrity will be maintained by decontaminating all sampling equipment between sampling intervals to limit cross contamination. Decontamination procedures will consist of washing sampling equipment with a solution of trisodium phosphate and water and rinsing with water. Field personnel will also don new latex gloves after each sample collected to further limit potential for cross contamination.

Sample custody procedures are designed to comply with U.S. EPA and National NEIC requirements for sample control. Samples collected during the site investigation will be the responsibility of identified persons from the time they were collected until they or their derived data is incorporated into the final report. Stringent chain-of-custody procedures will be followed to maintain and document sample possession. A sample is considered to be in the custody of the designated person if it is in possession; in view, after being in possession; was in possession and was placed in a secured location; or in a designated secure area.

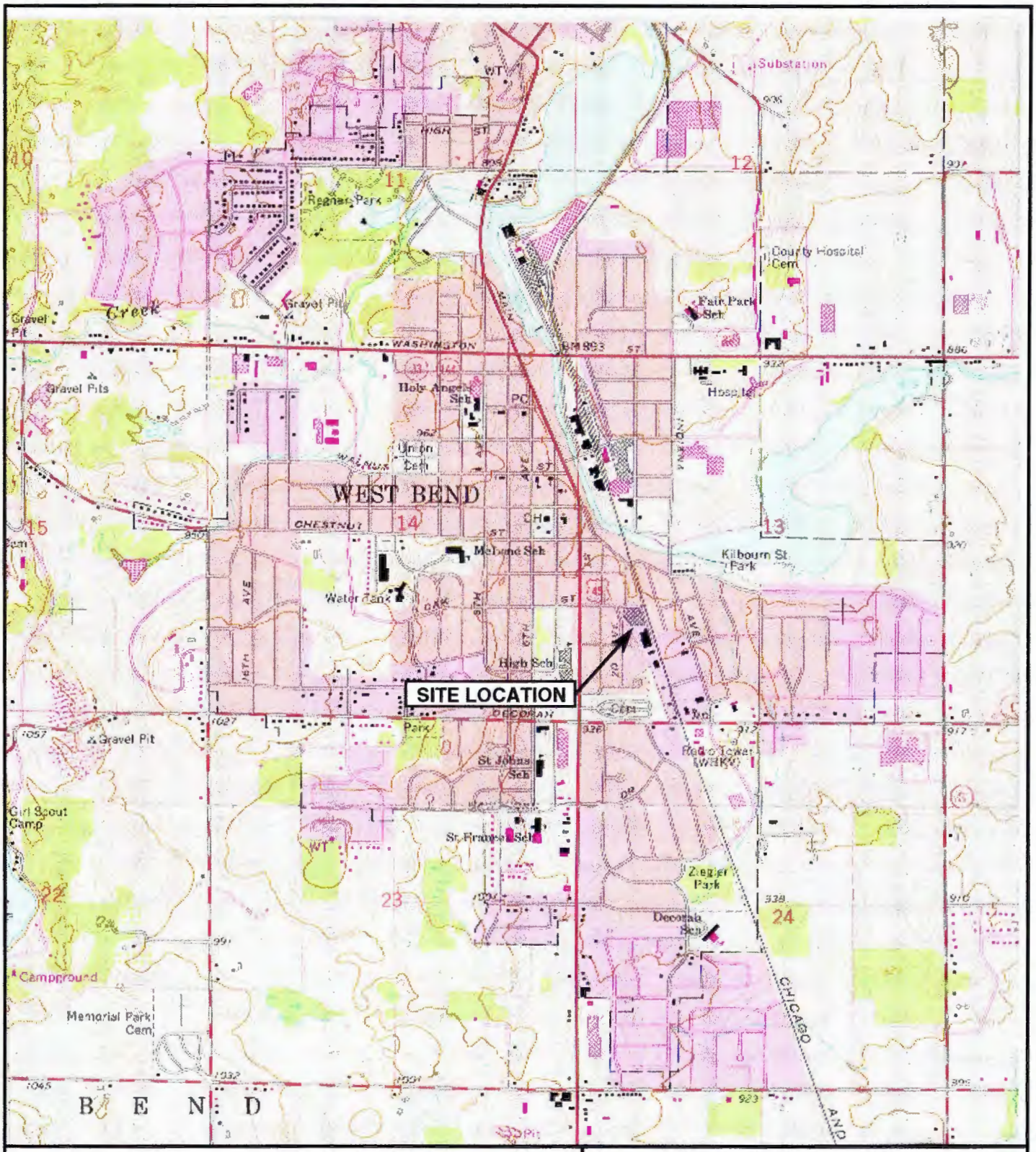
WDNR approved chain-of-custody forms will be completed to the fullest extent possible prior to delivery of the sample to the laboratory. They will include the following information: sample number, date collected, source of sample (including type of sample and site identification), sample depth, and the name of sampler. The forms will be filled out in a legible manner using

waterproof ink and will be signed by the sampler. A chain-of-custody record will always accompany samples. When transferring samples, the individuals relinquishing and receiving them will sign, date and note the time of transfer on the custody record. A separate custody record will accompany each shipment to the laboratory. The original record will accompany the shipment and a copy will be retained by the field sampler and filed immediately upon return to the office.

A licensed land surveyor will survey the locations of all soil borings prior to advancement.

4.0 REPORT PREPARATION

Upon completion of the limited subsurface investigation activities, a summary report will be prepared. The report will include a description of the activities conducted at the site, a summary of laboratory analyses, and Dames & Moore's recommendations and conclusions.



SOURCE: USGS 7.5 Minute Topographic Map, WEST BEND, WISCONSIN Quadrangle 1976

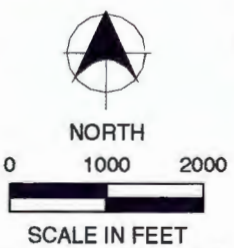


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FIGURE 1
SITE LOCATION MAP

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DATE:	01JUL99

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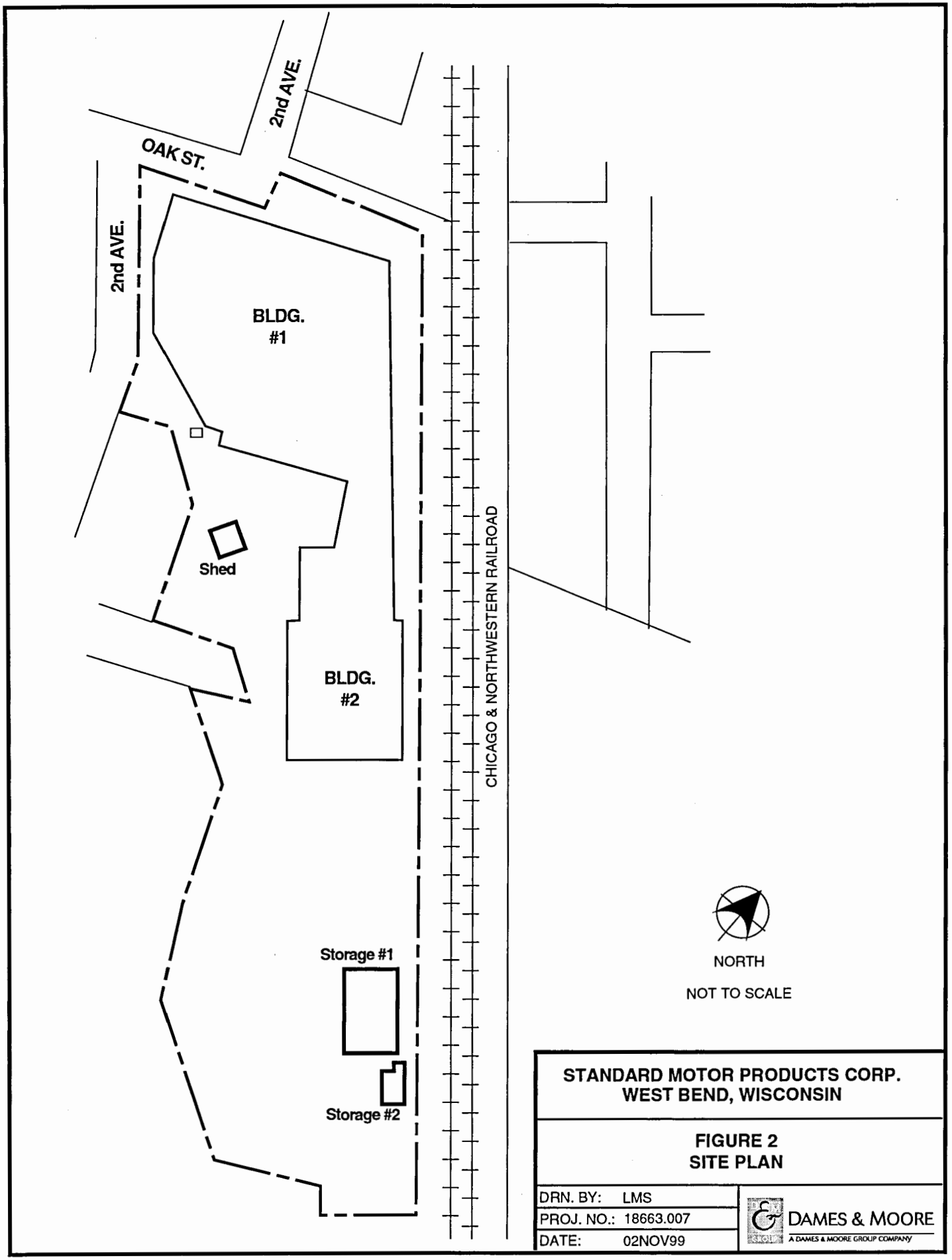

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FIGURE 2
SITE PLAN

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P:\18663.007\FIGURES\WORKPLAN\FIGURE 2.AI

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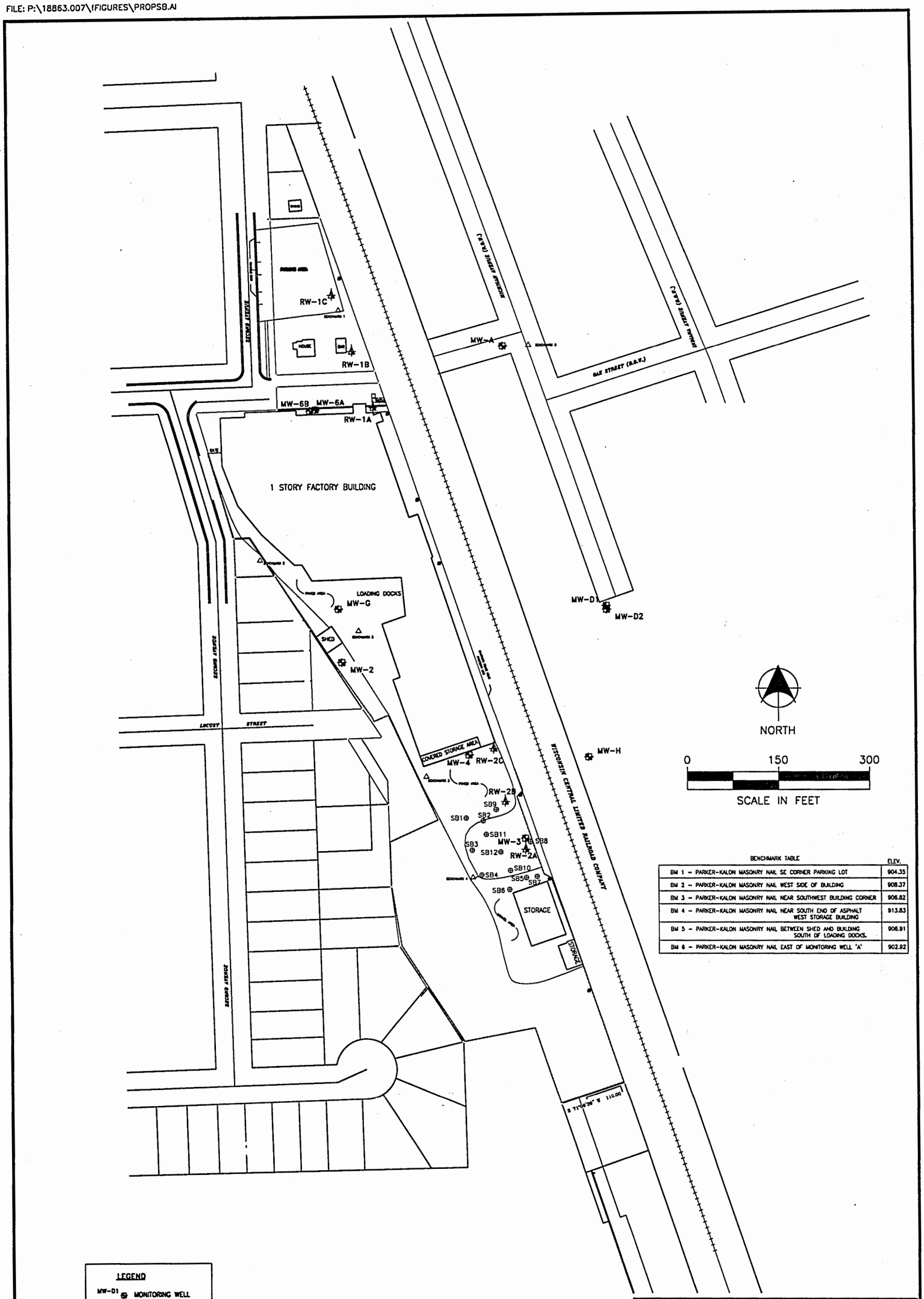

BENCHMARK TABLE

	ELEV.
BM 1 – PARKER-KALON MASONRY NAIL SE CORNER PARKING LOT	904.35
BM 2 – PARKER-KALON MASONRY NAIL WEST SIDE OF BUILDING	908.37
BM 3 – PARKER-KALON MASONRY NAIL NEAR SOUTHWEST BUILDING CORNER	906.82
BM 4 – PARKER-KALON MASONRY NAIL NEAR SOUTH END OF ASPHALT WEST STORAGE BUILDING	913.83
BM 5 – PARKER-KALON MASONRY NAIL BETWEEN SHED AND BUILDING SOUTH OF LOADING DOCKS.	906.91
BM 6 – PARKER-KALON MASONRY NAIL EAST OF MONITORING WELL 'A'	902.92

LEGEND

- MW-D1 ⊗ MONITORING WELL
- RW-1C ⏚ RECOVERY WELL
- HOGWIRE FENCE
- CHAINLINK FENCE
- △ BENCHMARK
- POWER POLE INDICATES APPARENT UTILITY EASEMENT

SOURCE NOTE:
THIS DRAWING WAS DEVELOPED FROM A MAP BY R.A. PAGELS & CO.

THE STREETS ON THE EAST SIDE OF WI CENTRAL LIMITED RAILROAD WERE TAKEN FROM DRAWING OBTAINED FROM THE OFFICE OF CITY PLANNING, CITY OF WEST BEND, DATED APRIL 14, 1994
LOCATIONS ARE APPROXIMATE.

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FIGURE 3
PROPOSED SOIL BORING LOCATIONS

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DATE 28OCT99	DAMES & MOORE