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REMEDIAL INVESTIGATION WORKPLAN
180 East 132nd Street
BLOCK 2260, LOT 180
BRONX, NEW YORK
BCP C203118

PREPARED FOR:
Carnegie Management
545 Broadway 4th Floor, Brooklyn, NY

PREPARED BY:
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• QEP CERTIFICATION

I, David Winslow, certify that that I am a Qualified Environmental Professional as defined in 6 NYCRR Part 375 and that this Remedial Investigation Work Plan (RIWP), for 180 East 132nd Street, Block 2260, Lot 180, Bronx, New York, was prepared in accordance with applicable statutes and regulations and in substantial conformance with the DER Technical Guidance for Site Investigation and Remediation (DER-10).

David M. Winslow, P.G.

QEP Name

QEP Signature

10/21/2019

Date

1.0 INTRODUCTION

This Remedial Investigation Work Plan (RIWP) was prepared by Goldberg Zoino Associates of New York, P.C. d/b/a GZA GeoEnvironmental of New York (GZA) on behalf of Carnegie Management (Carnegie) for submittal to the New York State Department of Environmental Conservation (NYSDEC), Division of Environmental Remediation (DER) for the property identified as 180 East 132nd Street, Block 2260, Lot 180, Bronx, New York (Site). The Site is located at 180 East 132nd Street and is bounded by vacant New York State Department of Transportation (NYDOT) property and the Pulaski Park to the north, Amtrak and railroads to the south, vacant NYDOT property to the east, and the Harlem River Terminal Station historical landmark to the west. **Figure 1** presents a Site location map. The Site is identified on the New York City Tax Map as Block 2260, Lot 180. **Figure 2** presents a Site Plan that shows the current configuration of the Site. On July 23, 2019, Carnegie entered into a Brownfield Cleanup Agreement (BCA) as part of the Brownfield Cleanup Program (BCP) volunteer application.

The objective of this RIWP is to collect sufficient quality and quantity of data to characterize the nature and extent of the contamination present on Site. The overall objectives of the project are to prepare the Site for commercial and residential use and to remediate known and unknown environmental conditions at the Site to meet NYSDEC and New York State Department of Health (NYSDOH) requirements.

1.1 PROJECT OBJECTIVES

The objectives of this RIWP are to present an approach to:

- Delineate the vertical extent of impacted soils to 20’ below ground surface (bgs);
- Evaluate the quality of groundwater on Site; and
- Evaluate potential VOC impacts detected in soil gas on-Site.

GZA prepared this RIWP for review by the NYSDEC. It is based on our current understanding of Site conditions and revisions may be appropriate as additional information becomes available.

1.2 SCOPE OF SERVICES

This RIWP was prepared by GZA for the Site, in general accordance with the NYSDEC, DER *Technical Guidance for Site Investigation and* Remediation *(DER-10)*, dated May 2010. GZA’s scope of services consists of the following activities:

- Development of a work plan to delineate the horizontal and vertical extent of impacted soil, groundwater, and soil vapor;
- Development of a site-specific health and safety plan (HASP) for the personnel undertaking the work;
- Preparation of a Citizen Participation Plan (CPP);
- Preparation of a Quality Assurance Project Plan (QAPP) for the acquisition, handling and analysis of the samples collected;
- Implementation of this RIWP; and,
- Preparation of a Remedial Investigation Report/Remedial Action Workplan (RIR/RAWP).

This work plan has been prepared in accordance with the limitations presented in **Appendix A.**

2.0 SITE INFORMATION

The following section summarizes information provided in previous site assessment and site investigation reports related to the Site. These documents should be consulted for additional information and details not presented here. Previous documents include:

- *Phase I Environmental Assessment,* Singer Environmental Group, LTD, April 20, 2005
- *Phase I Environmental Assessment,* GZA GeoEnvironmental, November 15, 2017
- *Remedial Investigation Report*, GZA GeoEnvironmental, March 2018

Previous reports are included in **Appendix B.**

2.1 SITE LOCATION, DESCRIPTION, AND USE

The Site is located at 180 East 132nd Street in the Mott Haven section in the Bronx, New York and is identified as Block 2260 and Lot 180 on the New York City Tax Map. **Figure 1** shows the Site location. The Site is approximately 29,449-square feet (SF) and is bounded by vacant NYSDOT property and the Pulaski Park to the north, Amtrak and railroads to the south, vacant NYSDOT property to the east, and the Harlem River Terminal Station historical landmark to the west. A map of the Site is shown in **Figure 2**. Currently, the Site is leased by Flatrate Moving and contains an asphalt-paved parking lot on which vans are stored.

Adjoining properties are generally commercial. To the north is NYSDOT property, currently vacant and overgrown. This property extends to the east of the Site. North of the NYSDOT property is the Pulaski Park. South of the property are railroads owned by Amtrak, and south of this property is the Bronx Waste Management Center. West of the Site is the Harlem River Terminal Station, which is now a historical landmark and is not currently used. Other vicinity properties not adjoining are generally residential and commercial. There are no schools, hospitals, or day care centers within a 250 to 500-foot radius around the Site. **Figure 2** shows the surrounding land usage.

2.2 SITE HISTORY

The NYC Department of Finance website lists the following deed transfers:

Date	Party 1	Party 2
11/16/1978	Penn Central Transportation Company	Owasco River Railway
6/12/1990	Commissioner/Finance/NYC	City of New York
1/28/2003	82 Willis Avenue Corp/Nominee	82 Willis Avenue Realty, LLC
1/2/2004	82 Willis Avenue Realty, LLC	82, Inc.
9/27/2005	82, Inc.	82 Willis, LLC

The historical Sanborn maps provided by Environmental Data Resources (EDR) indicate the Site had one building sometime prior to 1891 until 2006. The building had been used for a passenger station and offices for the adjacent railroad. By 2006, this building was demolished, and the Site was filled in and paved with asphalt and is currently used to store moving vans.

2.3 PREVIOUS INVESTIGATIONS

2.3.1 Phase I Environmental Site Assessment (ESA) - 2005

Carnegie provided a Phase I Environmental Site Assessment (ESA) report to GZA that had been prepared by Singer Environmental Group LTD on April 20, 2005. At the time of the inspection in 2005, a building was still present on the Site. An aboveground storage tank (AST) was observed and was noted to be in good condition. Asbestos in the building was in good/fair condition. Recommendations of the Site inspection included testing paint of the building for lead, using ground penetrating radar/magnetometer to assess the presence of underground storage tanks (USTs), and conducting a Phase II Subsurface Investigation to assess the presence of soil/groundwater contamination. There is no indication as to whether these activities were conducted.

The Phase I ESA is presented in **Appendix B**.

2.3.2 Phase I ESA - 2017

GZA prepared a Phase I ESA for the Site in November 2017. No evidence of aboveground or underground storage tanks was observed. There were some small garbage containers on site and no dumpsters. There were no floor drains, trenches, or sumps, no open pipe discharges, no oil/water separator systems, no hydraulic equipment, and no production or monitoring wells. A storm water drain was observed on-Site. At the time of the reconnaissance, the property was leased by FlatRate Moving Company, and the asphalt-paved lot was used to store the company vans. To the rear of the Site (the southeast portion of the property), drums containing vehicle-related materials such as diesel, urea, and engine coolant were staged. These drums were staged on pavement that was in good condition, and there were no apparent leaks to the subsurface from the drums. Additional containers were observed on-Site that contained degreasers, spray paints, and gasoline. A few of these containers exhibited staining on and around the storage area. Grease drums in this area were significantly stained. One storm water drain on the property leads to another directly adjacent, which then leads to the Harlem River. The water and sanitary services currently supplied to the property are public systems.

GZA identified the following areas of concern (AOCs) for this Site:

- A NYC E-Designation pertaining to potential hazardous materials contamination and noise attenuation.
- Drum and container storage area exhibiting significant staining.

The Phase I Report, which contains Site photos in an Appendix, is presented in **Appendix B**.

2.3.3 Remedial Investigation Report (RIR) – 2018

GZA prepared a RIR in June 2018 for the Site following a Phase II Remedial Investigation (RI). The RI included the following activities:

1. Installation of fifteen soil borings at selected locations across the project Site and the collection of 31 soil samples for chemical analysis from the soil borings to evaluate soil quality;
2. Installation of five groundwater monitoring wells at selected locations on the Site to establish groundwater flow and collection of groundwater samples from each well for chemical analysis to evaluate groundwater quality; and
3. Installation of eight soil vapor probes around the Site perimeter and collection of samples for chemical analysis from each soil vapor probe.

The following is a summary of the findings of the RI:

1. Elevation of the property ranged from 10 to 22 feet above Mean Sea Level.
2. Depth to groundwater ranged from 3 to 13 feet at the Site.
3. Groundwater flow was generally to the southeast-south beneath the Site.
4. Bedrock was not cored during the remedial investigation; although, the soil probes encountered probe refusal at depths between 5.5-feet to 14.1-feet on apparent bedrock. The stratigraphy of the Site consisted of primarily fill material underlain by apparent bedrock consisting of Fordham Gneiss. Additional subsurface information is included within the RIR.
5. Soil/fill samples collected during the RI showed exceedances of both the NYS Unrestricted Use Soil Cleanup Objectives and the NYS Restricted Residential Use Soil Cleanup Objectives for semivolatile organic compounds (SVOCs) and total metals. These compounds included benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(k)fluoranthene, chrysene, dibenzo(a,h)anthracene, indeno(1,2,3-cd)pyrene, total barium, total mercury, and total nickel. Various additional organochlorine pesticides, SVOCs, volatile organic compounds (VOCs), and total metals exceeded only the NYS Unrestricted Use Soil Cleanup Objectives. There were no exceedances of PCBs.
6. Groundwater samples collected during the RI showed exceedances of the NYS Ambient Water Quality Standards in various SVOCs, dissolved metals, and total metals. There were no exceedances of pesticides, PCBs, or VOCs.
7. Soil vapor samples collected during the RI showed exceedances of the NY Department of Health Matrix Standards in one sample. The two compounds exceeding standards were cis-1,2-dichloroethene and vinyl chloride.

The RIR is presented in **Appendix B.**

3.0 ENVIRONMENTAL SETTING OR PHYSIOGRAPHIC SETTING

3.1 GEOLOGICAL AND HYDROGEOLOGICAL CONDITIONS

Based on a review of the U.S. Geological Survey 7.5-minute Topographic Quadrangle Map titled Central Park 2013, the Site is at an approximate elevation of 20 feet above mean sea level. The Site slopes downward towards the northwest. The nearest body of water is the Harlem River, which is located approximately 500 feet to the southwest of the Site.

3.2 STRATIGRAPHY/HYDROGEOLOGY

Based on a review of map data obtained from the United States Geologic Survey (USGS) of New York state, bedrock near the Site consists of Precambrian (middle Proterozoic) Fordham Gneiss. The soil is classified as variable urban land material. The primary materials observed in the soil borings are sand, gravel, and fill material likely resulting from backfill placed on the Site when the building was removed. Based on local topography and surface water flow patterns, the inferred direction of groundwater flow is to the southeast-south. However, the localized direction of groundwater flow near the Site might vary because of underground utilities, subsurface preferential pathways, variations in weather or heterogeneous geological and/or anthropogenic conditions. The Federal Emergency Management Agency (FEMA) indicates that the Site is in zone 3604970091F. Most of the Site is in an area of minimal flood hazard. A part of the western end of the Site is in an area of 0.2% annual chance of flood, and the lowest area of the property to the west is in an area of high-risk flooding. Since the property slopes to the northwest, groundwater depth varies across the Site. The depth to groundwater is approximately 3 feet below ground surface toward the western end of the Site, and approximately 13 feet below ground surface at higher elevations toward the eastern end of the Site. Groundwater flow is to the southeast-south.

4.0 REMEDIAL INVESTIGATION

The proposed remedial investigation field program will focus on collecting additional data to assist in the further delineation of known Site contamination and to evaluate the potential impact of areas of concern not previously investigated. The present known Site conditions are summarized in **Appendix C.** The field-sampling scope of work consists of the following tasks:

- Advancing four borings to 20’ below ground surface (bgs) to characterize soils and apparent bedrock on-Site,
- Installing four permanent monitoring wells to characterize groundwater quality on-Site which will be converted from the above mention soil borings; and
- Collecting three additional soil gas samples to complete delineation of 1,2-dichloroethene and vinyl chloride impacted soil gas on-Site.

The following sections describe the methods that will be used to complete the scope of work summarized above. Sampling will be performed in accordance with the Quality Assurance/Quality Control Project Plan (QAPP) presented in **Appendix D**.

4.1 SOIL INVESTIGATION

The proposed remedial investigation will include four (4) soil borings advanced to 20' bgs to further characterize soil. The following text describes the action, rationale and proposed sampling schedule for soil investigation activities.

4.1.1 Soil Borings

Four (4) soil borings will be advanced using a direct-push drilling rig (i.e., Geoprobe) to 20' bgs, or refusal, to characterize soils on-Site. Soils will be characterized every 2' to the end depth of 20' bgs or refusal. The soil borings well be installed along the centerline of the Site from the northwest to the southeast Site boundary. The proposed soil boring locations are presented in **Figure 3**.

4.1.2 Soil Sampling and Logging Methodology

A GZA scientist/engineer will be present to observe the subsurface explorations, classify soil samples and prepare soil boring logs. Descriptive information concerning soil from each sampling location will be recorded in a field notebook and classified using a modified Burmister classification system. The soil samples will be logged based on appearance, texture, moisture content and odor. The boring log will also include the sample designation, sample collection date and depth, total depth of the boring, depth and apparent thickness of identified layers of contaminated soil, and recovery percentages. Olfactory and visual evidence of impacted soils will also be noted on the boring log. Soil cores will be screened using a PID for VOCs, the results of which will be presented on the boring log.

Two soil samples per boring will be collected; One will be collected from just above the water table and the other will be collected at the highest PID reading. If no PID detections are encountered, then a sample will be collected from the bottom two feet of the end of the boring. The samples will be collected from soil cores using dedicated sampling equipment and placed directly into the sample container.

Soil samples will be collected in laboratory provided containers and transported to a NYSDOH ELAP certified laboratory, under proper chain of custody procedures for analysis. Once the sample containers are filled, they will be immediately placed in the cooler with ice (in Ziploc plastic bags to prevent leaking) or synthetic ice packs to maintain the samples at below 4^{o}C. Samples will be shipped via courier or by an overnight delivery service.

Soil samples will be analyzed for the full NYSDEC Part 375 listed TCL/TAL compounds and emerging contaminants including 1,4-dioxane and perfluorinated alkyl substances (PFAS). Results will be compared to the NYSDEC Part 375 Commercial and the Unrestricted Use Soil Cleanup Objectives.

Soil cuttings from borings will be returned to the borehole. Excess soil cuttings and other investigative derived waste will be containerized, temporarily stored in a centralized location and then characterized and disposed off-Site.

If any human remains or historical artifacts from the former Willis Avenue Station house and/or from the Native American culture are discovered during the remedial investigation and the eventual remedial action, the Applicant will contact the Department within 24 hours of this discovery so the Department can discuss the appropriate next steps.

4.2 GROUNDWATER INVESTIGATION

In order to evaluate the quality of groundwater beneath the Site, the remedial investigation will include a groundwater sampling program. The following text describes the action, rationale and proposed sampling schedule for groundwater investigation activities.

4.2.1 Permanent Groundwater Monitoring Well Installation

GZA will convert the four soil borings described above into permanent groundwater monitoring wells using hollow stem auger drilling techniques. The wells will be installed to approximately 20' bgs, or refusal, and will be screened from approximately 10'-20' bgs. The monitoring wells will be installed along the centerline of the Site from northwest to southeast, parallel to groundwater flow. The proposed monitoring well locations are presented in **Figure 3**. The monitoring wells will be installed using a hollow stem auger drill rig and constructed with Schedule 40, two-inch diameter PVC pipe. The following is a summary of the planned well construction.

Each well will be constructed as a 2-inch diameter well with 0.010-inch machine slotted poly-vinyl chloride (PVC) screens and risers. The annular space of the wells will be filled with #2 sand extending approximately one foot above the top of the screen. A layer of bentonite will be placed above the sand pack and the boring will be sealed with cement extending to the ground surface. Each well will be completed with a flush mount and locking gripper PVC cap.

After installation, the permanent wells will be developed using a submersible pump and dedicated polyethylene tubing to remove fine materials generated during well installation activities until the groundwater is nearly free of turbidity. The development water and soil cuttings will be containerized in a 55-gallon drum and stored on-Site pending analysis and prior to disposal of off-Site.

Well locations and elevations will be surveyed by a New York State licensed professional land surveyor.

4.2.2 Groundwater Sampling Methodology

GZA will utilize low flow sampling procedures for groundwater sampling. Prior to sampling each monitoring well, the headspace will be measured using a PID and the water level will be measured using an electronic water level meter. Before sampling, the wells will be purged utilizing a low-flow submersible stainless-steel pump with dedicated polyethylene tubing connected to a transparent flow cell. Groundwater from each well will be purged using low pumping rates so as to limit drawdown of the water level. Wells will be purged until turbidity, pH, temperature, dissolved oxygen and specific conductivity stabilize. Field measurements, taken from the flow cell, will be recorded in the field logbook during and after purging, and before sampling.

Samples will be collected in laboratory prepared sample bottles (pre-preserved, as appropriate), placed in ice-packed coolers maintained at approximately 4°C under proper chain of custody procedures for transportation to the laboratory. Groundwater samples will be analyzed for the full NYSDEC Part 375 listed TCL/TAL compounds and emerging contaminants including 1,4-dioxane and PFAS.

The purge water will be containerized in a 55-gallon drum and stored on-Site pending analysis and prior to disposal of off-Site.

4.3 SOIL GAS INVESTIGATION

Due to the presence of VOCs in soil gas sample SG-3, three (3) additional soil gas samples will be collected to complete delineation of impacted soil gas on-Site. Sampling will be completed in general accordance with the October 2006 *NYSDOH Soil Vapor Intrusion Guidance Document*. **Figure 3** presents the proposed soil gas sample locations along the northern perimeter of the Site.

The soil gas samples will be collected using a direct-push drilling rig (i.e., Geoprobe), to install a hollow rod fitted with a screened, stainless-steel, expendable drive point. After the hollow rod is advanced to a depth of eight feet bgs or above the water table (whichever is more shallow), dedicated Teflon™ tubing with a threaded fitting will be connected to the sampling probe, the hollow rod will be removed, and an airtight seal will be established at the surface using hydrated bentonite. The adequacy of the bentonite seal will be tested using a 6-inch diameter PVC shroud that is placed over the borehole and sealed from the ambient air using bentonite. Helium tracer gas will be pumped into the shroud. The above grade end of the tubing will be attached to a peristaltic pump for purging. A helium gas detector will be utilized to measure helium concentrations in the above grade end of the tubing. The adequacy of the seal will be verified by direct helium readings (e.g. less than 10% of total helium in shroud). Following completion of the purging and the helium tracer test, dedicated Teflon™ tubing will be used to connect the probe to a laboratory-supplied 2.7-liter Summa canister equipped with a flow regulator. Vapor samples will be collected in Summa canisters for 2 hours. Upon completion, the tubing will be removed and the soil vapor point will be backfilled to near grade surface with the drill cuttings. The soil vapor sample will be analyzed by an ELAP certified laboratory, using EPA Method TO-15. The soil gas sample location will be recorded in the field using a hand-held GPS device.

4.4 QUALITY ASSURANCE /QUALITY CONTROL

As part of the field investigation, GZA will also collect Quality Assurance/Quality Control (QA/QC) samples in accordance with the QAPP, presented in **Appendix D**, to ensure the usability of the data. QA/QC samples include equipment rinsate/field blanks, trip blanks, sample duplicates and matrix spike/matrix spike duplicates (MS/MSDs).

When applicable, the sample result summary tables will list the laboratory method detection limit (MDL) at which a compound was non-detectable. The laboratory results will be reported to the sample-specific practical quantitation limit (PQL), equal to the sample-specific MDL, supported by the instrument calibrations. The reliability of laboratory data is supported by compliance with sample holding times and laboratory MDLs below cleanup criteria. Accuracy and precision of the laboratory analytical methods will be maintained by the use of calibration and calibration verification procedures, laboratory control samples, and surrogate, matrix, and analytical spikes.

5.0 CHAIN OF CUSTODY AND SHIPPING

A chain-of-custody form will trace the path of sample containers from the Site to the laboratory. The project manager will notify the laboratory of upcoming field sampling events and the subsequent transfer of samples. This notification will include information concerning the number and type of samples, and the anticipated date of arrival. Insulated sample shipping containers (typically coolers) will be provided by the laboratory for shipping samples. All sample bottles within each shipping container will be individually labeled with an adhesive identification label provided by the laboratory. Project personnel receiving the sample containers from the laboratory will check each cooler for the condition and integrity of the bottles prior to field work.

The field sampler will indicate the sample designation/location number in the space provided on the chain-of-custody form for each sample. The chain of custody forms will be signed and placed in a sealed plastic Ziploc bag in the cooler. If sent via third party carrier, the shipping container will be closed for transport with nylon strapping, or a similar shipping tape, and a paper custody seals will be affixed to the lid. The seals must be broken to open the cooler and will indicate tampering if the seals are broken before receipt at the laboratory. A label may be affixed identifying the cooler as containing "Environmental Samples" and the cooler will be shipped via courier or by an overnight delivery service to the laboratory. When the laboratory receives the coolers, the custody seals will be checked and lab personnel will sign the chain-of-custody form.

The following typical Chain-Of-Custody procedures will be implemented by GZA during the soil sampling:

A. The samples are under custody of the GZA field personnel, if:
   1. they are in his/her possession,
   2. they are in view after being in possession,
   3. they are locked up or sealed securely to prevent tampering, or
   4. they are in a designated secure area.

B. The original of the chain-of-custody form must accompany the samples at all times after collection, until receipt at the analytical laboratory. A copy of the chain-of-custody form will be kept by the sampling collector until it is filed in the project file.

C. When the possession of samples is transferred, the individuals relinquishing and receiving the samples will sign, date, and note the time on the Chain-Of-Custody form.

D. When samples are shipped, the GZA personnel, or designated representative, will note the courier name, and airbill number, if applicable, on the Chain-Of-Custody form. Prior to shipping, coolers will be secured with signed custody seals so the laboratory may confirm coolers were not opened during shipping.

The chain-of-custody form will contain information to distinguish each sample from any other sample. This information will include:

A. The project name and address for which sampling is being conducted;

B. The name(s) and signature(s) of sampler(s);

C. The matrix being sampled (groundwater, soil, etc.);

D. The sampling date and time;

E. The specific sampling location in sufficient detail to allow re-sampling at the same location;

F. The number of containers and the volume of sample collected, and

G. The analytical method to be performed.

The Chain-Of-Custody record is a color-coded, four copy form. Chain-of-custody copies are distributed upon completion to the following:

1. WHITE COPY – Original accompanies samples
2. YELLOW COPY – Maintained by the laboratory
3. PINK COPY – Kept by the Sample Collector (GZA)

6.0 STORAGE AND DISPOSAL OF INVESTIGATION-DERIVED WASTE

All investigation derived waste (IDW) generated during the RI will be containerized and properly characterized and disposed of. Containers, which are USDOT approved storage containers (55-gallon drums) or a small bulk roll-off container, will be properly labeled and grouped by environmental matrix (soil, water, PPE/plastic, etc.). All drums or roll-offs will be staged in a central location on-Site prior to off-Site disposal.

If drums are used, they will be tracked as they are filled and given unique identification codes based on the following:

- A prefix indicating the drum's contents: i.e., S – Soil, W – Water, P – PPE/Plastic, and C&D – Construction Debris.
- Following the prefix and a hyphen will be the origin of the drum's contents. For example, drum SB-1, SB-2, SB-3 is a generated drum filled with soil from soil boring locations SB-1, SB-2 and SB-3; drum WMW-1 is water generated from monitoring well MW-1.
- As drums are generated, their identification code, date of generation, contents, source (i.e., drill cuttings from location x, purge water from well y), and date sampled will be entered on a tracking table.

The drums (or roll-off container) will be centrally stored on-Site. Subsequently, the waste soils and/or water will be characterized with laboratory analyses for proper disposal.

7.0 QUALITATIVE HUMAN HEALTH EXPOSURE ASSESSMENT

A Qualitative Human Health Exposure Assessment (QHHEA) will be conducted following NYSDEC guidance. The QHHEA will characterize the exposure setting, identify potentially complete exposure pathways, and qualitatively evaluate potential fate and transport of constituents from one medium to another (i.e., soil-to-air or soil-to-groundwater).

An exposure pathway is considered complete when the following five conditions are met:

1. Source identified (i.e., metals in paint on exterior building surfaces);
2. Release and transport mechanism from source to environmental media (i.e., into the subsurface or volatilization to the air of an overlying building);
3. Point of human exposure (i.e., an occupied building or surface soil);

4. A route of exposure (ingestion, dermal contact, or inhalation), and
5. A receptor population (i.e., on-site workers).

Once potentially complete exposure pathways are identified, the QHHEA will characterize Site conditions to determine whether the Site poses an existing or potential future hazard to the potentially exposed population. The evaluation will include a qualitative discussion of potential fate and transport mechanisms at the Site. The results of the QHHEA will be included as part of the RI Report.

8.0 HEALTH AND SAFETY

The work outlined above will be completed under a GZA site-specific Health and Safety Plan (HASP)**,** attached as **Appendix E**, in accordance with OSHA Hazardous Waste Operations and Emergency Response (HAZWOPER) regulations. A photoionization detector (PID) will be used to monitor the breathing zone of workers performing investigative activities in areas where there is a potential for the presence of organic vapors (i.e. groundwater and soil vapor sampling). A dust meter will also be used to screen for dust in the breathing zone that has the potential presence of metal contamination. GZA anticipates the work will be completed in Modified Level D personal protective equipment (PPE); however, workers will be prepared to elevate to more protective PPE based on the conditions encountered during field activities.

Prior to performing any subsurface work, a utility clearance survey will be performed in accordance with New York State Dig-Safe protocol. Sample locations will be screened using surface geophysical techniques such as electromagnetic (EM), ground penetrating radar (GPR) and/or radiofrequency (RF) techniques.

A project kick-off meeting will be held prior to initiating field work to orient field team members and subcontractors with the Site background, scope of work, potential hazards, health and safety requirements, emergency contingencies and other field procedures.

8.1 COMMUNITY AIR MONITORING PLAN (CAMP)

Real-time air monitoring for volatile organic compounds (VOCs) and particulate levels at the perimeter of the exclusion zone or work area will be performed in accordance with the CAMP (see **Appendix F**).

Continuous air monitoring will be required during ground intrusive activities and during the demolition of Site structures and other activities where equipment is disturbing the ground surface. Ground intrusive activities include, but are not limited to, soil/fill excavation and handling, test pitting or trenching, grading of existing Site soils and the installation of soil borings or monitoring wells.

Periodic monitoring for VOCs will be required during non-intrusive activities such as the collection of soil and sediment samples or the collection of groundwater samples from existing monitoring wells. Periodic monitoring during sample collection would generally consist of taking a reading upon arrival at a sample location, monitoring while opening a well cap or overturning soil, monitoring during well bailing/purging, and taking a reading prior to leaving a sample location.

8.1.1 VOC Monitoring, Response Levels, and Actions

Volatile organic compounds (VOCs) will be monitored at the Site perimeter on a continuous basis during demolition and earthwork activities unless otherwise specified in the CAMP. Upwind concentrations will be measured at the start of each workday and periodically thereafter to establish background conditions, particularly if wind direction changes. Wind direction will be evaluated using an on-site meteorological tower (RM Young sensors) that measures wind speed, direction, dry-bulb temperature and relative humidity. A central computer system will receive information from the meteorological system and compute a two-minute average wind speed and direction value. The VOC monitoring work will be performed using equipment appropriate to measure the types of contaminants known or suspected to be present. The equipment will be calibrated at least daily for the contaminant(s) of concern or for an appropriate surrogate. The equipment will be capable of calculating 15-minute running average concentrations, which will be compared to the levels specified below.

1. If the ambient air concentration of total organic vapors at the downwind perimeter of the work area or exclusion zone exceeds 5 parts per million (ppm) above background for the 15-minute average, work activities will be temporarily halted and monitoring continued. If the total organic vapor level readily decreases (per instantaneous readings) below 5 ppm over background, work activities will resume with continued monitoring.

2. If total organic vapor levels at the downwind perimeter of the work area or exclusion zone persist at levels in excess of 5 ppm over background but less than 25 ppm, work activities will be halted, the source of vapors will be identified, corrective actions will be taken to abate emissions, and monitoring will be continued. After these steps, work activities will resume provided that the total organic vapor level 200 feet downwind of the exclusion zone or half the distance to the nearest potential receptor or residential/commercial structure, whichever is less - but in no case less than 20 feet - is below 5 ppm over background for the 15-minute average.

3. If the organic vapor level is above 25 ppm at the perimeter of the work area, activities will be shut down until the source of the problem is identified and corrective action is taken to reduce organic vapor levels.

4. Fifteen-minute readings will be recorded and be available for State (NYSDEC and NYSDOH) personnel to review. Instantaneous readings, if any, used for decision purposes will also be recorded.

8.1.2 Particulate Monitoring, Response Levels, and Actions

Particulate concentrations will be monitored at the Site perimeter and in work zones on a continuous basis during demolition and earthwork. The particulate monitoring will be performed using real-time monitoring equipment capable of measuring particulate matter less than 10 micrometers in size (PM-10) and capable of integrating over a period of 15 minutes (or less) for comparison to the airborne particulate action level. The equipment will be equipped with an audible alarm to indicate exceedance of the action level. In addition, fugitive dust migration will be visually assessed during all work activities. Visible dust from the work area will trigger the initiation of dust suppression procedures. Dust suppression equipment will be on Site, functional and available at the work zone prior to commencing work.

1. If the downwind PM-10 particulate level is 100 micrograms per cubic meter (mcg/m3) greater than background (upwind perimeter) for the 15-minute period or if airborne dust is observed leaving the work area, then dust suppression techniques will be employed. Work will continue with dust suppression techniques provided that

downwind PM-10 particulate levels do not exceed 150 mcg/m3 above the upwind level and provided that no visible dust is migrating from the work area.

2. If, after implementation of dust suppression techniques, downwind PM-10 particulate levels are greater than 150 mcg/m3 above the upwind level, work will be stopped, and a re-evaluation of activities initiated. Work will resume provided that dust suppression measures and other controls are successful in reducing the downwind PM-10 particulate concentration to within 150 mcg/m3 of the upwind level and in preventing visible dust migration.

3. Readings will be recorded and be available for State (NYSDEC and NYSDOH) and County Health personnel to review.

9.0 REPORTING

Upon completion of the field activities, an RI Report/Remedial Action Work Plan (RIR/RAWP) will be prepared to document the findings of the investigations performed at the Site and the proposed remedy. The RIR/RAWP will be consistent with the specifications presented in the DER-10 document and will include:

- An executive summary;
- A site description and history;
- Summary information regarding previous investigations and remedial work performed at the Site;
- Descriptions of field activities performed;
- A summary of pertinent field observations, field measurements, and laboratory analytical data summarized in tabular format - analytical results will be compared to appropriate NYSDEC guidance and standards;
- Plan view and cross-section figures presenting laboratory analytical data and field observations of surface and subsurface soil and groundwater impacts. A minimum of two profiles will be developed, one perpendicular to and one parallel with groundwater flow direction at the Site;
- A qualitative human health risk assessment which assesses the sources of impact, on and off-site human and ecological receptors, and exposure pathways;
- A data usability review and Data Usability Summary Report (DUSR) for the laboratory data collected during the RI;
- An integration of field observations and measurements with laboratory analytical data to evaluate the nature and extent of impacts and to develop a site conceptual model of potential contaminant migration;
- A Remedial Alternatives Analysis;
- A set of conclusions for the investigation; and
- Recommendations

Data collected during the RI will be submitted in the Department's Environmental Information Management System (EIMS) format for Electronic Data Delivery (EDD).

10.0 PROJECT SCHEDULE AND PROJECT PERSONNEL

Our anticipated schedule to perform the investigation activities described in this work plan is summarized below:

Description	**Estimated Time to Complete** (from NYSDEC's approval of the RIWP)
Commence Field Investigation	Week 6
Complete RIR/RAWP and submit to NYSDEC	Week 16

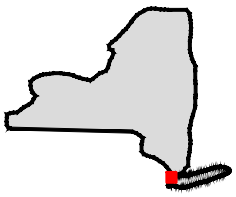
We note that the proposed schedule may be adjusted if unforeseen delays occur due to inclement weather, DOT permit approval, drill rig availability or other conditions that are beyond Carnegie control.

The following GZA project personnel are proposed to be involved as part of the remedial investigation activities. Qualifications of personnel are provided in **Appendix G**. Drilling and laboratory subcontractors have not yet been retained.

Personnel	**Role**	**Contact Information**
David Winslow	Qualified Environmental Professional	973-774-3307
Sandra Huber	Project Manager	973-774-3314
Lindsay Nunes	Professional Geologist	973-774-3331
Casey Mcguffy	Environmental Scientist	973-774-3325

FIGURES

NEW YORK



QUADRANGLE LOCATION

SOURCE:

BASE MAP FROM THE FOLLOWING USGS QUADRANGLE MAP:
CENTRAL PARK, NY (2016).

DIGITAL TOPOGRAPHIC MAPS PROVIDED BY USGSSTORE.GOV.

CONTOUR ELEVATIONS REFERENCE NAVD 88,
CONTOURS ARE SHOWN IN FEET AT 10' INTERVALS

N
W E
S

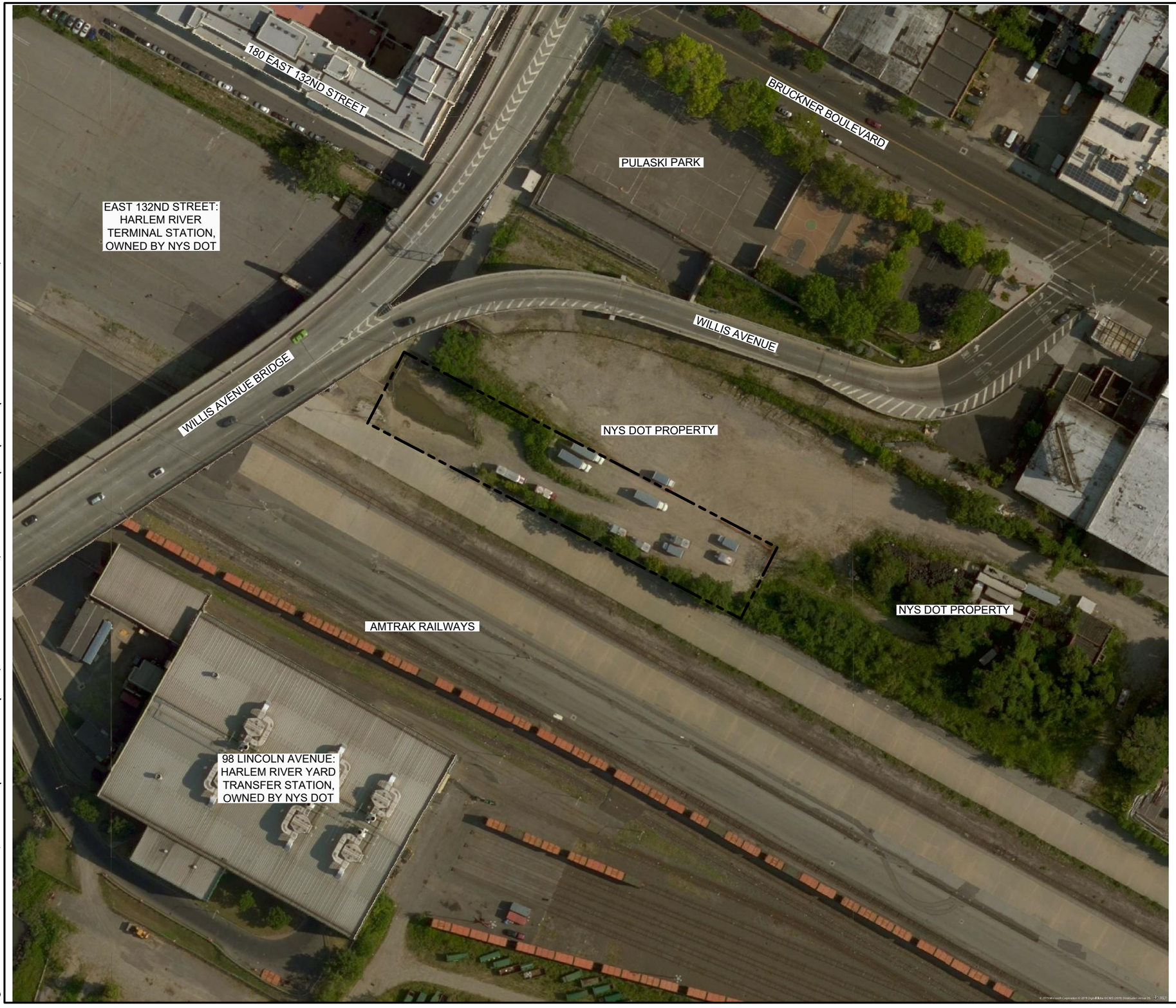
180 EAST 132ND STREET
BRONX, NEW YORK

PREPARED BY:
GZA GeoEnvironmental, Inc.
Engineers and Scientists
www.gza.com

PREPARED FOR:
CARNEGIE MANAGEMENT

SITE LOCATION MAP

PROJ MGR: SH	REVIEWED BY: DW	CHECKED BY: SH	FIGURE 1
DESIGNED BY: LN	DRAWN BY: LN	SCALE: 1" = 2,000'	
DATE: AUGUST 2019	PROJECT NO. 12.0076605.10	REVISION NO.	SHEET NO.



LEGEND:

SITE BOUNDARY

NOTES:

1. BASE MAP DEVELOPED FROM A BING PROFESSIONAL ELECTRONIC IMAGE FILE. DIGITAL AERIAL ORTHOPHOTOGRAPHY WAS COLLECTED USING AUTODESK IN JULY 2019.

N

W E

S

0 50' 100' 200'

SCALE IN FEET

NO.	ISSUE/DESCRIPTION	BY	DATE

180 EAST 132ND STREET
BRONX, NEW YORK

SITE PLAN

PREPARED BY: GZA GeoEnvironmental, Inc. Engineers and Scientists www.gza.com		PREPARED FOR: CARNEGIE MANAGEMENT	
PROJ MGR: SH	REVIEWED BY: DW	CHECKED BY: SH	FIGURE 2
DESIGNED BY: LN	DRAWN BY: LN	SCALE: 1" = 100'	
DATE: AUGUST 2019	PROJECT NO. 12.0076605.10	REVISION NO.	SHEET NO.

LEGEND:

- SITE BOUNDARY
- PROPOSED MONITORING WELL AND SOIL BORING
- PROPOSED SOIL GAS SAMPLE POINT

NOTES:

1. BASE MAP DEVELOPED FROM A BING PROFESSIONAL ELECTRONIC IMAGE FILE. DIGITAL AERIAL ORTHOPHOTOGRAPHY WAS COLLECTED USING AUTODESK IN JULY 2019.

N
W E
S

0 50' 100' 200'
SCALE IN FEET

NO.	ISSUE/DESCRIPTION	BY	DATE

WILLIS AVENUE
BRONX, NEW YORK

SAMPLE LOCATION PLAN

PREPARED BY:
GZA GeoEnvironmental, Inc.
Engineers and Scientists
www.gza.com

PREPARED FOR:
CARNEGIE MANAGEMENT

PROJ MGR: SH	REVIEWED BY: DW	CHECKED BY: SH	FIGURE 3
DESIGNED BY: LN	DRAWN BY: LN	SCALE: 1" = 100'	
DATE: OCTOBER 2019	PROJECT NO. 12.0076605.10	REVISION NO.	SHEET NO.

APPENDICES

APPENDIX A

Proactive by Design

GEOTECHNICAL
ENVIRONMENTAL
ECOLOGICAL
WATER
CONSTRUCTION MANAGEMENT

GZA GeoEnvironmental of NY
104 West 29th Street
10th Floor
New York, NY 10001
T: 212.594.8140
F: 212.279.8180
www.gza.com

LIMITATIONS

The following Limitations are in reference to the Remedial Investigation Work Plan, produced and provided at the request of the Carnegie Management (Carnegie), 545 Broadway, 4th Floor, Brooklyn, New York, 11206, prepared for the property located at the 180 East 132nd Street, Bronx, New York (the Site).

1. The conclusions and recommendations submitted in this report are based in part upon the data obtained from a limited number of soil samples from widely spaced subsurface explorations. The nature and extent of variations between these explorations may not become evident until further investigation. If variations or other latent conditions then appear evident, it will be necessary to re-evaluate the recommendations of this report.

2. The generalized soil profile described in the text is intended to convey trends in subsurface conditions. The boundaries between strata are approximate and idealized and have been developed by interpretations of widely spaced explorations and samples; actual soil transitions are probably more gradual. For specific information, refer to the boring logs.

3. Water level readings have been made in the test pits, borings, and/or observation wells at times and under conditions stated on the exploration logs. These data have been reviewed and interpretations have been made in the text of this report. However, it must be noted that fluctuations in the level of the groundwater may occur due to variations in rainfall and other factors different from those prevailing at the time measurements were made.

4. Where quantitative laboratory analyses have been conducted by an outside laboratory, GZA has relied upon the data provided, and has not conducted an independent evaluation of the reliability of these data.

5. The conclusions and recommendations contained in this report are based in part upon various types of chemical data and are contingent upon their validity. These data have been reviewed and interpretations made in the report. As indicated within the report, some of these data may be considered preliminary or "screening" level data, and should be confirmed with quantitative analyses if more specific information is necessary. Moreover, it should be noted that variations in the types and concentrations of contaminants and variations in their flow paths may occur due to seasonal water table fluctuations, past disposal practices, the passage of time, and other factors. Should additional chemical data become available in the future, these data should be reviewed by GZA, and the conclusions and recommendations presented therein modified accordingly.

6. Chemical analyses have been performed for specific parameters during the course of this study, as detailed in the text. It must be noted that additional constituents not searched for during the current study may be present in soil and groundwater at the site.

7. The observations described in this report were made under the conditions stated therein. The conclusions presented in the report were based solely upon the services described therein, and not on scientific tasks or procedures beyond the scope of described services or the time and budgetary constraints imposed by Client. The work described in this report was carried out in accordance with agreed upon Terms and Conditions.

8. GZA's findings and conclusions must be considered not as scientific certainties, but rather as our professional opinion concerning the significance of the data gathered during the course of the study. No other warranty, expressed or implied is made. Specifically, GZA does not and cannot represent that the site contains no hazardous material, oil, or other latent condition beyond that observed by GZA during the study.

9.

Use of Report

10. This report has been prepared for the exclusive use of the **Carnegie** for specific application to the real property located at **180 East 132nd Street (Block 2260, Lot 180)], Bronx, New York** (the Site), in accordance with generally accepted soil and foundation engineering practices. No other warranty, express or implied, is made.

11. The conclusions presented in the report were based solely upon the services described therein, and not on scientific tasks or procedures beyond the scope of described services or the time and budgetary constraints imposed by **Carnegie**. The work described in this report was carried out in accordance with agreed upon Terms and Conditions.

12. This study was performed in accordance with generally accepted environmental and geotechnical engineering practices. Additionally, GZA makes no warranty that the findings of the study will be approved by the overseeing regulatory authorities.

13. This report has been prepared for this project by GZA and is for planning purposes only. Contractors wishing a copy of the report may secure it with the understanding that its scope is limited to design considerations only.

APPENDIX B

PHASE I ENVIRONMENTAL ASSESSMENT

180 EAST 132ND STREET/82 WILLIS AVENUE
BRONX, NY 10454

PHASE I ENVIRONMENTAL ASSESSMENT

ASTM E1527-00

PROPERTY ADDRESS: **180 EAST 132ND STREET/82 WILLIS AVENUE**
BRONX, NY 10454

PREPARED FOR:

PREPARED BY: **SINGER ENVIRONMENTAL GROUP, LTD**
5318 NEW UTRECHT AVENUE
BROOKYLN, NY 11219

DATE: **APRIL 20, 2005**

SCOPE OF THIS PHASE I ENVIRONMENTAL SURVEY

To thoroughly inspect all accessible areas and facilities in and around the three story plus 1/2 basement building located at 180 EAST 132ND STREET/82 WILLIS AVENUE, BRONX, New York and to assess the environmental status of the subject property. The tasks were conducted via a visual inspection of the site, review of available historical records documenting uses of the property along with persons knowledgeable about the subject property.

This survey assessed any ongoing or former operations, whether current or former operators/leases used or stored chemicals on the premises, if any waste materials arising from operations have been dumped on the premises or if any landfill operations have taken place.

Visual inspection of the immediate vicinity around the premises were also conducted, wherever possible or reasonable, in order to determine whether any sites adjoining the premises are used for heavy manufacturing or the generation, storage, shipping or disposal of hazardous waste, chemical materials or fuel supplies; if there are any underground or suspended transformer, capacitors, etc. Containing PCB's on the subject property or if there are any underground storage tanks.

As part of this environmental survey, inquiry was made with the U.S. Environmental Protection Agency and appropriate State and Local Agencies in order to ascertain the location of any potential, alleged or known hazardous waste sites within a one half mile radius of subject property. The CERCLIS (Comprehensive Emergency Response, Compensation and Liability Information System) is the U.S. EPA's compilation of such alleged, potential or known hazardous waste sites brought to the attention of the U.S. EPA Office of Emergency and Remedial Response which have been, will be or are currently under investigation for suspected or known environmentally hazardous activities, The National Priorities List (NPL) is the U.S. EPA's listing of known of known contaminated sites which have been targeted for clean-up due to the immediate threat posed to human health and/or the environmental integrity of that property as well as its marketability.

If appropriate, inquiry was also made with the US Environmental Protection Agency and appropriate State and Local agencies regarding their acknowledgment that the presence and/or disposal of hazardous or toxic chemicals, if any, are within their guidelines and compliance.

Recommendations, wherever appropriate, have been given as to the action, if any, which should be taken to confirm with the most current guidelines and rules for compliance as set forth by these agencies.

The Phase I Environmental Survey is limited in budget and scope. No sampling, testing or laboratory analysis is conducted unless so noted and the assessment is based on the professional opinion of the Environmental Consultant. The Phase I Environmental Survey is not and should not be considered a warranty or guarantee about the presence or absence of environmental contaminants which might affect the subject property.

This report was prepared in accordance with ASTM E-1527-00 protocols for Phase I Environmental Site Assessments.

EXECUTIVE SUMMARY

SITE DESCRIPTION

- This property is known as 180 EAST 132ND STREET/82 WILLIS AVENUE, BRONX, NY, Block 2260, Lot 180.
- This property consists of a three story plus 1/2 basement vacant building. (Exhibit A)
- According to NYC Oasis information, the zoning for the subject property is Manufacturing and the land-usage is Industrial and Manufacturing.
- Lot Size: 369.42'X72.58', Building Size: 300.58'X30'.
- Latitude: 40' 48' 22.7", Longitude: 73' 55' 29.6".
- Elevation above sea level: 32 Ft.
  Please note: 180 East 132nd Street and Block 2260, Lot 180 is NOT listed in the Department of Buildings Property Profile Overview. 82 Willis Avenue IS listed in the property profile overview, however, according to the Department of Buildings this address belongs to the adjoining property.

LEAD

- **Some broken plaster was noted throughout the building during this inspection.**

  Paint should be tested and verified for lead based paint (LBP) and abated according to regulations.

FUEL OIL STORAGE TANK

- One 5,000 gallon fuel oil **aboveground** storage tank encased in block was noted during this inspection.

  No odors or stains were noted at the time of this inspection.

  A current NYC Fire Department permit should be provided.

  A current NYS DEC (Petroleum Bulk Storage) permit should be provided.

  A GROUND PENETRATING RADAR OR MAGNETOMETER SHOULD BE CONDUCTED TO DETERMINE THE PRESENCE OF ANY UNDERGROUND STORAGE TANKS.

ASBESTOS

LOCATION	FOOTAGE	CONDITION	RECOMMENDATION
BASEMENT			
Bathroom	***3 Lft.***	***Good***	***Deferred Action***
Electric Meter Room	***12 Lft.***	***Good***	***Deferred Action***
Storage Rooms	***45 Lft.***	***Good***	***Deferred Action***
BOILER ROOM/OIL TANK			
Boiler	***281 Sq. Ft.***	***Good***	***Deferred Action***
Pipe	***2 Elbow Joints***	***Good***	***Deferred Action***
FIRST FLOOR			
Front Rooms	***Suspect ACM non friable 9"x9" floor tile***	***Good***	***Deferred Action***
First Floor	***1100 Lft.***	***Good-Fair***	***Deferred Action***
SECOND FLOOR			
Second Floor	***Suspect ACM non friable 9"x9" floor tile***	***Good***	***Deferred Action***
Second Floor	***865 Lft.***	***Good-Fair***	***Deferred Action***

No further action is required at this time. (See below)

Please note: NO core samples were taken during this inspection, in the event of change in present status, eg, demolition, alteration, modification, all suspect materials should tested and verified free of any ACM.

Estimate:

If building is to be demolished, all ACM must be removed (Eg, piping, floor tile, roofing). Estimated pricing is approximately $15,000 for pipe covering and boiler, approximately $5,000 for floor tile and $45,000 for roofing (if tested positive for ACM).

PCB's

- **NO** PCB's were noted during this inspection.

SITE HISTORY

- According to NYC Oasis information, this building was built in 1888.

- In reviewing the history of this building and property, a Sanborn Map Search was conducted and it was determined that this property has been used as "Flat" and "Offices" facilities from the 1940's to the 1990's.

SURROUNDING AREAS

NORTH	**VACANT LAND**
SOUTH	**VACANT, BUS PARKING**
WEST	**TRUCK AND STORAGE YARD**
EAST	**RAILROAD**

CHEMICAL OR HAZARDOUS MATERIAL/WASTE STORAGE

- **NO** chemical or hazardous material/waste storage was noted during this inspection.

EDR(ENVIRONMENTAL DATE RESOURCES) DATABASE SUMMARY

DATABASE	SEARCH DISTANCE	SITES LISTED
SM. QUANTITY GENERATOR	**¼ MILE**	**12**
STATE HAZARDOUS WASTE	**1 MILE**	**1**
STATE LANDFILL	**½ MILE**	**6**
LTANKS (LEAKING TANKS)	**½ MILE**	**33**
NY SPILLS	**<1/8 MILE**	**12**

These should have no affect on the subject property.

- ***This site is NOT listed on any State or Federal Databases.***

CONCLUSIONS AND RECOMMENDATIONS

- **A Phase II Subsurface Probe should be conducted to determine the possible presence of any soil/groundwater contamination (see below).**

- **A Ground Penetrating Radar or Magnetometer should be conducted to determine the presence of any underground storage tanks.**

"E" (Environmental) Designation

- **This property has an "E" Designation. According to documentation provided to Singer Environmental from NYC Department of City Planning a sampling protocol must be submitted to the NYC DEP for approval (See documentation).**

SURVEY FINDINGS

GENERAL

A Phase I Environmental Survey was conducted in and around the property located at 180 EAST 132ND STREET/82 WILLIS AVENUE, BRONX, New York beginning with a visual inspection by an Environmental Consultant in all areas where hazardous or potentially toxic materials or substances might be present. A number of environmental risks were assessed during this investigation, including the presence of asbestos-containing materials, aboveground or underground storage tanks, chemical and/or hazardous waste storage and PCB content in electrical equipment. A Phase I Environmental Assessment does not involve any sampling, testing or laboratory analysis of on-site soil or ground water, unless so noted, and, thus, cannot confirm the nature of subsurface soil or ground water quality on the subject property.

SITE DESCRIPTION

According to the Department of Buildings, the subject property is located at the address known as 180 EAST 132ND STREET/82 WILLIS AVENUE, Block 2260, Lot 180, in the Borough of BRONX, New York. The subject property currently has one building on it. The Building located at the subject address is a three story plus 1/2 basement vacant building. According to NYC Oasis information, the zoning for the subject property is Manufacturing and the land-usage is Industrial and Manufacturing.

Lot Size: 369.42'X72.58', Building Size: 300.58'X30'.
Latitude: 40' 48' 22.7", Longitude: 73' 55' 29.6".
Elevation above sea level: 32 Ft.

Please note: 180 East 132nd Street and Block 2260, Lot 180 is NOT listed in the Department of Buildings Property Profile Overview. 82 Willis Avenue IS listed in the property profile overview, however, according to the Department of Buildings this address belongs to the adjoining property.

(Exhibit A)

SITE HISTORY

According to NYC Oasis information, this building was built in 1888.

In reviewing the history of this building and property, a Sanborn Map Search was conducted and it was determined that this property has been used as "Flat" and "Offices" facilities from the 1940's to the 1990's.

A Sanborn site history "mapping and geographic" search was conducted for a 100 year span and **20** maps were provided (see documentation).

YEAR	SUBJECT PROPERTY
1944	FLAT, OFFICES
1946	FLAT, OFFICES
1947	FLAT, OFFICES
1951	FLAT, OFFICES
1968	FLAT, OFFICES
1969	FLAT, OFFICES
1977	FLAT, OFFICES
1978	FLAT, OFFICES
1980	FLAT, OFFICES
1981	FLAT, OFFICES
1984	FLAT, OFFICES
1986	FLAT, OFFICES
1989	FLAT, OFFICES
1991	FLAT, OFFICES
1992	FLAT, OFFICES
1994	FLAT, OFFICES
1995	FLAT, OFFICES

SURROUNDING AREAS	
NORTH (EXHIBIT E)	VACANT LAND
SOUTH (EXHIBIT C)	VACANT, BUS PARKING
WEST (EXHIBIT D)	TRUCK AND STORAGE YARD
EAST (EXHIBIT B)	RAILROAD

ENVIRONMENTAL ASSESSMENT

A visual inspection and interview at the subject property took place on April 13, 2005, by Mr. Shemon Singer who was accompanied by the building Manager, Billy.

ASBESTOS CONTAINING MATERIALS (ACM)

Asbestos is the generic name for a group of naturally occurring hydrated mineral silicates that are characterized by fibers or bundles of fine single crystal fibers. The New York City Department of Environmental Protection defines asbestos containing materials as "any material which contains more than one percent asbestos by weight." Asbestos materials were used for many years in a variety of ways in building construction due to its excellent acoustic insulating and thermal barrier properties. The durability of asbestos fibers and their small size and fibrous shape make asbestos an unusual environmental contaminant. Water infiltration, contact during routine maintenance and age are major factors breaking down asbestos containing materials and creating exposure problems.

(See Next Page)

Rooms/areas/facilities in the basement and first through third floors were inspected as part of this survey.

First Floor	-	Suspect ACM non friable 9"x9" floor tile (Front Rooms), Wood, Ceramic, Concrete Floors, Panel/Plaster Walls and Ceilings. Radiators. Approximately 1100 Lft. of suspect ACM pipe covering in good to fair condition.
Second Floor	-	Suspect ACM non friable 9"x9" floor tile. Panel/Plaster Walls, Wood/1'X1' Ceiling Tile. Radiators. Approximately 865 Lft. of suspect ACM pipe covering in good to fair condition.
Third Floor	-	Wood Floors and Ceilings, Panel/Plaster Walls. Radiators. No Pipe.
Basement		
Front Storage Room	-	No visible and/or friable ACM.
Bathroom	-	Approximately 3 Lft. of suspect ACM pipe covering in good condition.
Electric Meter Room	-	Approximately 12 Lft. of suspect ACM pipe covering in good condition.
Storage Room	-	Approximately 45 Lft. of suspect ACM pipe covering in good condition.
Boiler Room/Oil Tank		
Boiler	-	Approximately 281 Sq. Ft. of suspect ACM covering in good condition.
Pipe	-	2 Elbow Joints of suspect ACM covering in good condition.
Side Yard	-	Former RailRoad Tracks.

CHEMICAL OR HAZARDOUS MATERIAL/WASTE STORAGE

The rooms/areas/facilities that were inspected as part of this Phase I environmental survey; **NO** 55 gallon or smaller sized drums were found on the property. **NO** storage or use of pesticides were found at the subject property. **NO** distressed vegetation was noted during this inspection.

PRESENCE OF PCBs IN TRANSFORMERS AND OTHER ELECTRICAL EQUIPMENT

An inspection was conducted at the subject property and in the immediate vicinity for the presence of any underground, surface or suspended transformers and visible power supply sources. Oil-containing transformers are known to frequently contain PCBs (Polychlorinated biphenyl's). PCBs are contained in older transformers and other electrical equipment and have the potential for serious health risks. The level of PCB content in such transformers and electrical equipment is regulated by the U.S. Environmental Protection Agency, Regulations 40 CFR Part 761. Upon visual inspection, **NO** suspended transformers power supply sources were identified. Contact with Con Edison has nevertheless been made to determine definitely if any equipment owned and/or maintained by Con Edison located on or in the immediate vicinity of the subject property contain PCB's.

FUEL OIL STORAGE TANKS

The New York State Department of Environmental Conservation regulates the storage and handling of petroleum storage facilities. Aboveground and Underground storage tanks storing petroleum can, if not properly installed and maintained, cause serious environmental problems. Including contamination of a water supply. In an effort to prevent leaks and spills, the Petroleum Bulk Storage Law (Article 17, Title 10 of the Environmental Conservation Law) requires the DEC to develop and enforce a State Code for the storage and handling of petroleum. The resulting regulations are Parts 612, 613 and 614. Any facility with a stationary tank combined capacity exceeding 1,100 gallons must be registered with the New York State Department of Environmental Conservation.

- One 5,000 gallon fuel oil **aboveground** storage tank encased in block was noted during this inspection.

  No odors or stains were noted at the time of this inspection.

  A current NYC Fire Department permit should be provided.

  A current NYS DEC (Petroleum Bulk Storage) permit should be provided.

  A GROUND PENETRATING RADAR OR MAGNETOMETER SHOULD BE CONDUCTED TO DETERMINE THE PRESENCE OF ANY UNDERGROUND STORAGE TANKS.

RCRA - RESOURCE CONSERVATION AND RECOVERY ACT

RCRA was enacted in 1976 to address the problem of disposing solid waste, hazardous waste, underground storage tanks and medical waste. Subtitle C of the Act establishes a program to manage and regulate hazardous wastes. The objective of the subtitle C program is to ensure that hazardous waste is handled in a manner that protects human health and the environment. Under RCRA, there are three categories of hazardous waste generators: Large quantity generators (LQG), small quantity generators (SQG), and conditionally exempt small quantity generators. LQG are defined as those facilities that generate either 1,000 or more kilograms per month of hazardous waste or 1 kg or more of acutely hazardous waste per month.

LQG and SQG are subject to regulations contained in 40 CFR Part 262: Obtaining and EPA ID number, preparing the waste for transportation, follow storage requirements, manifesting of hazardous waste and record keeping.

THIS SITE IS NOT LISTED ON THE RCRIS OR FINDS LISTS.

According to EDR Radius Map Search 12 Sm. Quantity Generators are located <1/8 to 1/4 mile radius of the subject property.

These should have NO affect on the subject property.

ADDITIONAL OBSERVATION

An inspection of the immediate vicinity around the subject property was also conducted as part of this Phase I Environmental Assessment.

In addition to the visual inspection, contact was made with the U.S. Environmental Protection Agency regarding the presence of any known, alleged or potential hazardous waste sites located in he immediate vicinity of the subject property which have been brought to the attention of the U.S. EPA Office of Emergency & Remedial Response and included in the Comprehensive Environmental Response, Compensation & Liability Information System (CERCLIS). Based on reports, **NO** such property has been identified as such (see documentation).

A review of the N.Y.S. D.E.C. Inactive Hazardous Waste Disposal Report was conducted. According to their records, **NO** site has been identified on or near the subject property.

According to EDR Radius Map Search 1 State Hazardous Waste site is located 1/2 to 1 mile radius of the subject property.

According to EDR Radius Map Search 6 State Landfill sites are located 1/8 to 1/2 mile radius of the subject property.

These should have NO affect on the subject property.

A radon test was **NOT** conducted at the subject property. Elevated radon levels create a potential health risk, The U.S. EPA and the Center for Disease Control have used a continuous exposure level of 4 pCi/L as a guidance level at or above which further testing and/or remedial action are indicated. There were no records or other evidence that radon testing has been performed at the subject property.

SUMMARY OF FINDINGS

The following is a summary of findings from the asbestos survey of the property located at **180 EAST 132ND STREET/82 WILLIS AVENUE, BRONX, N.Y.**

LOCATION	FOOTAGE	CONDITION	RECOMMENDATION
BASEMENT			
Bathroom	***3 Lft.***	***Good***	***Deferred Action***
Electric Meter Room	***12 Lft.***	***Good***	***Deferred Action***
Storage Rooms	***45 Lft.***	***Good***	***Deferred Action***
BOILER ROOM/OIL TANK			
Boiler	***281 Sq. Ft.***	***Good***	***Deferred Action***
Pipe	***2 Elbow Joints***	***Good***	***Deferred Action***
FIRST FLOOR			
Front Rooms	***Suspect ACM non friable 9"x9" floor tile***	***Good***	***Deferred Action***
First Floor	***1100 Lft.***	***Good-Fair***	***Deferred Action***
SECOND FLOOR			
Second Floor	***Suspect ACM non friable 9"x9" floor tile***	***Good***	***Deferred Action***
Second Floor	***865 Lft.***	***Good-Fair***	***Deferred Action***

No further action is required at this time. (See below)

Please note: NO core samples were taken during this inspection, in the event of change in present status, eg, demolition, alteration, modification, all suspect materials should tested and verified free of any ACM.

Estimate:

If building is to be demolished, all ACM must be removed (Eg, piping, floor tile, roofing). Estimated pricing is approximately $15,000 for pipe covering and boiler, approximately $5,000 for floor tile and $45,000 for roofing (if tested positive for ACM).

RECOMMENDATIONS

The following are recommendations based on the Phase I Environmental Survey conducted at the property located at 180 EAST 132ND STREET/82 WILLIS AVENUE, BRONX, New York.

On April 13, 2005, a Phase I Environmental Assessment of the above-mentioned property were conducted in accordance with the generally accepted assessment protocol. The Phase I environmental assessment relied primarily on visual observation made during inspection and review of available historical documents as they relate to current and past usages of the subject property. Additionally, the immediate vicinity of the subject property was inspected in order to ascertain the likelihood of toxic or hazardous substances or other agents to be present at surrounding locations which might adversely affect the subject site.

As part of the asbestos section of this survey, an inspection of all the aforementioned areas were conducted:

Construction materials on the exterior and interior of the building were also inspected for possible asbestos content.

Within each of these rooms/areas/facilities, piping insulation (e.g. on hot and cold water supply piping), if any, was checked at exposed locations for possible asbestos content.

SEE "SUMMARY OF FINDINGS", "RECOMMENDATIONS."

THE FOLLOWING ARE FINDINGS AND RECOMMENDATIONS MADE BY THE SINGER ENVIRONMENTAL CONSULTANT:

THERE IS NO EVIDENCE THAT THIS SITE HAS BEEN USED FOR HEAVY MANUFACTURING, USE AND/OR STORAGE OF FUEL SUPPLIES OR CHEMICALS.

SEE EXECUTIVE SUMMARY.

UPON VISUAL INSPECTION, NO SUSPENDED OR SURFACE TRANSFORMERS WERE IDENTIFIED ON OR IN THE IMMEDIATE VICINITY OF THE SUBJECT PROPERTY.

Contact was made with Con Edison on January 1996 to ascertain whether or not any equipment owned and/or maintained by Con Edison is present in the immediate vicinity of the subject property and , if so, if any contain PCBs. Information provided to Singer Environmental has been that among transformers which have not been tested and determined to contain a quantity of PCBs (designated in ppms (parts per million), public utility companies are permitted to continue operation without restriction. However, if a problem were to arise as a result of a release of dielectric fluid from these transformers, the utility assumes responsibility to adequately mitigate the situation.

RADON

While radon has not been identified by the New York State Health Department as a major problem in the boroughs of New York City, the problem is site-specific and the potential health risk should be assessed.

SOIL & GROUNDWATER

The nature of subsurface soil and ground water at the subject property cannot be confirmed, given the limited budget and scope of this Phase I Environmental Survey.

- **A Phase II Subsurface Probe should be conducted to determine the possible presence of any soil/groundwater contamination (see below).**

- **A Ground Penetrating Radar or Magnetometer should be conducted to determine the presence of any underground storage tanks.**

"E" (Environmental) Designation

- **This property has an "E" Designation. According to documentation provided to Singer Environmental from NYC Department of City Planning a sampling protocol must be submitted to the NYC DEP for approval (See documentation).**

ASBESTOS

According to the Environmental Protection Agency and included in the publication #EPA 560/5-85-024 "Guidance for Controlling Asbestos Containing Materials (ACM) in Buildings " asbestos containing materials are found in three forms: (1) Sprayed or troweled on ceilings and walls and structural steel; (2) in insulation around hot and cold piping, ducts, boilers and tanks; and (3) in a non-friable state in products such as ceilings and floor tiles. Wallboards and outside in materials such as shingles and roofing materials. In general, ACM in the first two categories is of greatest concern, especially if it is friable, causing the materials to release fibers into the air.

ACM are believed to be present on the roof in tars, felts and papers used in roof coatings. These materials are "non-friable" in their present state. In the event of change in present status e.g. demolition, these materials should be tested and verified of any ACM.

Ceiling and floor tile which may contain asbestos are not required to be removed due to their non-friable state.

LEAD PAINT

Paint samples were **NOT** taken for lead content. However, in older buildings it is likely that lead based paint was used within the multi-layered painted surfaces. (Lead base paint was banned in 1978). Lead paint can be hazardous if digested, especially by small children.

Upon visual inspection, NO signs of chipping, cracking or broken surfaces were noted during this inspection.

Lead violations, if any, should show up on the Title Report.

FUEL OIL STORAGE TANKS

- One 5,000 gallon fuel oil **aboveground** storage tank encased in block was noted during this inspection.

  No odors or stains were noted at the time of this inspection.

  A current NYC Fire Department permit should be provided.

  A current NYS DEC (Petroleum Bulk Storage) permit should be provided.

  A GROUND PENETRATING RADAR OR MAGNETOMETER SHOULD BE CONDUCTED TO DETERMINE THE PRESENCE OF ANY UNDERGROUND STORAGE TANKS.

LTANKS (LEAKING TANKS)

According to an EDR Radius Map search, **33** LTANKS sites were identified <1/8 to 1/2 mile of the subject property.

These should have NO affect on the subject property.

N.Y SPILLS

According to an EDR Radius Map search, **12** spill sites were identified <1/8 mile radius of the subject property.

These should have NO affect on the subject property.

FIRE DEPARTMENT

A record search at the Fire Department was **NOT** conducted for existing Fire Department violations.

Fire Department violations, if any, should show up on the Title Report.

N.Y.S. D.E.C.

A F.O.I.A. request was submitted to the N.Y.S. Department of Environmental Conservation regarding any spills, PBS (Petroleum Bulk Storage etc.). To date, **NO** response has been received. Upon receipt, an addendum will follow.

N.Y.C. D.E.P.

A F.O.I.A. request was submitted to the N.Y.C. Department of Environmental Protection regarding any violations, etc. To date, **NO** response has been received. Upon receipt, an addendum will follow.

DEPARTMENT OF HEALTH

A F.O.I.A. request was submitted to the Department of Health regarding any violations, etc. To date, **NO** response has been received. Upon receipt, an addendum will follow.

F.O.I.A. REQUESTS MAY BE FORWARD AFTER CLOSING DATE.

Singer Environmental Group, Ltd. has conducted this Phase I Environmental Survey as an aid in determining the presence of potentially toxic or hazardous chemicals or substances as of the date of inspection. Observations are made herein and conclusions drawn are not to be considered as a warranty or guarantee, and are based solely upon those areas directly visible and observable, without the removal or alterations of any item or structure and reflect conditions as on the day of inspection.

Singer Environmental Group, Ltd., their principals and employees are indemnified for any future changes or conditions of deterioration in or on the subject property. Inasmuch as each has made not guarantees of the premises, expressed or implied in connection with this report, any liability which each may have shall be limited to the fee for the inspection of the property.

Respectfully Submitted by:

SHEMON SINGER
EAA CERTIFIED ENVIRONMENTAL INSPECTOR
NO. 6209
APRIL 20, 2005

GZA
Proactive by Design

GEOTECHNICAL
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ECOLOGICAL
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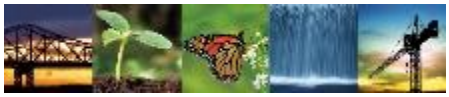

November 15, 2017
File No. 12.0076605.00

Marty Spitzer, Chief of Operations Manager
Carnegie Management
545 Broadway 4th Floor
Brooklyn, NY 11206

Re: Phase I Environmental Site Assessment
82 Willis Avenue
Bronx, New York

Dear Mr. Spitzer:

Pursuant to our proposal dated January 10, 2017, GZA is pleased to submit the Phase I Environmental Site Assessment Report for the above-referenced property ("Site"). GZA completed this Phase I Environmental Site Assessment in general conformance with the guidelines described in ASTM International's Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process - E1527-13.

We hope this satisfies your present needs. If you need additional information, please contact David Winslow at (973) 774-3307.

Very truly yours,

GZA GEOENVIRONMENTAL, INC.

David Winslow, Ph.D., P.G.
Environmental Professional

Benjamin Alter, P.G.
Consultant Reviewer

Sandra Huber
Project Manager

Enclosure: Phase I ESA Report

J:\76601 to 76650\76605, Carnegie Management, Bronx Phase I\Phase I

Proactive by Design

PHASE I ENVIRONMENTAL SITE ASSESSMENT

82 Willis Avenue
Bronx, New York
Block 2260, Lot 180

November 15, 2017
File No. 12.0076605.00

PREPARED FOR:
Carnegie Management
545 Broadway 4th Floor
Brooklyn NY 11206

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EXECUTIVE SUMMARY

Carnegie Management (also referred to herein as "Client" or "User") retained GZA GeoEnvironmental, Inc. (GZA) to perform a Phase I Environmental Site Assessment (ESA) of the target property located at 82 Willis Avenue/180 East 132nd Street (hereafter referred to as the "Site"). GZA performed this Phase I ESA in connection with the Client's planned redevelopment of the Site.

This Phase I ESA was performed in general conformance with the scope and limitations of ASTM International's Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process – E1527-13 (ASTM E1527-13), and included our visual observation of the Site; a review of historical information, environmental databases, and information provided by the User; and interviews with the current Site representative. Limiting conditions and/or deviations from ASTM E1527-13 are described in **Section 1.4** of this Phase I ESA Report. GZA prepared this Phase I ESA Report in conformance with the limitations presented in **Section 14.0** and with the terms and conditions of our proposal dated January 10, 2017, which are included in **Appendix A**.

The Site is located at 82 Willis Avenue/180 East 132nd Street in the Bronx, New York. The Site is approximately 72.97' by 369.57' in size and contains no building structures. The Site is primarily a paved parking lot leased to a moving company. The Site is an E-designated property for hazmat, noise, and air. A description of the site history is included in **Section 4.0**.

Based on the findings of our Phase I ESA and on our professional judgment, GZA has identified the following in connection with the Site:

Recognized Environmental Conditions (REC) and Controlled Recognized Environmental Conditions (CREC)

This Phase I ESA revealed the following RECs in connection with the Site:

- A NYC E-Designation pertaining to potential hazardous materials contamination and noise attenuation.

Historical Recognized Environmental Conditions (HREC)

- This Phase I ESA revealed no evidence of HRECs in connection with the Site.

De Minimis Conditions

This Phase I ESA revealed the following *de minimis* conditions in connection with the Site:

- Minor staining on ground on impermeable surfaces across the site (see **Appendix B** for photographs).

Data Gaps and Their Significance

This Phase I ESA identified the following data gap in connection with the Site:

- GZA was unable to review any files from NYCDEP and NYSDEC . Information regarding the property was available through several other data sources. Therefore, this data gap is not significant.

- Singer identified a 5,000-gallon AST in the former building in their 2005 Phase I. Since the former building was demolished, it is most probable that the AST was removed before the demolition. No information referring to the AST removal was available for review but an AST was not observed on Site. Therefore, this data gap is not significant.

In GZA's opinion, based on the information made available during this assessment, we did not identify significant data gaps that affected our ability to identify RECs, CRECs, or HRECs at the Site.

1.0 INTRODUCTION

This Phase I Environmental Site Assessment Report (Phase I ESA Report) presents the field observations, results, and opinions of a Phase I ESA conducted by GZA GeoEnvironmental, Inc. (GZA) for Carnegie Management (also referred to herein as "Client" or "User") at property identified as 82 Willis Avenue/180 East 132nd Street (hereafter referred to as the "Site"). GZA prepared this Phase I ESA Report in conformance with the limitations presented in **Section 14.0** and with the terms and conditions of our proposal dated January 10, 2017, which are included in **Appendix A**. This Phase I ESA Report is subject to modification if GZA or other party develops subsequent information.

1.1 REASON FOR PERFORMING THE PHASE I ENVIRONMENTAL SITE ASSESSMENT

GZA understands that this Phase I ESA was requested as part of environmental due diligence in support of the redevelopment of the Site. We understand that this Phase I ESA is not funded with a federal grant under the US Environmental Protection Agency (EPA) Brownfield Assessment and Characterization Program or the US Small Business Administration, and that an evaluation of controlled substances at the Site is not required.

1.2 PROJECT OBJECTIVES

We designed the Scope of Services described below in general conformance with ASTM International's Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process – E1527-13 (ASTM E1527-13). The objectives of this Phase I ESA were:

- To render an opinion as to whether surficial or historical evidence indicates the presence of recognized environmental conditions (RECs) that could result in the presence of hazardous substances or petroleum products in the environment, as defined in ASTM E1527-13; and
- To permit the User of this Phase I ESA to satisfy the requirements for qualifying for certain Landowner Liability Protections under the Comprehensive Environmental Response, Compensation and Liability Act.

1.3 DEFINITIONS

As defined in ASTM E1527-13:

- A REC indicates "the presence or likely presence of any hazardous substances or petroleum products in, on, or at a property (1) due to any release to the environment; (2) under conditions indicative of a release to the environment; or (3) under conditions that pose a material threat of a future release to the environment."
- The term "Controlled REC" (CREC) applies to a site that has reached regulatory closure with the implementation of an engineering control, such as an impermeable cap, and/or an institutional control, such as a deed restriction or property use restriction.
- A "historical recognized environmental condition" (HREC) is "a past release of any hazardous substances or petroleum products that has occurred in connection with the property and has been addressed to the satisfaction of the applicable regulatory authority, without subjecting the property to any required controls (for example, property use restrictions, activity and use limitations, institutional controls, or engineering controls.)"

- If regulatory standards have changed since the prior release was closed and the data used to close the case indicate hazardous substances or petroleum products are or are likely to be on the Site at concentrations greater than their respective regulatory standard(s) for unrestricted land use, then GZA will identify the historical (previously closed) release as a REC.

- A "*de minimis*" condition, as defined by ASTM E1527-13, is "a condition that generally does not present a threat to human health or the environment and that generally would not be the subject of an enforcement action if brought to the attention of appropriate governmental agencies." ASTM E1527-13 does not consider *de minimis* conditions RECs.

- A data gap refers to a lack of or inability to obtain information required by this practice despite good faith efforts by the environmental professional to gather such information. Data gaps may result from incompleteness in any of the activities required by this practice. A data gap is only significant if other information and/or professional experience raises reasonable concerns involving the data gap.

- A business environmental risk (BER) is a risk which can have a material environmental or environmentally-driven impact on the business associated with the current or planned use of a parcel of commercial real estate, not necessarily limited to those environmental issues required to be investigated under ASTM E1527-13. Consideration of BERs, for example, may involve addressing one or more non-scope considerations outlined in ASTM E1527-13. Common non-scope environmental business risk items referred to include: asbestos, lead paint, lead and arsenic in drinking water, radon, wetlands, cultural and historical resources, regulatory compliance, industrial hygiene, health and safety, indoor air quality, mold, etc.

1.4 SCOPE OF SERVICES

GZA's Scope of Services consisted of the following activities:

- A review of federal and State regulatory agency databases for the Site and the minimum search distance from the Site;

- Contact with certain local regulatory agencies to inquire about environmental conditions at the Site and in its vicinity;

- A review of the Site history through available Standard Historical Sources;

- A site reconnaissance to observe current Site conditions for evidence of recognized environmental conditions;

- The completion of a reconnaissance of the Site vicinity;

- A review of adjoining properties to identify the use of hazardous substances or petroleum products;

- Interview(s) with the key site manager, as well as certain other available occupants and major tenants, regarding the current and past Site usage and facility operations; and

- The preparation of this Phase I ESA Report of our findings.

There were no significant deviations from ASTM E1527-13.

This Phase I ESA does not include an evaluation of environmental issues or conditions that ASTM E1527-13 considers non-scope considerations.

In addition, it should be noted that, while ASTM E1527-13 includes an evaluation of the potential migration of vapors in the subsurface that originate from hazardous substances or petroleum products, it does not require Vapor Encroachment Screening as defined in ASTM guidance E2600.

2.0 DESCRIPTION OF SITE AND VICINITY

GZA obtained the following information resulting from its site reconnaissance, its research, and from interviews with people knowledgeable about the Site. Photographs depicting Site conditions during GZA's reconnaissance are presented in **Appendix B**.

2.1 SITE LOCATION

The Site is located at 82 Willis Avenue/180 East 132nd Street in the Bronx, New York. The Site is located to the southeast of the Willis Avenue Bridge and to the northeast of the Harlem River. The parcel is listed as Block 2260, Lot 180. A site map showing the location of the Site is provided as **Figure 1**.

2.2 DESCRIPTIONS OF SITE AND SITE BUILDINGS

The Site currently has no buildings and the majority of the Site is paved with asphalt. Access to the Site is obtained using a side street under the Willis Avenue Bridge, at the intersection of Willis Avenue and East 132nd Street. There is a temporary construction office on the eastern side of the Site, with one small office and one closet. Additionally, there is a temporary gate office at the entrance to the Site, large enough for one guard in which to sit.

The Site was previously developed; this is discussed in **Section 4.0**.

The following entities provide utilities to the Site:

Service	Provider
Electricity	None currently
Propane	None currently
Drinking Water	Public (New York City)
Sanitary Sewer Services	Public sewer (New York City)

2.3 CURRENT SITE USE

At the time of GZA's Site reconnaissance, Carnegie Management was leasing the Site to Flatrate Moving. Flatrate Moving was using the paved parking area to store vehicles, primarily moving vans. A brief questioning of one of the employees revealed that no maintenance of the vans occurs onsite, however evidence suggested otherwise. There were various degreasers in the storage cabinet, and evidence of maintenance work performed under one of the vans (see Photographs in **Appendix B**). Drums stored onsite included fluids such as diesel, antifreeze, and aqueous urea.

2.4 ADJOINING PROPERTIES

The following table lists the properties that adjoin the Site and describes their current use.

Direction	Street Address/Location	Name (as applicable) and Current Use
North	• No address; directly south of ramp off of Willis Avenue Bridge • No address; corner of Bruckner Blvd and Willis Avenue Bridge	• Vacant NJDOT property; currently overgrown, grassy area with old trucks and garbage such as rubber tires • Pulaski Park; used for recreational activities
South	• No address	• Amtrak; railroads
East	• No address	• Same vacant NJDOT property as above
West	• E 132nd Street (northwest)	• Harlem River Terminal Station; historical landmark (no current use)

2.5 VICINITY PROPERTIES

As part of this Phase I ESA, GZA performed a reconnaissance of the immediate Site vicinity. The Site vicinity is primarily commercial, with the exception of the residential apartments to the northwest of the Site. The adjoining properties are mostly vacant with the exception of Pulaski Park and Harlem River Terminal Station.

3.0 ENVIRONMENTAL SETTING

Section 3.0 provides information regarding the general physiographic, hydrogeologic, hydrologic, and soil conditions around the Site.

3.1 REGIONAL PHYSIOGRAPHY

Based on a review of the U.S. Geological Survey 7.5-minute Topographic Quadrangle Map titled Central Park 2013, the Site is at an approximate elevation of 20 feet above mean sea level. The topographic gradient near the Site slopes slightly to the west. The nearest water body is the Harlem River, which is located approximately 500 feet to the southwest of the Site.

3.2 GEOLOGIC, HYDROGEOLOGIC, AND HYDROLOGIC CONDITIONS

Based on a review of map data obtained from the United States Geologic Survey (USGS) of New York state, bedrock near the Site consists of Precambrian (middle Proterozoic) Fordham Gneiss. The soil is classified as variable urban land material. Based on local topography and surface water flow patterns, the inferred direction of groundwater flow is to the west-southwest. However, the localized direction of groundwater flow near the Site might vary because of underground utilities, subsurface preferential pathways, variations in weather or heterogeneous geological and/or anthropogenic conditions. We subsequently refer to upgradient and downgradient properties in this Phase I ESA Report based on the inferred direction of groundwater flow to the west-southwest. The Federal Emergency Management Agency (FEMA) indicates that the site is located in flood map zone 3604970091F.

4.0 HISTORICAL USE INFORMATION

The Site history was developed from "Standard Historical Sources" as defined in ASTM E1527-13, available files at Electronic Data Resources (EDR) and interviews with knowledgeable parties. We include a historical summary at the end of **Section 4.0** of this Phase I ESA Report. Specific information obtained from standard historical sources is contained in following subsections, and **Appendix C** includes copies of relevant historical documents.

4.1 SITE AND AREA HISTORY SUMMARY

According to information provided by EDR, the Site was developed by 1891. According to a previous Phase I Report (see **Section 5.0**), the building was constructed in 1888. The previous Phase I indicates that the building construction information was found on NYC Oasis Map. By 2006, the building was demolished and the site was paved with asphalt.

According to the historical aerial photographs, adjacent sites have been a mix of residential and commercial properties. The Sanborn maps indicate that much of the surrounding area had previously been used as a railyard.

4.2 AERIAL PHOTOGRAPH REVIEW

GZA consulted historical aerial photographs provided by EDR. The table below contains GZA's description of the Site and vicinity properties as shown in the aerial photographs.

Year	Scale	Description of Site	Description of Vicinity
1924, 1941, 1944, 1951, 1954, 1961, 1966, 1975, 1984, 1991, 1995	1" = 500'	The Site has a long, narrow building extending along its length. There is a small area surrounding the building that appears to be devoid of major structures or vegetation.	The area is built up, with various railroads and a mix of residential, commercial, and industrial structures. The area across the river (identified as Randall's Island) is minimally built up. There appears to have been coal piles to the north of the site from 1954-1995.
2006, 2009, 2011	1" = 500'	The Site is vacant.	The area is heavily built up, with railroads and a mix of residential, commercial, and industrial structures. Randall's Island still remains minimally built up.

4.3 FIRE INSURANCE MAPS

GZA consulted historical fire insurance maps provided by EDR. The table below contains GZA's description of the Site and vicinity properties as shown in the historical fire insurance maps.

Year	Description of Site	Description of Vicinity
1891, 1908, 1928, 1935, 1944, 1946	The Site has one building split into sections with a variable number of stories: the western portion of the building has three stories and the eastern portion has two stories. The building is labeled as N.Y. New Haven & Hartford R.R. Harlem River Branch Passenger Station. There are offices inside the building. Later maps indicate there is a basement in the building, and fire hydrants/fire alarms onsite. By 1935, two small storage sheds are onsite to the southeast of the property.	The immediate surrounding area is used as a rail yard (the N.Y. New Haven and Hartford Railroad Co.'s Yard). There are various railroads and platforms surrounding the Site. A park is on the other side of the tracks to the north of the Site, originally named Union Park.

Year	Description of Site	Description of Vicinity
1947, 1951	Same as above; a 6" water pipe runs along the length of the southern end of the Site. One of the small storage sheds is gone and only one remains.	Same as above. Union Park is renamed Pulaski Park.
1968, 1969, 1977, 1978, 1980, 1981, 1984, 1986, 1989, 1991-1996, 1998, 2001-2007	Same as above.	There are still railroads in the surrounding area. There are coal piles directly to the north of the Site. Victory Coal Terminal is nearby (in 1991, VCT is renamed to Gassman Coal Terminal).

4.4 PROPERTY TAX FILES

GZA reviewed property tax files online available at the New York City Department of Finance's website (http://gis.nyc.gov/taxmap/). The files indicated that the Site is Block 2260, Lot 180. According to the website, the Site is not precisely rectangular, but rather irregularly shaped with dimensions of 71.83' by 396.57' by 72.97' by 404.12'. The Site has been owned by 82 Willis, LLC since 2005.

4.5 RECORDED LAND TITLE RECORDS

The Client did not provide GZA with an abstract of title for its review; therefore, a title search was not included in the scope of this Phase I ESA.

4.6 HISTORIC USGS TOPOGRAPHIC MAPS

GZA reviewed historical USGS topographic maps provided by EDR. The table below contains GZA's description of the Site and vicinity properties as shown on the historical topographic maps.

Year	Description of Site	Description of Vicinity
1897, 1898, 1900	The only discernible features at the Site are the railroads surrounding it.	There are railroads surrounding most of the Site, and some buildings to the east. Willis Avenue Bridge is present to the west of the Site.
1947, 1956, 1966, 1979, 1997	The building is on the Site.	The railroads still surround the Site. By 1956, the railyard is labeled 'Mott Haven Yard'.
2013	The building is not shown on the Site.	The railroads are not shown surrounding the Site. Victory Coal Terminal is labeled to the east.

4.7 CITY DIRECTORIES

GZA reviewed historical city directories provided by EDR. The table below contains GZA's description of the Site and adjoining properties as presented in the historic city directories.

Year(s)	82 Willis Avenue
1949, 1956	Charles Noeding Trucking Co Inc., Mangam-Kester Transfer Corp
1961, 1965, 1971, 1976, 1983	Stacy MFG Co Inc.
1993, 2005	Frank Z
2010	82 Willis LLC

Year(s)	Listings for 91 Bruckner, adjoining property to the north
1971	Fiedler Charles & Son, Fiedler Roofing Co Inc., Fiedler Ventilating & Blower Co, Fiedler Waterproofing & Masonry Co
1976	Fiedler Charles & Son, Fiedler Roofing Co Inc., Fiedler Ventilating & Blower Co, Feidler Waterproofing & Masonry Co, Willis Mechanical Corp
1983	Fiedler Waterproofing & Masonry Co, Fiedler Charles & Son, Willis-Fiedler Thermal Company Inc
1993	Fiedler-Air Inc, Fiedler Charles & Son, Fiedler Roofing Co Inc, Fiedler Waterproofing & Masonry Co
2000	D&J Air, Fiedler-Air Inc, Fiedler Charles & Son, Fiedler Roofing Co, Fiedler Masonry Co
2005	Fiedler Roofing Co
2010	Fiedler Companies Inc, MC Hookups Inc, Cercone Exterior Restorations
2014	Cercone Exterior Restorations, MC Hookups Inc

Year(s)	Listings for 95 Bruckner Blvd, adjoining property to the north
1971, 1976, 1983	Vigliotti & Sons Inc
1993, 2000	Waldore Carting Corp, Calvin Maintenance Inc
2005	NCL

Year(s)	Listings for 97 Bruckner Blvd, adjoining property to the north
1976	Gamba & Gamba
1983	D&L Schiro Carting, Falso Carting Co
1993	Falso Carting Co, Statewide Medical Waste Services, Doctors Disposal Services
2000	Statewide Medical Waste Services, Falso Carting Co
2005	Falso Carting Co

Year(s)	Listings for adjoining properties to the northeast
	102 Bruckner (northeast); no listings
	112 Bruckner (northeast); no listings

Year(s)	Listings for 80 Bruckner, adjoining property to the northwest
1983, 1993	Roth Paper and Supply Inc., Borda Products Inc.
2000, 2005	Borda Products Inc.

Year(s)	Listings for adjoining properties to the east
	102 Bruckner (northeast); no listings
	112 Bruckner (northeast); no listings

4.8 BUILDING DEPARTMENT RECORDS

GZA reviewed building department records available on the NYC Department of Buildings website. No information relating to the existence of RECs at the Site was available in the building department records reviewed by GZA. The NYC Department of Buildings identified the Site as vacant land.

4.9 OTHER HISTORICAL RECORDS

GZA requested access to records available at the New York City Department of Environmental Protection (NYCDEP) and the New York State Department of Environmental Conservation (NYSDEC) through a Freedom of Information Act (FOIA) request. These records were not available within the timeframe allotted for this Phase I ESA.

5.0 PREVIOUS SITE INVESTIGATIONS

GZA requested information regarding previous site investigations from the Client. Isaac Feuerwerger (Carnegie Management) provided GZA with the following documents regarding previous site investigations:

- Phase I Environmental Site Assessment, Singer Environmental Group LTD, April 20, 2005

Singer Environmental Group of Brooklyn, New York, completed a Phase I Environmental Site Assessment in 2005. The Site building was still present at the time of the inspection. An aboveground storage tank was identified, and noted in good condition. Asbestos in the building was in good/fair condition. Recommendations of the site inspection included testing paint of the building for lead, using ground penetrating radar/magnetometer for the presence of underground storage tanks (USTs), and conducting a Phase II Subsurface Probe to determine possible presence of soil/groundwater contamination. There is no indication as to whether these recommendations were completed.

A copy of the Phase I Report is provided in **Appendix G**.

6.0 SITE RECONNAISSANCE

The purpose of GZA's site reconnaissance was to observe current Site conditions for evidence of recognized environmental conditions that could result in the presence of hazardous substances or petroleum products in the environment at the Site. GZA Scientist I, Casey McGuffy, conducted a site reconnaissance at the Site on October 18, 2017. Isaac Feuerwerger of Carnegie Management accompanied GZA during the site reconnaissance. GZA documented its observations and photo-documented pertinent features and/or areas of environmental concern, which we reference in this Phase I ESA Report. Selected photographs are included in **Appendix B**, and **Figure 2** - **Site Plan**, depicts pertinent Site features.

The following table discusses features of potential environmental concern that we identified at the Site.

Feature	Description
Aboveground storage tank (AST) systems	None
Underground storage tank (UST) systems	None
Chemical or petroleum storage or handling areas	The area to the back of the site (southeast of the property) had various drums containing materials such as diesel, urea, engine coolant and other chemicals and multiple containers of gasoline. Degreasers, spray paints, cleaners were stored in maintenance shed. Drums, paint cans, and gasoline containers were observed in the northeastern corner of the property.

Feature	Description
Chemical waste or petroleum waste storage or handling areas	Waste drums in the southeast corner of the property containing grease showed signs of staining on the outside of the drums and ground surrounding the drums.
Dumpsters	No dumpsters; small garbage cans on site.
Floor drains, trenches, sumps and associated piping	None
Oil/water separators	None
Storm water drains, grates and associated piping	There is one storm water drain off the property, in the road directly adjacent (downhill, to the northwest). No evidence of a release to the storm drain was observed.
Drainage swales, culverts, impoundments, and surface water bodies	None
Septic systems, leach fields, seepage pits, and dry wells	None
Open pipe discharges	None
Landfills and solid waste dumping	None; the NJDOT site to the north showed signs of dumping of typical household waste products. Tires were observed strewn around the Site.
Historical fill or other fill material	None
Staining or stressed vegetation	Some of the grease drums showed signs of staining on the outside of the drums and surrounding ground area. *De minimus* staining was observed on the asphalt in the parking lot.
Electrical transformers or capacitors	None
Hydraulic equipment, including lifts, elevators, and compactors	None
Active or inactive production wells	None
Monitoring wells, former boreholes, or other evidence of environmental investigations	None
Other observations potentially indicative of the presence of RECs	None

7.0 REGULATORY DATABASE REVIEW

GZA developed the information in this section based on public information obtained from various federal, state, and local agencies that maintain environmental regulatory databases.

7.1 FEDERAL AND STATE ENVIRONMENTAL RECORD SOURCES

Federal and state databases were searched by EDR, a professional data search company, and search results were provided to GZA in a report dated October 10, 2017. The following table indicates the databases searched by EDR, the minimum search distances from the Site, and the number of properties that appear on the database within the minimum search distances used. Descriptions of the federal and state databases and the dates that EDR accessed the federal and state databases are provided in EDR's report (see **Appendix D**).

Federal and State List	Approximate Minimum Search Distance*	Site and Adjoining Properties	# Sites Within Search Distance	# Potential Sites of Concern
NPL	*1 mile*	0	0	0
Delisted NPL	*½ mile*	0	0	0
SEMS	*½ mile*	0	0	0
SEMS ARCHIVE	*½ mile*	0	0	0
RCRIS CORRACTS	*1 mile*	0	0	0
RCRIS-TSD	*½ mile*	0	0	0
RCRIS-LQG/SQG	*¼ mile*	0	4	
Federal IC/EC Registries	*Site only*	0	0	
ERNS	*Site only*	0	0	
State Equivalent NPL	*1 mile*	0	0	0
State Equivalent CERCLIS	*1 mile*	0	6	0
SWMF	*½ mile*	0	0	0
State Landfill and/or Solid Waste Disposal Site	*½ mile*	0	5	0
Leaking Underground Storage Tanks (LUSTs)	*½ mile*	0	25	0
Registered USTs	*¼ mile*	0	14	
Registered ASTs	*¼ mile*	0	18	
State IC/EC Registries	*1/8 mile*	0	5	
Voluntary/Brownfield Cleanup Program Sites	*½ mile*	0	5	0
Local Brownfield Sites	*½ mile*	0	3	0
Local lists of Landfill/Solid Waste Disposal Sites	*½ mile*	0	2	0
NY Spills List	*1/8 mile*	1	11	0
RCRA NonGen/NLR List	*¼ mile*	0	65	0
NY E Designation	*1/8 mile*	1	4	0
NY Manifest	*¼ mile*	0	80	0
NJ Manifest	*¼ mile*	0	28	0
Manufactured Gas Plant Database	*1 mile*	0	3	0
EDR Historical Auto List	*1/8 mile*	0	5	0

* The approximate minimum search distance indicates the minimum distance measured from the nearest Site boundary for which EDR performed the database review.

7.2 LISTINGS FOR SITE AND ADJOINING PROPERTIES

The federal and state databases provided by EDR did not list the Site. The NYC Office of Environmental Remediation Searchable Property Environmental E-Database (SPEED), lists the site as an E-Designation Site as part of the Port Morris rezoning project, and a NYS Brownfield Opportunity Area (BOA).

Additionally, one spill was included on the NY Spills list with no definitive addresses: Manhole 5956. According to the EDR database, Manhole 5956 adjoins the Site to the west. The spill was closed in 1999.

7.3 LISTINGS FOR OTHER VICINITY PROPERTIES

None of the adjoining properties that are upgradient of the Site and located within the approximate minimum search distance from the Site are currently of potential concern. The spill case on the adjoining site has been closed and is of no concern. Four adjacent properties, 91 Bruckner Boulevard, 102 Bruckner Boulevard, 105 Bruckner Boulevard, and 112 Bruckner Boulevard, are listed on NYC SPEED as petroleum bulk storage sites. Being upgradient from the Site, these would be of potential concern were a spill to occur.

7.4 EVALUATION OF UNMAPPED PROPERTIES

GZA also reviewed the list of orphan sites, which are properties with insufficient address information to allow the mapping software to plot a location. Based on the incomplete descriptions provided in the database summary, it does not appear that any of the listed properties could impact the Site.

7.5 REGULATORY FILE REVIEW

GZA requested access to records available at the New York City Department of Environmental Protection (NYCDEP) and the New York State Department of Environmental Conservation (NYSDEC) through a Freedom of Information Act (FOIA) request. GZA was unable to review any files regarding the Site or any adjoining/vicinity properties. These records were not available within the timeframe allotted for this Phase I ESA.

8.0 INTERVIEWS

Casey McGuffy interviewed the following people as part of this Phase I ESA. The information that each interviewee provided is discussed and referenced within the text of this Phase I ESA Report.

- Isaac Feuerwerger, Carnegie Management

9.0 USER-PROVIDED INFORMATION

GZA requested information from the Client regarding title information, environmental liens, Activity and Use Limitations, and specialized knowledge or commonly known information regarding the Site and, if applicable, the reason for a significantly discounted purchase price. The completed User Questionnaire is provided in **Appendix E**.

10.0 NON-ASTM E1527-13 CONSIDERATIONS

This Phase I ESA does not include an evaluation of environmental issues or conditions that ASTM E1527-13 stipulates as non-scope considerations.

11.0 FINDINGS AND CONCLUSIONS

GZA performed a Phase I ESA in general conformance with the scope and limitation of ASTM E1527-13 for the property located at 82 Willis Avenue/180 East 132nd Street. Exceptions to, or deviations from, this practice are described in **Section 1.4** of this Phase I ESA Report.

11.1 RECOGNIZED ENVIRONMENTAL CONDITIONS (RECS)

This Phase I ESA revealed the following RECs in connection with the Site:

- A NYC E-Designation pertaining to potential hazardous materials contamination and noise attenuation.

11.2 CONTROLLED RECOGNIZED ENVIRONMENTAL CONDITIONS (CRECS)

In GZA's opinion, this Phase I ESA revealed no evidence of CRECs in connection with the Site.

11.3 HISTORIC RECOGNIZED ENVIRONMENTAL CONDITIONS (HRECS)

In GZA's opinion, this Phase I ESA revealed no evidence of HRECs in connection with the Site.

11.4 *DE MINIMIS* CONDITIONS

This Phase I ESA revealed the following *de minimis* conditions in connection with the Site:

- Minor staining on ground across the site (see **Appendix B** for photographs).

11.5 DATA GAPS AND THEIR SIGNIFICANCE

This Phase I ESA identified the following data gap in connection with the Site:

- GZA was unable to review any files from NYCDEP and NYSDEC. Information regarding the property was available through several other data sources. Therefore, this data gap is not significant.
- Singer identified a 5,000-gallon AST in the former building in their 2005 Phase I. Since the former building was demolished, it is most probable that the AST was removed before the demolition. No information referring to the AST removal was available for review but an AST was not observed on Site. Therefore, this data gap is not significant.

11.6 NON-ASTM E1527-13 CONSIDERATIONS

- No non-ASTM E1527-13 considerations were evaluated as part of GZA's Scope of Services.

12.0 REFERENCES

- Environmental Data Resources, Inc., dated October 10, 2017. The EDR Radius Map™ Report with Geocheck®, Shelton, CT.
- Environmental Data Resources, Inc., dated October 10, 2017. EDR Historical Topo Map Report, Shelton, CT.
- Environmental Data Resources, Inc., dated October 10, 2017. The EDR- City Directory Abstract, Shelton, CT.
- Environmental Data Resources, Inc., dated October 10, 2017. The EDR Aerial Photo Decade Package, Shelton, CT.
- Environmental Data Resources, Inc., dated October 10, 2017. Certified Sanborn Map Report ® Shelton, CT.
- New York City Department of Buildings website (http://www1.nyc.gov/site/buildings/index.page)
- New York City Department of Finance website (http://www1.nyc.gov/site/finance/index.page)
- New York City Department of Environmental Protection website (http://www.nyc.gov/html/dep/html/home/home.shtml)
- New York State Department of Environmental Conservation (http://www.dec.ny.gov/)
- New York City Oasis Mapping website (http://www.oasisnyc.net/map.aspx)
- New York City Searchable Property Environmental E-Database (https://maps.nyc.gov/moer/speed/login.jsp;jsessionid=EDB4BEAD92F13A99D181DB35C0CB46FF)
- Previous Phase I Environmental Assessment completed by Singer Environmental Group, LTD (Dated April 20, 2005)
- NYC Oasis Map website (http://www.oasisnyc.net/map.aspx)
- Federal Emergency Management Agency (FEMA) flood map website (https://msc.fema.gov/portal)

13.0 ENVIRONMENTAL PROFESSIONAL OPINION

I declare, to the best of my professional knowledge and belief, that I meet the definition of Environmental Professional as defined in §312.10 of 40 CFR 12; that I have the specific qualifications based on education, training, and experience to assess a property of the nature, history and setting of the subject property; and that I have developed and performed the all appropriate inquiries in conformance with the standards and practices set forth in 40 CFR 312. The signature of the Environmental Professional is contained on the cover letter of this Phase I ESA Report. The qualifications of the Environmental Professional are provided in **Appendix F**.

14.0 LIMITATIONS

GZA prepared this Phase I ESA Report on behalf of, and for the exclusive use of Carnegie Management for the stated purposes for the Site identified in this Phase I ESA Report. Use of this Phase I ESA Report, in whole or in part, at other locations, or for other purposes, might lead to inappropriate conclusions, and we do not accept any responsibility for the consequences of such use. Further, reliance by any party not identified in the agreement, for any use, shall be at that party's sole risk, and without any liability to GZA.

GZA performed its services to render an opinion on the presence of RECs in connection with the Site. We performed our services using that degree of skill and care ordinarily exercised by qualified professionals performing the same type of services, at the same time, under similar conditions, at the same or a similar property. We make no warranty, express or implied.

Our findings and conclusions are based on the work conducted as part of the Scope of Services set forth in this Phase I ESA Report, and reflect our professional judgment. Our findings and conclusions should not be considered as scientific certainties or engineering certainties, but rather as our professional opinions concerning the limited data gathered during the course of our work.

No environmental site assessment can eliminate the uncertainty of the possible presence of RECs. This Phase I ESA Report was prepared to help reduce, not to eliminate, such uncertainties. Consistent with ASTM E1527-13, we developed our opinions in light of the constraints imposed by time and budget.

As indicated within this Phase I ESA Report, we observed conditions at the Site and at adjoining properties for evidence of RECs at the Site. Where access to portions of the Site or to structures on the Site was unavailable or limited, GZA renders no opinion as to the presence of hazardous substances, hazardous waste, or petroleum products, or to the presence of indirect evidence relating to these materials, in those portions of the Site or structure. In addition, GZA renders no opinion as to the presence of hazardous substances, hazardous waste, or petroleum products, or to the presence of indirect evidence relating to these materials, where direct observation of the interior walls, floors, and/or ceilings of a structure on the Site was obstructed by objects and/or coverings on and/or over such surfaces. We based our opinions on such limited observations. Additionally, some activities or events impacting environmental conditions at the Site or on adjoining properties might have been transient and not observable at the time of GZA's site reconnaissance.

We relied upon information made available by federal, state, and local authorities, the key site manager, and others. We did not attempt to independently verify the accuracy or completeness of that information. We noted inconsistencies in this information within the Report.

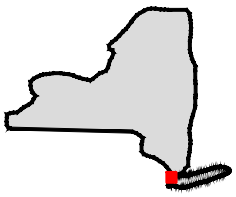
The lender, seller, buyer, or other parties that might become involved with the Site might develop additional opinions or information regarding the presence or absence of RECs at the Site. Such additional opinions or information might not fully support the opinions provided in this Phase I ESA Report. In the event such additional opinions or information is developed, we recommend retaining GZA to review this material so that we have the opportunity to evaluate and modify, as necessary, the opinions provided in this Phase I ESA Report.

Unless otherwise specified within this Phase I ESA Report, we have rendered no opinion on the compliance of Site conditions or activities with federal, state, and local codes, laws, or regulations.

GZA based the opinions expressed in this Phase I ESA Report on conditions observed during the course of our work on this Site; these conditions might change over time. ASTM E1527-13 specifies that observations and opinions are only valid for 180 days from the date the underlying information is developed. After 180 days, portions of this Phase I ESA Report may need to be updated.

Figures

NEW YORK



QUADRANGLE LOCATION

SOURCE:

BASE MAP FROM THE FOLLOWING USGS QUADRANGLE MAP:
CENTRAL PARK, NY (2016).

DIGITAL TOPOGRAPHIC MAPS PROVIDED BY USGSSTORE.GOV.

CONTOUR ELEVATIONS REFERENCE NAVD 88,
CONTOURS ARE SHOWN IN FEET AT 10' INTERVALS

N
W E
S

WILLIS AVENUE
BRONX, NEW YORK

PREPARED BY:
GZA GeoEnvironmental, Inc.
Engineers and Scientists
www.gza.com

PREPARED FOR:
CARNEGIE MANAGEMENT

SITE LOCATION MAP

PROJ MGR: JG	REVIEWED BY: CM	CHECKED BY: JG	FIGURE 1
DESIGNED BY: CM	DRAWN BY: MT	SCALE: 1" = 2,000'	
DATE: NOVEMBER 2017	PROJECT NO. 12.0076605.00	REVISION NO.	SHEET NO.

LEGEND:

SITE BOUNDARY

NOTES:

1. BASE MAP DEVELOPED FROM A BING PROFESSIONAL ELECTRONIC IMAGE FILE. DIGITAL AERIAL ORTHOPHOTOGRAPHY WAS COLLECTED USING AUTODESK IN NOVEMBER 2017.

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W E
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0 50' 100' 200'
SCALE IN FEET

NO.	ISSUE/DESCRIPTION	BY	DATE

WILLIS AVENUE
BRONX, NEW YORK

SITE PLAN

PREPARED BY:
GZA GeoEnvironmental, Inc.
Engineers and Scientists
www.gza.com

PREPARED FOR:
CARNEGIE MANAGEMENT

PROJ MGR: JG	REVIEWED BY: CM	CHECKED BY: JG	FIGURE 2
DESIGNED BY: CM	DRAWN BY: MT	SCALE: 1" = 100'	
DATE: NOVEMBER 2017	PROJECT NO. 12.0076605.00	REVISION NO.	SHEET NO.

Appendix A - Project Terms And Conditions

TERMS AND CONDITIONS FOR PROFESSIONAL SERVICES INCLUDING SITE INVESTIGATION, REMEDIATION, GEOTECHNICAL, CONSTRUCTION, AND TESTING

Client ("You"): Carnegie Management
Proposal No: 12.P000211.17B
Site: 320 West 31st Street

These Terms and Conditions, together with GZA's Proposal, make up the Agreement between GZA and you, Client, named above.

BEFORE SIGNING THE PROPOSAL, BE SURE YOU READ AND UNDERSTAND THE PARAGRAPHS ENTITLED "INDEMNIFICATION" AND "LIMITATION OF REMEDIES" WHICH DEAL WITH THE ALLOCATION OF RISK BETWEEN YOU AND GZA.

1. Services. GZA will perform the services set forth in its Proposal and any amendments or change orders authorized by you. Any request or direction from you that would require extra work or additional time for performance or would result in an increase in GZA's costs will be the subject of a negotiated amendment or change order.

2. Standard of Care; Warranties.

a. GZA will perform the services with the degree of skill and care ordinarily exercised by qualified professionals performing the same type of services at the same time under similar conditions in the same or similar locality.
b. GZA warrants that its construction services will be of good quality, free of faults and defects and in conformance with the Proposal.
c. **EXCEPT AS SET FORTH IN SUBSECTIONS 2a AND 2b, ABOVE, NO WARRANTY, EXPRESS OR IMPLIED, INCLUDING WARRANTY OF MARKETABILITY OR FITNESS FOR A PARTICULAR PURPOSE, IS MADE OR INTENDED BY GZA'S PROPOSAL OR BY ANY OF GZA'S ORAL OR WRITTEN REPORTS.**
d. GZA assigns to you any manufacturers' warranties of equipment or materials purchased from others, to the extent they are assignable, and your sole recourse will be against the manufacturer. Full risk of loss of materials and equipment will pass to you upon delivery to the Site, and you will be responsible for insuring and otherwise protecting them against theft and damage.

3. Payment.

a. Except as otherwise stated in the Proposal, you will compensate GZA for the services at the rates set forth in the applicable Proposal, amendment or change order; reimburse its expenses, which will include a communication fee calculated as a percentage of labor invoiced; and pay any sales or similar taxes thereon.
b. Any retainer specified in GZA's Proposal shall be due prior to the start of services and will be applied to the final invoice for services.
c. GZA will submit invoices periodically, and payment will be due within 20 days from invoice date. Overdue payments will bear interest at 1½ percent per month or, if lower, the maximum lawful rate. GZA may terminate its services upon 10 days' written notice anytime your payment is overdue on this or any other project and you will pay for all services through termination, plus termination costs. You will reimburse GZA's costs of collecting overdue invoices, including reasonable attorneys' fees.

4. Your Responsibilities.

a. Except as otherwise agreed, you will secure the approvals, permits, licenses and consents necessary for performance of the services. If you are the owner or operator of the Site, you will provide GZA with all documents, plans, information concerning underground structures (including but not limited to utilities, conduits, pipes, and tanks), information related to hazardous materials or other environmental or geotechnical conditions at the Site and other information that may be pertinent to the services or, if you are not the owner or operator of the Site, you agree to make reasonable efforts to obtain these same documents and provide them to GZA. Unless otherwise indicated in writing, GZA will be entitled to rely on documents and information you provide.
b. If you use the services of a construction manager at the Site, you agree to use best and reasonable efforts to include in your agreement(s) with the construction contractor provisions obligating the latter:
   (i) to indemnify and hold harmless, to the fullest extent permitted by law, you and GZA, its officers, employees and principals, for or on account of any claims, liabilities, costs and expenses, including attorneys' fees, arising out of or relating to the design or implementation of construction means, methods, procedures, techniques, and sequences of construction, including safety precautions or programs, of the contractor, or any of its subcontractors or any engineer engaged by it;

(ii) to name you and GZA as additional insureds under general liability and builder's risk insurance coverages maintained by the contractor, or any of its subcontractors; and

(iii) to require that all of its subcontractors agree and be bound to the obligations set forth in (i) and (ii) above.

c. In the event that you are unable to secure such provisions in the agreement(s) with the construction contractor, you shall promptly notify GZA and GZA shall have the opportunity to negotiate with you reasonable substitute risk allocation and insurance indemnities and protections.

5. Right of Entry; Site Restoration. You grant GZA and its subcontractor(s) permission to enter the Site to perform the services. If you do not own the Site, you represent and warrant that the owner has granted permission for GZA to enter the Site and perform the services; you will provide reasonable verification on request; and you will indemnify GZA for any claims by the Site owner related to alleged trespass by GZA or its subcontractors. GZA will exercise reasonable care to limit damage to landscaping, paving, systems and structures at the Site that may occur and you agree to compensate GZA for any restoration it is asked to perform, unless otherwise indicated in the Proposal.

6. Underground Facilities. GZA's only responsibility under this Section will be to provide proper notification to the applicable state utility "Call-Before-You-Dig" program. You further agree to assume responsibility for and to defend, indemnify and hold harmless GZA with respect to personal injury and property damages due to GZA's interference with subterranean structures including but not limited to utilities, conduits, pipes, and tanks:

(i) that are not correctly shown on any plans and information you or governmental authorities provide to GZA; or

(ii) that are not correctly marked by the appropriate utility.

7. Reliance. The services, information, and other data furnished by you shall be at your expense, and GZA may rely upon all information and data that you furnish, including the accuracy and completeness thereof. You acknowledge that the quality of the services provided by GZA is directly related to the accuracy and completeness of the information and data that you furnish to GZA**. GZA's REPORTS ARE PREPARED FOR AND MADE AVAILABLE FOR YOUR SOLE USE. YOU ACKNOWLEDGE AND AGREE THAT USE OF OR RELIANCE UPON THE REPORT OR THE FINDINGS IN THE REPORT BY ANY OTHER PARTY, OR FOR ANY OTHER PROJECT OR PURPOSE, SHALL BE AT YOUR OR SUCH OTHER PARTY'S SOLE RISK AND WITHOUT ANY LIABILITY TO GZA.**

8. Lab Tests and Samples. GZA is entitled to rely on the results of laboratory tests using generally accepted methodologies. GZA may dispose of samples in accordance with applicable laws 30 days after submitting test results to you unless you request in writing for them to be returned to you or to be held longer, in which case you will compensate GZA for storage and/or shipping beyond 30 days.

9. GZA Professionals. GZA employees or consultants may act as licensed, certified or registered professionals (including but not limited to Professional Engineers, Licensed Site or Environmental Professionals, or Certified Industrial Hygienists collectively referred to in this section as "GZA Professionals") whose duties may include the rendering of independent professional opinions. You acknowledge that a federal, state or local agency or other third party may audit the services of GZA or other contractor/consultant(s), which audit may require additional services, even though GZA and such GZA Professionals have each performed such services in accordance with the standard of care set forth herein. You agree to compensate GZA for all services performed in response to such an audit, or to meet additional requirements resulting from such an audit, at the rates set forth in the applicable Proposal, amendment or change order.

10. Hazardous Materials; GZA "Not a Generator". Before any hazardous or contaminated materials are removed from the Site, you will sign manifests naming you as the generator of the waste (or, if you are not the generator, you will arrange for the generator to sign). You will select the treatment or disposal facility to which any waste is taken. GZA will not be the generator or owner of, nor will it possess, take title to, or assume legal liability for any hazardous or contaminated materials at or removed from the Site. GZA will not have responsibility for or control of the Site or of operations or activities at the Site other than its own. GZA will not undertake, arrange for or control the handling, treatment, storage, removal, shipment, transportation or disposal of any hazardous or contaminated materials at or removed from the Site, other than any laboratory samples it collects or tests. You agree to defend, indemnify and hold GZA harmless for any costs or liability incurred by GZA in defense of or in payment for any legal actions in which it is alleged that GZA is the owner, generator, treater, storer or disposer of hazardous waste.

11. Limits on GZA's Responsibility. GZA will not be responsible for the acts or omissions of contractors or others at the Site, except for its own subcontractors and employees. GZA will not supervise, direct or assume control over or the authority to stop any contractor's work, nor shall GZA's professional activities nor the presence of GZA or its employees and subcontractors be construed to imply that GZA has authority over or responsibility for the means, methods, techniques, sequences or procedures of construction, for work site health or safety precautions or programs, or for any failure of contractors to comply with contracts, plans, specifications or laws. Any opinions by GZA of probable costs of labor, materials, equipment or services to be furnished by others are strictly estimates and are not a guarantee that actual costs will be consistent with the estimates.

12. Changed Conditions.

a. You recognize the uncertainties related to environmental and geotechnical services, which often require a phased or exploratory approach, with the need for additional services becoming apparent during the initial services. You also recognize that actual conditions encountered may vary significantly from those anticipated, that laws and regulations are subject to change, and that the requirements of regulatory authorities are often unpredictable.
b. If changed or unanticipated conditions or delays make additional services necessary or result in additional costs or time for performance, GZA will notify you and the parties will negotiate appropriate changes to the scope of services, compensation and schedule.
c. If no agreement can be reached, GZA will be entitled to terminate its services and to be equitably compensated for the services already performed. GZA will not be responsible for delays or failures to perform due to weather, labor disputes, intervention by or inability to get approvals from public authorities, acts or omissions on your part, or any other causes beyond GZA's reasonable control, and you will compensate GZA for any resulting increase in its costs.

13. Documents and Information. All documents, data, calculations and work papers prepared or furnished by GZA are instruments of service and will remain GZA's property. Designs, reports, data and other work product delivered to you are for your use only, for the limited purposes disclosed to GZA. Any delayed use, use at another site, use on another project, or use by a third party will be at the user's sole risk, and without any liability to GZA. Any technology, methodology or technical information learned or developed by GZA will remain its property. Provided GZA is not in default under this Agreement, GZA's designs will not be used to complete this project by others, except by written agreement relating to use, liability and compensation.

14. Electronic Media. In accepting and utilizing any drawings, reports and data on any form of electronic media generated by GZA, you covenant and agree that all such electronic files are instruments of service of GZA, who shall be deemed the author and shall retain all common law, statutory law and other rights, including copyrights. In the event of a conflict between the signed documents prepared by GZA and electronic files, the signed documents shall govern. You agree not to reuse these electronic files, in whole or in part, for any purpose or project other than the project that is the subject of this Agreement. Any transfer of these electronic files to others or reuse or modifications to such files by you without the prior written consent of GZA will be at the user's sole risk and without any liability to GZA.

15. Confidentiality; Subpoenas. Information about this Agreement and GZA's services and information you provide to GZA regarding your business and the Site, other than information available to the public and information acquired from third parties, will be maintained in confidence and will not be disclosed to others without your consent, except as GZA reasonably believes is necessary: (a) to perform its services; (b) to comply with professional standards to protect public health, safety and the environment; and (c) to comply with laws and court orders. GZA will make reasonable efforts to give you prior notice of any disclosure under (b) or (c) above. Information available to the public and information acquired from third parties will not be considered confidential. You will reimburse GZA for responding to any subpoena or governmental inquiry or audit related to the services, at the rates set forth in the applicable Proposal, amendment or change order.

16. Insurance. During performance of the services, GZA will maintain workers compensation, commercial general liability, automobile liability, and professional liability/contractor's pollution liability insurance. GZA will furnish you certificates of such insurance on request.

17. Indemnification. You agree to hold harmless, indemnify, and defend GZA and its affiliates and subcontractors and their employees, officers, directors and agents (collectively referred to in this paragraph as "GZA") against all claims, suits, fines and penalties, including mandated cleanup costs and attorneys' fees and other costs of settlement and defense, which claims, suits, fines, penalties or costs arise out of or are related to this Agreement or the services, except to the extent they are caused by GZA's negligence or willful misconduct.

18. Limitation of Remedies.

a. To the fullest extent permitted by law and notwithstanding anything else in this Agreement to the contrary, the aggregate liability of GZA and its affiliates and subcontractors and their employees, officers, directors and agents (collectively referred to in this paragraph as "GZA") for all claims arising out of this Agreement or the services is limited to $50,000 or, if greater, 10% of the compensation received by GZA under this Agreement.
b. You may elect to increase the limit of liability by paying an additional fee, such fee to be negotiated prior to the execution of this Agreement.
c. Any claim will be deemed waived unless received by GZA within one year of substantial completion of the services.
d. GZA will not be liable for lost profits, loss of use of property, delays, or other special, indirect, incidental, consequential, punitive, exemplary or multiple damages.
e. GZA will not be liable to you or the Site owner for injuries or deaths suffered by GZA's or its subcontractors' employees.
f. You will look solely to GZA for your remedy for any claim arising out of or relating to this Agreement, including any claim arising out of or relating to alleged negligence or errors or omissions of any GZA principal, officer, employee or agent.

19. Disputes.

a. All disputes between you and GZA shall be subject to non-binding mediation.
b. Either party may demand mediation by serving a written notice stating the essential nature of the dispute, the amount of time or money claimed, and requiring that the matter be mediated within forty-five (45) days of service of notice.
c. The mediation shall be administered by the American Arbitration Association in accordance with its most recent Construction Mediation Rules, or by such other person or organization as the parties may agree upon.
d. No action or suit may be commenced unless mediation has occurred but did not resolve the dispute, or unless a statute of limitation period would expire if suit were not filed prior to such forty-five (45) days after service of notice.

20. Miscellaneous.

a. Massachusetts law shall govern this Agreement.
b. The above terms and conditions regarding Limitation of Remedies and Indemnification shall survive the completion of the services under this Agreement and the termination of the contract for any cause.
c. Any amendment to these Terms and Conditions must be in writing and signed by both parties.
d. Having received these Terms and Conditions, your oral authorization to commence services, your actions, or your use of the Report or Work Product constitutes your acceptance of them.
e. This Agreement supersedes any contract terms, purchase orders or other documents issued by you.
f. Neither party may assign or transfer this Agreement or any rights or duties hereunder without the written consent of the other party.
g. Your failure or the failure of your successors or assigns to receive payment or reimbursement from any other party for any reason whatsoever shall not absolve you, your successors or assigns of any obligation to pay any sum to GZA under this agreement.
h. These Terms and Conditions shall govern over any inconsistent terms in GZA's Proposal.
i. The provisions of this Agreement are severable; if any provision is unenforceable it shall be appropriately limited and given effect to the extent it is enforceable.
j. The covenants and agreements contained in this Agreement shall apply to, inure to the benefit of and be binding upon the parties hereto and upon their respective successors and assigns.

Appendix B - Photograph Log

GZA GeoEnvironmental, Inc.

PHOTOGRAPHIC LOG

Client Name:	Site Location:	Project No.:
Carnegie Management	82 Willis Avenue/180 East 132nd Street, Bronx, NY	12.0076605.00

Photo No.:	Date:
1	10/18/2017

Direction Photo Taken:
Looking east

Photographer:
CM

Description:
View of the property from outside, facing east.

Photo No.:	Date:
2	10/18/2017

Direction Photo Taken:
Looking east

Photographer:
CM

Description:

Closer view of trucks on site.

Client Name:	Site Location:	Project No.:
Carnegie Management	82 Willis Avenue/180 East 132nd Street, Bronx, NY	12.0076605.00

Photo No.:	Date:
3	10/18/2017

Direction Photo Taken:
Looking east

Photographer:
CM

Description:
View of cars parked on property.

Photo No.:	Date:
4	10/18/2017

Direction Photo Taken:
Looking west

Photographer:
CM

Description:
View of property, facing west.

Client Name:	Site Location:	Project No.:
Carnegie Management	82 Willis Avenue/180 East 132nd Street, Bronx, NY	12.0076605.00

Photo No.: 5	Date: 10/18/2017

Direction Photo Taken:
Looking north

Photographer:
CM

Description:
Tires and additional garbage on site.

Photo No.: 6	Date: 10/18/2017

Direction Photo Taken:
Looking north

Photographer:
CM

Description:
Staining on asphalt from parked vans and cars.

Client Name:	Site Location:	Project No.:
Carnegie Management	82 Willis Avenue/180 East 132nd Street, Bronx, NY	12.0076605.00

Photo No.: 7	Date: 10/18/2017

Direction Photo Taken:
Looking north

Photographer:
CM

Description:
Staining on asphalt from parked vans and cars.

Photo No.: 8	Date: 10/18/2017

Direction Photo Taken:
Looking north

Photographer:
CM

Description:
Grease container under one of the parked vans.

Client Name:	Site Location:	Project No.:
Carnegie Management	82 Willis Avenue/180 East 132nd Street, Bronx, NY	12.0076605.00

Photo No.: 9	Date: 10/18/2017

Direction Photo Taken:
Looking north

Photographer:
CM

Description:
Grease container under parked van.

Photo No.: 10	Date: 10/18/2017

Direction Photo Taken:
Looking north

Photographer:
CM

Description:
Greasy cardboard and asphalt under one of the parked vans.

Client Name:	Site Location:	Project No.:
Carnegie Management	82 Willis Avenue/180 East 132nd Street, Bronx, NY	12.0076605.00

Photo No.: 11	Date: 10/18/2017

Direction Photo Taken:
Looking east

Photographer:
CM

Description:
Diesel drum and gasoline containers.

Photo No.: 12	Date: 10/18/2017

Direction Photo Taken:
Looking northeast

Photographer:
CM

Description:
Drum filled with engine coolant and gasoline container.

Client Name:	Site Location:	Project No.:
Carnegie Management	82 Willis Avenue/180 East 132nd Street, Bronx, NY	12.0076605.00

Photo No.: 13	Date: 10/18/2017

Direction Photo Taken:
Looking east

Photographer:
CM

Description:
Drums, paint cans, and gasoline containers.

Photo No.: 14	Date: 10/18/2017

Direction Photo Taken:
Looking northeast

Photographer:
CM

Description:
Gasoline cans, rock salt bags, and additional items in northeast corner of property.

Client Name:	Site Location:	Project No.:
Carnegie Management	82 Willis Avenue/180 East 132nd Street, Bronx, NY	12.0076605.00

Photo No.: 15	Date: 10/18/2017

Direction Photo Taken:
Looking east

Photographer:
CM

Description:
Grease drum and associated grease staining on asphalt.

Photo No.: 16	Date: 10/18/2017

Direction Photo Taken:
Looking east

Photographer:
CM

Description:
Grease on top of drum.

Client Name:	Site Location:	Project No.:
Carnegie Management	82 Willis Avenue/180 East 132nd Street, Bronx, NY	12.0076605.00

Photo No.: 17	Date: 10/18/2017

Direction Photo Taken:
Looking northeast

Photographer:
CM

Description:
Degreasers, spray paints, cleaners in maintenance shed.

Photo No.: 18	Date: 10/18/2017

Direction Photo Taken:
Looking northeast

Photographer:
CM

Description:
Degreasers, spray paints, cleaners in maintenance shed.

Client Name:	Site Location:	Project No.:
Carnegie Management	82 Willis Avenue/180 East 132nd Street, Bronx, NY	12.0076605.00

Photo No.: 19	Date: 10/18/2017

Direction Photo Taken:
Looking northeast

Photographer:
CM

Description:
Label on container filled with urea solution.

Photo No.: 20	Date: 10/18/2017

Direction Photo Taken:
Looking northeast

Photographer:
CM

Description:
Crystallization of urea solution at base of container.

Client Name:	Site Location:	Project No.:
Carnegie Management	82 Willis Avenue/180 East 132nd Street, Bronx, NY	12.0076605.00

Photo No.: 21	Date: 10/18/2017

Direction Photo Taken:
Looking northeast

Photographer:
CM

Description:
Open container with green fluid, possibly antifreeze.

Photo No.: 22	Date: 10/18/2017

Direction Photo Taken:
Looking north

Photographer:
CM

Description:
Underside of Willis Avenue Bridge from outside of property.

Client Name:	Site Location:	Project No.:
Carnegie Management	82 Willis Avenue/180 East 132nd Street, Bronx, NY	12.0076605.00

Photo No.: 23	Date: 10/18/2017

Direction Photo Taken:
Looking east

Photographer:
CM

Description:
View of property directly north, NYDOT-owned

Photo No.: 24	Date: 10/18/2017

Direction Photo Taken:
Looking northeast

Photographer:
CM

Description:
115-119 Bruckner Boulevard, Speedy Lube and Car Wash (vicinity properties)

Client Name:	Site Location:	Project No.:
Carnegie Management	82 Willis Avenue/180 East 132nd Street, Bronx, NY	12.0076605.00

Photo No.: 25	Date: 10/18/2017

Direction Photo Taken:
Looking northwest

Photographer:
CM

Description:
Property to the northwest of the site; multiple addresses (residential and commercial)

Photo No.: 26	Date: 10/18/2017

Direction Photo Taken:
Looking southeast

Photographer:
CM

Description:
102 Bruckner Boulevard, Apple Auto and Truck Care (vicinity properties)

Client Name:	Site Location:	Project No.:
Carnegie Management	82 Willis Avenue/180 East 132nd Street, Bronx, NY	12.0076605.00

Photo No.: 27	Date: 10/18/2017

Direction Photo Taken: North

Photographer: CM

Description: 105 Bruckner Boulevard, Association for Energy Affordability (vicinity property)

Photo No.: 28	Date: 10/18/2017

Direction Photo Taken: West

Photographer: CM

Description: Pulaski Park, northern adjoining property

Client Name:	Site Location:	Project No.:
Carnegie Management	82 Willis Avenue/180 East 132nd Street, Bronx, NY	12.0076605.00

Photo No.:	Date:
29	10/18/2017

Direction Photo Taken:
East

Photographer:
CM

Description:
Railroad area, southern adjoining property

Photo No.:	Date:
30	10/18/2017

Direction Photo Taken:
Southeast

Photographer:
CM

Description:
View of waste management center, south of the Site (vicinity property)

Client Name:	Site Location:	Project No.:
Carnegie Management	82 Willis Avenue/180 East 132nd Street, Bronx, NY	12.0076605.00

Photo No.:	Date:
31	10/18/2017

Direction Photo Taken:
Looking west

Photographer:
CM

Description:
Willis Avenue Bridge

Photo No.:	Date:
32	10/18/2017

Direction Photo Taken:
Looking north

Photographer:
CM

Description:
Properties north of the Site, 91-97 Bruckner Boulevard (vicinity properties)

Appendix C - Historical Documentation

82 Willis Ave

82 Willis Ave

Bronx, NY 10454

Inquiry Number: 5072750.9

October 10, 2017

The EDR Aerial Photo Decade Package

6 Armstrong Road, 4th floor
Shelton, CT 06484
Toll Free: 800.352.0050
www.edrnet.com

EDR Aerial Photo Decade Package

10/10/17

Site Name:

82 Willis Ave
82 Willis Ave
Bronx, NY 10454
EDR Inquiry # 5072750.9

Client Name:

GZA GeoEnvironmental, Inc.
55 Lane Road
Fairfield, NJ 07004
Contact: Casey Mcguffy

Environmental Data Resources, Inc. (EDR) Aerial Photo Decade Package is a screening tool designed to assist environmental professionals in evaluating potential liability on a target property resulting from past activities. EDR's professional researchers provide digitally reproduced historical aerial photographs, and when available, provide one photo per decade.

Search Results:

Year	Scale	Details	Source
2011	1"=500'	Flight Year: 2011	USDA/NAIP
2009	1"=500'	Flight Year: 2009	USDA/NAIP
2006	1"=500'	Flight Year: 2006	USDA/NAIP
1995	1"=500'	Acquisition Date: March 13, 1995	USGS/DOQQ
1991	1"=500'	Flight Date: March 09, 1991	USGS
1984	1"=500'	Flight Date: March 26, 1984	USGS
1975	1"=500'	Flight Date: May 08, 1975	NOAA
1966	1"=500'	Flight Date: February 23, 1966	USGS
1961	1"=500'	Flight Date: April 12, 1961	EDR Proprietary Aerial Viewpoint
1954	1"=500'	Flight Date: January 04, 1954	USGS
1951	1"=500'	Flight Date: April 21, 1951	EDR Proprietary Aerial Viewpoint
1944	1"=500'	Flight Date: January 01, 1944	FirstSearch
1941	1"=500'	Flight Date: January 01, 1941	FirstSearch
1924	1"=500'	Flight Date: July 01, 1924	NYPL

When delivered electronically by EDR, the aerial photo images included with this report are for ONE TIME USE ONLY. Further reproduction of these aerial photo images is prohibited without permission from EDR. For more information contact your EDR Account Executive.

INQUIRY #: 5072750.9

YEAR: 2011

= 500'

N

EDR


INQUIRY #: 5072750.9
YEAR: 2009
= 500'
N
EDR

INQUIRY #: 5072750.9

YEAR: 2006

= 500'

N

EDR

INQUIRY #: 5072750.9

YEAR: 1995

= 500'

N

EDR

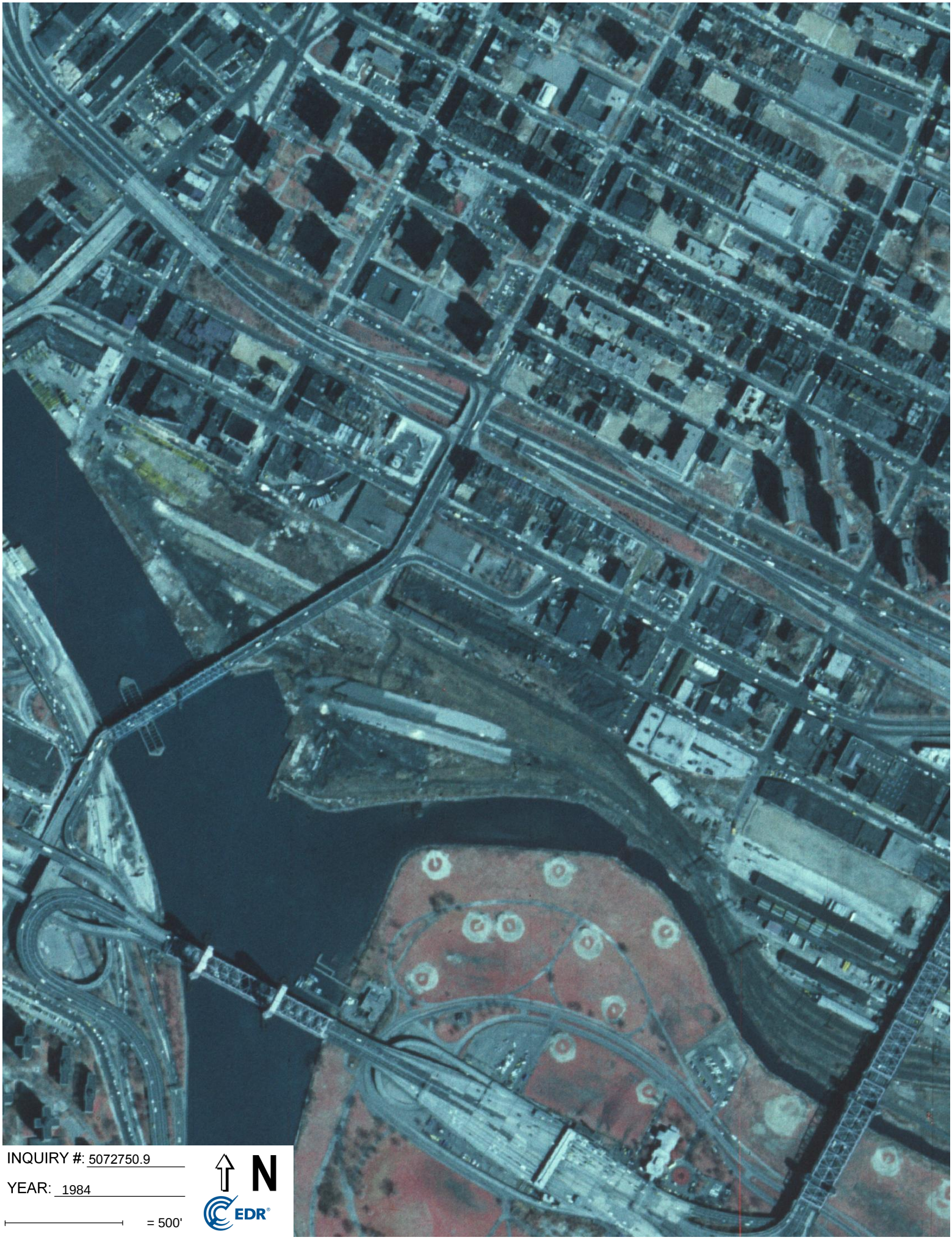
INQUIRY #: 5072750.9

YEAR: 1991

= 500'

N

EDR



INQUIRY #: 5072750.9

YEAR: 1984

= 500'

N

EDR

INQUIRY #: 5072750.9

YEAR: 1975

= 500'

N

EDR

INQUIRY #: 5072750.9

YEAR: 1966

= 500'

N

EDR

INQUIRY #: 5072750.9

YEAR: 1961

= 500'

N

EDR

INQUIRY #: 5072750.9

YEAR: 1954

= 500'

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EDR

INQUIRY #: 5072750.9

YEAR: 1951

= 500'

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EDR

INQUIRY #: 5072750.9

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EDR

INQUIRY #: 5072750.9

YEAR: 1941

= 500'

N

EDR

INQUIRY #: 5072750.9

YEAR: 1924

= 500'

N

EDR

82 Willis Ave

82 Willis Ave

Bronx, NY 10454

Inquiry Number: 5072750.3

October 10, 2017

Certified Sanborn® Map Report

6 Armstrong Road, 4th floor
Shelton, CT 06484
Toll Free: 800.352.0050
www.edrnet.com

Certified Sanborn® Map Report

10/10/17

Site Name:

82 Willis Ave
82 Willis Ave
Bronx, NY 10454
EDR Inquiry # 5072750.3

Client Name:

GZA GeoEnvironmental, Inc.
55 Lane Road
Fairfield, NJ 07004
Contact: Casey Mcguffy

The Sanborn Library has been searched by EDR and maps covering the target property location as provided by GZA GeoEnvironmental, Inc. were identified for the years listed below. The Sanborn Library is the largest, most complete collection of fire insurance maps. The collection includes maps from Sanborn, Bromley, Perris & Browne, Hopkins, Barlow, and others. Only Environmental Data Resources Inc. (EDR) is authorized to grant rights for commercial reproduction of maps by the Sanborn Library LLC, the copyright holder for the collection. Results can be authenticated by visiting www.edrnet.com/sanborn.

The Sanborn Library is continually enhanced with newly identified map archives. This report accesses all maps in the collection as of the day this report was generated.

Certified Sanborn Results:

Certification # 49A7-4B58-9A5C

PO # NA

Project NA

Maps Provided:

2007	1996	1984	1947
2006	1995	1981	1946
2005	1994	1980	1944
2004	1993	1978	1935
2003	1992	1977	1928
2002	1991	1969	1908
2001	1989	1968	1903
1998	1986	1951	1891

Sanborn® Library search results

Certification #: 49A7-4B58-9A5C

The Sanborn Library includes more than 1.2 million fire insurance maps from Sanborn, Bromley, Perris & Browne, Hopkins, Barlow and others which track historical property usage in approximately 12,000 American cities and towns. Collections searched:

- ☑ Library of Congress
- ☑ University Publications of America
- ☑ EDR Private Collection

The Sanborn Library LLC Since 1866™

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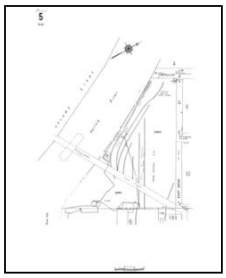
Sanborn Sheet Key

This Certified Sanborn Map Report is based upon the following Sanborn Fire Insurance map sheets.

2007 Source Sheets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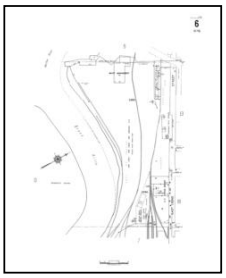
2007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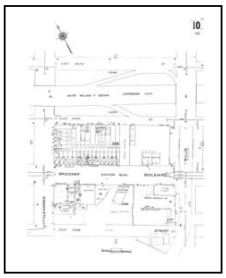
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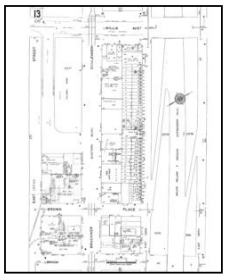
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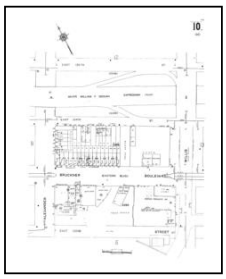
2006 Source Sheets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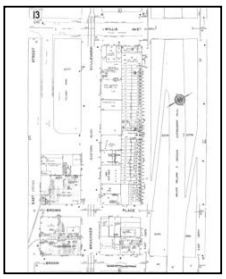
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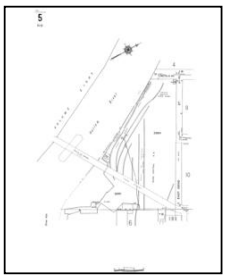
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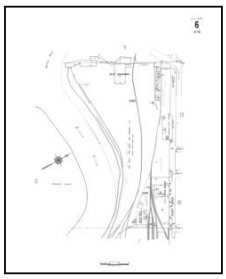
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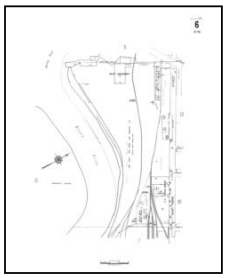
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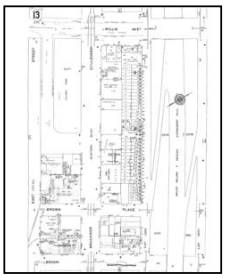
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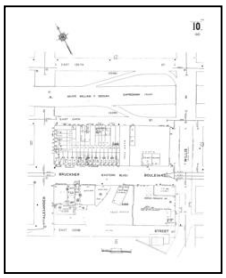
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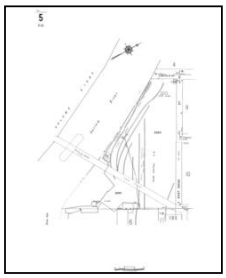
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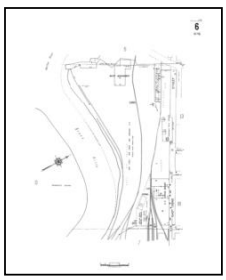
2004 Source Sheets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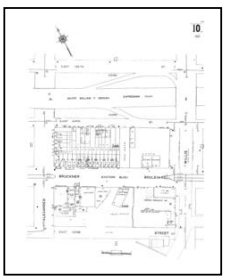
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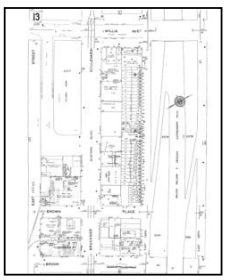
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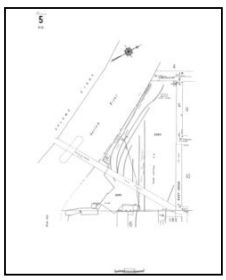
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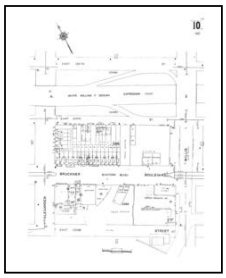
2004

Sanborn Sheet Key

This Certified Sanborn Map Report is based upon the following Sanborn Fire Insurance map sheets.

2003 Source Sheets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2003


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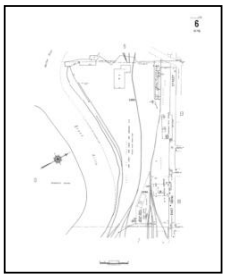
2003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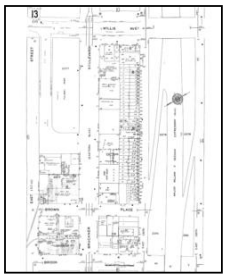
2003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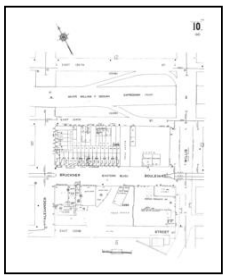
2003

2002 Source Sheets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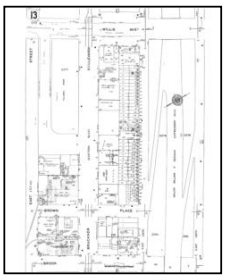
2002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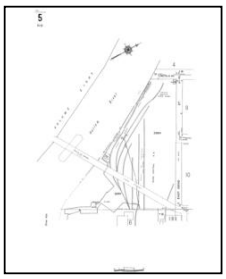
2002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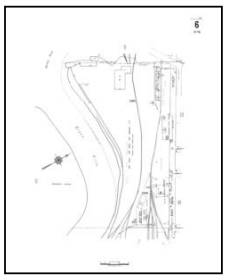
2002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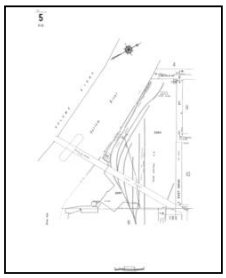
2002

2001 Source Sheets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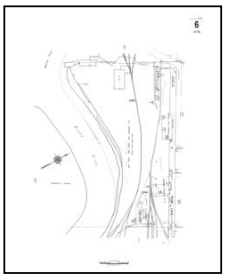
2001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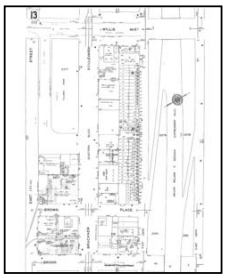
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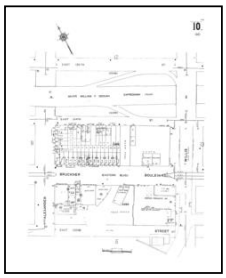
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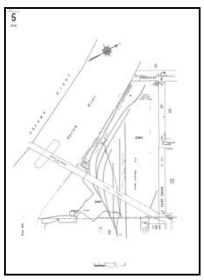
2001

1998 Source Sheets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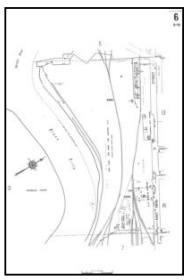
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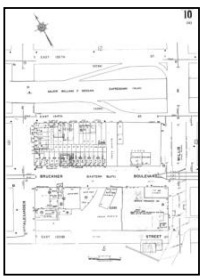
1998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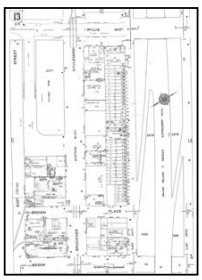
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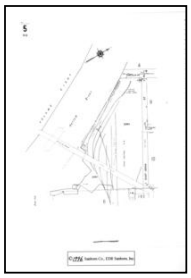
1998

Sanborn Sheet Key

This Certified Sanborn Map Report is based upon the following Sanborn Fire Insurance map sheets.

1996 Source Sheets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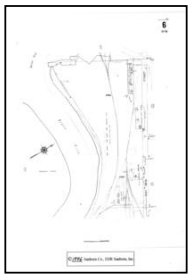
1996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1996


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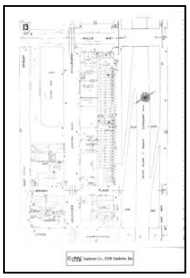
1996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1996

1995 Source Sheets


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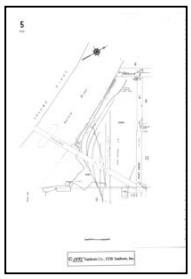
1995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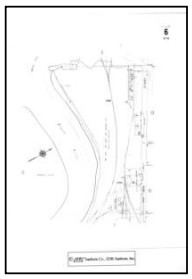
1995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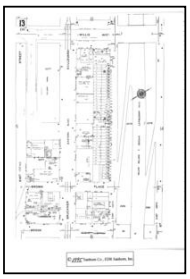
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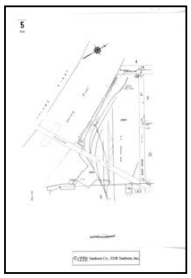
1995

1994 Source Sheets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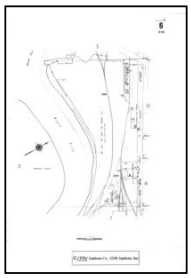
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1994


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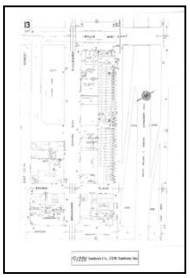
1994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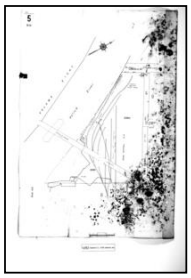
1994

1993 Source Sheets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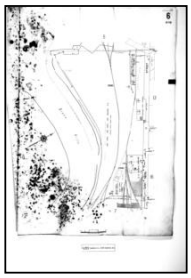
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1993


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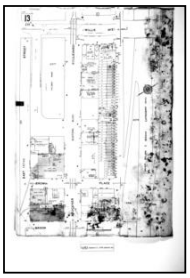
1993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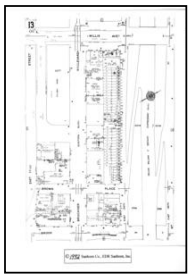
1993

Sanborn Sheet Key

This Certified Sanborn Map Report is based upon the following Sanborn Fire Insurance map sheets.

1992 Source Sheets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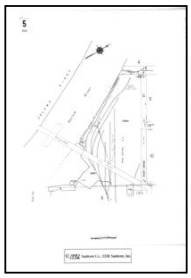
1992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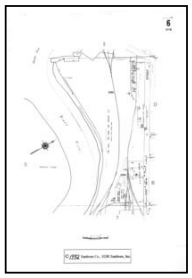
1992


Volume 9S, Sheet 6
1992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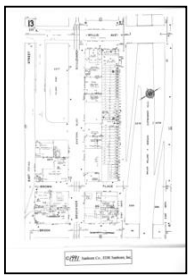
1992

1991 Source Sheets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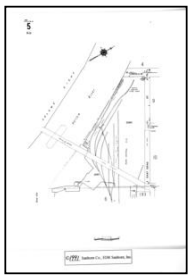
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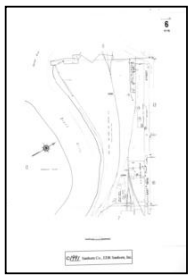
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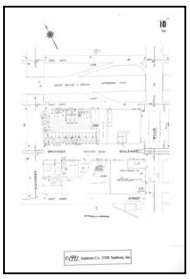
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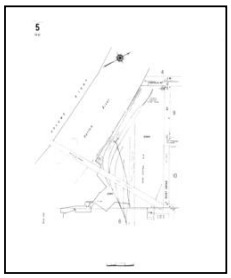
1991

1989 Source Sheets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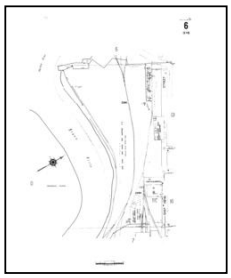
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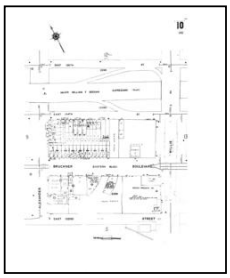
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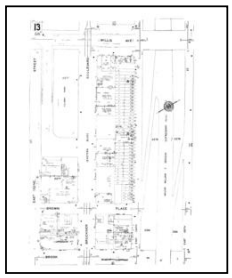
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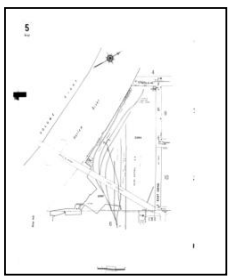
1989

1986 Source Sheets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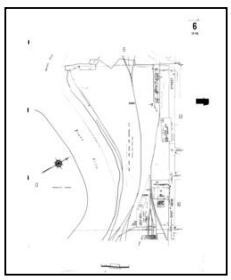
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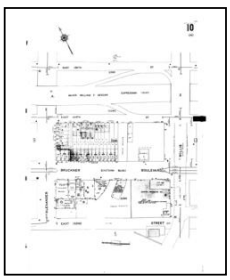
Volume 9S, Sheet 10
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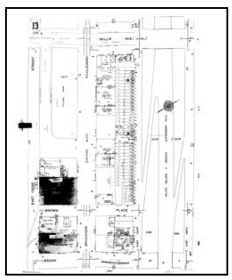
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1986

Sanborn Sheet Key

This Certified Sanborn Map Report is based upon the following Sanborn Fire Insurance map sheets.

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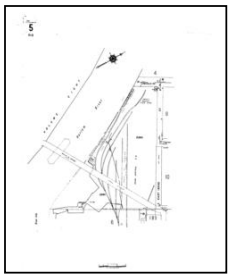
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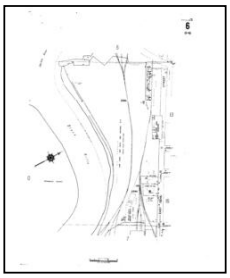
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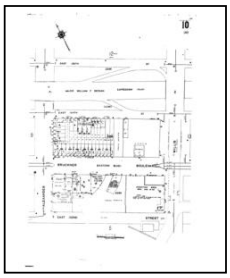
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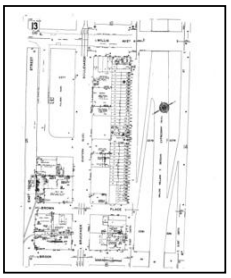
1984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1984

1981 Source Sheets


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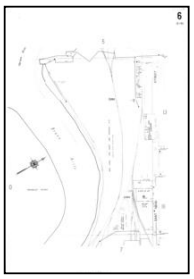
1981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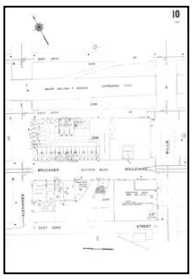
Volume 9S, Sheet 10
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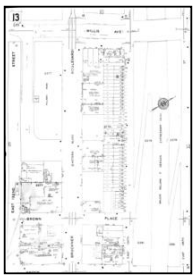
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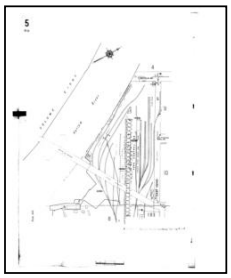
1981

1980 Source Sheets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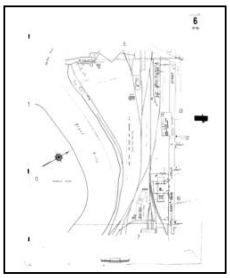
Volume 9S, Sheet 6
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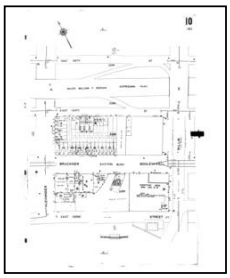
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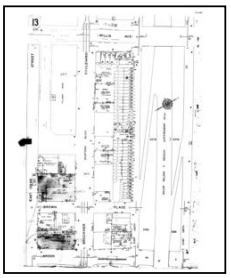
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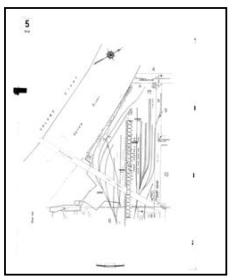
1980

1978 Source Sheets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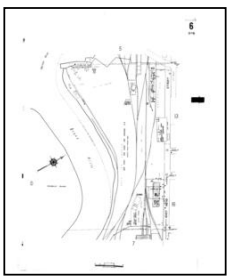
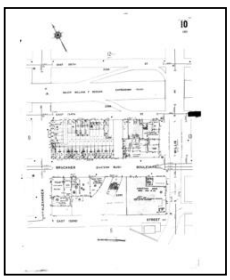
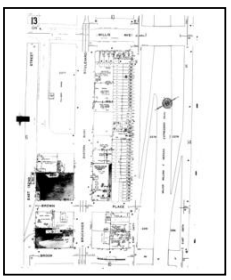
1978


Volume 9S, Sheet 6
1978

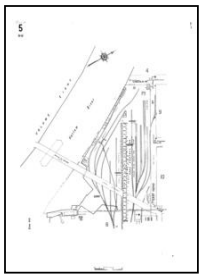

Volume 9S, Sheet 10
1978


Volume 9S, Sheet 13
1978

Sanborn Sheet Key

This Certified Sanborn Map Report is based upon the following Sanborn Fire Insurance map sheets.

1977 Source Sheets


Volume 9S, Sheet 5
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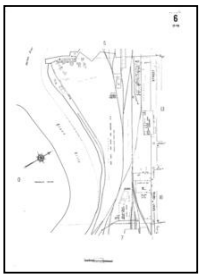
Volume 9S, Sheet 6
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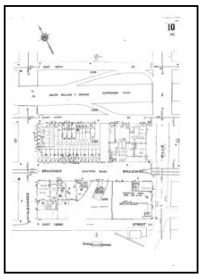
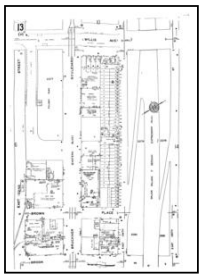
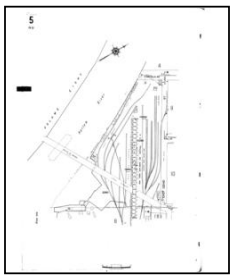

Volume 9S, Sheet 10
1977


Volume 9S, Sheet 13
1977

1969 Source Sheets


Volume 9S, Sheet 5
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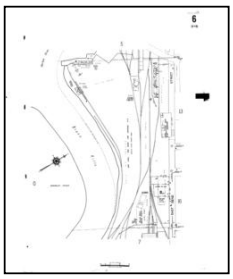
Volume 9S, Sheet 6
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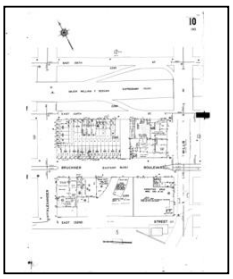
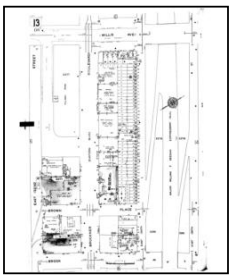
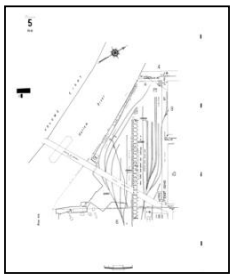

Volume 9S, Sheet 10
1969


Volume 9S, Sheet 13
1969

1968 Source Sheets


Volume 9S, Sheet 5
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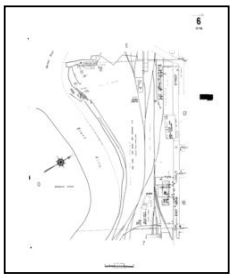
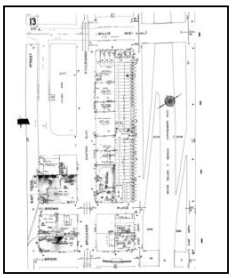
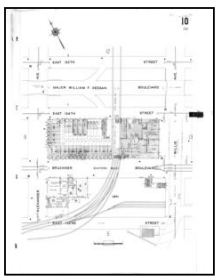

Volume 9S, Sheet 6
1968


Volume 9S, Sheet 10
1968


Volume 9S, Sheet 13
1968

1951 Source Sheets


Volume 9S, Sheet 10
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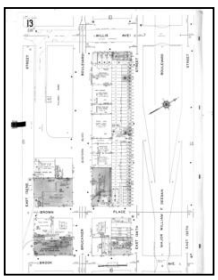
Volume 9S, Sheet 13
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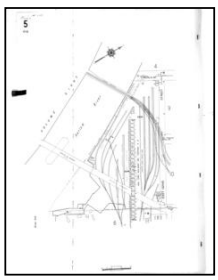
Volume 9S, Sheet 5
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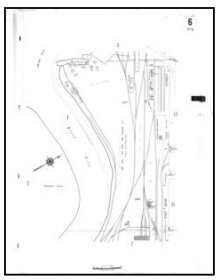
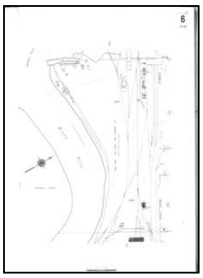

Volume 9S, Sheet 6
1951

Sanborn Sheet Key

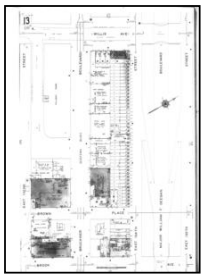
This Certified Sanborn Map Report is based upon the following Sanborn Fire Insurance map sheets.

1947 Source Sheets

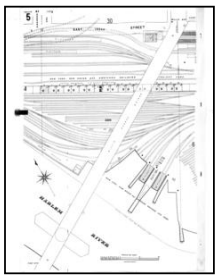

Volume 9S, Sheet 5
1947

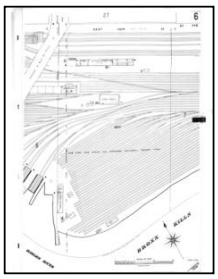

Volume 9S, Sheet 6
1947

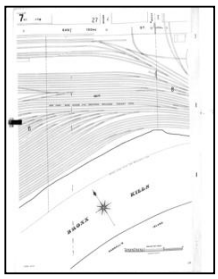

Volume 9S, Sheet 10
1947

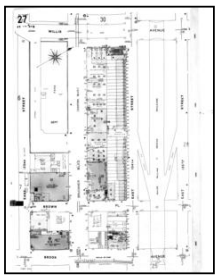

Volume 9S, Sheet 13
1947

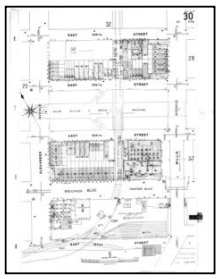
1946 Source Sheets


Volume 9, Sheet 5
1946

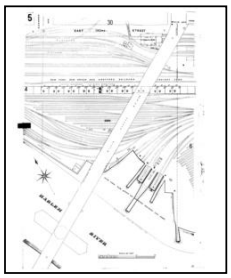

Volume 9, Sheet 6
1946

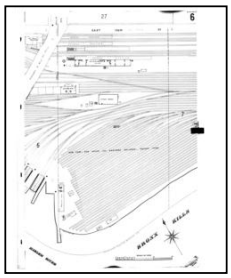

Volume 9, Sheet 7
1946


Volume 9, Sheet 27
1946


Volume 9, Sheet 30
1946

1944 Source Sheets


Volume 9, Sheet 5
1944


Volume 9, Sheet 6
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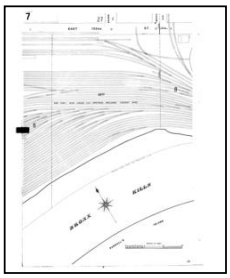
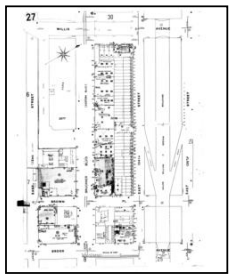
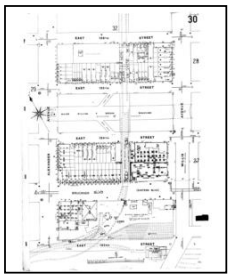

Volume 9, Sheet 7
1944

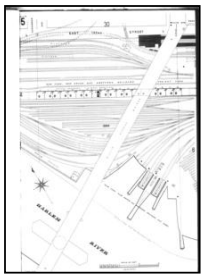

Volume 9, Sheet 27
1944

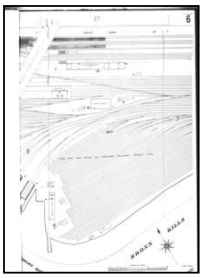

Volume 9, Sheet 30
1944

Sanborn Sheet Key

This Certified Sanborn Map Report is based upon the following Sanborn Fire Insurance map sheets.

1935 Source Sheets


Volume 9, Sheet 5
1935


Volume 9, Sheet 6
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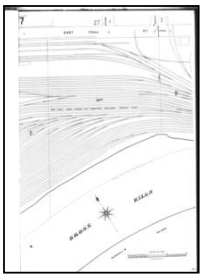
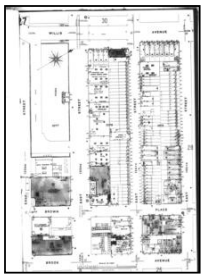

Volume 9, Sheet 7
1935


Volume 9, Sheet 27
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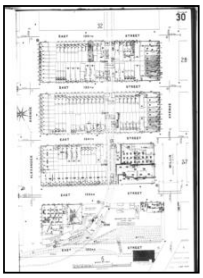
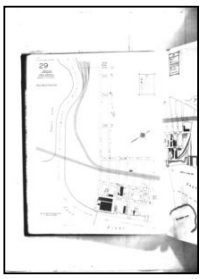
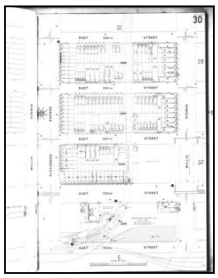

Volume 9, Sheet 30
1935

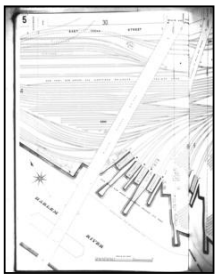
1928 Source Sheets

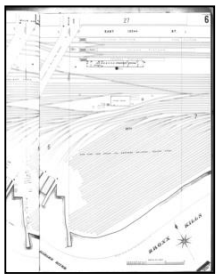

Volume Pier Maps, Sheet 22
1928

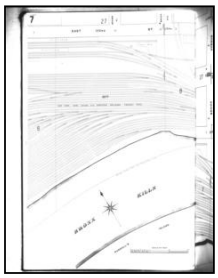

Volume Pier Maps, Sheet 29
1928

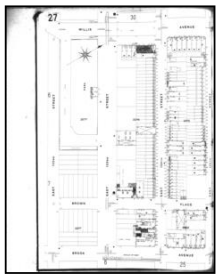
1908 Source Sheets


Volume 9, Sheet 30
1908


Volume 9, Sheet 5
1908


Volume 9, Sheet 6
1908


Volume 9, Sheet 7
1908


Volume 9, Sheet 27
1908

1903 Source Sheets

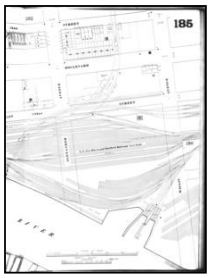

Volume Atlas Maps, Sheet 1
1903


Volume Atlas Maps, Sheet xxxx
1903

Sanborn Sheet Key

This Certified Sanborn Map Report is based upon the following Sanborn Fire Insurance map sheets.

1891 Source Sheets



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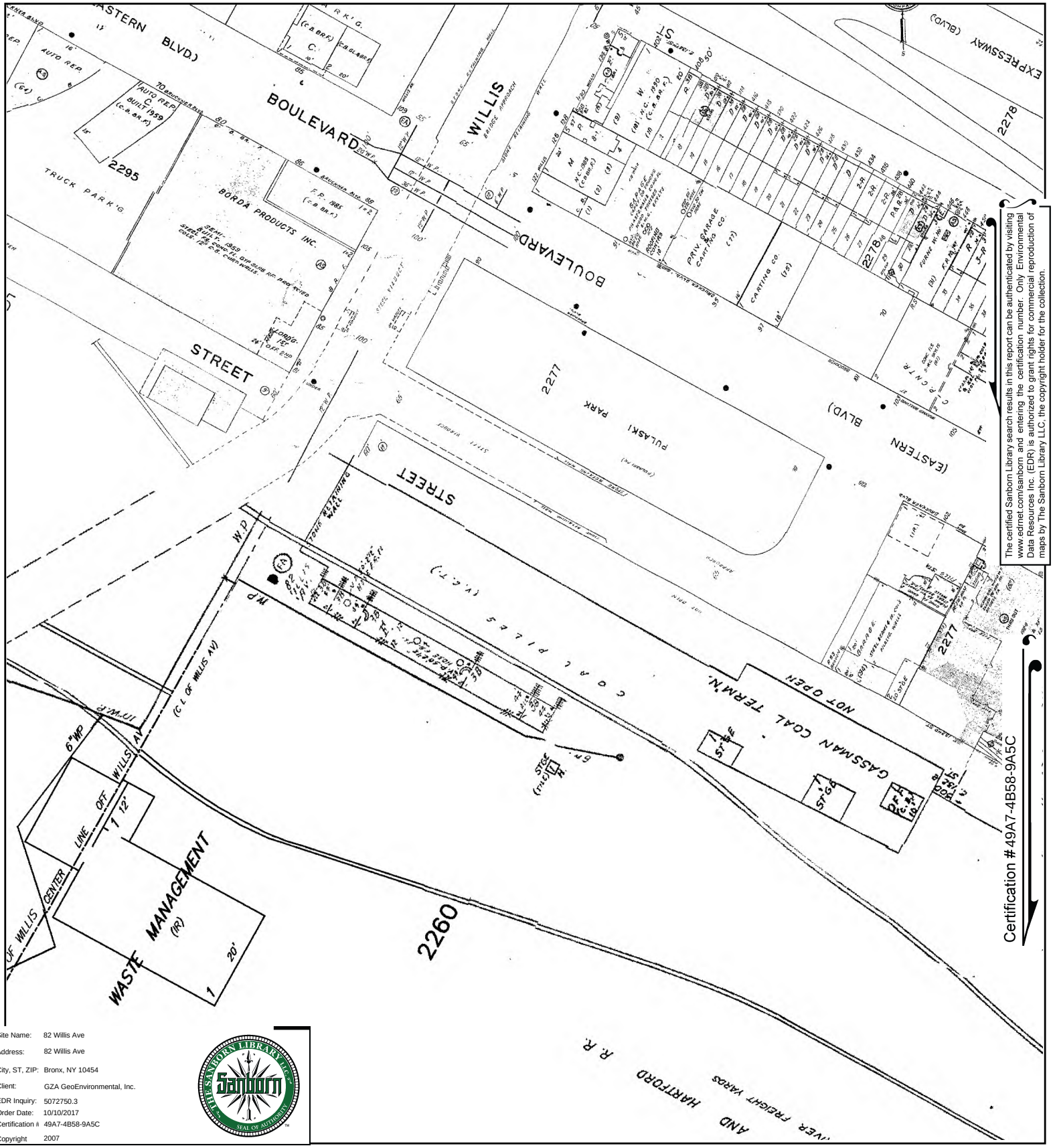
1891

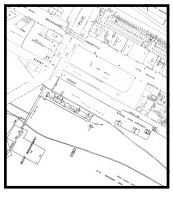
Volume 9, Sheet 186
1891

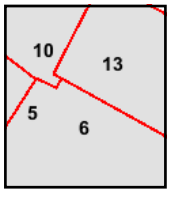


Certification #49A7-4B58-9A5C

Site Name:	82 Willis Ave
Address:	82 Willis Ave
City, ST, ZIP:	Bronx, NY 10454
Client:	GZA GeoEnvironmental, Inc.
EDR Inquiry:	5072750.3
Order Date:	10/10/2017
Certification #:	49A7-4B58-9A5C
Copyright	2007

This Certified Sanborn Map combines the following sheets.
Outlined areas indicate map sheets within the collection.





Volume 9S, Sheet 13
Volume 9S, Sheet 10
Volume 9S, Sheet 6
Volume 9S, Sheet 5

0 Feet 150 300 600

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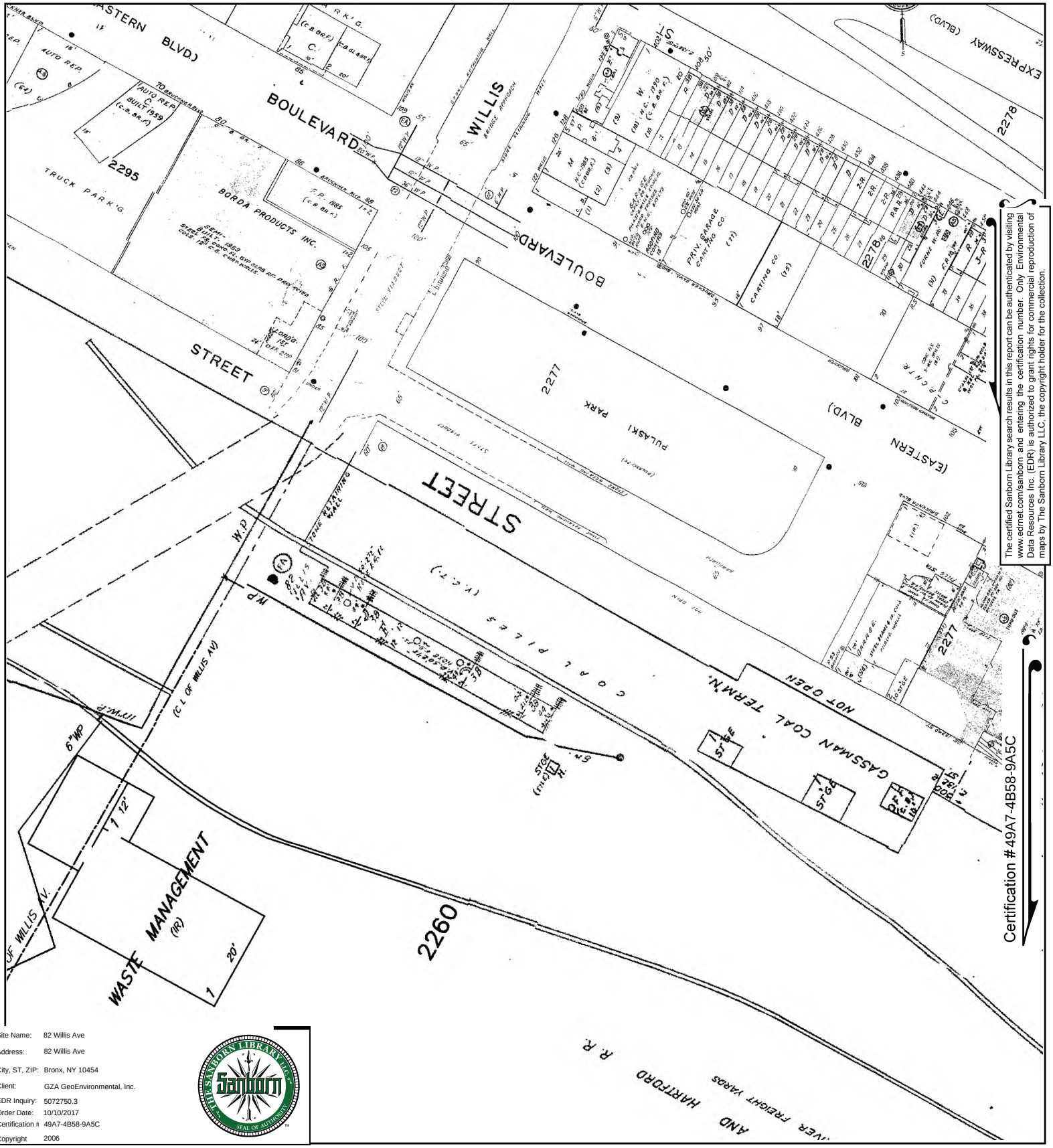

Site Name: 82 Willis Ave
Address: 82 Willis Ave
City, ST, ZIP: Bronx, NY 10454
Client: GZA GeoEnvironmental, Inc.
EDR Inquiry: 5072750.3
Order Date: 10/10/2017
Certification #: 49A7-4B58-9A5C
Copyright: 2006

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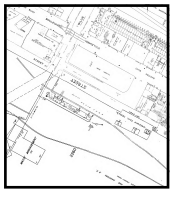

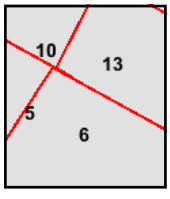

Volume 9S, Sheet 6
Volume 9S, Sheet 5
Volume 9S, Sheet 13
Volume 9S, Sheet 10

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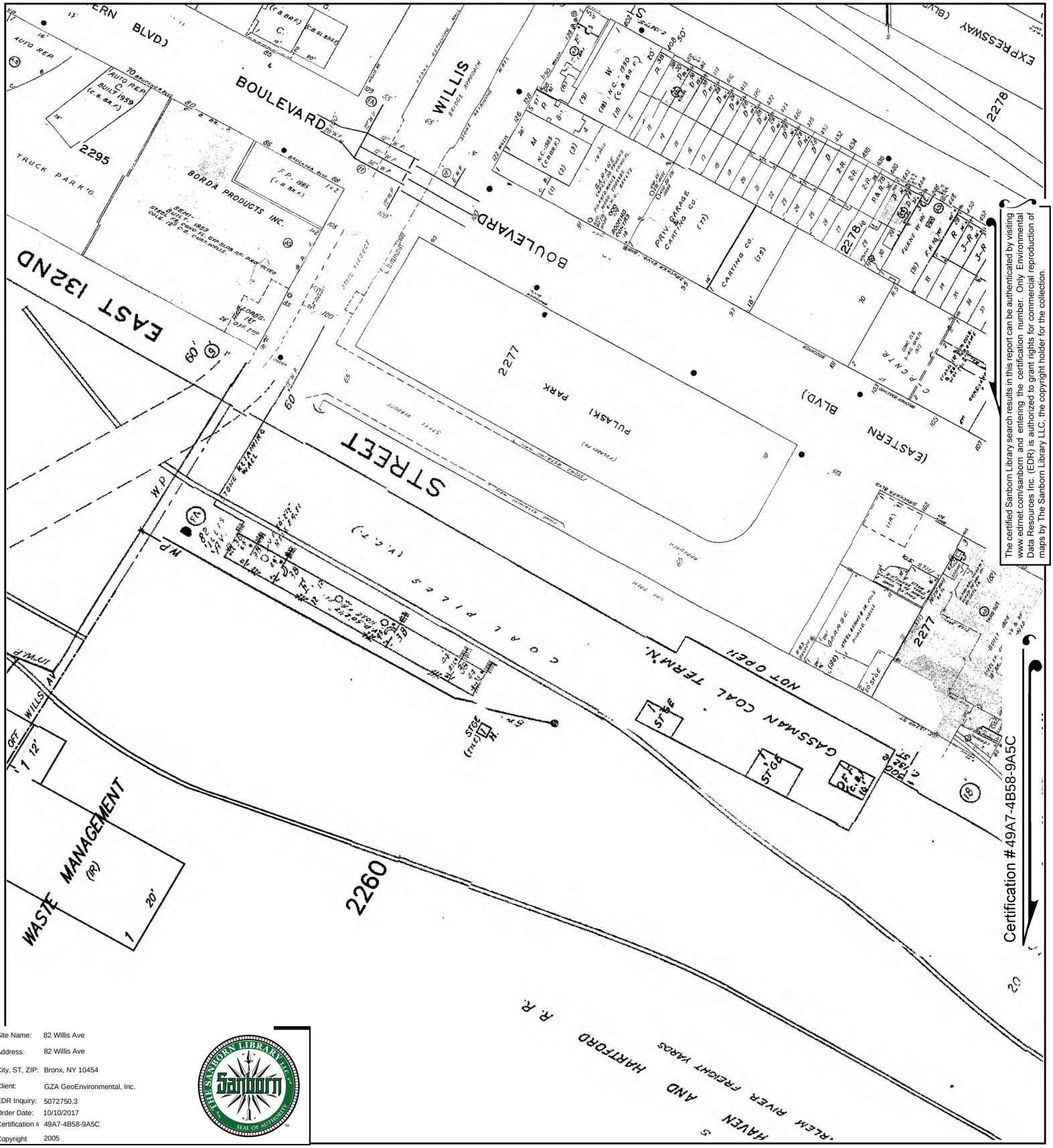

Certification #49A7-4B58-9A5C

Site Name:	82 Willis Ave
Address:	82 Willis Ave
City, ST, ZIP:	Bronx, NY 10454
Client:	GZA GeoEnvironmental, Inc.
EDR Inquiry:	5072750.3
Order Date:	10/10/2017
Certification #	49A7-4B58-9A5C
Copyright	2005

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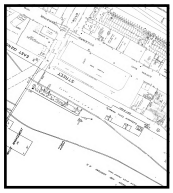
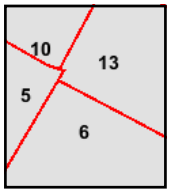
Outlined areas indicate map sheets within the collection.





Volume 9S, Sheet 5
Volume 9S, Sheet 10
Volume 9S, Sheet 13
Volume 9S, Sheet 6

0 Feet 150 300 600

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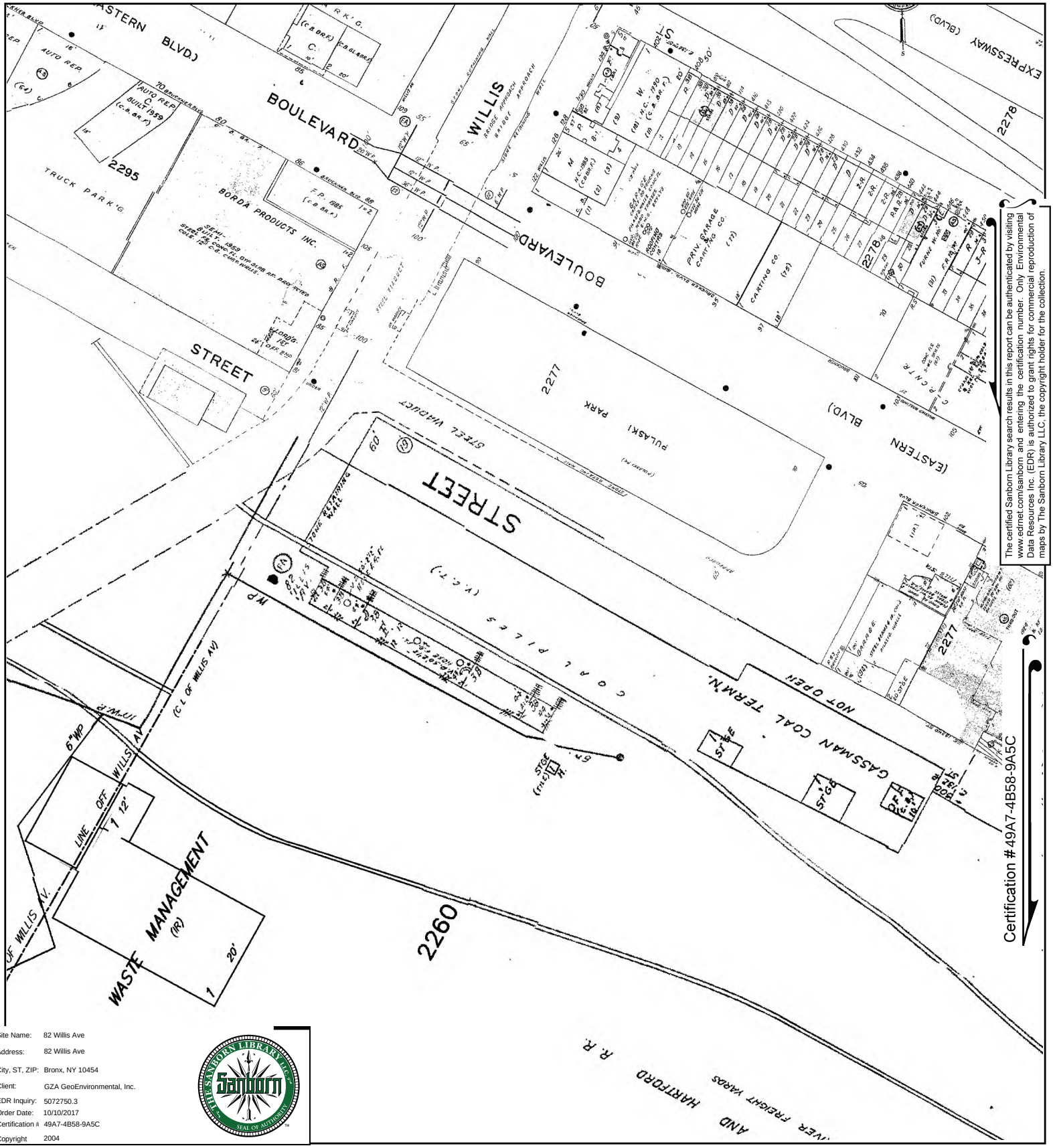

Certification #49A7-4B58-9A5C

Site Name:	82 Willis Ave
Address:	82 Willis Ave
City, ST, ZIP:	Bronx, NY 10454
Client:	GZA GeoEnvironmental, Inc.
EDR Inquiry:	5072750.3
Order Date:	10/10/2017
Certification #:	49A7-4B58-9A5C
Copyright	2004

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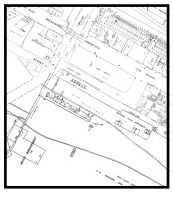

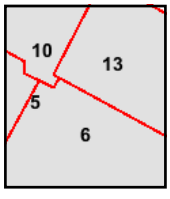

Volume 9S, Sheet 5
Volume 9S, Sheet 13
Volume 9S, Sheet 10
Volume 9S, Sheet 6

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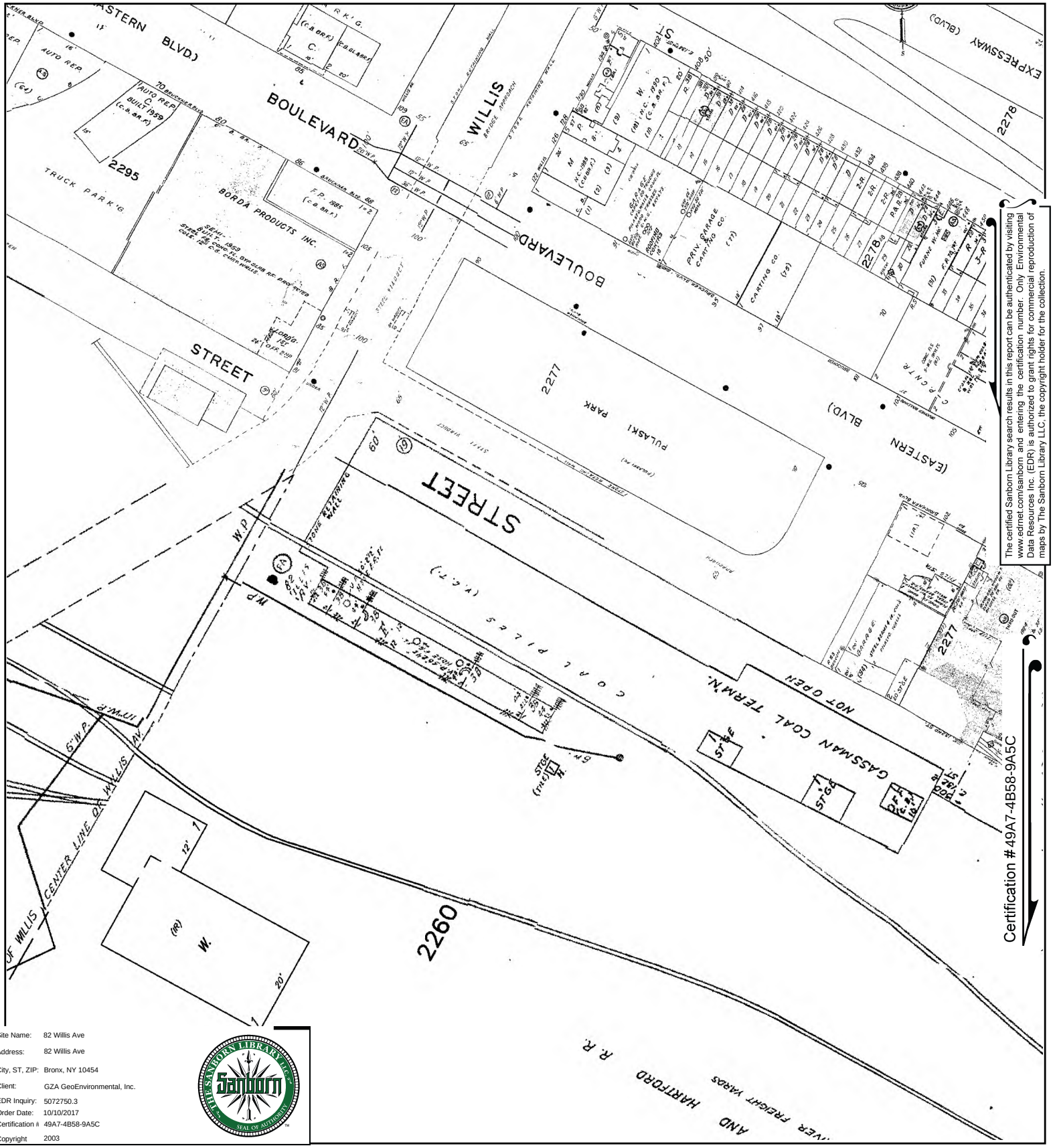

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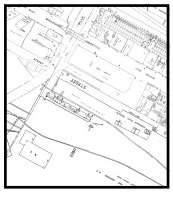

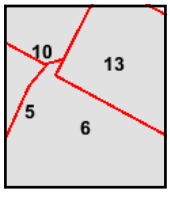

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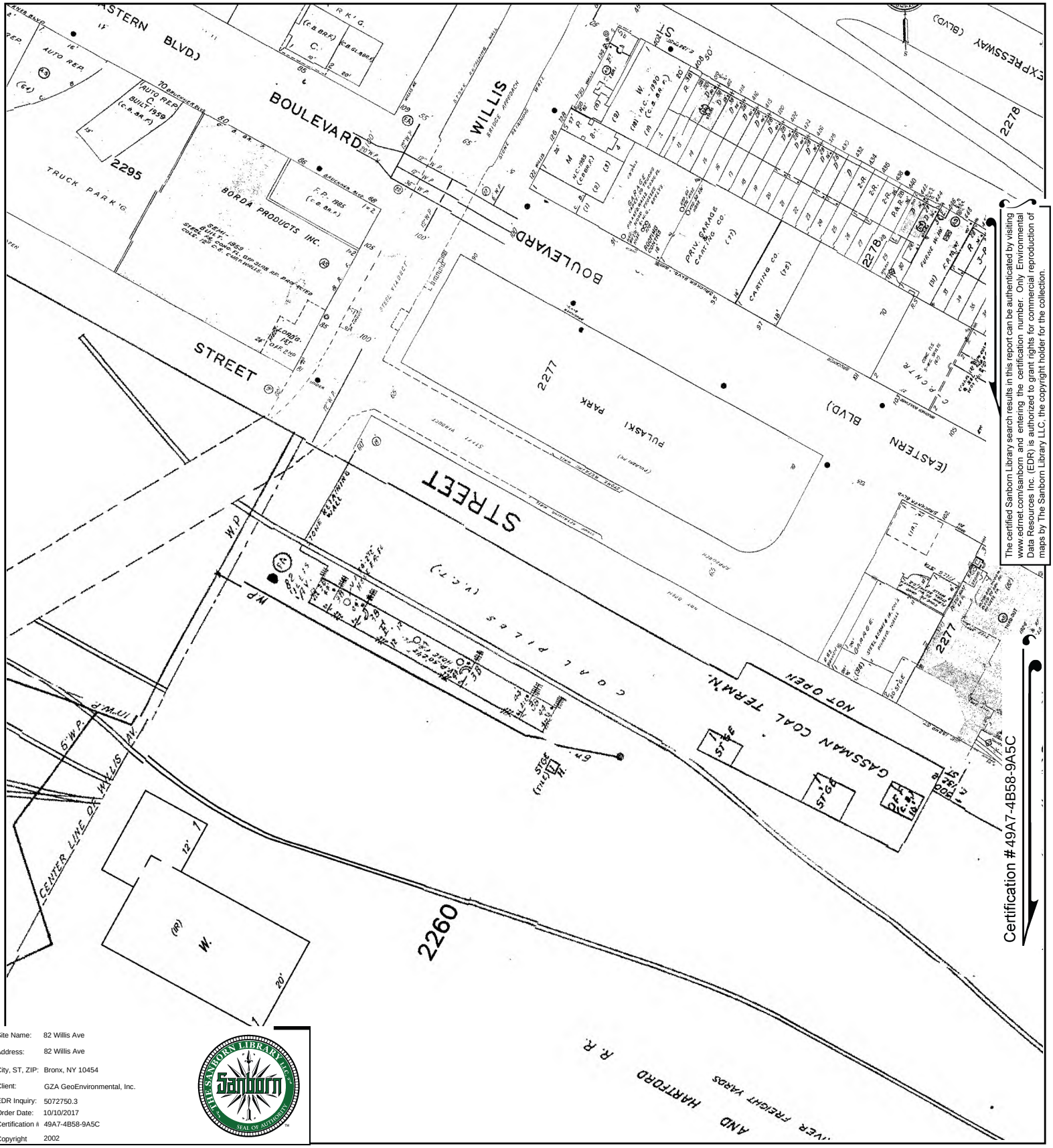

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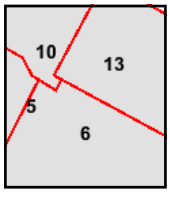

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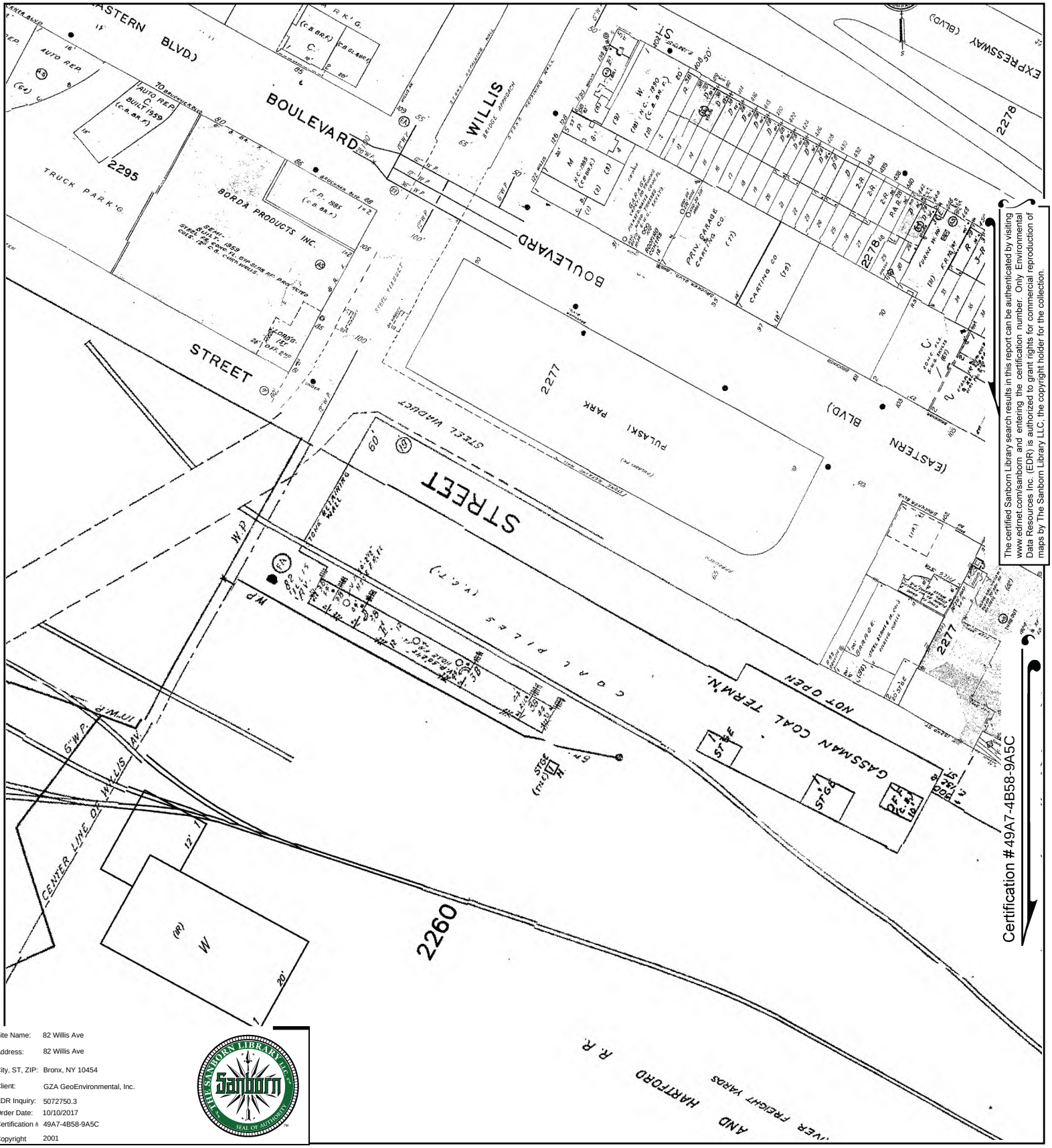

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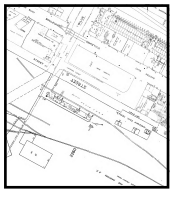

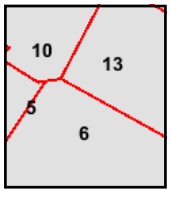

Volume 9S, Sheet 10
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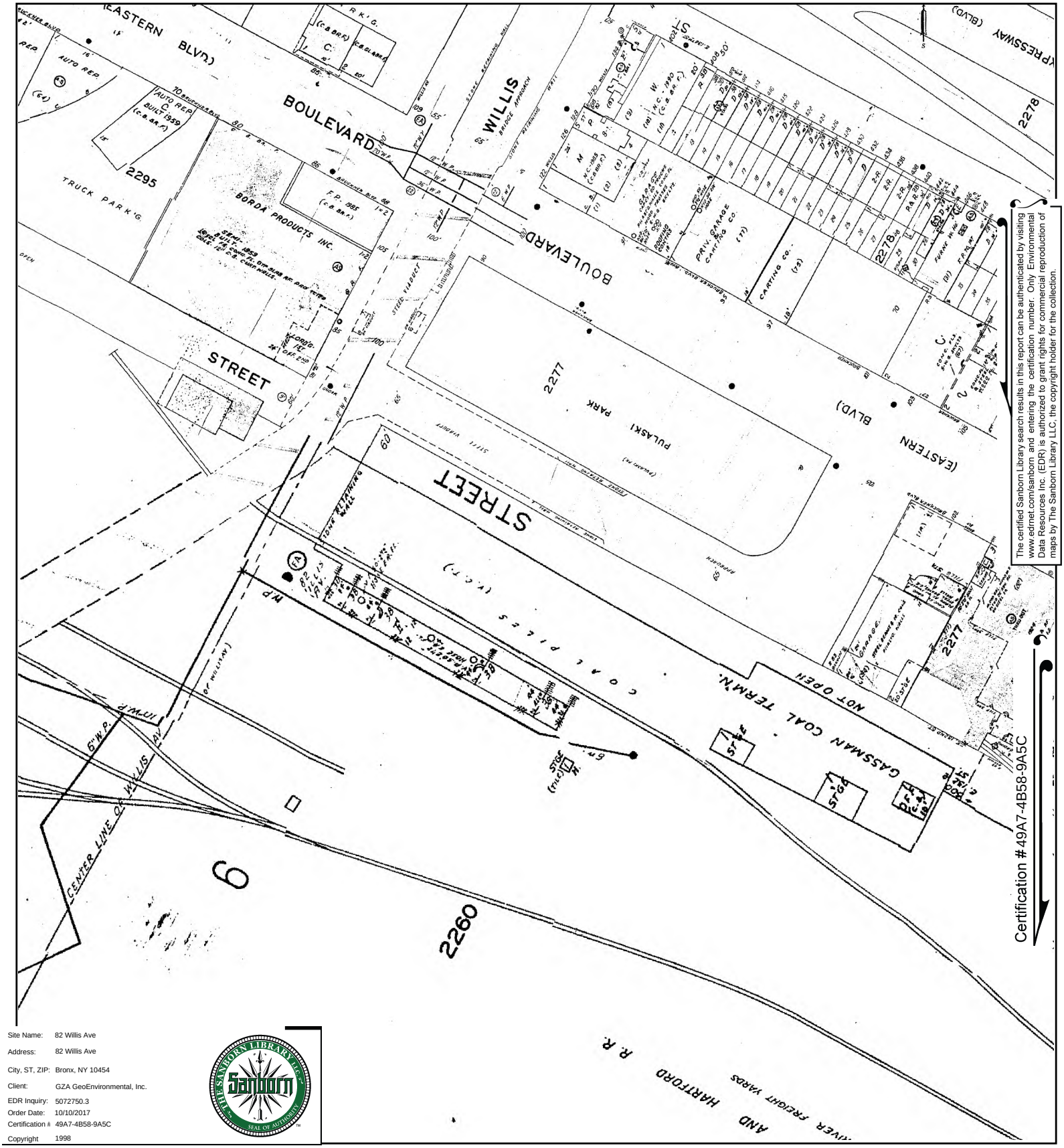

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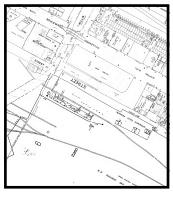

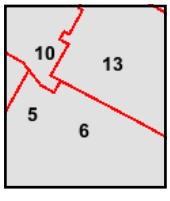

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Volume 9S, Sheet 6
Volume 9S, Sheet 5

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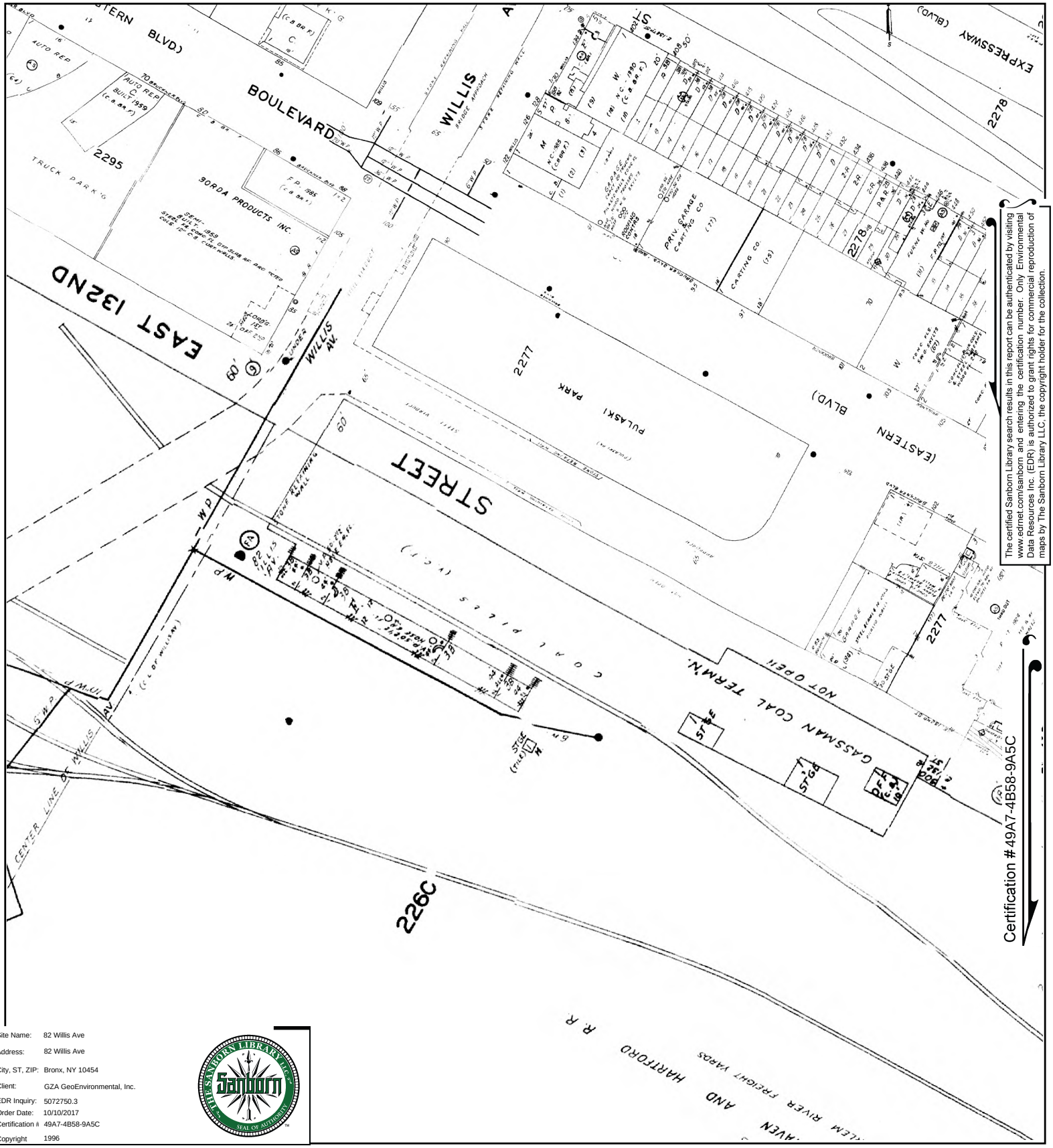

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Copyright	1996

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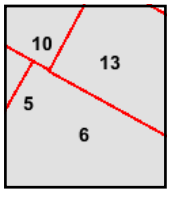

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Volume 9S, Sheet 6
Volume 9S, Sheet 5

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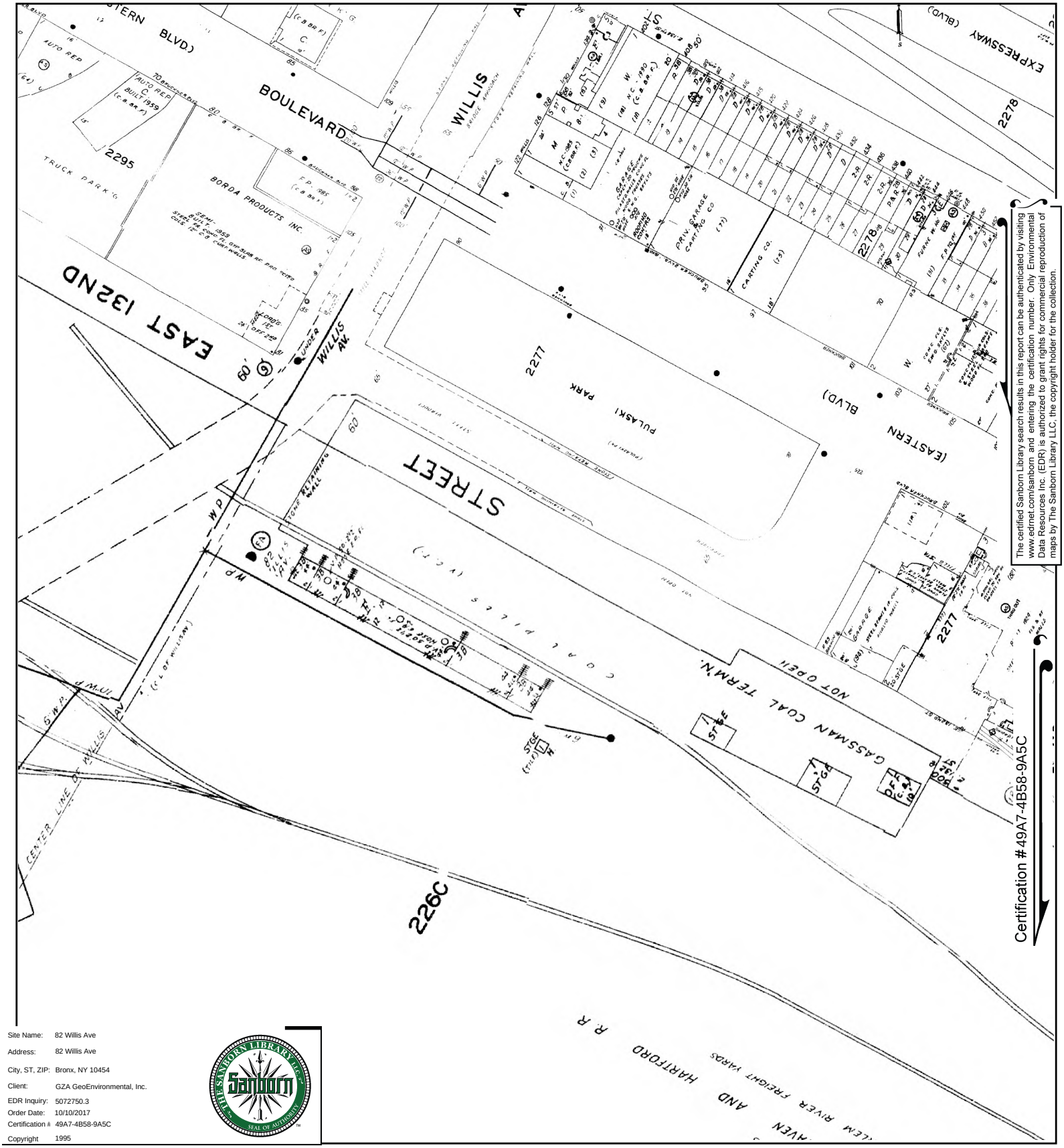

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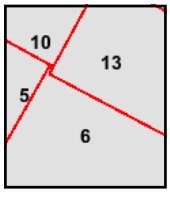

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Volume 9S, Sheet 10

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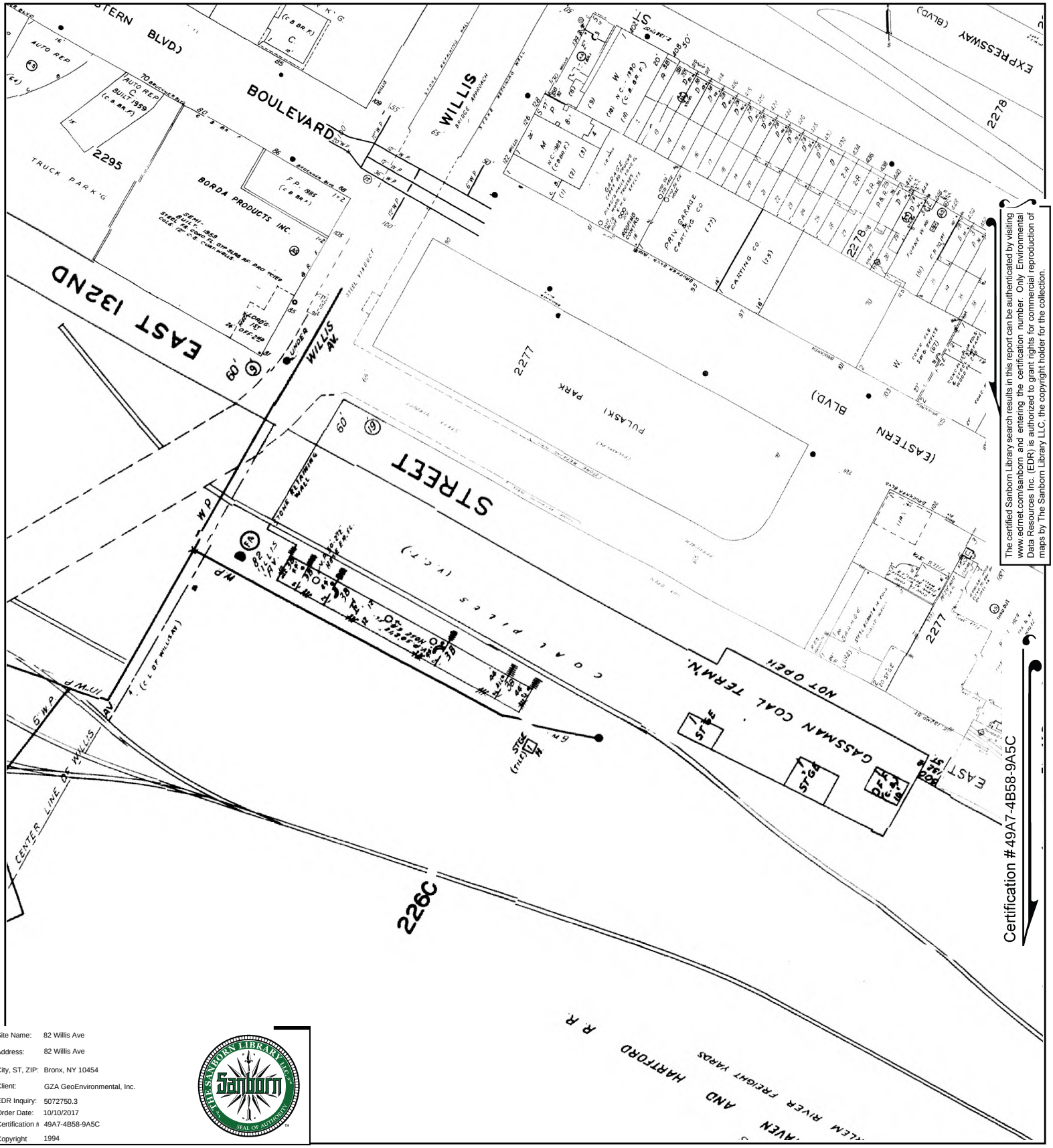

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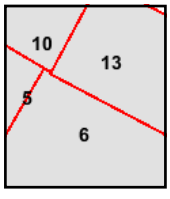

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Volume 9S, Sheet 6
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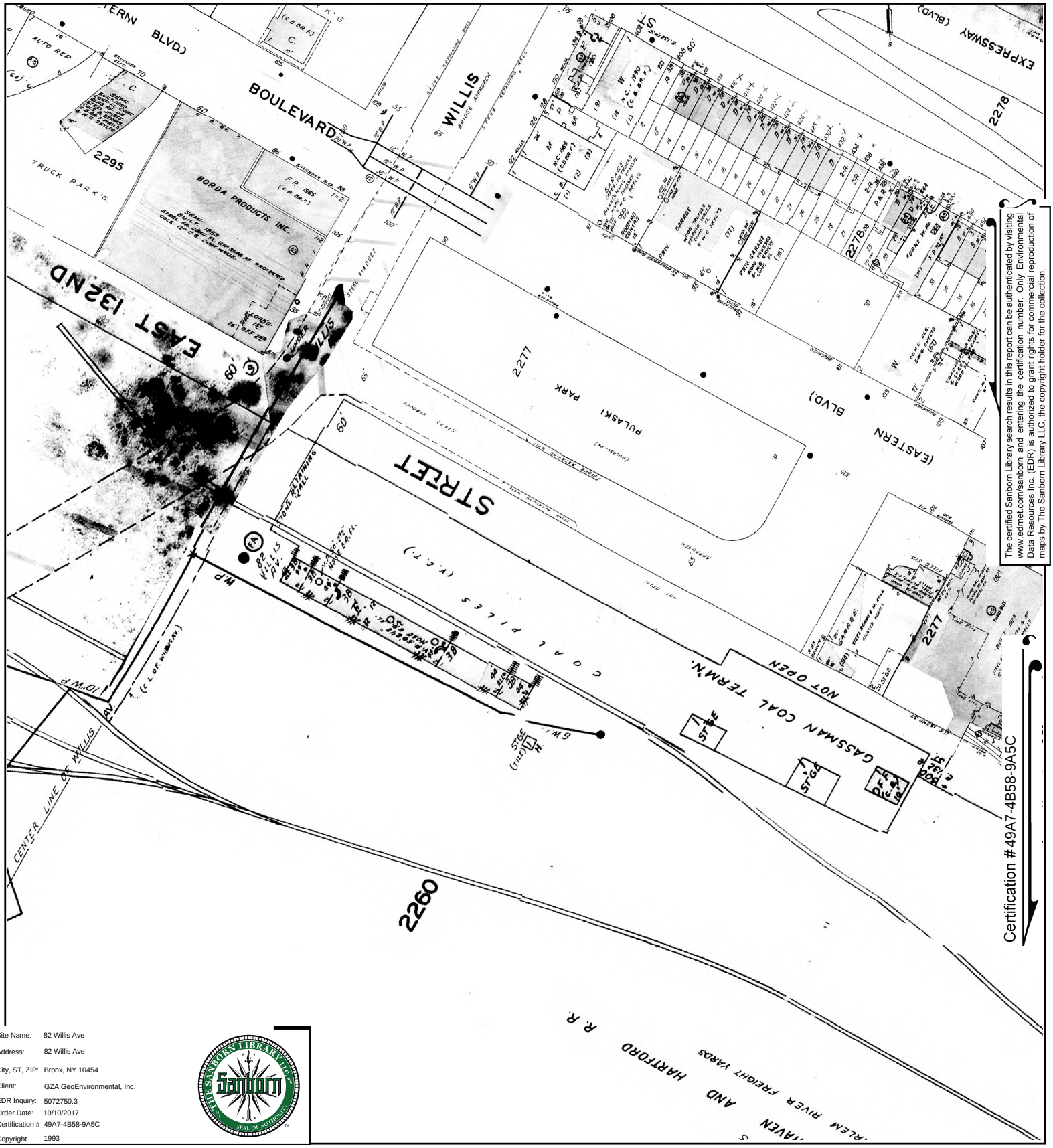

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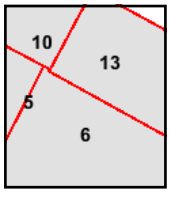

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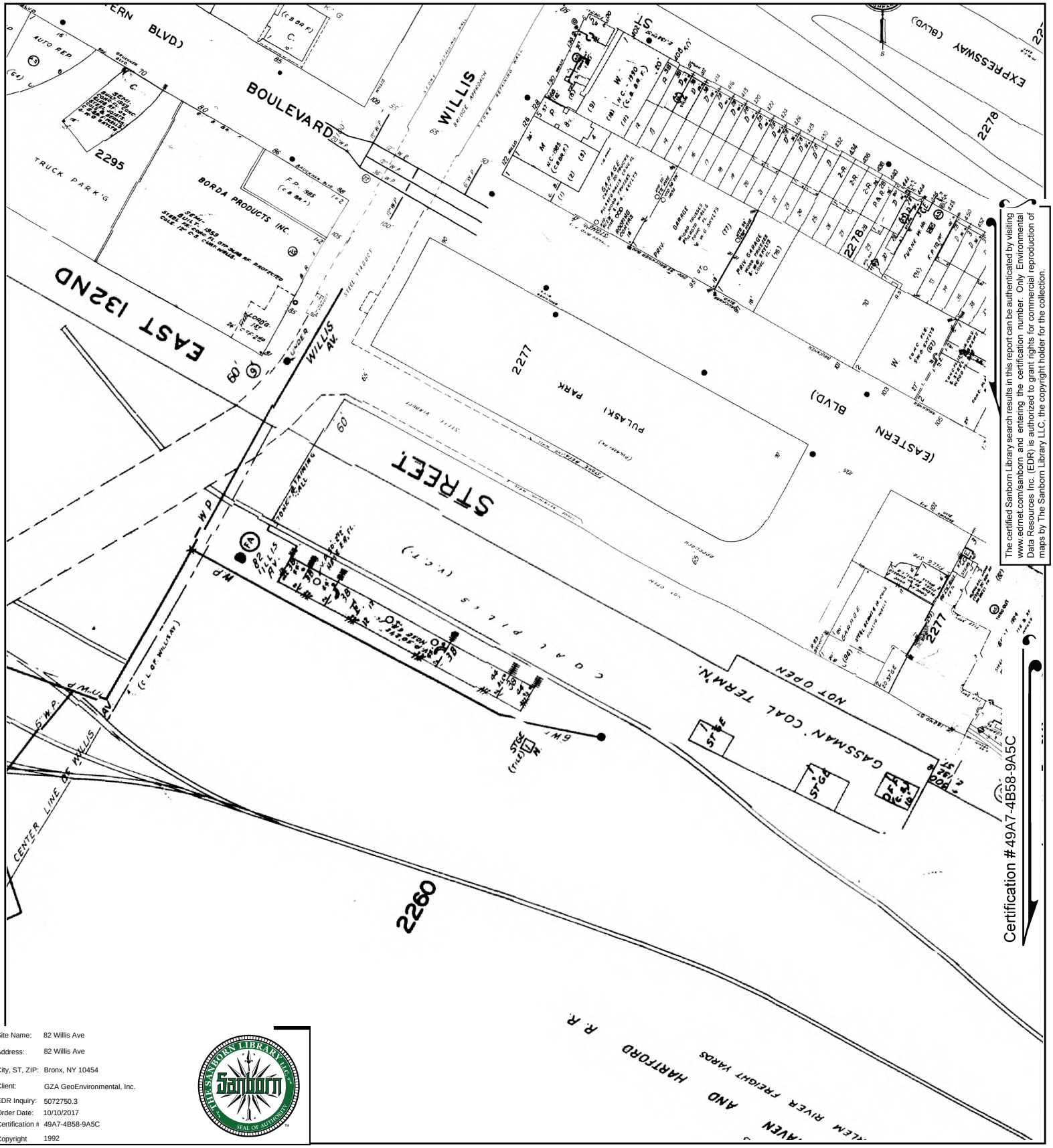

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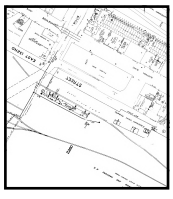

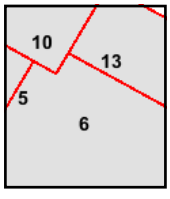

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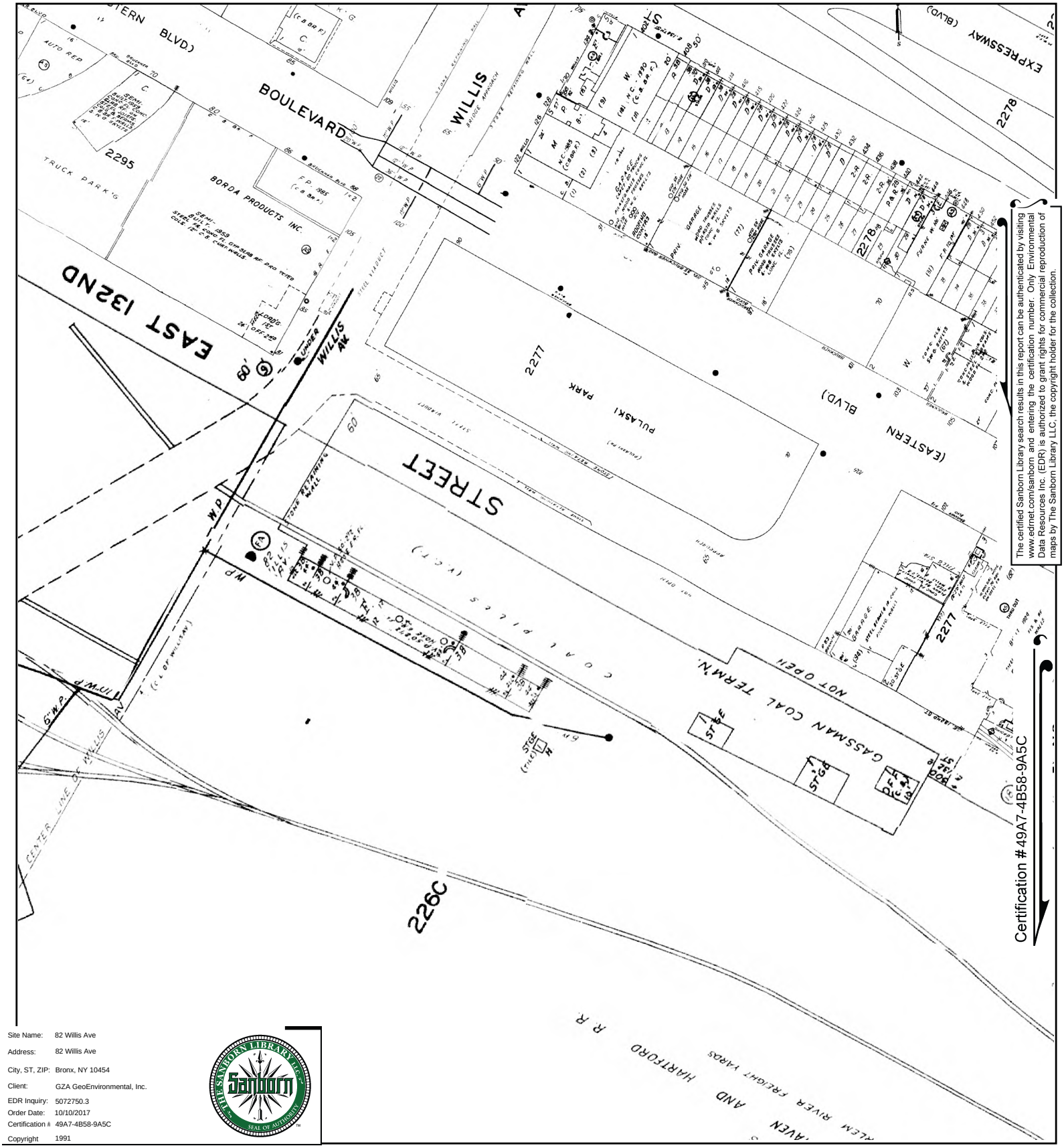

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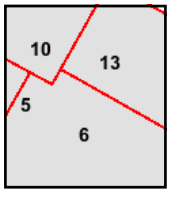

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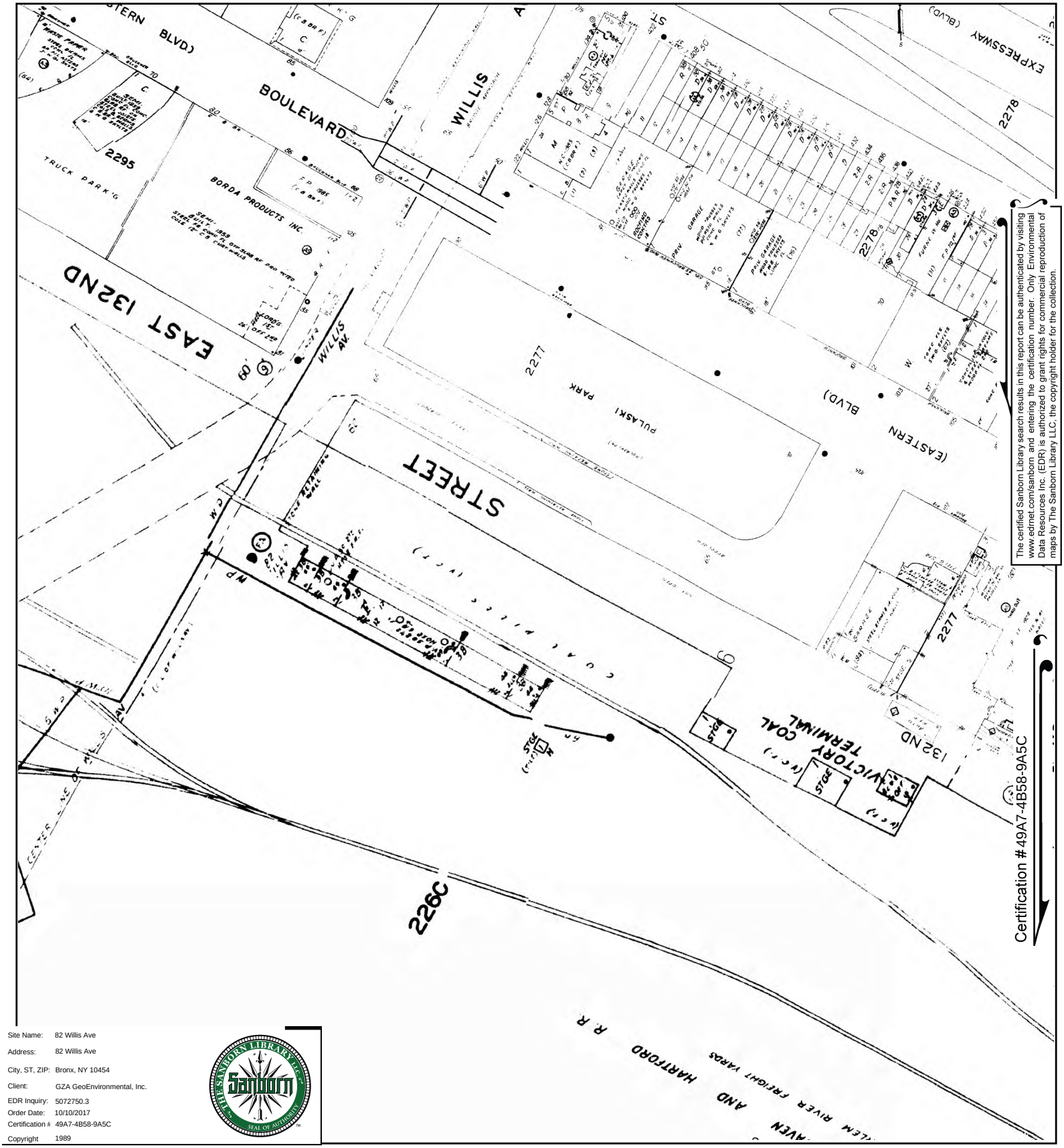

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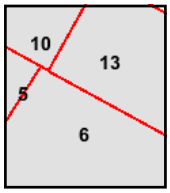

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Volume 9S, Sheet 6
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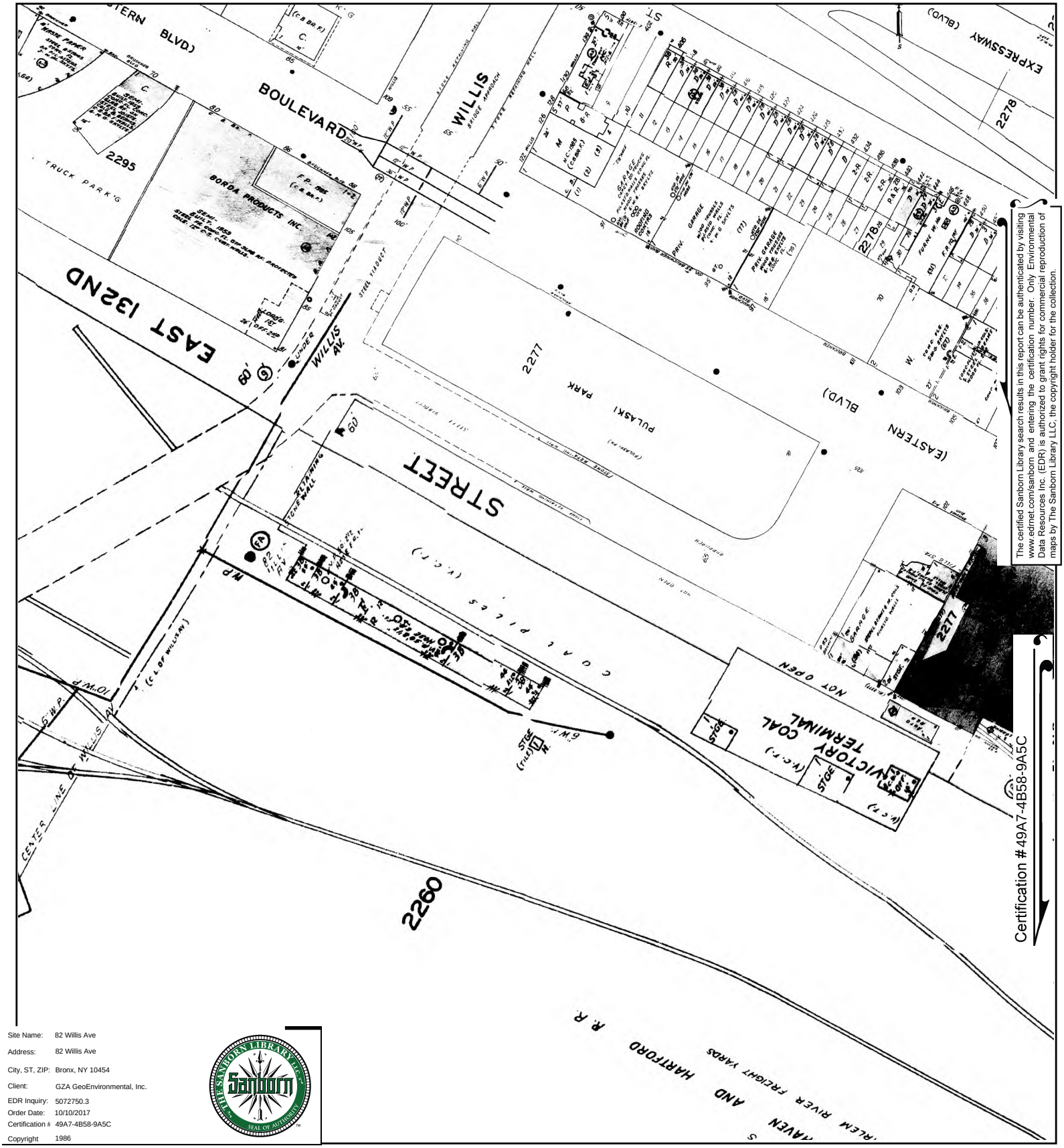

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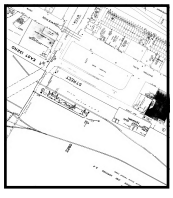

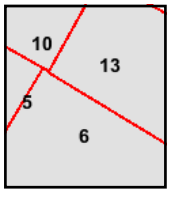

Volume 9S, Sheet 13
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Volume 9S, Sheet 6
Volume 9S, Sheet 5

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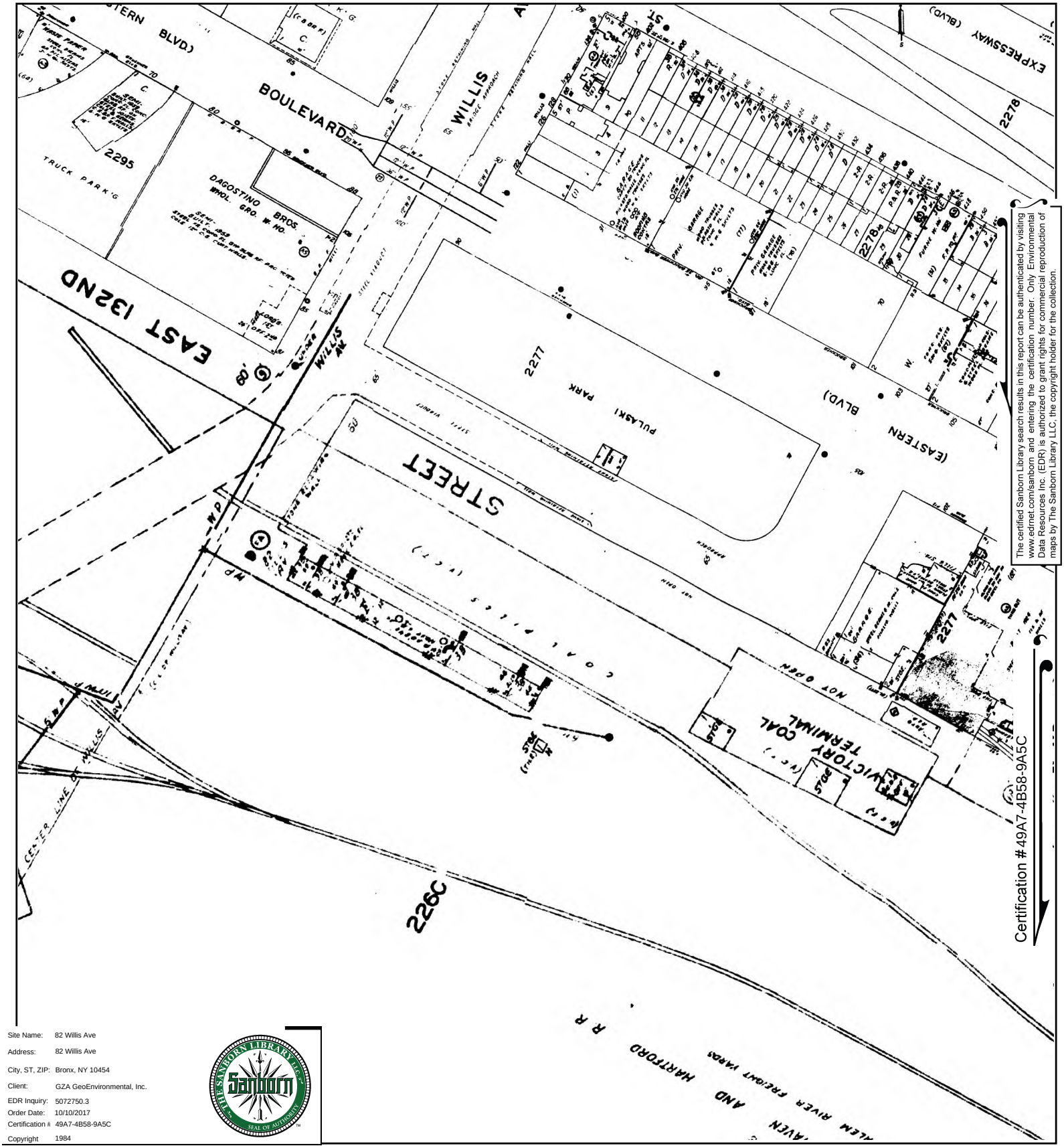

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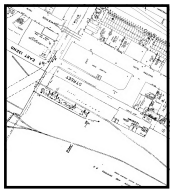

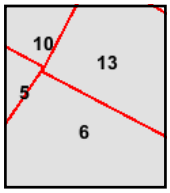

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Volume 9S, Sheet 6
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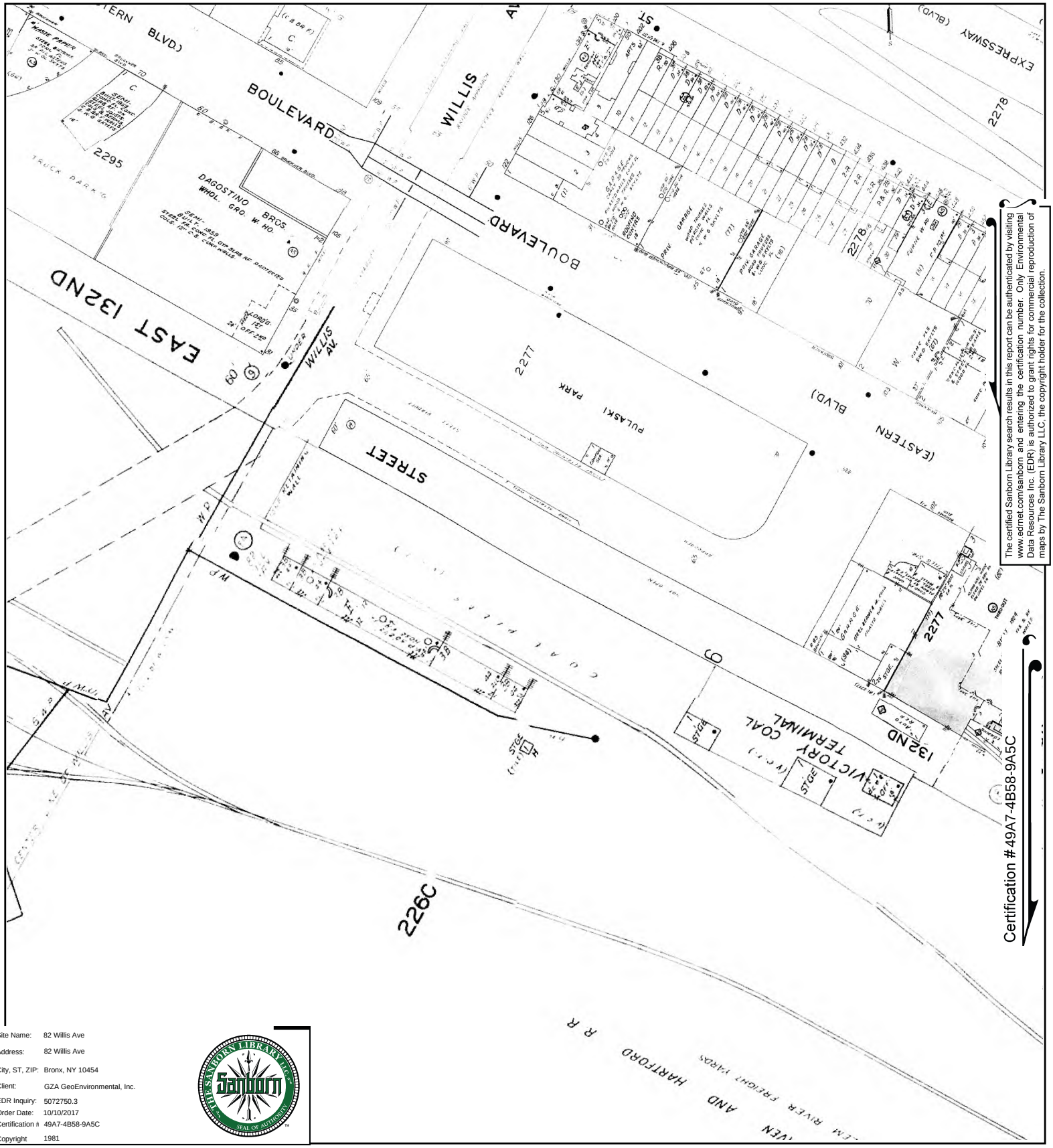

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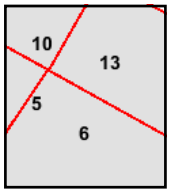

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Volume 9S, Sheet 5

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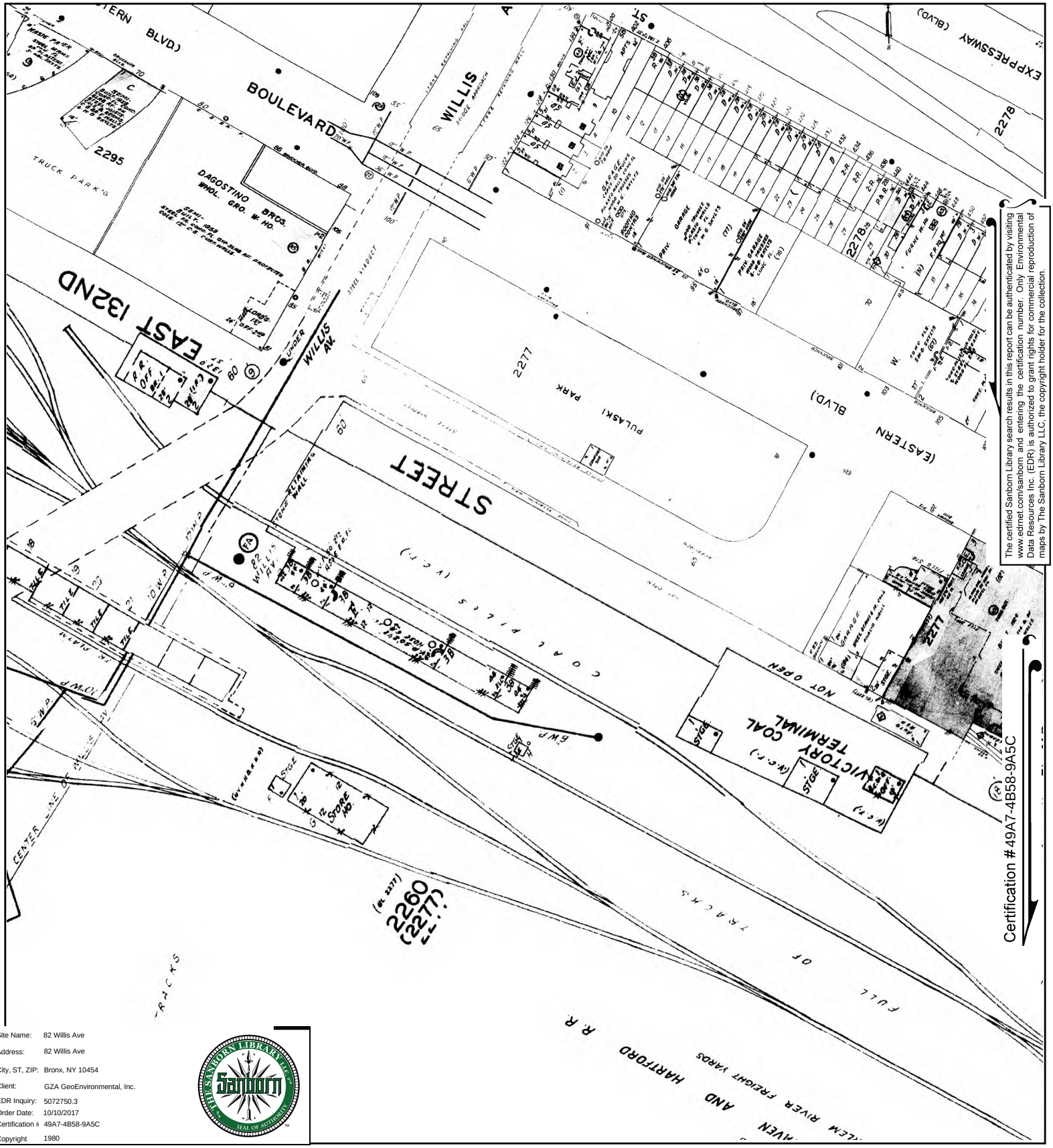

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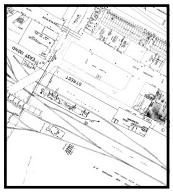

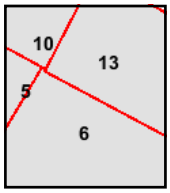

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Volume 9S, Sheet 6
Volume 9S, Sheet 5

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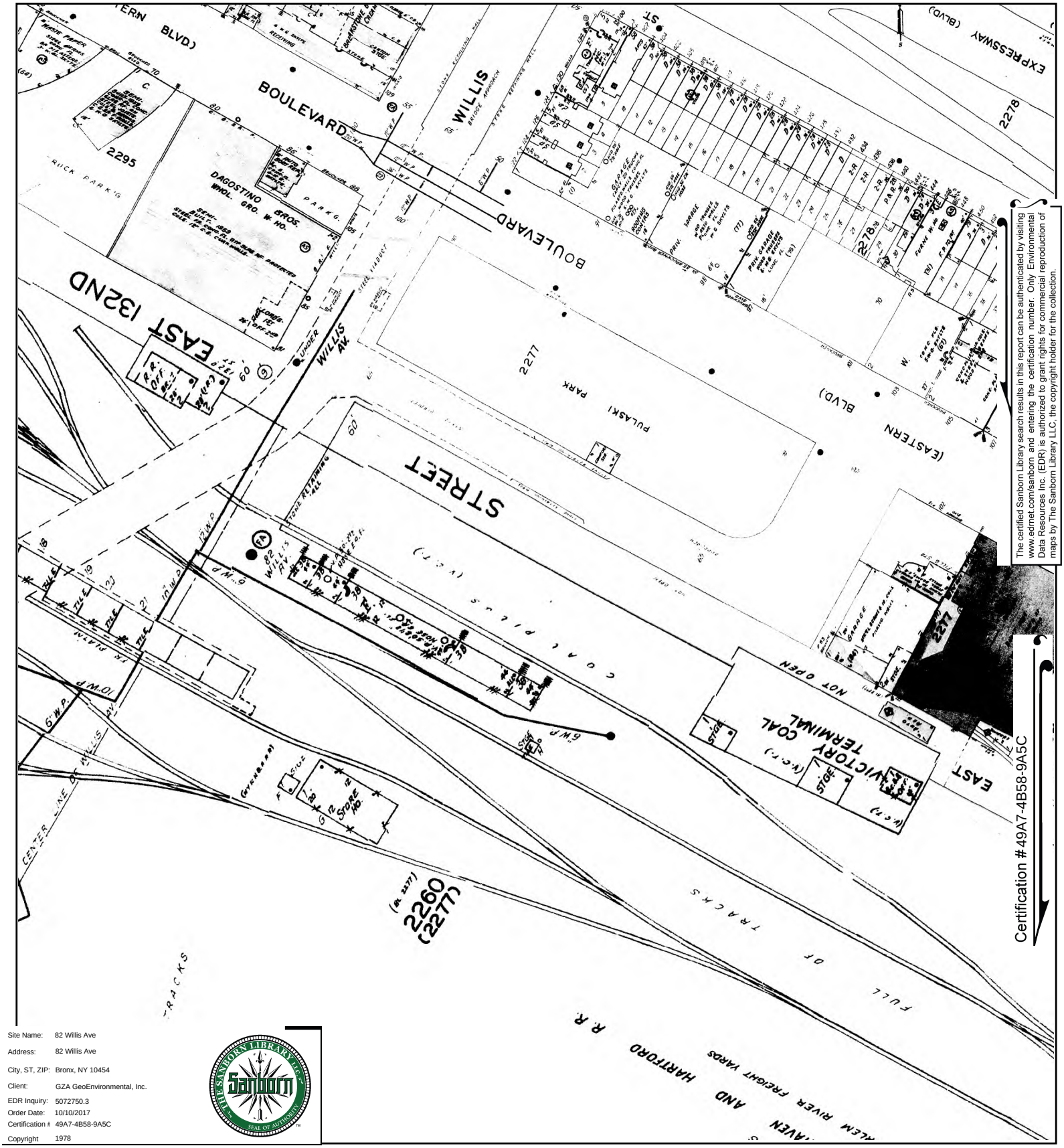

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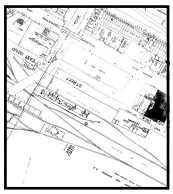

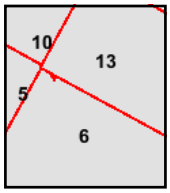

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Volume 9S, Sheet 6
Volume 9S, Sheet 5

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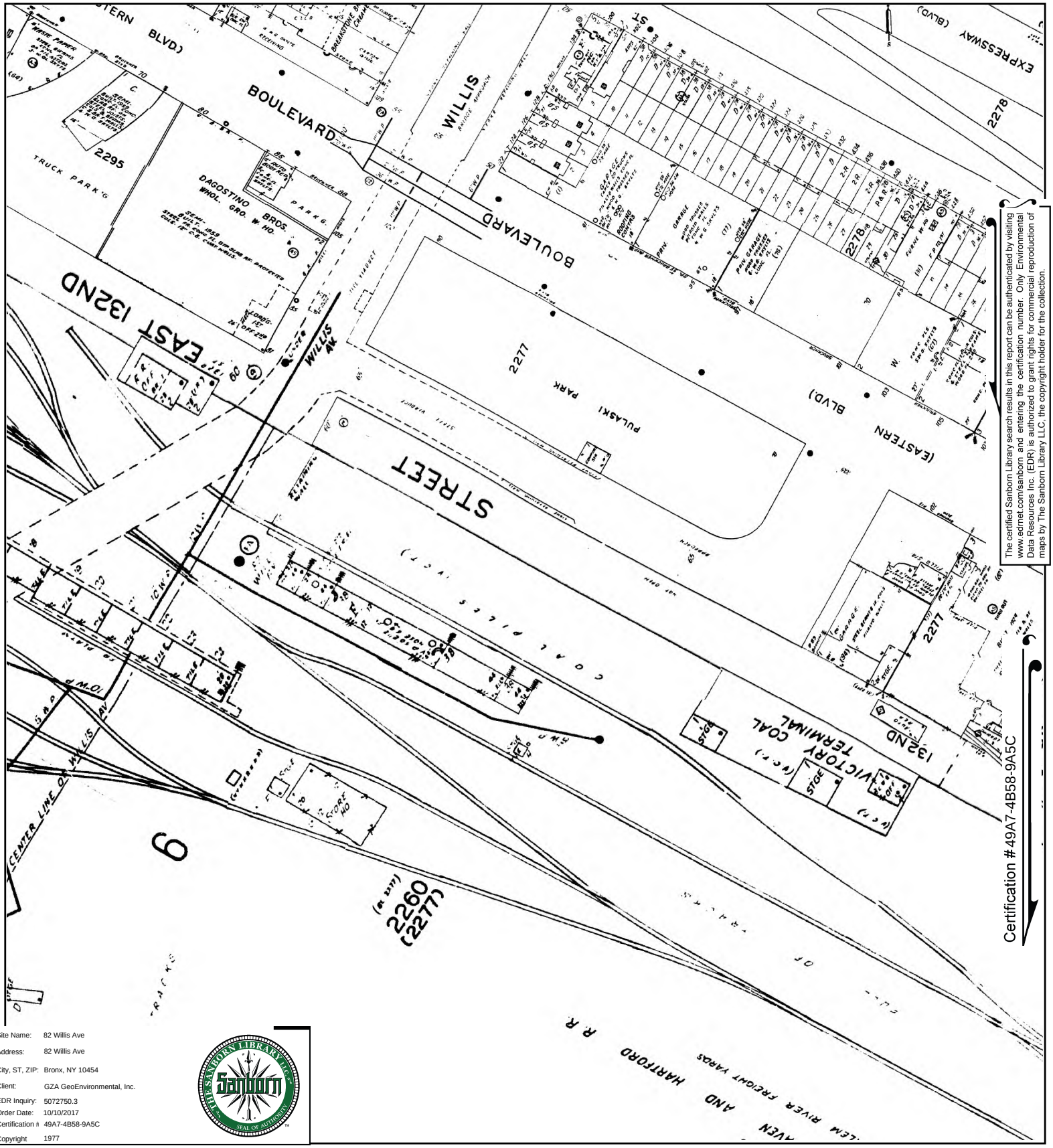

Certification #49A7-4B58-9A5C

Site Name:	82 Willis Ave
Address:	82 Willis Ave
City, ST, ZIP:	Bronx, NY 10454
Client:	GZA GeoEnvironmental, Inc.
EDR Inquiry:	5072750.3
Order Date:	10/10/2017
Certification #	49A7-4B58-9A5C
Copyright	1977

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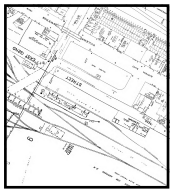

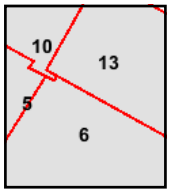

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Volume 9S, Sheet 6
Volume 9S, Sheet 5

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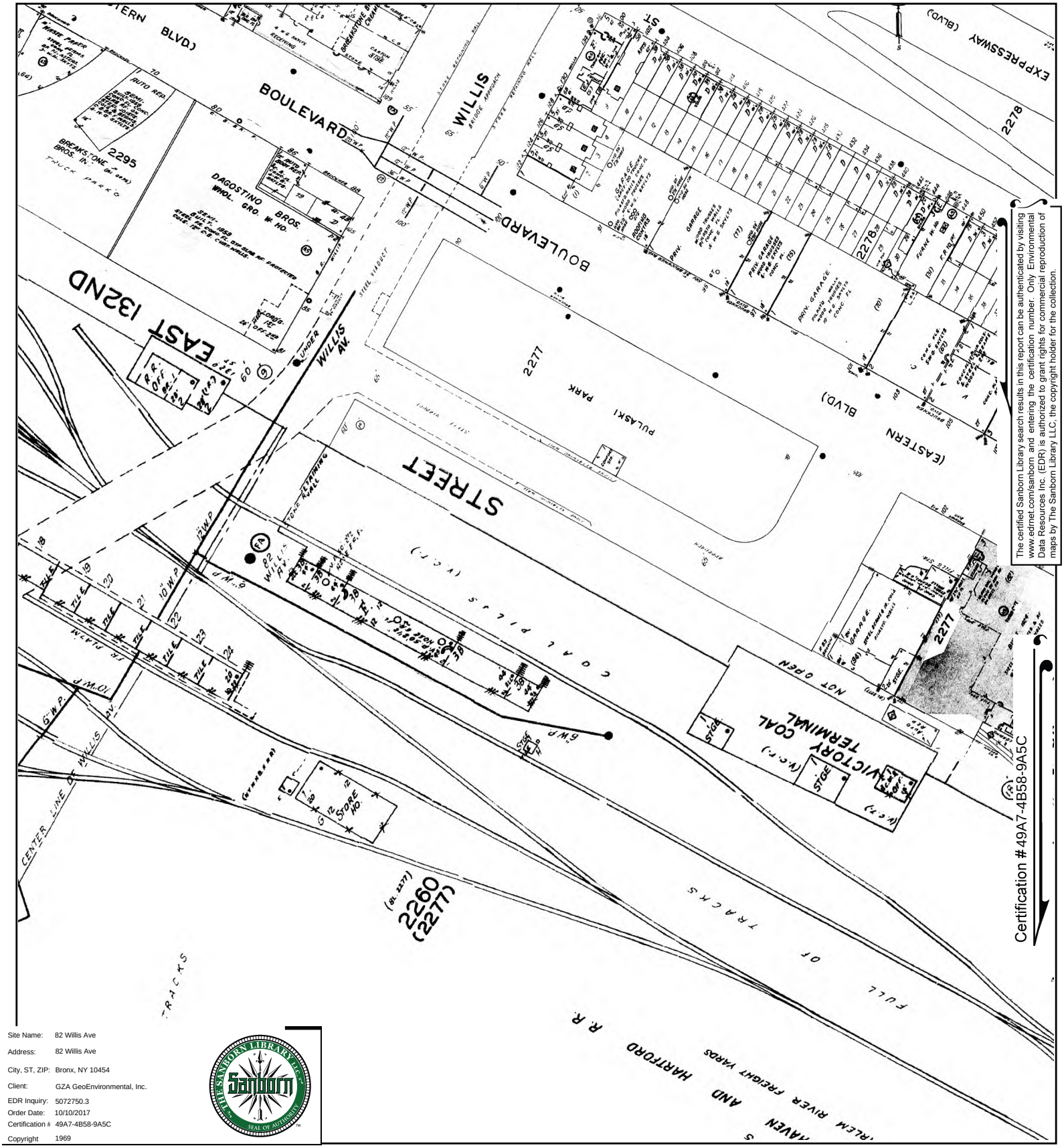

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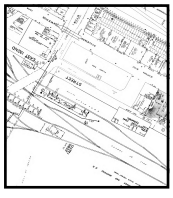

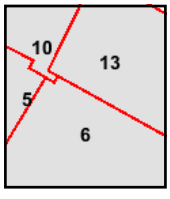

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Volume 9S, Sheet 5

0 Feet 150 300 600

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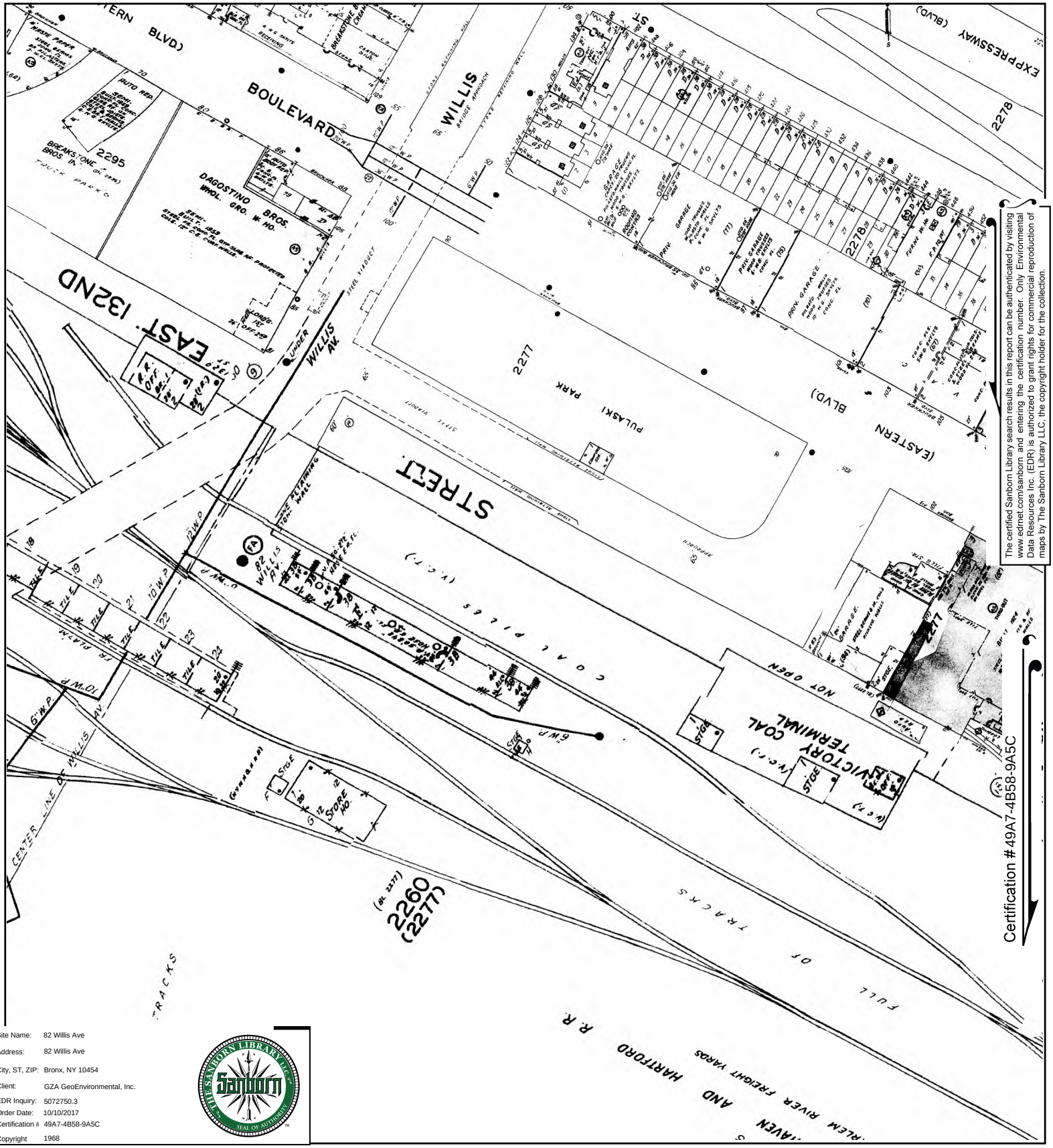

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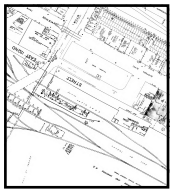

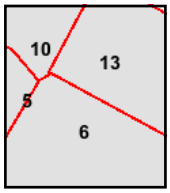

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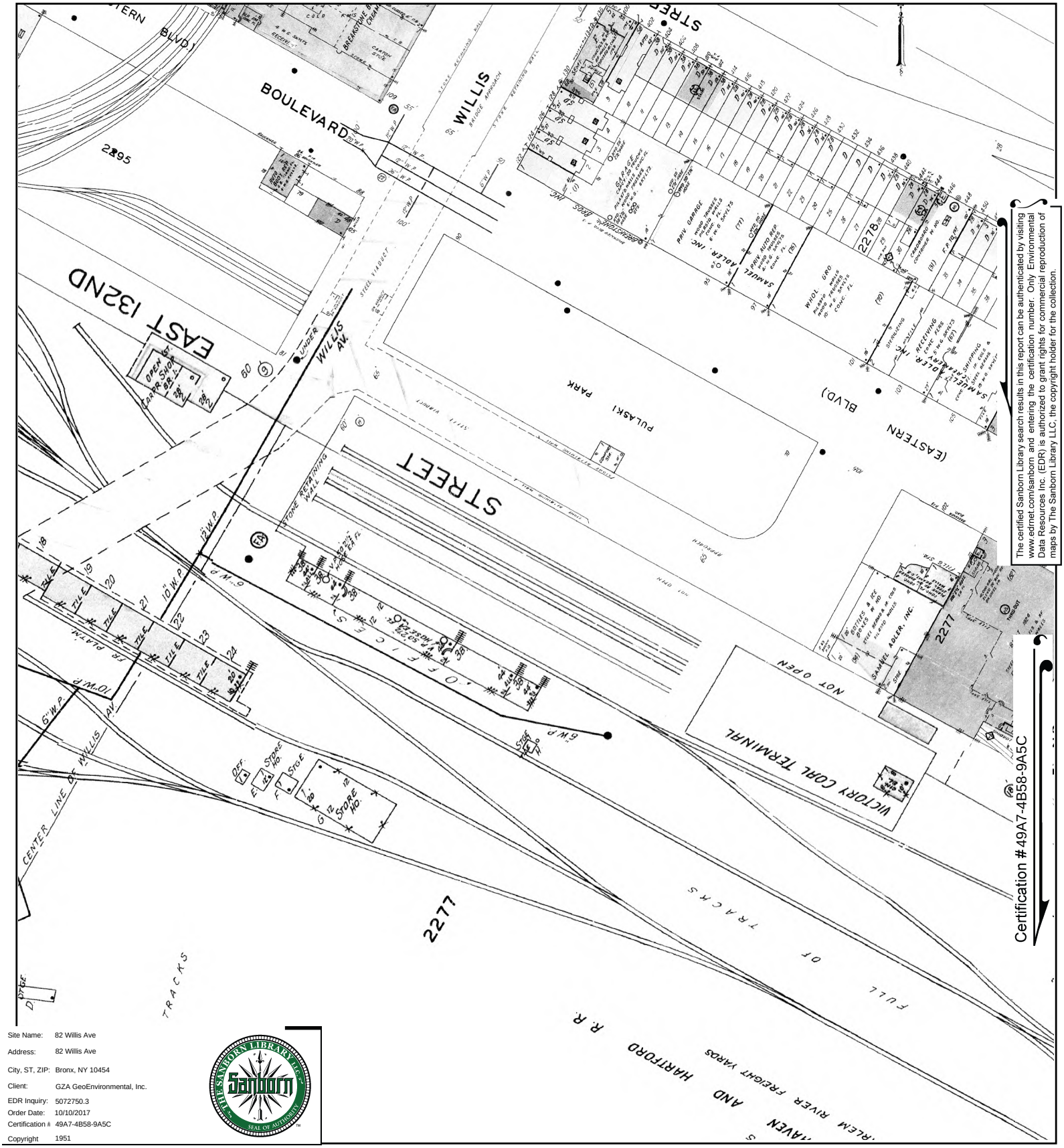

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Copyright	1951

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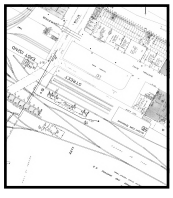

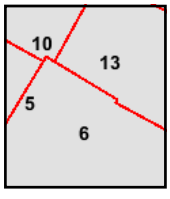

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Volume 9S, Sheet 5
Volume 9S, Sheet 13
Volume 9S, Sheet 10

0 Feet 150 300 600

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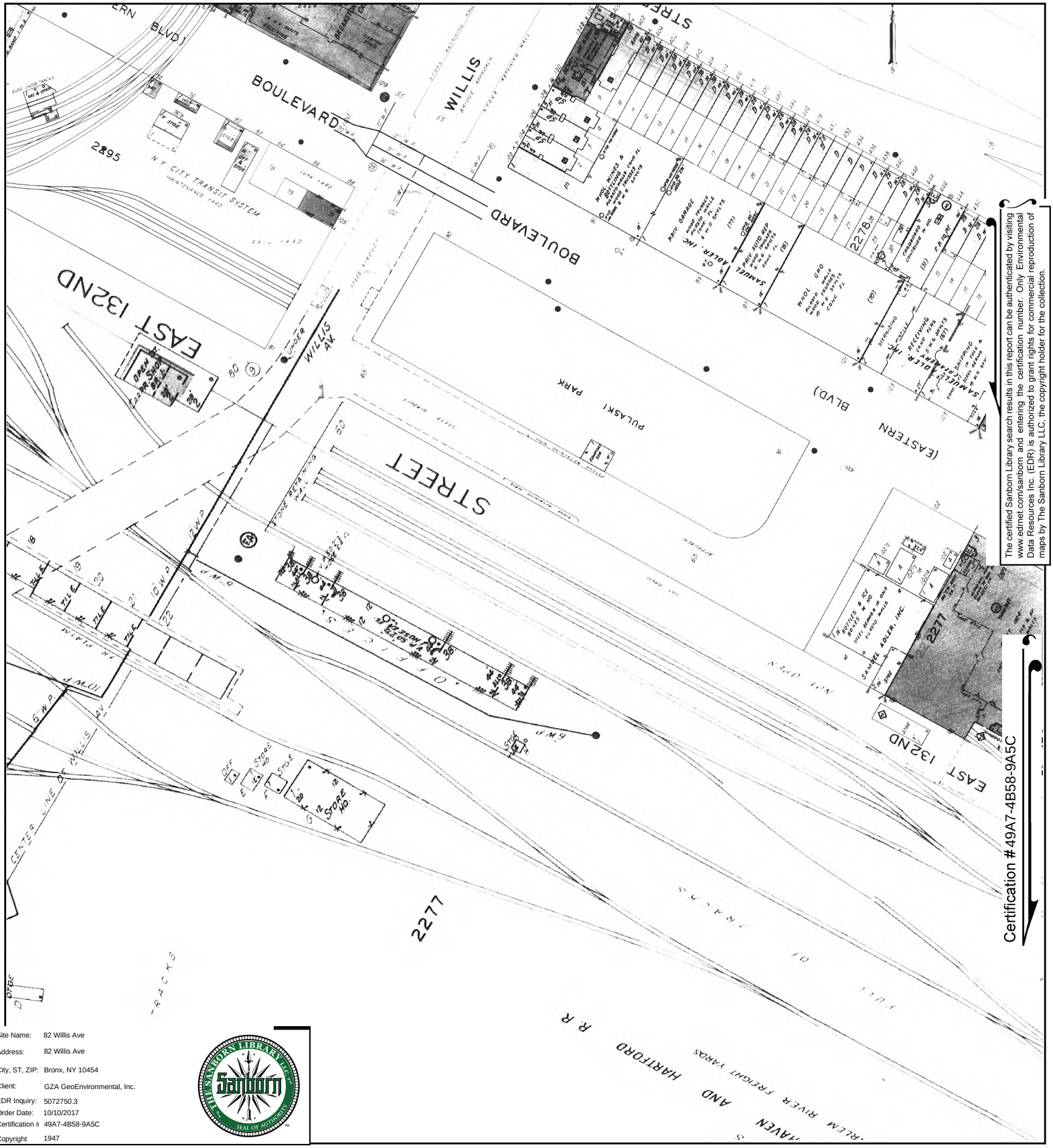

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Copyright	1947

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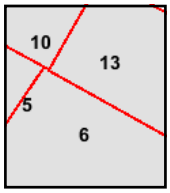

Volume 9S, Sheet 13
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Volume 9S, Sheet 6
Volume 9S, Sheet 5

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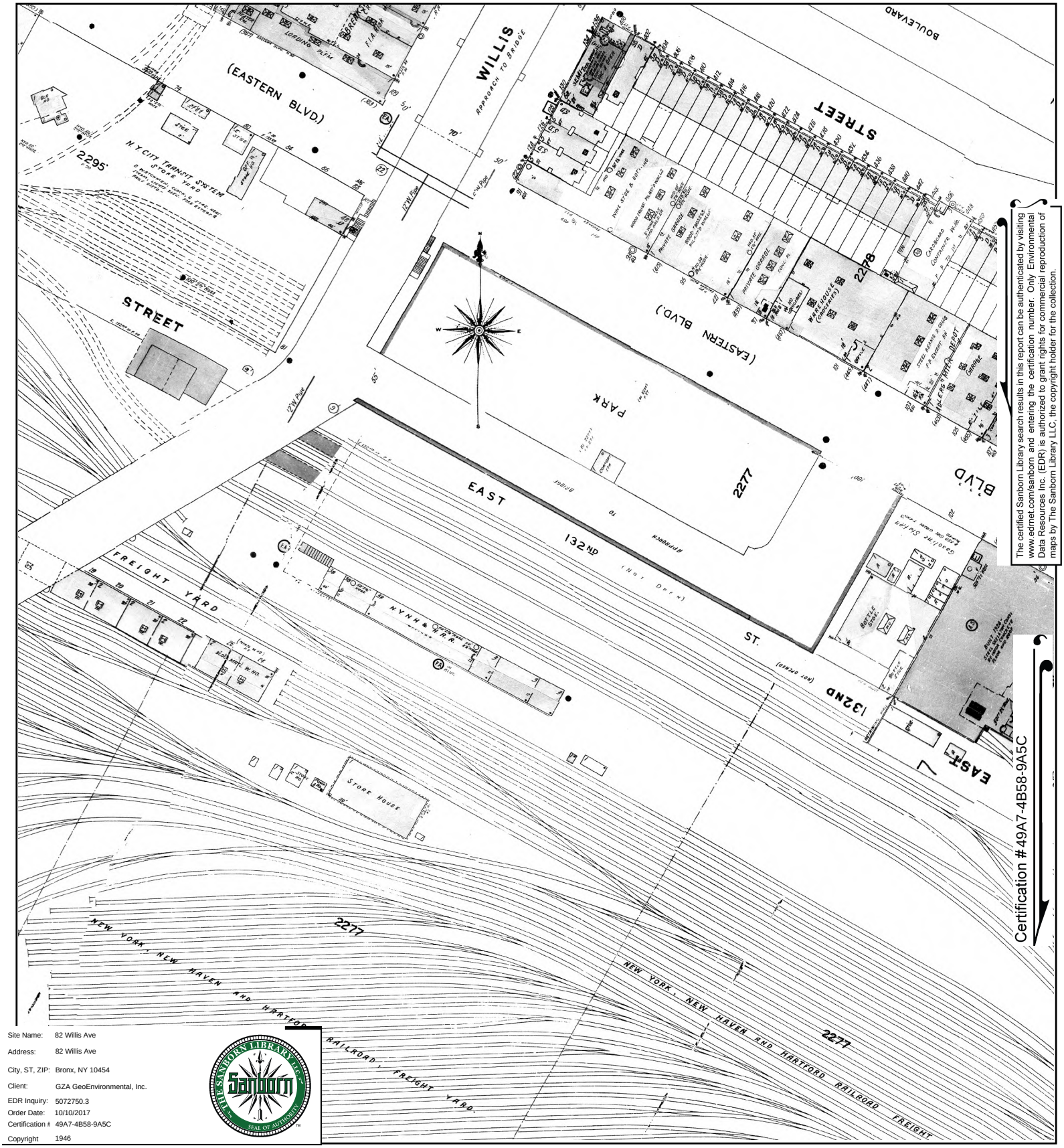

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Certification #	49A7-4B58-9A5C
Copyright	1946

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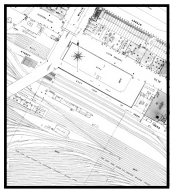

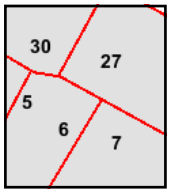

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Volume 9, Sheet 27
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