

Baseline Environmental Report

62nd Street Industrial Park

Submitted to:
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Pittsburgh, PA 15219

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1.0 Summary

The following report represents the Baseline Remedial Report for the 62nd Street Industrial Park. The current owner, the Urban Redevelopment Authority (URA) of Pittsburgh acquired the services of GAI Consultants, Inc. (GAI) to obtain a release of liability through Pennsylvania's Land Recycling and Remediation Standards Act (Act 2). The Special Industrial Area (SIA) was selected as the remedial method. The work plan was approved by the Pennsylvania Department of Environmental Protection (PaDEP), as required by the Act. The paragraphs below describe the required Information and the results of the supplemental sampling. A previously conducted Site Characterization report was utilized as applicable to limit duplication of data that has not changed since presented in 2002. There are three defined areas within the proposed 62nd Street Industrial Park; these include the North Area, the Railroad Right-of-Way (ROW) and the South Area. The Railroad ROW will not be impacted by the development and the Sections within this report only include data from the North and South Areas.

2.0 Description of Property

The property is located on the northwest quadrant at the intersection of 62nd Street and Butler Street, in the Lawrenceville section of the city of Pittsburgh. Figure 1 is a site location map. The base mapping is a portion of the USGS 7.5 minute Pittsburgh East quadrangle. The property is roughly rectangular shaped with its long axis oriented parallel to Butler Street. The site is bordered by the Allegheny River to the north, Butler Street to the south, 62nd Street to the East, and a Sun Oil bulk storage facility to the west. The site is bisected by a railroad and one or more fuel transmission lines that share the railroad right of way. The right of way crosses the site from east to west resulting in the separation of the quarter of the site nearest to the river and creates a physical barrier from the southern portion of the site. It is this barrier that will divide the site and defines the three areas of the site. These three areas will be referred to as the North Area (from the river to the railroad), the railroad ROW, and the South Area (from the railroad to Butler Street). Figure 2 is a site map showing the components of this study.

3.0 Future Site Use

The current plan for redevelopment of the site is to give the North Area to the City of Pittsburgh for a "green" space and riverfront recreation area. This could include the continuation of the riverfront walking/biking trail. The South Area is currently planned for industrial development. Figure 2 shows a conceptual layout of three large warehouse buildings and associated parking lots and landscape areas. The Railroad ROW will remain the divider between the North and South Areas. The Railroad ROW is an inaccessible area continuous across the site that prevents travel between the North and South areas. Railroad crossing rights at the north-west corner of the South Area were terminated by the railroad company in November of 2010 because the lease for this crossing had expired.

4.0 Site and Surrounding Area Features

4.1 Site Use and Structures

The subject property has an industrial history dating back to the late 1800's. The property has been the site of 19th Century petroleum storage operations, and was most recently the location of the former Tippins International facility which conducted numerous operations including; melting, foundry, forging, and annealing. The Tippins operation was closed in 1983. The facility was used most recently as storage for equipment and machines, and one building housed a railroad to truck load and transfer facility. The operations were completed in interconnected high bay, slab on grade, metal panel buildings. The 2002 report observed the buildings during the site characterization. The majority of the site buildings were demolished by the URA in 2008 – 2009. During GAI's 2010 investigation the buildings had been removed leaving only the slab floors that cover most of the ground surface on the South Area.

There is one "lean to" structure on the southwest corner of the South Area that is currently occupied by an electrical contractor. There is a security fence surrounding the yard for that contractor. There is a marina located on the northeast corner of the North Area. There is a security fence around the marina building and yard in the North Area. There is a security fence around the entire South area and on three sides of the North area. The side without fencing is the Northern side along the river. These fences around the perimeter of these areas were installed by the URA in 2009. Additional buildings on site include a brick building on Butler Street and a Port Authority turnaround.

4.2 On Site Wells

There are no water supply wells on the site. There are remnants of a pump house that would have drawn water from the Allegheny River to provide the facility's water needs. There were nine monitoring wells reportedly installed and sampled for laboratory analyses during the 2002 site characterization (MW-1 through MW-9). The borehole logs and monitoring well diagrams for the 2002 investigation are included in Appendix A. These monitoring wells with the exception of MW-6 which could not be located, and MW-8 which was damaged beyond use, were monitored for water levels and were sampled for laboratory analyses for the 2010 investigation.

In order to more completely characterize the site for the Act 2 SIA process, additional monitoring wells MW-10, MW-11, and MW-12 were installed, and replacement wells were installed for MW-6 and MW-8. These replacement wells were labeled MW-6R and MW-8R. Bore holes 5B-27, 28 and 29 were to be used in the delineation of the contaminants found in MWR-7 including the thin layer of a petroleum based material. After drilling SB-27 and SB-28 it was determined that additional bore holes were needed and that if groundwater was encountered, a monitoring well would be installed. Two additional bore holes were advanced into the subsurface. The first bore hole labeled SBPD-A experienced refusal prior to encountering groundwater and was properly abandoned. SBPD-B was the second bore hole which was advanced to groundwater

and a monitoring well was installed. The direct push borehole logs and well diagrams for GAI's 2010 investigation are in Appendix B. All of the sampling points and monitor well locations are shown on Figure 2.

4.3 Condition of Property

The site is currently covered with the slab on grade floors of the interconnected metal panel high bay buildings that once occupied almost all of the South Area, and approximately one third of the North Area.

4.4 Nearby Public Water Supplies

The United States Army Engineer District, Pittsburgh, Navigation Chart No. 2 for the Allegheny River was reviewed. The site was listed as having two intakes, the first listing was for the Union Steel Casting Company, and the second is for the Allegheny Marina. The Union Steel Casting facility private process water intake was eliminated in the mid-1900s, and the marina converted to public water. The neighboring property to the west (just downstream) is listed as having two intakes. The nearest municipal intake is the Shaler Township Municipal facility which is 2,300 feet downstream of the site on the opposite shore of the Allegheny River. The navigation chart is included in Appendix C.

4.5 Surface Water Bodies

The nearest surface water body is the Allegheny River which is the adjacent to the full length of the North Area.

4.6 Utilities

There is evidence of numerous utilities that once existed on the site, including what appear to be storm sewers many of which are at least partially filled with sediments. There are numerous manholes and cleanout type covers present. Public water is still currently active on site. In fact, there is a line that extends from Butler Street beside the AKS building under the South area and railroad row to the marina. There is also a connection at the brick building on Butler Street. Although there should not be utility concerns over much of the site, any contractor on site needs to complete its own due diligence. The railroad ROW will not be impacted by the development of either the North or South Areas, nor will the petroleum pipeline that parallels the railroad tracks within the railroad right of way be impacted.

5.0 Additional Features within 2,500 Feet

Due to the relatively large area covered by the site, the 2,500 foot limit was measured from the edge of the property in all directions. The property is adjacent to the Allegheny River on its northern boundary, and the limit was not extended on to the shore to the north, but rather was

determined to be the center of the river. The following features were investigated to determine if they exist within 2,500 feet from the site. Figure 3 shows the extent of the 2,500 foot boundary.

5.1 Threatened or Endangered Species Habitat

This map was forwarded to the Pennsylvania Natural Diversity Inventory (PNDI) for the completion of a search for potential impacts to threatened, endangered, special concern species and special concern resources. A copy of the results of the PNDI search is Included in Appendix D. The US Fish and Wildlife Service (USF&W) and, the Pennsylvania Game Commission (PGC), the Pennsylvania Fish and Boat Commission (PFBC), and the Pennsylvania Department of Conservation and Natural Resources (DCNR) were contacted through the PNDI service. The responses from the PGC and USF&W indicated further review is required, while the PFBC and DCNR indicated no further review is required. The PGC concern is the endangered Peregrine Falcon. The USF&W did not identify their specific concern.

There has been no contact made to date to follow up with these conditions. It should be noted that this inquiry was for information only and a more detailed inquiry to the PNDI will be required for the NPDES permit during construction. GAI will complete the task during the preparation of the NPDES.

5.2 Recreational River Corridors

The Allegheny River corridor is used by recreational boaters and fishermen.

5.3 State and Federal Forests and Parks

There are no state or federal forests or parks on the site, or within the 2500 foot boundary

5.4 Historic and Archaeological Sites

The PHMC-BHP's online Cultural Resources GIS (CRGIS) database indicates that four resources have been mapped within the proposed parcel: the Allegheny Valley Railroad (Key #120323, National Register [NR] eligible), Allegheny Valley Railway (Key #155720 NR eligible), Blaw-Knox Company; Union Steel Casing Plant (Key #120223, NR eligible), and Cunningham Machinery Office (Key #005472, NR eligible). Of these four resources, two (the Blaw-Knox Company; Union Steel Casing Plant and Cunningham Machinery Office) have been demolished. The two railroad beds located within the parcel are both currently in use and will be avoided by proposed project activities. Areas within the parcel located between the railroad beds and the river will be accessed separately so that no railroad crossing is necessary during construction.

Additionally, GAI conducted background research using the CRGIS database to identify previously recorded historic architectural and archaeological resources within a 2,500-foot radius of the proposed parcel. A total of eight additional historic architectural resources are

located within this study area, but outside of the proposed parcel. These resources include one NR listed resource: Allegheny Cemetery (Key #001715), and seven resources of undetermined NR status, which represent residential and industrial structures including the 62nd Street Bridge (Key #005481), A.M. Byers Company Office (Key #007647), Cunningham Machinery Office (Key #005472), Hunter Saw & Machine Company (Key #005471), Engine House No. 36 (Key #004666), and two freestanding residential structures (Key #004665 and 004667), all of which were constructed during the late 19th and early 20th centuries.

5.5 National Wildlife Refuges

There were no National Wildlife Refuges identified on the site or within the 2,500 foot boundary.

5.6 State Natural Areas

There were no State Natural Areas identified on the site or within the 2,500 foot boundary.

5.7 Prime Farm Land

There was no Prime Farm Land identified on the site or within the 2,500 foot boundary.

5.8 Wetlands

The National Wetlands Inventory (NWI) mappings indicate that the Allegheny River Channel is classified as Riverine. There were no other wetlands within the limits of the project according to the NWI. A copy of the map is included in Appendix E.

5.9 Special Protection Watersheds (Chapter 93)

The project will not significantly alter the groundwater or surface conditions when completed and therefore will not impact any watersheds that have not already been impacted

5.10 Active and Inactive Oil and Gas Wells

The PaDEP internet site that inventories the locations of gas and oil wells was queried to determine if there were gas and oil wells on the property or within the 2500 foot boundary. Only one well was shown on the map, it was located on the northern side of the Allegheny River over a mile from the 62nd Street site. A copy of this map is included in Appendix F.

5.11 Underground Coal Mines and Mine Discharges

See Section 8.1 Geology for a discussion of coal mining in the region.

6.0 Ownership History

The site ownership history is likely a group of investors in these large mill sites. Since the basic historical use of the property is known (Section 7.0) the ownership history was not pursued.

7.0 Site Use History

The sites history was determined based on historical Sanborn Insurance Maps. The maps from the years 1884, 1905, 1927, 1950 and 1969, were available in the CEC Report. GAI completed a review of these maps. The reviews are summarized below.

1884. The map showed a bulk petroleum facility listed as American Oil Works in both the North and South Areas near the center of each lot. This facility had several large steel above ground storage tanks containing crude oil. There was also an area listed as “barrel filling”. On the north-eastern portion of the South Area, there was also a smaller facility labeled as Clinito Grease.

1905. The development is nearly site wide, with the North Area western portion the location of the Pittsburg Crushed Steel Company, the central portion having the Continental Brick Co. and the Eastern area the location of a saw mill.

The South Area is almost entirely developed having the following facilities from west to east: United Engineering Foundry Co.; Zug and Co. Galvanizing Works; the Suydam Co. Paint Factory; and the Union Steel Casting Co. Steel Foundry.

1927. The North Area remains the location of Pittsburg Crushed Steel Co. on the western portion, and the Union Steel Casting Company on the eastern half. The South Area is now almost entirely developed although it has been consolidated into two companies; the western side is the United Engineering and Foundry Co. and the eastern side the Union Steel Casting Company.

1950. The entire North and South Areas were occupied by the Union Steel Casting Company.

1969. The entire property including the North and South Areas have the same basic development as shown on the 1950 map, although the facility name is now the Blaw-Nox Co.

2009. Almost all of the buildings have been demolished. The Allegheny Valley Railroad ceased operation of the train car load distribution activities. The South-west portion of the site is being used as a storage yard for equipment and materials storage.

8.0 Site Characterization

8.1 Geology

The site is located in the Pittsburgh low Plateau section of the Appalachian Plateaus Physiographic Province. Rock underlying the site is of the Conemaugh Groups Glenshaw Formation. The formation consists of cyclic sequences of sandstone shale, redbeds, and thin limestone and coal. Structurally the site is on the northwest limb of the northeast/southwest trending McMurry Syncline. Consequently, the rock underlying the site dips to the northwest.

The locally mined Pittsburgh coal is stratigraphically above the rock units that underlie the site and therefore impacts of mining are not a concern.

The Soil Survey of Allegheny County of Pennsylvania shows the site soils as “UB” which is urban land that is too variable to classify for mapping. It is commonly fill materials adjacent to the rivers. The fill has been historically placed to raise the ground surface above expected historical flood levels. Much of the fill would fall into the category of historic fill as described in the PADEP’s Management of fill policy which reads: material used to bring an area to grade prior to 1988 that is a conglomeration of soil and residuals such as ashes from the residential burning of wood and coal, incinerator ash, coal ash, slag, dredged material and construction and demolition waste.

During the investigation in 2002 as well as this Baseline Remedial Investigation, (2010) none of the borings were advanced deep enough to encounter rock. Therefore, no additional discussions about rock are included.

The unconsolidated materials that were present on site were generally silty clays with varying amounts of rock fragments, gravel and sand. There were four cross sections (A-A, B-B, C-C, and D-D) drawn that were oriented north/south perpendicular to the river. The locations of these sections are shown on Figure 2. The cross sections are included as Figures 4, 5, 6, and 7. The four cross sections graphically demonstrate the material types that were found. The area in the central portion of the site appears to be more variable. The materials that make up the river bank are a slag-laden mix of material expected to be of a higher relative permeability than the surrounding soils. All of the cross sections illustrate the sand and gravel alluvium underlying the fill materials, next to the river, and colluvial materials at locations further from the river.

8.2 Hydrogeology

Groundwater was encountered at depths between 15 and 55 feet below the ground surface. Table 1 lists the results of measuring the depths to water in the monitoring wells during six separate events. These include the levels recorded for the 2002 investigation and five measurements completed by GAI including; March 16, 2010; June 17, 2010; November 8, 2010;

November 22, 2010; and December 6, 2010. With the exception of the November 8, 2010 readings, groundwater contour maps were generated for the four GAI recording dates. Figures 8, 9, 10 and 11 show these maps. The groundwater flow direction is generally west/northwest with some small localized variations.

The groundwater contours indicate that there is a low spot in the groundwater table near the center of the site and adjacent to the river. This is the area of the site that encountered the greatest amount of slag in the subsurface. As previously discussed, the slag has a higher permeability than clayey soils and should react more quickly to changes in the river level. When the river rises there is a period of bank recharge that brings up groundwater levels next to the river. Following the period of bank recharge is a period of bank discharge that occurs when the river levels return to equilibrium. The conditions observed on the December 6, 2010 map (Figure 11) represent a period of extremely high water levels. The river levels were several feet higher than normal.

The hydraulic gradients that were calculated for the site ranged from 0.005 ft/ft to 0.22 ft/ft as shown on Table 2. The relatively flat gradients leave a much larger unsaturated zone near the river that allows the effects of bank recharge to extend horizontally to greater lengths than a steeper gradient would allow. A steeper gradient has more saturated material closer to the river limiting the horizontal impacts and increasing the vertical component of the bank recharge.

9.0 Identified Contamination

A total of 75 soil samples and 26 groundwater samples were collected and analyzed from locations all across the site. The majority of the soil samples (54) were collected for the 2002 report, while the majority of the groundwater samples (17) were collected during this 2010 investigation. The approximate locations of the soil sample bore holes from both studies are shown on Figure 2. The locations of the monitoring wells are also shown on this figure. The analytical results for the soil and groundwater samples collected in 2002 were tabulated and are included in Appendix G. The soil and groundwater analyses for the 2010 sampling were tabulated and are provided as Tables 3, 4, 5, 6, 7, and 8. The entire Volatile Organic Compound (VOC) and Semi-Volatile Organic Compound (SVOC) and PCB scans were run on each sample, however, only those compounds that were present at detectable quantities are included on the tables. The complete list of metals for each sample was listed even if there were no detectable concentrations present.

Based on the future use of the site (Section 2.1) the South Area will be commercial/industrial and can use the Non-Residential Standards, however the North Area's future use although uncertain, will possibly be a public park or similar use, and will use the Residential standards.

9.1 North Area

The analytical results in the North Area indicate a limited number of compounds were present in the soil. The only metal to exceed its residential standard was Arsenic in two bore holes. The concentrations are within the naturally occurring concentrations in southwest Pennsylvania. There were no VOCs or PCBs detected in the soil samples. One soil sample had a single SVOC exceedance (Benzo(a)anthracene) that was slightly higher than its standard. Tables 3 and 4 list the results of the soil sampling and analyses for the North Area.

Table 5 is the groundwater data for the northern area. The groundwater in the North Area wells had numerous SVOCs reported above their respective residential standards. The northwest portion of the North Area has the majority of these elevated concentrations. The contaminants are mostly from a group of SVOCs referred to as Polycyclic Aromatic Hydrocarbons (PAH). The PAHs are a class of organic compounds produced by incomplete combustion of fossil fuels such as coal, oil, gasoline and other organic sources. The Agency for Toxic Substance and Disease Registry case studies indicate that the concentrations of PAHs in groundwater are typically less than 100ug/l. The groundwaters on site with the exception of the sample from MW-7 are all below that threshold. The conditions at MW-7 have included measureable thicknesses of light non-aqueous phase liquid (LNAPL). The actual dissolved content can be reported higher than the actual concentrations because the equipment contacts the LNAPL as it moves downward to the sample depth, and again upon extraction.

9.2 South Area

The soils in the South Area were analyzed for the VOCs, SVOCs, PCBs, and metals. The analysis for these entire parameters revealed only one compound was found in a single bore hole. The lone exceedance was lead in SB-31. Tables 6 and 7 show the soils data for the South Area.

The groundwater in the South Area was sampled and found to contain detectable concentrations of six of the metals, two SVOCs, and three VOCs. The South Area has the two wells that are generally believed to be background for the site. MW-1 and MW-2 are in up gradient positions based on the groundwater flow direction. The analytical results show that there are six (6) metals that exceed their respective standards for groundwater sample from MW-1 indicating that the background groundwater contains elevated levels of those metals. The other well in an up gradient position is MW-2 which reported only two metals having elevated concentrations. These two wells had no detections of the VOCs, one random SVOC reported in MW-1 that was not detected in any other sample in the entire data set used for this report. The new monitor well MW-12 had three of the VOCs and one of the SVOCs detected above their respective standards.

The data from the three groundwater samples that were collected from the wells on site have been placed on a single table for comparison to the standards as well as comparing the

contaminant levels over time. The groundwater data is separated by area, however the locations of the sample collection remain on a single drawing (Figure 2).

10.0 Proposed Remediation Measures

A site being remediated under Pennsylvania's land recycling and Remediation Standards Act (Act 2), one of four methods can be selected. The first is the Background Standard; second is the Statewide Health Standard, third is the Site Specific Standard, and lastly is the Special Industrial Area (SIA). The site fit the SIA method fairly well and it was selected. Under the SIA rule only these conditions that present an eminent and/or immediate threat to human health and/or the environment.

The purpose of the SIA process is to remediate those conditions that pose an immediate or imminent threat to human health and or the environment. Potential human receptors include: construction workers and trespassers. There is a fence around the site to limit or prevent trespassing. Additionally, the soil depths between 0 and 40 feet were collected based on a preliminary site development plan with proposed final grade contours. The bore holes were generally advanced to a depth two feet below proposed final grade as this is the 0-2 foot interval that is typically completed for non residential .

There are no identified exposed pathways present in the site's current condition. There were no potential source areas of contamination observed, and it is not expected that soil conditions would degrade further. There is a possibility infiltration could increase during the period between the removal of the existing concrete and the placement of the new building slabs and paved parking areas. During that period the exposure pathway to the soils is complete for the construction workers. As long as the perimeter fence is maintained, unauthorized entry should not be a concern. Once the development is complete, the site will once again be covered by relatively impermeable surfaces over the majority of the South Area. The placement of these surfaces will be the remediation for the area.

The ultimate use of the North Area has not been determined. Currently, plans include public access to this area. The site development calls for 18-inches of clean fill and 6 inches of topsoil over the North Area. The clean soils will provide a separation between contaminated areas and the potential users of the property, essentially eliminating the exposure pathway.

The depth to groundwater is greater than the depths of the proposed development. Therefore, groundwater should not be encountered. There was no evidence to suggest that impacted groundwater is going off site into the Allegheny River. The river bank was traversed on two occasions, and no seeps on the bank or at river level were observed.

There should be no significant changes in the hydrogeologic regime at this site once development is complete. Groundwater use is not permitted based on the following conditions. The use of groundwater is prohibited not only by the Allegheny County edict requiring anyone

within 250 feet of public water to acquire that water, but also by the universal covenant placed in the deed that results from the Act 2 remediation process

11.0 Public Notice

The Notice of Intent to remediate was published in the “Pittsburgh Post Gazette” on June 9, 2010.

12.0 Public Benefits

The Public benefits from this Project are predominantly the creation of jobs and a tax base increase.

13.0 Conclusions

13.1 Planned use of the Site

- a. The South area will be industrial (warehouse / office park).
- b. The North area will be recreational (possibly a river trail).

13.2 Remedial Remedy

- Universal covenant placed on deed
- Clean fill cover of 18 inches and 6 inches of topsoil then seeded.
- Maintenance of coves predominately in the North area but also in the South area.
- Annual inspections of cove soils years 1 – 5.

14.0 Limitations and Signatures

The services, data, and opinions of GAI performed for and expressed in this report are for the sole and exclusive use of the URA, and may not be distributed to or relied upon by any other party without the express written consent of GAI. In performing this investigation, GAI has striven to conform to generally-accepted principles and practices of consultants conducting similar investigations in the same geographic area. The investigation is limited to the specific project, dates, and properties, as described in this report, and its findings should not be relied upon by any other party to represent conditions at this or other properties or at later dates. The investigation was also conducted within the context of existing agency rules, regulations, and enforcement policies; later changes in rules, regulations, and policies may result in different conclusions than those expressed in this report.

The scope of the investigation and report was mutually devised by GAI and the URA, and is not intended as an audit for regulatory compliance. No activity, including sampling, investigations, or evaluation of any material or substance, may be assumed to be included in this investigation unless such activity is expressly considered in this report. Maps and drawings in this report are

included only to aid the reader and should not be considered surveys or engineering studies.

The findings and conclusions of the investigation are probabilities based on GAI's professional judgment of site conditions as discernible from the limited, and often indirect, information provided by others, and obtained or observed by GAI using the specified methods. GAI does not warrant the accuracy or completeness of information provided or developed by others, and assumes no responsibility for documenting conditions detectable with methods or techniques not specified in the work. GAI's opinion regarding site conditions is not a warranty that all areas within the site and beneath the site are of the same quality or conditions as those observed or sampled.

If additional data concerning this site becomes available, such information should be provided to GAI so that our conclusions and recommendations may be reviewed and modified as necessary.

Respectfully submitted,
GAI Consultants, Inc.

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SCW:JAP/djd