

VIA FEDEX

October 10, 2007

Mr. Brad Newton
North Carolina Department of Environment
And Natural Resources
Division of Waste Management
Underground Storage Tank Section
610 East Center Avenue, Suite 301
Mooresville, North Carolina 28115

RECEIVED
NCDENR

OCT 11 2007

Division of Waste Management
UST Section
Mooresville Regional Office

Re: Limited Site Assessment Per 15A NCAC 02L .0405
Reeves Brothers, Inc.
Former Osage Plant
Bessemer City, North Carolina
Groundwater Incident No. 16027
AEI Project No. N512-07

Dear Mr. Newton:

On behalf of Reeves Brothers, Inc. (RBI), AWARE Environmental® Inc. (AEI) is submitting the following response to your correspondence to RBI dated June 1, 2007, which outlined applicable regulatory requirements for the subject site. According to your correspondence, RBI must submit a report to the North Carolina Department of Environment and Natural Resources (NCDENR) containing information required to classify the level of risk to human health and the environment posed by the discharge or release. RBI sold the subject property in 1998, and maintains no operational control of the property.

While preparing this response, AEI reviewed the following documents and correspondence:

- December 7, 1995, Phase II Environmental Survey by S&ME, Inc.
- January 18, 1996, UST Closure and Soil Remediation Assessment Report by The Fletcher Group.
- May 1996 Site Soil and Groundwater Investigation Report by AWARE Environmental® Inc.
- July 18, 1996, Correspondence from the Division of Water Quality (DWQ) Mooresville Regional Office (MRO) to Reeves Osage Plant related to its priority ranking.
- August 7, 1996, UST Closure and Soil Remediation Assessment Report Correspondence by The Fletcher Group.
- August 13, 1996, Correspondence from DWQ-MRO acknowledging receipt of The Fletcher Group's UST Closure and Soil Remediation Assessment Report.

- September 12, 1996, Correspondence from the DWQ-MRO acknowledging their review of May 1996 Site Soil and Groundwater Investigation Report and Request for Water Supply Well Survey.
- October 30, 1996, Assessment Review Summary by AWARE Environmental® Inc.
- March 8, 2001, MRO UST Section internal file review notes for incident # 16027.
- December 5, 2006, Notice of Regulatory Requirements from MRO-UST Section to Reeves.

Project Overview

Reportedly, the subject facility operated two (2) No. 5 fuel oil underground storage tanks (USTs) (1-10,000 gallon and 1- 20,000 gallon), which were closed in-place in February 1995. Based upon AEI's review of the reports and correspondence referenced above, the date of the discovery of the release of number 5 fuel oil was November 1995. Reportedly, the release was discovered during Phase I/II due diligence activities being performed by S&ME, Inc. on behalf of a potential purchaser of the property.

It appears that steps were taken by Reeves to prevent further discharge or release through performance of limited remedial action in November and December 1995. According to The Fletcher Group (TFG), the consultant overseeing the limited remedial activity, approximately 73 tons of petroleum hydrocarbon impacted soil was excavated from the area surrounding the 20,000 gallon UST. TFG collected two (2) excavation base confirmatory soil samples which were found to contain 330 mg/kg and 290 mg/kg total petroleum hydrocarbon (TPH) as oil & grease (O&G); and based upon the site characteristics score and risk category "E", the maximum soil contaminant concentration for TPH O&G was 3,000 mg/kg.

Correspondence dated August 13, 1996, from the NCDENR Mooresville Regional Office (MRO)-Division of Water Quality (DWQ) to RBI acknowledged receipt of the UST Closure and Soil Remediation Assessment Report prepared by TFG, and assigned a site hazard ranking of "D"; advised Reeves that Senate Bill 1317 temporarily suspended the requirement to cleanup a discharge or release from a petroleum UST for low priority sites ranked "C", "D", or "E"; and, stated that the report would not be reviewed due to its low priority ranking, but would remain on file.

Correspondence dated September 12, 1996, from the DWQ-MRO acknowledged their review of May 1996 Site Soil and Groundwater Investigation Report and requested Reeves perform a Water Supply Well Survey.

In October 1996, AEI prepared an Assessment Review Summary of available soil and groundwater assessment data for the Osage Plant.

Limited Site Assessment

Under 15A NCAC 02L .0405, the responsible party is directed to complete a limited site assessment (LSA) which is to include the analytical results from soil samples collected during construction of a monitoring well installed in the source area of the confirmed release or discharge, and the analytical results of a groundwater sample collected from the well. The

following summarizes individual limited site assessment activities which, when evaluated collectively, fulfill the LSA requirement of 15A NCAC 02L .0405.

In November 1995, S&ME, Inc. advanced borings BC-1 through BC-5 in the immediate vicinity of the former No. 5 fuel oil UST basin (Figure 2). Soil samples were collected in these borings at depths of 5 feet and/or 10 feet. Reportedly, S&ME boring BC-1 was located closest to the No. 5 fuel oil release. Boring BC-1 was sampled at a depth of 5 feet and analyzed for volatiles, semi-volatiles and total petroleum hydrocarbon (TPH). Sample BC-1 was found to contain 1,300 mg/kg TPH as diesel fuel, 140 µg/kg n-butylbenzene, 160 µg/kg cis-1,2-dichloroethene, and 500 µg/kg naphthalene.

In December 1995, TFG documented the results of limited corrective action in the form of excavation and off-site disposal of 73 tons of petroleum hydrocarbon impacted soils in the immediate vicinity of the former 20,000 gallon UST. Upon completion of soil excavation activities, two (2) confirmatory soil samples, SS-1 (10') and SS-2 (11') were collected from the base of the excavation and analyzed for TPH as Oil & Grease via Method 9071 (Figure 2). Sample SS-1(10') contained 330 mg/kg TPH, and sample SS-2(11') contained 290 mg/kg TPH.

In March 1996, AEI was retained to assess site soil and groundwater conditions related to the discovery of chlorinated hydrocarbons in groundwater by S&ME in November 1995. During this work, AEI installed a temporary well, identified as W-2, in the immediate vicinity of S&ME's boring BC-1 and TFG's confirmatory soil sample SS-1(10') (Figure 2). During installation, AEI collected a grab soil sample at a depth of 20 feet below grade. The sample, identified as W-2(20') was analyzed for total RCRA metals, volatiles via Method 8240, semi-volatiles via Method 8270, and TPH via Method 8015M 3550/5030. The volatile, semi-volatile, and TPH analytical results were all below detection limit (BDL); and arsenic, lead, barium, cadmium and chromium were detected at 0.37 mg/kg, 3.69 mg/kg, 27.08 mg/kg, 1.67 mg/kg, and 5.43 mg/kg, respectively, which are below North Carolina Maximum Soil-To-Groundwater Contaminant Concentrations.

Upon completion, the static depth to water in temporary well W-2 was 23.1 feet below grade. A groundwater sample collected from temporary well W-2 was analyzed for total RCRA metals, volatiles via Method 601/602, and semi-volatiles via Method 625. For groundwater sample W-2, the semi-volatile analyses were BDL; identified volatile compounds included 167 µg/l tetrachloroethene (PCE), 2.1 µg/l trichloroethene (TCE), 62.1 µg/l benzene, 14.9 µg/l toluene, and 27.6 µg/l total xylene; and the total RCRA metals analysis identified mercury, selenium, barium and cadmium at 0.0002 mg/l, 0.008 mg/l, 0.087 mg/l and 0.001 mg/l, respectively. The PCE and benzene concentrations each exceeded their respective 15A NCAC 2L groundwater standards. Correspondence dated December 11, 1996, from Mr. Landon Davidson of the NCDENR absolved RBI from further assessment of the chlorinated solvents, and stated that RBI was not considered a potential responsible party in regard to the chlorinated solvents.

Receptor Survey

The subject site is located in Bessemer City, North Carolina. Geologically, the site is located in the western Piedmont Physiographic Province of North Carolina, and is not located in a well head protection area. The nearest identified public water intake from surface water is located

greater than 3,000 feet northwest of the subject site. The identified water intake is located on Long Creek and is operated by Gaston County as the primary water supply for Bessemer City. According to Ms. Samantha Dye of the Gaston County Health Department, groundwater is utilized for potable and domestic water supply uses in the Bessemer City area; however, there are no registered public or private water supply wells within 1,500 to 2,000 feet of the subject site. Ms. Dye stated that the area in question is served by the municipal water system.

Review of the Bessemer City zoning map indicates that the subject site is zoned as Transitional Mixed Use (TMU) (see attached January 11, 2007, Bessemer City Zoning Map). The subject site is surrounded by other TMU properties, and is situated adjacent to the Central Business District (CBD) and Urban Mixed Use (UMU). Outside the TMU and CBD areas the land use is primarily zoned Urban Residential RS-8 (RS-8). An area of Residential Multi-Family (RMF) is located approximately 1,000 feet west of the site.

Although Ms. Dye, from the Gaston County Health Department, stated there were no registered public or private water supply wells within 1,500 feet of the subject site, AEI personnel performed a visual reconnaissance of the area. During the reconnaissance, no private properties were accessed. The reconnaissance was performed by walking and/or driving along each street within the 1,500 foot radius. No suspected water supply wells, or enclosure structures, were observed by AEI personnel.

At the subject site, the release was reported to be No. 5 fuel oil, which is characterized as containing relatively low concentrations of volatile organic compounds. Based upon the characteristics of the released No. 5 fuel oil, and that localized impacted soils were removed, it does not appear that risk of potentially explosive or toxic vapors in structures or confined spaces exists.

Summary

Individual limited site assessment and corrective action confirmatory soil data collected by three (3) different consulting firms on behalf of RBI, when evaluated collectively, indicate that three (3) soil samples were collected at depth of 5 feet, 10 feet and 20 feet below grade in the immediate vicinity of the identified No. 5 fuel oil release or discharge. The analytical data for these soil samples indicates that petroleum hydrocarbon impacts decreased to non-detect with depth. At a depth of 20 feet, three (3) feet above the water table, no TPH, volatile, or semi-volatile target compounds were detected. Groundwater data for sample W-2 did indicate the presence of volatile organic compounds such as PCE, TCE, benzene, toluene and total xylene; however, these compounds were not detected in site soils in the vicinity of the No. 5 fuel oil release or discharge. Correspondence dated December 11, 1996, from Mr. Landon Davidson of the NCDENR absolved RBI from further assessment of the chlorinated solvents, and stated that RBI was not considered a potential responsible party in regard to the chlorinated solvents.

The subject site is not located in the Coastal Plain of North Carolina, or in a well head protection area. The nearest public water intake is located greater than 3,000 feet northwest of the subject property. According to the Gaston County Health Department, there are no registered public or private water supply wells within 1,500 feet of the subject site. A visual reconnaissance of the

area surrounding the subject site did not identify suspected water supply wells or well head containment structures

Therefore, the available data, which collectively fulfill the criteria for a LSA, indicate that there was no impact to groundwater as a result of the No. 5 fuel oil release or discharge, and remaining soils contain TPH concentrations at least an order of magnitude less than the SSE final cleanup criteria. Accordingly, it is recommended that the risk classification of this incident be designated as "E", and the incident closed via a ruling of "No Further Action Required".

Thank you for your assistance in closing this incident. Please feel to contact me at 704-815-1675 with any comments or questions you may have.

Sincerely
AWARE Environmental® Inc.



Jonathan J. Alix, P.G.
Senior Project Geologist



Attachments

cc: File
M. Justice, Parker, Poe, Adams & Bernstein
R. Emmel, Reeves Brothers, Inc.
M. Smith, AEI

512071001

81°18'00" W

81°17'00" W

WGS84 81°16'00" W

35°18'00" N

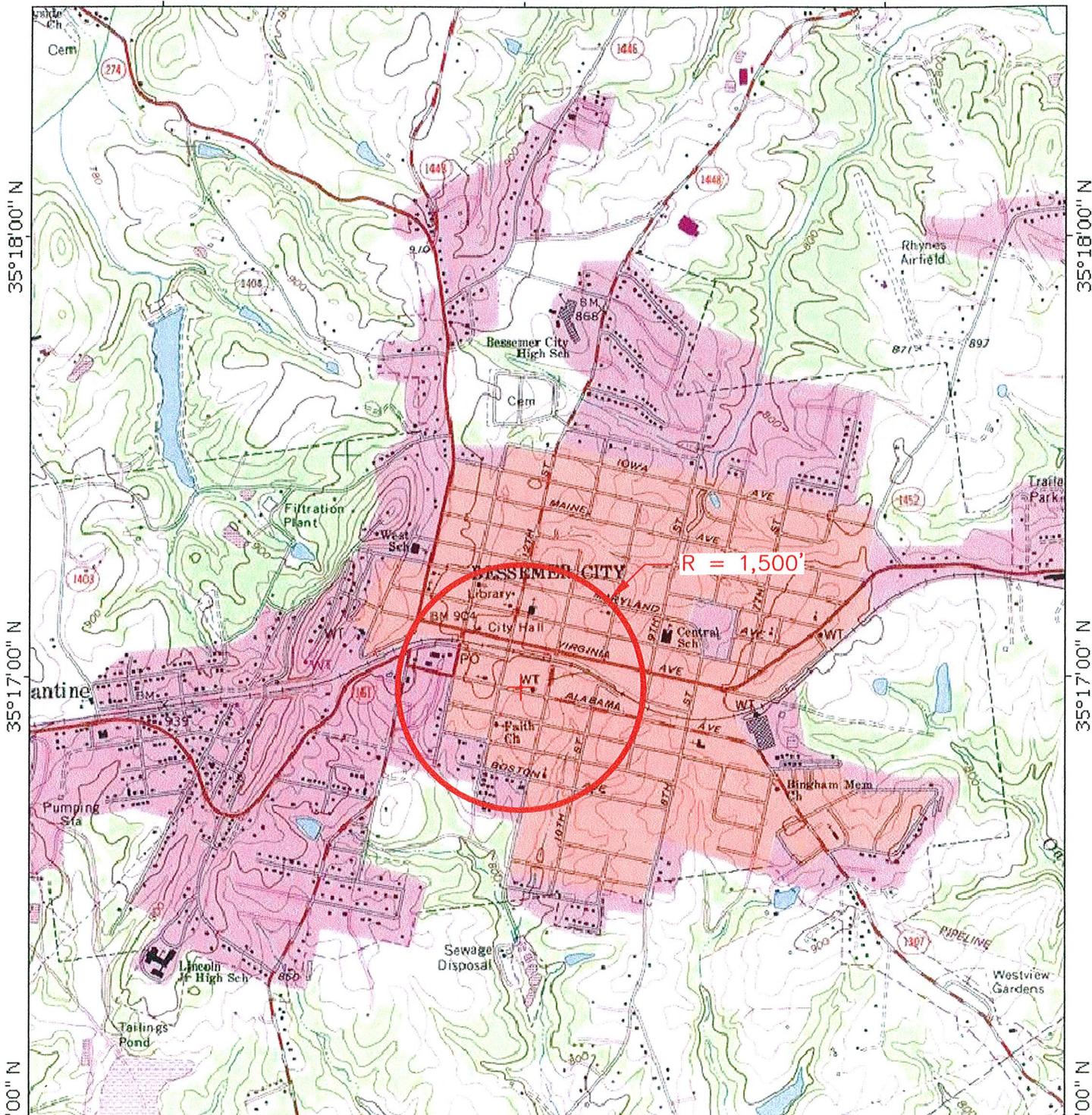
35°18'00" N

35°17'00" N

35°17'00" N

35°17'00" N

35°17'00" N



SCALE: 1:24000



FORMER REEVES BROTHERS, INC.
 OSAGE PLANT
 BESSEMER CITY, NORTH CAROLINA

FIGURE 1
 SITE LOCATION MAP

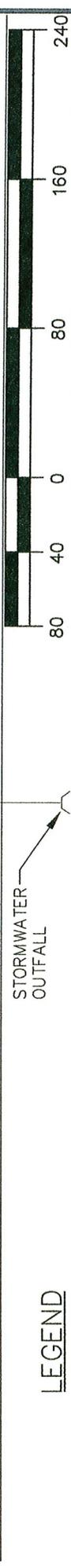
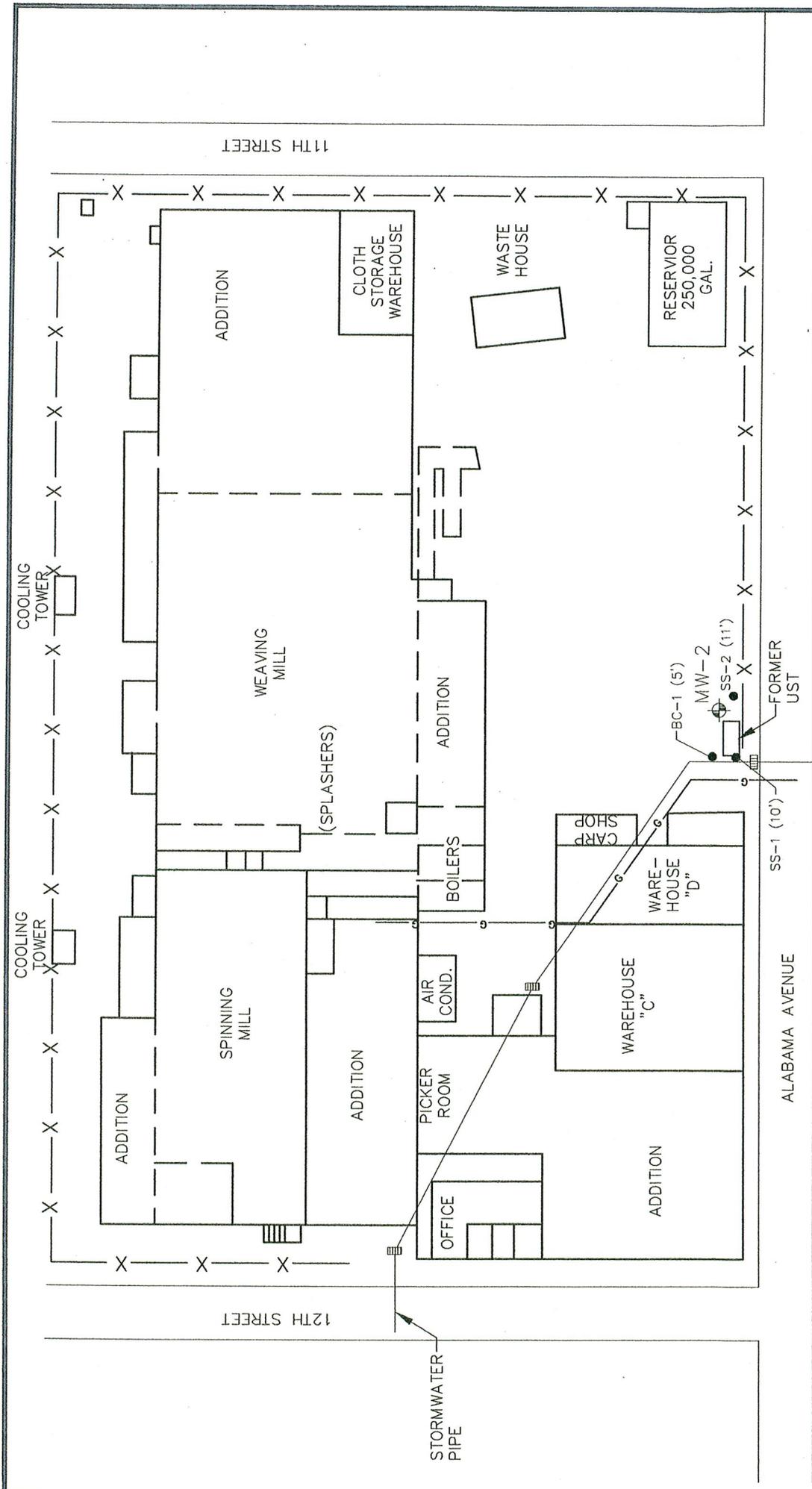
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REFERENCE:
 BASE MAP TAKEN FROM NATIONAL GEOGRAPHIC TOPO
 MAPS OF NORTH CAROLINA. MAP DATED 2001.



AEI PROJECT No. N512-07



| | |
|---|--------------------------------|
| SITE PLAN | |
| REEVES BROTHERS, INC. OSSAGE PLANT BESSEMER CITY, NORTH CAROLINA | |
| SCALE AS NOTED | APPROVED BY: J.K.S. |
| DATE OCTOBER 2007 | DESIGNED BY: |
| PROJECT NUMBER N512-07 | DRAWING NO. FIGURE 2 |
| AVARE ENVIRONMENTAL, INC. 9305-J MONROE RD. CHARLOTTE, NC 28270 | |

LEGEND

- ⊕ TEMPORARY MONITORING WELL
- TEMPORARY SOIL BORING
- ▭ STORMWATER CATCH BASIN
- X— FENCE
- G— NATURAL GAS LINE

NOTE:
TEMPORARY WELL AND SOIL BORING LOCATIONS ARE APPROXIMATE.

REFERENCE NOTE:
BASE MAP TAKEN FROM SITE PLAN PREPARED BY S&ME ENVIRONMENTAL SERVICES, DATED DEC. 01, 1995.
PROJECT JOB No. 1264-95-506.

October 04, 2007 4:01:34 p.m.
Drawing: 51207S01.DWG.DWG

CITY OF BESSEMER CITY - GASTON COUNTY



**City of Bessemer City
Gaston County, NC**

- County Line
 - - - Bessemer ETJ Boundary
 - Bessemer City Limits
 - Railroads
 - Bridges
 - Property Parcels
 - Downtown Overlay
- Bessemer City Zoning**
- Zoning Type**
- RS8 - Urban Residential District
 - RS12 - Urban Residential
 - RS20 - Urban Residential
 - RSF - Residential Single Family
 - RMF - Residential Muni Family
 - C1 - Light Commercial
 - C2 - Highway Commercial
 - CBD - Central Business District
 - OLC - Office Light Commercial
 - I1 - Light Industrial
 - I2 - General Industrial
 - IU - Urban Industrial
 - TMU - Transitional Mixed Use
 - UMU - Urban Mixed Use

- Streets and roads by road type**
- Interstate 85
 - NC Highways
 - US Highway 221
 - US Highway 2974
 - Municipal Roadways
 - Public Roadways
 - Private Roadways
 - SC Roadways
 - Secondary Roadways
 - Trails

I HEREBY CERTIFY THAT THIS MAP IS THE OFFICIAL REGULATING MAP FOR THE CITY OF BESSEMER CITY, ADOPTED ON _____ TOGETHER WITH ALL AMENDMENTS THROUGH _____

Mayor _____ Date _____
 Chairman, City of Bessemer City Planning Board _____ Date _____

This map was compiled from the existing Gaston County Property parcel layer for the sole purpose of presenting Zoning information for the City of Bessemer City. This map shall not be used for the transfer of property, easements or conveyances. Although strict accuracy standards have been employed in the production and maintenance of this map all property parcels, roadways and street names may not be correctly shown.

Note: For visual clarity Zoning may not be shown within the right of way of streets and roadways.

This map was created by the Gaston County Planning GIS Division. Not to be used or otherwise used for trade or commercial purposes as provided by the NC General Statute 132-10.

Plot Date: January 11, 2007 - By: JGG.

