

# 17-1441

Tax Map # 30-36

Prepared by: Williams Mullen  
200 South 10<sup>th</sup> Street  
Richmond, Virginia 23219  
Attn: Channing J. Martin, Esq.  
(804) 420-6422

Remediation Program Site ID #: VAR000518878

**UECA ENVIRONMENTAL COVENANT**

This environmental covenant is made and entered into as of the 14th day of August, 2017, by and between GIANT RESOURCE RECOVERY, INC., a Virginia corporation, whose address is 654 Judge Street, Harleyville, South Carolina (hereinafter referred to as the "Grantor" or "Owner"), and GIANT RESOURCE RECOVERY, INC., a Virginia corporation, whose address is 654 Judge Street, Harleysville, South Carolina (hereinafter referred to as the "Grantee" or "Holder").

The Virginia Department of Environmental Quality, whose address is 629 East Main Street, Richmond, Virginia 23219 (hereinafter referred to as the "Agency") also joins in this environmental covenant.

This environmental covenant is executed pursuant to the Virginia Uniform Environmental Covenants Act, § 10.1-1238 et seq. of the Code of Virginia (UECA). This environmental covenant subjects the Property identified in Paragraph 1 to the activity and use limitations in this document.

**1. Property affected.**

The property affected (Property) by this environmental covenant is located East of State Route No. 652 and North of State Route No. 15 in the Marshall Magisterial District of Buckingham County, Virginia, and is further described as follows:

ALL that certain parcel outlined "Excluded Parcel Area = 34.86 +/- AC." Together with the 50' right of way as both are shown on that plat entitled "TM 30-32, 32A, 33, 34, 35, 36, 37, 38, 39, 40, 41 SOLITE CORPORATION PLAT OF PROPERTIES SITUATED ON THE NORTHERN LINE OF ROUTE NO. 15, THE EASTERN LINE OF ROUTE NO. 652 AND SOUTH OF THE JAMES AND SLATE RIVERS MARSHALL DISTRICT BUCKINGHAM CO., VA. JAN. 11, 2005 SCALE 1"=330".

LESS AND EXCEPT the Air Rights thereto and other related easements both of which Solite Corporation granted to Solite, LLC by Deed dated January 17, 2005, and recorded in the Clerk's Office, Circuit Court, Buckingham County, Virginia, on or about January 18, 2005.

BEING the same real estate conveyed to Giant Resource Recovery, Inc., by Deed from Solite Corporation, dated January 17, 2005, and recorded January 20, 2005, in the aforesaid Clerk's Office in Deed Book 311, page 106.

Deed of Correction recorded to correct the derivation clause recorded in Deed Book 315, page 111.

## 2. Description of Contamination & Remedy.

a. Identify the name and location of any administrative record for the environmental response project reflected in this UECA environmental covenant.

The Administrative Record for this environmental response project is known as "Allied Concrete Products, LLC/Giant Resource Recovery-Arvonja, Inc. Facility." A copy may be obtained from the Virginia Department of Environmental Quality, 629 East Main Street, Richmond, Virginia.

b. Describe the contamination and remedy relating to the Property, including descriptions of the Property before remedy implementation; contaminants of concern; pathways of exposure; limits on exposure; location and extent of contamination; and the remedy/corrective action undertaken.

A manufacturing facility (the "Manufacturing Facility") and a hazardous waste storage and blending facility (the "Blending Facility") formerly operated on the adjacent Property now owned by Eagle Real Estate LLC (Tax Map No. 30-32 and 30-33, consisting of, in total, 223.477 acres). The Property subject to this covenant is now owned by Giant Resource Recovery, Inc. (Tax Map No. 30-36 consisting of 34.86 acres) and contained a settling pond that was used in connection with the air pollution control equipment associated with the Manufacturing Facility and/or Blending Facility. The Manufacturing Facility operated four rotary lightweight aggregate industrial kilns that utilized liquid hazardous waste as fuel to produce lightweight aggregate. This aggregate was used in the manufacture of lightweight masonry units, lightweight pre-cast elements, structural concrete, and other building materials. The Blending Facility was located adjacent to the Manufacturing Facility. It stored and blended hazardous and non-hazardous liquid waste into fuel and transferred it through pipes to the Manufacturing Facility where it was combusted in the kilns. Both facilities were operated pursuant to Resource and Recovery Act ("RCRA") permits and other permits issued by the Agency.

All RCRA permitted units at the Property have completed RCRA closure, and all equipment at the Property used in connection with the Manufacturing Facility and the Blending Facility was removed during the RCRA closure process.

The Property is subject to the Corrective Action Program ("Corrective Action") under the Solid Waste Disposal Act, as amended by RCRA and the Hazardous and Solid Waste Amendments, 42 U.S.C. §§ 6901 et seq. From September, 2004 through January, 2014, 63 soil samples and 26 groundwater samples from 11 groundwater monitoring wells were collected and analyzed from the Property and the adjacent property now owned by Eagle Real Estate LLC as part of the Corrective Action investigation. The samples were analyzed for volatile organic compounds (VOCs); semi-volatile organic compounds (SVOCs); dioxins and furans; and total metals.

The soil analytical results were screened against both Industrial and Residential Regional Screening Levels (RSLs) for direct contact. The screening levels for non-carcinogenic analytical parameters were multiplied by a Hazard Quotient of 0.1. No VOCs, SVOCs, or dioxins and

furans were detected in any of the soil samples above their respective Residential RSLs. Fifteen soil sample locations, including two on the Property, had at least one exceedance of the Industrial RSL for antimony, arsenic, cobalt, iron, manganese or thallium.

No VOCs or SVOCs were detected in the groundwater samples collected, but arsenic and manganese were detected above screening levels in two of the 11 groundwater monitoring wells and cobalt was detected above screening levels in one of those same wells. None of the wells in which exceedances were detected was on the Property.

A Comprehensive Site Evaluation Report, including a risk assessment, was submitted to the Agency in April 2014. Among other things, the risk assessment evaluated the metals in soil that exceeded Industrial RSLs and concluded that the Total Exposure Risk and Total Hazard Index were all acceptable and no remedial action was necessary for soil at the Property. The Report also concluded that no remedial action was necessary for groundwater at the Property. The Report was approved by the Agency by letter dated December 3, 2015.

The Agency issued a Statement of Basis for the Property and the adjacent property on June 30, 2016. A copy of the Statement of Basis is attached as Exhibit A to this environmental covenant. On September 27, 2016, the Agency issued a final Class 2 modification to RCRA hazardous waste corrective action permit # VAR000518878 incorporating the remedy proposed in the Statement of Basis into the permit. The final remedy selected and incorporated into the permit was that no further action to remediate soil or groundwater contamination at the Property was necessary to protect human health or the environment under current and reasonably anticipated future land use. However, the Agency required that certain activity and use limitations be imposed within the soil restriction area of the Property. These activity and use limitations are imposed by this environmental covenant.

### **3. Activity & Use Limitations.**

a. The Property is subject to the following activity and use limitations, which shall run with the land and become binding on Grantor(s) and any successors, assigns, tenants, agents, employees, and other persons under its (their) control, until such time as this covenant may terminate as provided by law:

1. The soil restriction area of the Property (shown as Restricted Area #5 on the survey plat attached hereto as Exhibit B prepared by Engineering Design Associates, Inc., dated March 9, 2015 and entitled, "Plat of Property Situated East of Route No. 652 and North of Route No. 15") shall not be used for residential purposes or for children's (under the age of 16) daycare facilities, schools or playground purposes.
2. Excavation in the soil restriction area of the Property shall be conducted in accordance with the VDEQ-approved Materials Management Plan attached hereto as Exhibit C, which may be from time-to-time amended in accordance with the procedure for amendment set forth in the plan. Future modifications at the Property that could be reasonably understood to adversely affect or interfere with

the integrity or protectiveness of the final remedy will be evaluated to identify and address those potential impacts or interferences.

b. Geographic coordinate lists defining the boundary of each activity and use restriction, depicted as a polygon.

Geographic coordinate lists defining the boundaries of the soil restriction area are shown on the survey plat attached hereto as Exhibit B.

**4. Notice of Limitations in Future Conveyances.**

Each instrument hereafter conveying any interest in the Property subject to this environmental covenant shall contain a notice of the activity and use limitations set forth in this environmental covenant and shall provide the recorded location of this environmental covenant.

**5. Compliance and Use Reporting.**

a. By the end of March, 2022, and the end of every fifth March thereafter, the then current owner of the Property shall submit to the Agency written documentation stating whether or not the activity and use limitations in this environmental covenant are being observed. This documentation shall be signed by a responsible corporate official or qualified and certified professional engineer or geologist who has inspected and investigated compliance with this environmental covenant.

b. In addition, within one (1) month after any of the following events, the then current owner of the Property shall submit to the Agency written documentation describing the following: noncompliance with the activity and use limitations in this environmental covenant; transfer of the Property; changes in use of the Property; or filing of applications for building permits for the Property and any proposals for any site work, if such building or proposed site work will affect the contamination on the Property subject to this environmental covenant.

**6. Access by the Holder(s) and the Agency.**

In addition to any rights already possessed by the Holder and the Agency, this environmental covenant grants to the Holder and the Agency a right of reasonable access to the Property in connection with implementation, inspection, or enforcement of this environmental covenant.

**7. Subordination.**

If there is an agreement to subordinate one or more prior interests in the Property to this environmental covenant, then the subordination agreement(s) is/are set forth as follows:

The Property is subject to a Memorandum of Option made and entered into as of January 17, 2005, recorded on January 20, 2005 in Deed Book 311, Page 109, by and between Giant Resource Recovery, Inc., as Grantor, and Solite, LLC, as Grantee. Eagle Real Estate, LLC is the successor to Solite, LLC and has executed this environmental covenant for the sole purpose of



subordinating the aforesaid Memorandum of Option to this environmental covenant and its terms.

**8. Recording & Proof & Notification.**

a. Within 90 days after the date of the Agency's approval of this environmental covenant, the Grantor shall record, or cause to be recorded, this environmental covenant with the Clerk of the Circuit Court for each locality wherein the Property is located. The Grantor shall likewise record, or cause to be recorded, any amendment, assignment, or termination of this UECA environmental covenant with the applicable Clerk(s) of the Circuit Court within 90 days of their execution. Any environmental covenant, amendment, assignment, or termination recorded outside of these periods shall be invalid and of no force and effect.

b. The Grantor shall send a file-stamped copy of this environmental covenant, and of any amendment, assignment, or termination, to the Holder and the Agency within 60 days of recording. Within that time period, the Grantor also shall send a file-stamped copy to the chief administrative officer of each locality in which the Property is located, any persons who are in possession of the Property who are not the Grantors, any signatories to this covenant not previously mentioned, and any other parties to whom notice is required pursuant to the Uniform Environmental Covenants Act.

**9. Termination or Amendment.**

This environmental covenant is perpetual and runs with the land unless terminated or amended (including assignment) in accordance with UECA.

**10. Enforcement of Environmental Covenant.**

This environmental covenant shall be enforced in accordance with § 10.1-1247 of the Code of Virginia.

*[Signatures begin on next page]*

ACKNOWLEDGMENTS:

GRANTOR

GIANT RESOURCE RECOVERY, INC.  
a Virginia corporation

By: Sty P. Holt

Its: DIRECTOR, ENVIRONMENTAL AFFAIRS

State of South Carolina )  
City/County of Dorchester )

On this 14<sup>th</sup> day of August, 2017, Stephen P. Holt personally appeared before me and acknowledged that he/she is the person whose name is subscribed to this environmental covenant, and acknowledged that he/she freely executed the same on behalf of Giant Resource Recovery, Inc. for the purposes herein contained.

In witness whereof, I hereunto set my hand and official seal.

Alicia Lee  
Notary Public



My commission expires: Sept 22, 2024

Registration No. N/A

[Signatures continue on next page.]

GRANTEE and HOLDER

GIANT RESOURCE RECOVERY, INC.  
a Virginia corporation

By: Sty P. Holt

Its: DIRECTOR, ENVIRONMENTAL AFFAIRS

State of South Carolina )  
City/County of Dorchester )

On this 14<sup>th</sup> day of August, 2017, Stephen P. Holt personally appeared before me and acknowledged that he/she is the person whose name is subscribed to this environmental covenant, and acknowledged that he/she freely executed the same on behalf of Giant Resource Recovery, Inc. for the purposes herein contained.

In witness whereof, I hereunto set my hand and official seal.

Alicia Lee  
Notary Public



My commission expires: Sept 22, 2024

Registration No. N/A

[Signatures continue on next page.]

GRANTEE OF MEMORANDUM OF OPTION

EAGLE REAL ESTATE, LLC  
a Virginia limited liability company

By: David T. Paulson  
Its: Manager

Commonwealth of Virginia )  
City/County of Charlottesville )

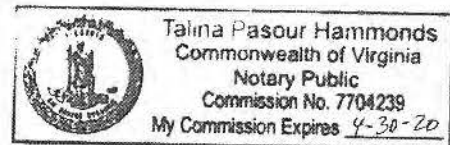
On this 15<sup>th</sup> day of August, 2017, David T. Paulson personally appeared before me and acknowledged that Eagle Real Estate, LLC is the successor in interest and title to Solite, LLC, that he is the person whose name is subscribed to this environmental covenant, and that he freely executed this environmental covenant on behalf of Eagle Real Estate, LLC for the purposes herein contained.

In witness whereof, I hereunto set my hand and official seal.

Talina Pasour Hammonds  
Notary Public

My commission expires: 4-30-2020

Registration No. 7704239



[Signatures continue on next page.]



AGENCY

APPROVED by the Department of Environmental Quality as required by § 10.1-1238 et seq. of the Code of Virginia.

Date: 8-13-17

By (signature): 

Name (printed): Justin Williams

Title: Land Protection and Revitalization Division  
Director

**EXHIBIT A**

**STATEMENT OF BASIS**



**VIRGINIA DEPARTMENT OF ENVIRONMENT QUALITY**

**DIVISION OF LAND PROTECTION AND REVITALIZATION**

**OFFICE OF REMEDIATION PROGRAMS**

**STATEMENT OF BASIS**

**ALLIED CONCRETE PRODUCTS, LLC  
FORMERLY SOLITE LLC  
EPA ID NO. VAD042755082, VAD098443443**

**GIANT RESOURCE RECOVERY - ARVONIA, INC.  
EPA ID NO. VAR000518878**

**ARVONIA, VIRGINIA**

**JUNE 30, 2016**

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**Attachments**

- Figure 1a – SWMU and AOC Location Map 1
- Figure 1b – SWMU and AOC Location Map 2
- Figure 2a – Soil Restriction Areas 1-4
- Figure 2b – Soil Restriction Area 5
- Figure 3 – Groundwater Restriction Area and Monitoring Well Locations
- Administrative Record – Index of Documents for Statement of Basis

## 1.0 INTRODUCTION

### 1.1 Facility Name

The Virginia Department of Environmental Quality (VDEQ) has prepared this Statement of Basis (SB) for the Allied Concrete Products, LLC (formerly referred to as Solite LLC) facility and the Giant Resource Recovery - Arvonnia Inc. facility located at State Road 652, Arvonnia, Virginia 23004 (hereinafter referred to respectively as the Allied facility and the GRRA facility, and collectively as the Facility). The Facility was 917 acres at the time Corrective Action was initiated. In subsequent years parts of the property that were not within the operating area and were not subject to waste handling activities were sold. The current Allied facility consists of two parcels (Tax Map No. 30-32 and 30-33) totaling 223.477 acres owned by Allied Concrete Products, LLC. The current GRRA facility consists of one parcel (Tax Map No. 30-36) of 34.86 acres owned by Giant Resource Recovery, Inc. The Facility includes EPA ID Nos. VAD042755082, VAD098443443, and VAR000518878.

The Facility is subject to the Corrective Action (CA) Program under the Solid Waste Disposal Act, as amended by the Resource Conservation and Recovery Act (RCRA) of 1976, and the Hazardous and Solid Waste Amendments (HSWA) of 1984, 42 U.S.C. Sections 6901 to 6992k. Requirements of the Corrective Action Program have been made applicable to the Allied facility and to the GRRA facility pursuant to Hazardous Waste Management permits issued by VDEQ (each a Permit and collectively the Permits). The Corrective Action Program is designed to ensure that certain facilities subject to RCRA have investigated and cleaned up any releases of hazardous waste and waste constituents that have occurred at their property.

Information on the Corrective Action Program can be found by navigating <http://www.epa.gov/reg3wemd/correctiveaction.htm>.

VDEQ has prepared this SB in cooperation with the United States Environmental Protection Agency (EPA) and is providing the opportunity for public comment and review on its proposal and the associated permit modification.

### 1.2 Proposed Decision

This Statement of Basis explains VDEQ's proposed decision that further actions to remediate soil and groundwater, also known as corrective measures, are necessary to protect human health and the environment given current and reasonably anticipated future land use. VDEQ's proposed decision requires groundwater monitoring in certain areas of the Facility and the maintenance of certain property mechanisms known as Institutional Controls (ICs). ICs are generally non-engineered mechanisms such as administrative and/or legal controls that minimize or eliminate the potential for human exposure to contamination. The proposed corrective measures objectives are discussed in Section 4.0 and the proposed remedy and controls are discussed in Section 5.0 below.



This Statement of Basis summarizes information that can be found in greater detail in the work plans and reports reviewed by VDEQ and EPA, which can be found in the Administrative Record (AR). Attachments contain an index of documents for the AR and figures showing site location and the locations of Institutional Controls.

### 1.3 Public Participation

Interested persons are invited to comment on VDEQ's proposed decision by reviewing this SB and the documents contained in the AR. The information presented in this SB can be found in greater detail in the work plans and reports submitted by the Facility to VDEQ and EPA. To gain a more comprehensive understanding of the RCRA activities that have been conducted at the Facility, VDEQ encourages the public to review these documents, which are found in the AR. A copy of the AR is available for public review, in paper or electronic format, from the VDEQ contact person, the address and telephone number of which is provided in Section 8.0 below.

When making a determination regarding the proposed decision, VDEQ will consider all written comments received during the comment period (see Section 8.0), and requirements of the Virginia Hazardous Waste Management Regulations and 40 CFR Part 124. Each person who has submitted comments will receive a written response from VDEQ. VDEQ will then incorporate the applicable portions of the final remedy into the Permits after comments have been addressed.

### 2.0 FACILITY BACKGROUND

The following provides a detailed description of the operational and ownership history of the facility.

Solite Corporation owned and operated a lightweight aggregate manufacturing plant at the Arvon, Virginia Facility, commencing operations in 1951. Lightweight aggregate is used in the manufacture of lightweight masonry units, lightweight pre-cast elements, structural concrete, and other building materials. This lightweight aggregate, bearing the registered trade name Solite®, was used in numerous construction applications where its strength-to-weight ratio, insulating, fire resistant, weather resistant, and geotechnical properties were desired.

Solite® was manufactured in four rotary kilns located on the Facility. Solite® was produced by a carefully controlled rotary kiln process in which a specially prepared raw material (clay, shale, slate, and other materials) was fed into kilns fired at a minimum temperature of approximately 1,800° Fahrenheit (F) necessary to expand the raw material into lightweight aggregate. Initial operations utilized coal as a primary fuel source for the kilns. The kilns and associated raw material and finished product processing facilities were located on an approximately 917 acre tract of land situated in Buckingham County, Virginia, along both sides of State Road 652 in the Town of Arvon, Virginia. Raw materials were primarily obtained from the on-site slate quarry, the active portion of which is located south of State Road 652. To the north, the property borders the Slate River and then the James River east of its confluence with the Slate River. Buckingham Branch Rail Road bisects the former production area of the Facility.

Kilns 5, 6, 7, and 8 were constructed in 1951, 1952, 1961, and 1966 respectively. Kiln 5 ceased operations prior to 1991 and Kilns 6, 7, and 8 ceased operations by 2012. At the current time, all kilns and finish product processing facility equipment have been removed.

In the 1970s, the Facility began to use alternative liquid fuels, now classified as hazardous waste derived fuel, to provide the energy for lightweight aggregate production. The liquids, primarily spent solvents and other liquid hydrocarbons, were obtained from various generators including, but not limited to, furniture, automobiles, textile, pharmaceutical, and cosmetic manufacturers. Upon promulgation of the Resource Conservation and Recovery Act (RCRA), the fuel used at the facility became classified as hazardous because it was ignitable, which made the material suitable for use as fuel. Consequently, the tank farm portion of the Facility was transferred to Oldover Corporation, a subsidiary of Solite Corporation, and permitted as a hazardous waste storage facility under EPA ID No. VAD098443443.

At that time, the use of these flammable wastes as fuel (i.e. energy recovery) in lightweight aggregate kilns (i.e. industrial furnaces) was specifically exempted from RCRA permitting and therefore, the lightweight aggregate operations, owned and operated under Solite Corporation, were not permitted under RCRA at that time.

Upon promulgation of the RCRA Boiler and Industrial Furnace (BIF) regulations (August 21, 1991), the use of hazardous wastes as fuel in lightweight aggregate kilns was no longer exempt from RCRA permitting. Prior to permitting, the Facility operated under Interim Status under the BIF regulations and was later permitted under EPA ID No. VAD042755082 (under the company name Solite Corporation). The lightweight aggregate manufacturing operations later became subject to the Clean Air Act National Emission Standards for Hazardous Waste Combustors (HWC MACT regulations).

In 1999, Solite Corporation (including Oldover Corporation), was purchased by Giant Cement Holding, Inc. (GCHI). The tank farm facility's name was eventually changed to Giant Resource Recovery – Arvonnia, Inc. and the lightweight aggregate facility continued to operate under the name "Solite Corporation."

In 2005, the real estate on which the lightweight aggregate facility operated (and permit VAD042755082) was purchased from Solite Corporation by Solite, LLC, a subsidiary of Southern Aggregates, LLC, a separately owned and operated Virginia company, unaffiliated with GCHI or the former Solite Corporation. Also in 2005, Solite, LLC purchased the real estate on which the hazardous waste tank farm operated. Giant Resource Recovery – Arvonnia, Inc. continued to operate the hazardous waste tank farm under permit VAD098443443 from 2005 until 2010. At that point, Solite, LLC took over operation of the tank farm and became the permittee under permit VAD098443443.

The only portion of the Facility that Solite, LLC did not buy in 2005 contained the former lightweight aggregate kiln dust settling pond (SWMU #9). That parcel was conveyed by Solite Corporation to Giant Resource Recovery, Inc. in 2005. In 2010, a separate Final Hazardous Waste Management Permit for the Corrective Action of Solid Waste Management Unit #9 (VAR000518878) was issued to Giant Resource Recovery – Arvonnia, Inc.

In August 30, 2011, Solite, LLC transferred the property it owned at the Facility to Allied Concrete Products, LLC (Allied), and the name of the permittee under the two operating permits at the Facility (VAD098443443 and VAD042755082) was changed to Allied. Allied thereafter operated the tank farm and kilns until closure was completed in 2012 (all RCRA permitted units have completed RCRA closure). The corrective action requirements under the lightweight aggregate kiln permit VAD042755082 were transferred to the hazardous waste tank farm storage permit in 2013 and permit VAD042755082 was then allowed to expire. On June 30, 2015, Allied transferred the property it owned at the Facility to Eagle Real Estate, LLC, a related entity. Permit VAD098443443 issued to Allied and Permit VAR000518878 issued to GRRR remain in effect for the completion of corrective action.

**3.0 SUMMARY OF ENVIRONMENTAL HISTORY**

Based on a review of files maintained by the DEQ and EPA Region 3, a number of solid waste management units (SWMUs) and an Area of Concern (AOC) were identified at the Facility. Site layout maps are included as Figures 1a and 1b showing the location of each SWMU and AOC. The following table lists each SWMU and AOC.

**SWMU and AOC Identification Table**

| Identification | SWMU/AOC Name                               |
|----------------|---|
| S-1            | Rotary Kiln No. 5                           |
| S-2            | Rotary Kiln No. 6                           |
| S-3            | Rotary Kiln No. 7                           |
| S-4            | Rotary Kiln No. 8                           |
| S-5            | Air Pollution Control Baghouse No. 7        |
| S-6            | Air Pollution Control Baghouse No. 8        |
| S-7            | Former APC Wet Scrubber                     |
| S-8            | Former APC Wet Scrubber                     |
| S-9            | Former Surface Impoundment – Scrubber Water |
| S-10           | Used Oil Tank                               |
| S-11           | Used Oil Tank Collection Cart               |
| S-12           | Parts Washer                                |
| S-13           | Waste Dumpsters                             |
| S-14a,b,c      | Septic Tanks and Drain Fields               |
| S-15           | Scrap Metal Area 1                          |
| S-16           | Scrap Metal Area 2                          |
| S-17           | Scrap Metal Area 3                          |
| S-18           | Scrap Metal Area 4                          |
| S-19           | Scrap Metal Area 5                          |
| S-20           | Former Open Dumping Area                    |
| S-21           | Former Landfill                             |
| S-22           | Former Used Oil Tank                        |
| S-23           | Former Brick Accumulation Area              |

|      |  |
|------|--|
| S-24 | Former Brick Accumulation Area             |
| S-25 | Permitted HW Tank Farm                     |
| S-26 | Former Truck Loading/Unloading Area        |
| S-27 | Former Truck Loading/Unloading Area        |
| S-28 | Waste Transfer Pipelines                   |
| S-29 | Non-Hazardous Waste Oil Tanks              |
| S-30 | Strainer Box                               |
| S-31 | Underground Sump and Associated Piping     |
| S-32 | Heavy Oil Transfer Line                    |
| S-33 | Former Underground Waste Transfer Pipeline |
| S-34 | Laboratory Waste Collection Area           |
| S-35 | Runoff Collection Settling Pond            |
| A-1  | Finished Lightweight Aggregate Piles       |

Based on operating history and records, it was determined that no further investigation or action was necessary at SWMUs 12 through 21, 23, 24, 34, 35, and AOC A-1 in order to meet the goals of the Corrective Action program. Various site investigations focused on the remaining SWMUs and combined them into four areas. The four areas include Group K – Kilns, Group B – Baghouses, Group T – Tank Farm, and Group U - Used Oil Area. In addition, groundwater was characterized site-wide during the environmental investigations. Below is a summary of the Facility's environmental investigations and activities.

#### RCRA Closure Activities

Allied Concrete Products, LLC (Allied) initiated RCRA Closure in accordance with the requirements of both Permits. Notification of intent to initiate final closure activities was completed on January 4, 2012 at which time final closure at both facilities commenced. Final Closure Reports for the Allied and GRRA facilities were submitted to the VDEQ on August 8, 2012 and December 13, 2012 respectively. VDEQ approved closure for the entire Facility (EPA I.D. Nos. VAD098443443 and VAD042755082) on December 12, 2012 and February 26, 2013, respectively.

#### RCRA Facility Investigation Activities

The Facility's Solid Waste Management Units (SWMUs) and Areas of Concern (AOCs) were identified in the National Corrective Action Prioritization System (NCAPS) Assessment report, dated April 17, 1997, which was prepared by the VDEQ in conjunction with the EPA Region 3. Additional SWMU and AOC identification was in the EPA Environmental Indicator Inspection Report dated July 21, 1999 using various numbering and nomenclature. In both documents, SWMUs were identified and migration pathways (groundwater, surface water, air, and soil) were evaluated for potential or actual contamination to determine the environmental priority ranking for the Facility.



In a preliminary sampling effort conducted on September 1 and 2 of 2004, the VDEQ collected 44 soil samples (including background and field duplicates) and four groundwater samples (QA/QC samples). An evaluation of the VDEQ collected data by Solite Corporation was submitted to VDEQ in a letter dated November 3, 2005. Subsequently, Solite, LLC (an independent company) performed site wide due diligence activities at the Solite Corporation facility associated with a potential property acquisition. Solite, LLC contracted with an environmental consultant (ERM) to perform a soil sampling investigation at the Facility. The Soil Sampling Investigation activities were performed in November 2004 and consisted of the collection of six soil and eight groundwater samples. A second soil investigation was completed at the Facility in June of 2010 when five additional soil samples were collected.

A conference call was held on June 17, 2010 and a subsequent letter was submitted recommending re-collection of two soil samples in the Tank Farm area to confirm the inconsistent analytical results for arsenic and vanadium as well as sampling of four groundwater wells. Approval for the sampling was provided by VDEQ on September 27, 2010 and the report of the results was submitted to VDEQ on February 9, 2011. The sample collection activities included the collection of five additional background samples and the development of 95% UCL background soil levels for metals. The soil results indicated that the original inconsistent results could not be duplicated. The report recommended further sampling of groundwater.

Further soil sampling for thallium detections were proposed in a December 2013 Risk Evaluation Sampling Plan that was approved by VDEQ in a letter on January 7, 2014. The soil samples were collected on January 28, 2014 and the results of previous sampling events were presented in the 2014 Comprehensive Site Evaluation Report. The Report was approved by VDEQ in a letter dated December 3, 2015. The results are summarized below:

#### Soil Results

The 2014 Comprehensive Site Evaluation Report included a total of 63 soil samples that were collected in 2004, 2010 and 2014. The report included screening of the results using both Industrial and Residential RSLs for direct contact. A site conceptual model and risk assessment was included in the report. The results of the evaluation are as follows:

- No Volatile Organic Compounds (VOCs); Semi-Volatile Organic Compounds (SVOCs); or dioxins were detected in the soil samples above residential RSLs (unrestricted use).
- The following metals had at least one detection in exceedance of residential RSLs but below industrial RSLs: aluminum; antimony; arsenic; cadmium; cobalt; copper; iron; lead; manganese; selenium; and vanadium.
- Fifteen sample locations had at least one exceedance of the industrial screening criteria (industrial RSLs) for antimony; arsenic; cobalt; iron; manganese; and thallium. These samples were grouped into four primary areas which were individually evaluated in a risk assessment using an industrial use scenario. The results for site soils at the four areas indicated the carcinogenic risk is within EPA Region 3's acceptable cumulative risk range of  $1 \times 10^{-6}$  to  $1 \times 10^{-4}$ , and the



Hazard Index is below the acceptable level of 1 for non-carcinogens. Therefore, the results of the risk assessment showed the cumulative risk and hazard index are within the acceptable range/limit for an industrial use scenario. (Note – one of the four soil areas was subsequently split into two separate areas which resulted in there being a total of five soil areas identified below.)

#### Groundwater Results

Groundwater was investigated through a monitoring well network consisting of nine monitoring and two background wells. The wells were installed in 1989 and 2004. Two of the wells were replaced in 2012. A total of 26 groundwater samples have been collected from 11 wells to date. The results of the groundwater evaluation are as follows:

- EPA and VDEQ utilize drinking water standards, namely MCLs, or tap water RSLs for constituents that do not have an MCL, for groundwater data screening purposes. Two monitoring wells contained select metals which exceeded the groundwater screening criteria:
  - MW-7 (arsenic, cobalt, and manganese); and
  - MW-8R (arsenic and manganese).
- No additional exceedances of RCRA metals, SVOCs or VOCs above applicable screening standards have been reported.
- Six monitoring wells were properly abandoned in 2015. Three monitoring wells (MW-1, MW-7, MW-8R) and two background wells (BW-1 and BW-2) remain at the Facility.
- A plan for groundwater monitoring was approved by VDEQ on March 24, 2015.

#### 4.0 CORRECTIVE ACTION OBJECTIVES

##### A. Soils

DEQ has determined that industrial risk based levels are protective of human health and the environment for individual contaminants at this Facility provided that the five restricted soil areas of the Facility are not used for residential purposes. The designated soil restriction areas at the Allied facility are shown on Figure 2a (restricted soil areas #1 - #4), and the designated soil restriction area at the GRRRA facility is shown on Figure 2b (restricted soil area #5). Therefore, DEQs Corrective Action Objective for Facility soils is to control exposure to the hazardous constituents remaining in soils by requiring compliance with and maintenance of land use restrictions at the restricted areas. In addition, an agency approved Materials Management Plan will be required for any soil excavation and/or management in these areas of the Facility. The requirement for a Materials Management Plan and the land use restrictions will be imposed in the Permits or in future UECA covenants.

**B. Groundwater**

DEQ has determined that drinking water standards, namely MCLs or tap water RSLs for constituents that do not have an MCL, for contaminants are protective of human health and the environment for individual contaminants at this Facility. The Facility may elect to establish site-specific background concentrations in accordance with appropriate procedures, and utilize the site-specific background concentrations to compare with groundwater concentrations. Alternatively, DEQ may allow comparison to other risk-based criteria it approves. DEQ's Corrective Action Objectives for Facility groundwater are the following:

1. To control exposure to the hazardous constituents in the groundwater by requiring the compliance with and maintenance of a groundwater use restriction at the groundwater restricted area of the Facility as long as the Remedial Goal for the each constituent set forth on the chart below is exceeded. The groundwater restriction area is wholly within the Allied facility and is shown on Figure 3. This restriction will be imposed by the Permit applicable to the Allied facility and in a future UECA covenant applicable to the Allied facility; and
2. To monitor groundwater within the groundwater restriction area pursuant to the approved groundwater monitoring plan until such time as it can be shown that the concentrations of hazardous constituents set forth on the chart below demonstrate a generally stable or decreasing trend.

| Constituent | Remedial Goal                     | Basis                  |
|-------------|-----------------------------------|------------------------|
| Arsenic     | Highest of 10 ug/L or background  | EPA Drinking Water MCL |
| Cobalt      | Highest of 6 ug/L or background   | EPA Tap Water RSL      |
| Manganese   | Highest of 430 ug/L or background | EPA Tap Water RSL      |

ug/L = micrograms per liter

\* The remedial goal is achieved when the concentration does not exceed the highest of the criteria referenced. The Allied facility may elect to establish site-specific background concentrations in accordance with established procedures, and utilize the site-specific background concentrations as the remedial goal upon approval by VDEQ. Alternatively, VDEQ may approve other risk-based criteria as the remedial goal.

**5.0 SUMMARY OF PROPOSED REMEDY**

**A. Summary**

Under this proposed remedy, DEQ is requiring the following actions:

1. The Allied facility shall continue to monitor groundwater pursuant to the approved groundwater monitoring plan, and any revisions thereto, until such time

as such time as it can be shown that the concentrations of hazardous constituents set forth on the chart above demonstrate a generally stable or decreasing trend.

2. Maintain compliance with land use restrictions and institutional controls. Institutional controls will be imposed by the Permits or future UECA covenants. Institutional controls include:
  - A. The soils restriction areas of the Facility shall not be used for residential purposes or for children's (under the age of 16) daycare facilities, schools, or playground purposes.
  - B. Groundwater beneath the designated groundwater restriction area of the Allied facility shall not be used for any purposes except for environmental monitoring and testing, or for non-contact industrial use as may be approved by VDEQ. Any new groundwater wells installed in the designated groundwater restriction area must be approved VDEQ.
  - C. Excavation and/or management of soil in the soil restriction areas shall be conducted in accordance with a VDEQ-approved Materials Management Plan. Future modifications at the Facility that could be reasonably understood to adversely affect or interfere with the integrity or protectiveness of the final remedy will be evaluated to identify and address those potential impacts or interferences. No removal, disturbance, or alteration shall occur to any corrective action components installed at the soil and groundwater restriction areas of the property, including, but not limited to groundwater monitoring wells, without VDEQ approval.

Once the remedial goals set forth in the chart above are achieved for groundwater within the groundwater restriction area, the then current owner of the Allied facility may seek to modify the UECA covenant applicable to that facility to remove the groundwater use restriction.

#### B. Implementation

VDEQ proposes to implement the remedy through the Hazardous Waste Management Permits for Site-Wide Corrective Action and UECA covenants. Therefore, DEQ does not anticipate any regulatory constraints in implementing its remedy.

#### C. Reporting Requirements

Compliance with the institutional controls and groundwater monitoring requirements shall be evaluated, certified and reported to VDEQ in accordance with reporting requirements in the Permits and in future UECA covenants.

### 6.0 ENVIRONMENTAL INDICATORS

Under the Government Performance and Results Act ("GPRA"), EPA has set national goals to address RCRA corrective action facilities. Under GPRA, EPA evaluates two key environmental clean-up indicators for each facility: (1) Current Human Exposures Under

Control and (2) Migration of Contaminated Groundwater Under Control. The Facility met the Human Health indicator on February 14, 2002 (for EPA ID No. VAD098443443) and on September 26, 2005 (for EPA ID No. VAD042755082). The Facility met the Groundwater indicator on September 27, 2007 (for both VAD098443443 and VAD042755082).

## 7.0 FINANCIAL ASSURANCE

Since the final remedy for the Facility is limited to institutional controls and periodic groundwater monitoring, financial assurance for corrective action is not warranted or required for the Facility.

## 8.0 PUBLIC PARTICIPATION

Before DEQ makes a final decision on its proposed final remedy for the Facility, the public may participate in the decision selection process by reviewing this SB and documents contained in the Administrative Record for the Facility. The Administrative Record contains all information considered by DEQ in reaching this proposed decision. Interested parties are encouraged to review the Administrative Record and comment on DEQ's proposed decision. For additional information regarding the proposed remedy, please contact Mr. Ryan Kelly at (804) 698-4045 or [ryan.kelly@deq.virginia.gov](mailto:ryan.kelly@deq.virginia.gov).

The public comment period will last sixty (60) calendar days from the date the notice is published in a local newspaper. Comments may be submitted by mail, fax, or e-mail to Mr. Russ McAvoy at the address listed below.

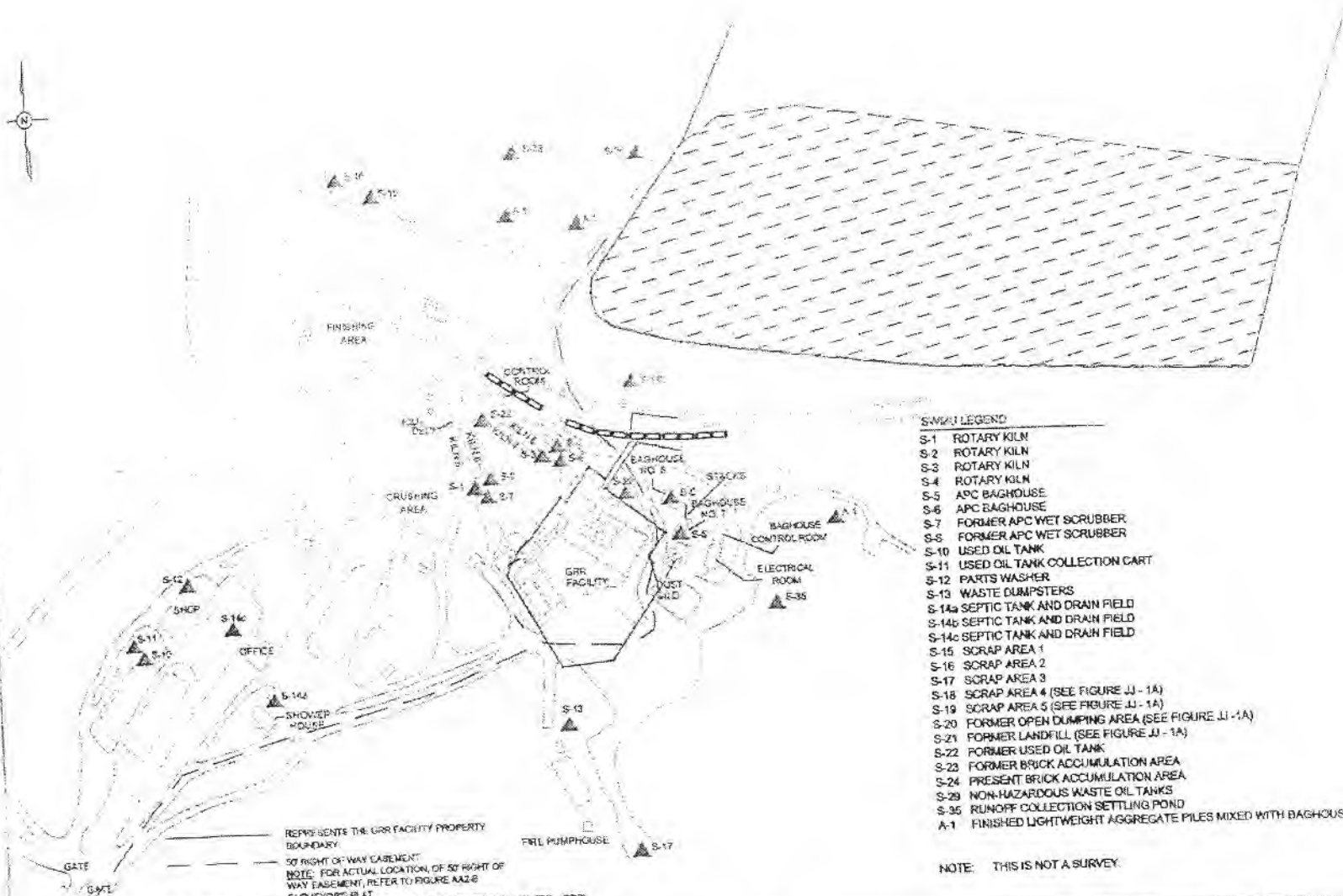
Virginia Department of Environmental Quality  
629 East Main Street  
P.O. Box 1105  
Richmond, VA 23218  
Contact: Mr. Russ McAvoy  
Phone: (804) 698 - 4194  
Email: [russell.mcavoy@deq.virginia.gov](mailto:russell.mcavoy@deq.virginia.gov)

DEQ will make a final decision after considering all comments, consistent with the applicable RCRA requirements and regulations. If the decision is substantially unchanged from the one in this Statement of Basis, DEQ will issue a final decision and inform all persons who submitted written comments or requested notice of DEQ's final determination. If the final decision is significantly different from the one proposed, DEQ will issue a public notice explaining the new decision and will reopen the comment period.

**Attachments**



**Figure 1a – SWMU and AOC Location Map 1**



**SWMU LEGEND**

- S-1 ROTARY KILN
- S-2 ROTARY KILN
- S-3 ROTARY KILN
- S-4 ROTARY KILN
- S-5 APC BAGHOUSE
- S-6 APC BAGHOUSE
- S-7 FORMER APC WET SCRUBBER
- S-8 FORMER APC WET SCRUBBER
- S-10 USED OIL TANK
- S-11 USED OIL TANK COLLECTION CART
- S-12 PARTS WASHER
- S-13 WASTE DUMPSTERS
- S-14a SEPTIC TANK AND DRAIN FIELD
- S-14b SEPTIC TANK AND DRAIN FIELD
- S-14c SEPTIC TANK AND DRAIN FIELD
- S-15 SCRAP AREA 1
- S-16 SCRAP AREA 2
- S-17 SCRAP AREA 3
- S-18 SCRAP AREA 4 (SEE FIGURE JJ - 1A)
- S-19 SCRAP AREA 5 (SEE FIGURE JJ - 1A)
- S-20 FORMER OPEN DUMPING AREA (SEE FIGURE JJ - 1A)
- S-21 FORMER LANDFILL (SEE FIGURE JJ - 1A)
- S-22 FORMER USED OIL TANK
- S-23 FORMER BRICK ACCUMULATION AREA
- S-24 PRESENT BRICK ACCUMULATION AREA
- S-29 NON-HAZARDOUS WASTE OIL TANKS
- S-35 RUNOFF COLLECTION SETTLING POND
- A-1 FINISHED LIGHTWEIGHT AGGREGATE PILES MIXED WITH BAGHOUSE APC DUST

--- REPRESENTS THE GRR FACILITY PROPERTY BOUNDARY.

--- 50' RIGHT OF WAY EASEMENT.  
NOTE: FOR ACTUAL LOCATION, OF 50' RIGHT OF WAY EASEMENT, REFER TO FIGURE AA2-B SURVEYORS' PLAN.

--- S-4 FORMER SURFACE IMPROVEMENT-SCOURER WATER - (GRR)  
NOTE: GRR'S RESOURCE RECOVERY (RR) EXCLUDED PROPERTY SWALE'S APPROX. 14.68 ACRES OF THE EXCLUDED PARCEL WHICH IS APPROX. 34.88 ACRES.

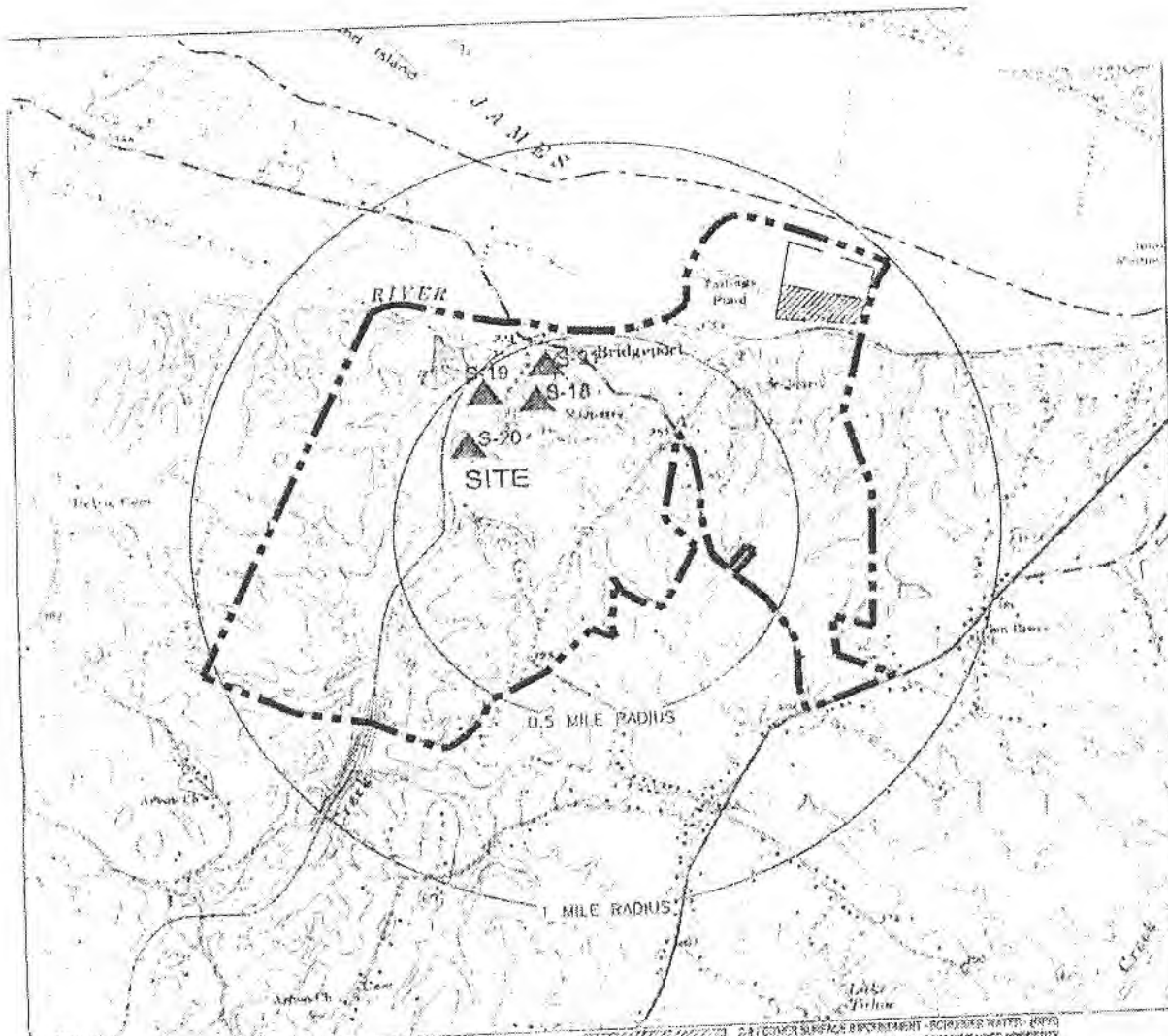
--- REPRESENTS THE APPROX. 34.88 ACRE PROPERTY BOUNDARY OF THE PARCEL OWNED BY GRR.  
NOTE: SEE SOLITE CORPORATION SURVEY DATED JAN. 11, 2025 BY ENGINEERING DESIGN ASSOCIATES FOR COMPLETE PROPERTY BOUNDARY OF SWMU'S PARCEL.

NOTE: THIS IS NOT A SURVEY.

**SITE PLAN - SWMUs, HWMUs, & AOCs**  
 SITE #111, ARRONDE, VIRGINIA (B.F.A. #11, NO. VAD012765097)

SCALE: 1" = 100'

**Figure 1b – SWMU and AOC Location Map 2**





SOURCE: USGS 7.5 MINUTE SERIES  
 TOPOGRAPHIC QUADRANGLE 1987  
 ARVONIA, VIRGINIA  
 CONTOUR INTERVAL = 10'



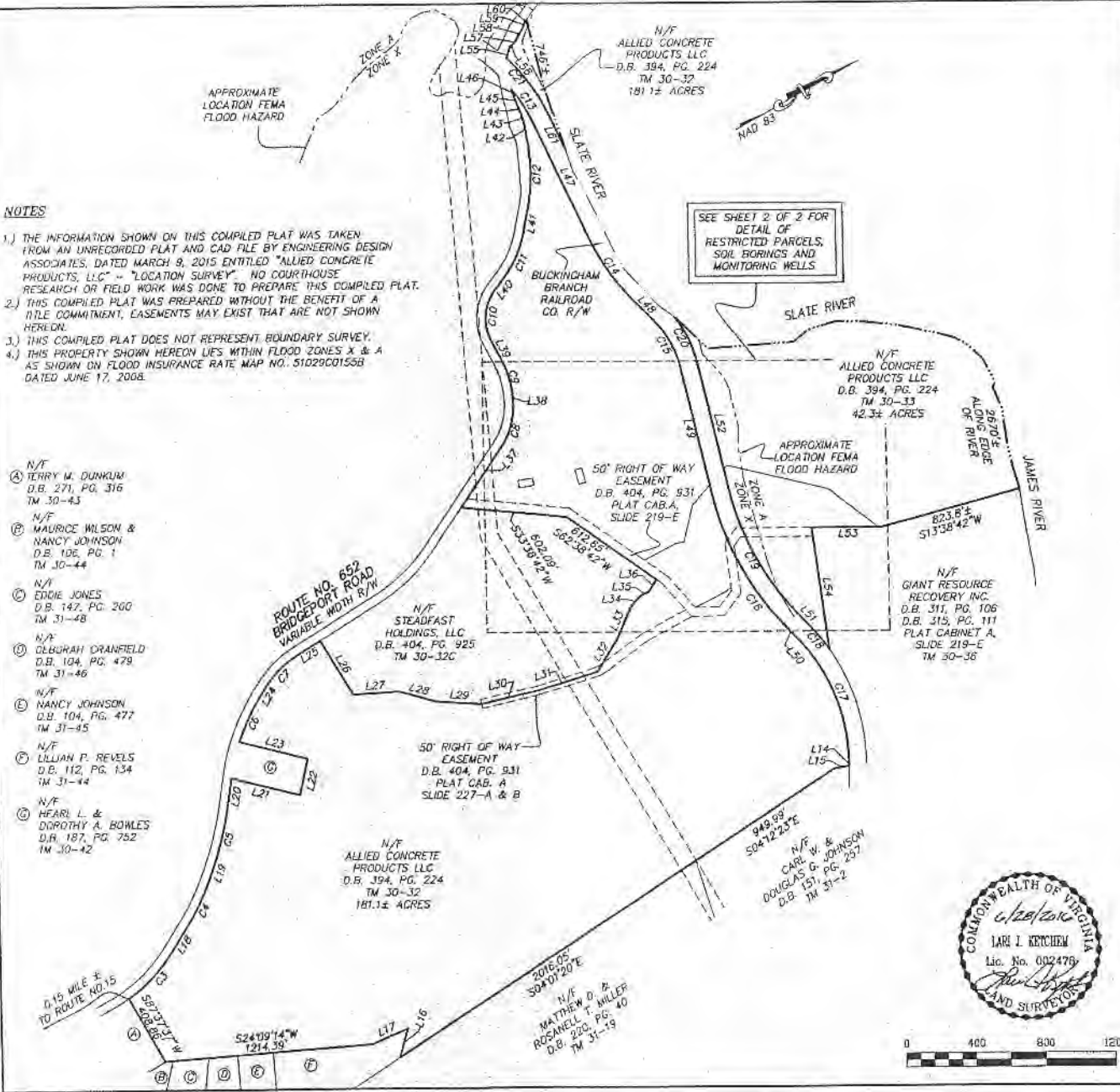
QUADRANGLE LOCATION

2-1 COVER SHEET - RICHMOND - RICHMOND WATER - MAP  
 NOTE: SHADY REDUCES PROPERTY (SOLID) EXCLUDED PROPERTY  
 SHADY IS APPROX. 34 ACRES OF THE EXCLUDED PARCEL WHICH  
 IS APPROX. 34 ACRES  
 APPROXIMATE SITE BOUNDARY  
 REPRESENTS THE 34 ACRE PROPERTY  
 BOUNDARY OF THE PARCEL OWNED BY GCR

|  |   |                  |                |
|--|---|------------------|----------------|
| DRAFTED BY:<br>MEI   | SITE PLAN - SMWUs   |                  |                |
| CHECKED BY:<br>W.C.H.  | SOLITE CORPORATION<br>ARVONIA, VIRGINIA<br>EPA ID No. VAD042755082                                    |                  |                |
| NORTH<br> | NOTE: THIS IS NOT A SURVEY.   |                  |                |
|  | SCALE IN FEET<br> | DATE<br>07/20/05 | FIGURE<br>JJ-2 |

**Figure 2a – Soil Restriction Areas 1-4**





- NOTES**
- 1.) THE INFORMATION SHOWN ON THIS COMPILED PLAT WAS TAKEN FROM AN UNRECORDED PLAT AND CAD FILE BY ENGINEERING DESIGN ASSOCIATES, DATED MARCH 9, 2015 ENTITLED "ALLIED CONCRETE PRODUCTS, LLC" - "LOCATION SURVEY". NO COURTHOUSE RESEARCH OR FIELD WORK WAS DONE TO PREPARE THIS COMPILED PLAT.
  - 2.) THIS COMPILED PLAT WAS PREPARED WITHOUT THE BENEFIT OF A TITLE COMMITMENT. EASEMENTS MAY EXIST THAT ARE NOT SHOWN HEREON.
  - 3.) THIS COMPILED PLAT DOES NOT REPRESENT BOUNDARY SURVEY.
  - 4.) THIS PROPERTY SHOWN HEREON LIES WITHIN FLOOD ZONES X & A AS SHOWN ON FLOOD INSURANCE RATE MAP NO. 51029C0155B DATED JUNE 17, 2008.

- N/T  
A) TERRY W. DUNKUM  
D.B. 271, PG. 316  
TM 30-43
- N/F  
B) MAURICE WILSON & NANCY JOHNSON  
D.B. 106, PG. 1  
TM 30-44
- N/A  
C) EDDIE JONES  
D.B. 147, PG. 200  
TM 31-48
- N/F  
D) OLBORAH ORANFIELD  
D.B. 104, PG. 479  
TM 31-46
- N/F  
E) NANCY JOHNSON  
D.B. 104, PG. 477  
TM 31-85
- N/F  
F) LILLIAN P. REVELS  
D.B. 112, PG. 134  
TM 31-44
- N/F  
G) HEARL L. & DOROTHY A. BOWLES  
D.B. 187, PG. 752  
TM 30-42

N/F  
ALLIED CONCRETE PRODUCTS LLC  
D.B. 394, PG. 224  
TM 30-32  
181.1± ACRES

2016.05  
30417207E  
N/F  
MATTHEW D. & ROSANELL T. MILLER  
D.B. 151, PG. 257  
TM 31-19

SEE SHEET 2 OF 2 FOR  
DETAIL OF  
RESTRICTED PARCELS,  
SOIL BORINGS AND  
MONITORING WELLS.

**CURVE TABLE - OVERALL**

| CURVE | RADIUS   | DELTA ANGLE | LENGTH  | TANGENT | CHORD BRNG  | CHORD   |
|-------|----------|-------------|---------|---------|-------------|---------|
| C3    | 952.10'  | 21°55'21"   | 364.29' | 184.40' | N16°38'13"W | 362.07' |
| C4    | 1346.70' | 14°13'55"   | 334.51' | 168.12' | N34°42'50"W | 333.85' |
| C5    | 1754.17' | 10°34'23"   | 323.71' | 162.31' | N47°06'58"W | 323.25' |
| C6    | 1175.81' | 14°04'12"   | 288.74' | 145.10' | N35°12'53"W | 288.02' |
| C7    | 535.06'  | 25°09'48"   | 234.99' | 119.42' | N15°35'53"W | 233.11' |
| C8    | 414.28'  | 39°57'05"   | 288.87' | 150.59' | N46°11'22"W | 283.05' |
| C9    | 518.59'  | 23°19'59"   | 211.35' | 107.16' | N77°49'54"W | 209.90' |
| C10   | 252.00'  | 66°22'54"   | 291.96' | 164.85' | N56°18'27"W | 275.90' |
| C11   | 597.96'  | 26°45'00"   | 279.17' | 142.18' | N36°29'32"W | 276.64' |
| C12   | 978.93'  | 23°34'06"   | 403.09' | 204.44' | N61°39'05"W | 400.25' |
| C13   | 910.41'  | 13°54'03"   | 220.88' | 110.98' | N85°23'30"E | 220.34' |
| C14   | 1171.64' | 19°13'43"   | 393.20' | 198.47' | N82°43'39"E | 391.36' |
| C15   | 513.39'  | 31°42'31"   | 284.12' | 145.60' | N88°58'03"E | 280.51' |
| C16   | 1541.46' | 30°44'30"   | 827.06' | 423.74' | N89°27'04"E | 817.17' |
| C17   | 982.82'  | 44°15'31"   | 758.19' | 399.67' | S83°47'25"E | 740.45' |
| C18   | 1082.82' | 8°43'17"    | 164.82' | 82.57'  | S78°26'28"W | 164.66' |
| C19   | 1441.46' | 30°44'30"   | 773.40' | 396.25' | S89°27'04"W | 764.16' |
| C20   | 613.39'  |             | 275.9±  |         |             |         |
| C21   | 1010.41' | 22°08'12"   | 369.79' | 197.35' | S81°17'26"W | 387.36' |

**LINE TABLE - OVERALL**

| LINE | BEARING     | DISTANCE | LINE | BEARING     | DISTANCE |
|------|-------------|----------|------|-------------|----------|
| L14  | S61°39'40"E | 22.90'   | L38  | N66°09'54"W | 16.51'   |
| L15  | S16°24'45"W | 86.88'   | L39  | N89°29'54"W | 130.66'  |
| L16  | N45°31'04"W | 165.52'  | L40  | N23°07'02"W | 80.48'   |
| L17  | S05°26'40"W | 223.07'  | L41  | N49°52'02"W | 131.07'  |
| L18  | N27°35'53"W | 164.76'  | L42  | N77°58'47"W | 77.30'   |
| L19  | N41°49'48"W | 43.74'   | L43  | N79°26'02"W | 51.53'   |
| L20  | N52°24'11"W | 170.88'  | L44  | N84°10'05"W | 52.09'   |
| L21  | N41°42'14"E | 416.10'  | L45  | N83°15'11"W | 48.04'   |
| L22  | N48°37'55"W | 208.65'  | L46  | N80°52'02"W | 45.62'   |
| L23  | S41°48'13"W | 411.57'  | L47  | S87°39'29"E | 709.86'  |
| L24  | N28°10'47"W | 59.27'   | L48  | N73°06'48"E | 196.32'  |
| L25  | N03°00'59"W | 180.30'  | L49  | S75°10'41"E | 736.41'  |
| L26  | N86°59'01"E | 355.92'  | L50  | N74°04'49"E | 119.97'  |
| L27  | N24°36'03"E | 259.08'  | L51  | S74°04'49"W | 119.97'  |
| L28  | N42°47'49"E | 227.87'  | L52  | N75°10'41"W | 736.41'  |
| L29  | N31°31'49"E | 256.36'  | L53  | S28°08'42"W | 400.00'  |
| L30  | N15°48'16"E | 330.68'  | L54  | S69°21'18"E | 679.62'  |
| L31  | N10°44'49"E | 358.59'  | L55  | N46°37'14"W | 67.68'   |
| L32  | N29°12'49"W | 209.96'  | L56  | N07°54'49"W | 26.00'   |
| L33  | N37°39'22"W | 200.00'  | L57  | N25°35'37"W | 22.10'   |
| L34  | N19°15'18"W | 84.74'   | L58  | N31°26'15"W | 86.13'   |
| L35  | N02°01'42"E | 53.00'   | L59  | N43°30'08"W | 25.30'   |
| L36  | N27°21'18"W | 79.68'   | L60  | N25°04'02"W | 20±'     |
| L37  | N26°12'49"W | 397.18'  | L61  | N87°39'29"W | 214±'    |

**FIGURE 1**  
COMPILED PLAT SHOWING  
TAX PARCELS TM 30-32 AND TM 30-33  
LYING ON THE NORTH AND SOUTH LINES  
OF THE BUCKINGHAM BRANCH RAILROAD  
CO. R/W AND THE EAST LINE OF  
ROUTE NO. 652, BRIDGEPORT ROAD



MARSHALL DISTRICT, BUCKINGHAM COUNTY, VIRGINIA  
DATE: JUNE 28, 2016 SCALE: 1" = 100'  
DRAWN BY: LJK CHECKED BY: LJK



**KOONTZ-BRYANT, P.C.**  
Site Development Solutions  
1703 N. PARHAM ROAD  
RICHMOND, VIRGINIA 23229  
(804) 740-9200 (804) 740-7335 Fax  
kbpc@koontzbryant.com



| LINE TABLE - PARCEL 1 |             |          |
|-----------------------|-------------|----------|
| LINE                  | BEARING     | DISTANCE |
| L1                    | N19°26'35"E | 83.90'   |
| L2                    | S70°33'25"E | 40.00'   |
| L3                    | S19°26'35"W | 83.90'   |
| L4                    | N70°33'25"W | 40.00'   |

| LINE TABLE - PARCEL 2 |              |          |
|-----------------------|--------------|----------|
| LINE                  | BEARING      | DISTANCE |
| L5                    | N147°53'37"E | 40.00'   |
| L6                    | S75°44'23"E  | 82.94'   |
| L7                    | S147°53'37"W | 40.00'   |
| L8                    | N75°44'23"W  | 82.94'   |

| CURVE TABLE - PARCEL 3 |          |             |         |         |             |         |
|------------------------|----------|-------------|---------|---------|-------------|---------|
| CURVE                  | RADIUS   | DELTA ANGLE | LENGTH  | TANGENT | CHORD BRNG  | CHORD   |
| C1                     | 1541.46' | 9°48'27"    | 263.86' | 132.25' | S60°04'54"E | 263.54' |

| CURVE TABLE - PARCEL 4 |          |             |         |         |             |         |
|------------------------|----------|-------------|---------|---------|-------------|---------|
| CURVE                  | RADIUS   | DELTA ANGLE | LENGTH  | TANGENT | CHORD BRNG  | CHORD   |
| C2                     | 1441.46' | 8°44'43"    | 220.01' | 110.22' | N79°33'02"W | 215.80' |

| STATE GRID COORDINATES - PARCEL 1<br>NAD 83, VA SOUTH ZONE |             |              |
|--|-------------|--------------|
| POINT  | NORTH       | EAST         |
| 1  | 3780915.178 | 11532970.362 |
| 2  | 3780994.294 | 11532898.291 |
| 3  | 3780980.979 | 11532936.009 |
| 4  | 3780901.863 | 11532908.081 |

| STATE GRID COORDINATES - PARCEL 2<br>NAD 83, VA SOUTH ZONE |             |              |
|--|-------------|--------------|
| POINT  | NORTH       | EAST         |
| 5  | 3781228.386 | 11532971.824 |
| 6  | 3781268.153 | 11532681.677 |
| 7  | 3781247.724 | 11533062.058 |
| 8  | 3781208.956 | 11533052.205 |

| LAT. AND LONG. PARCEL 3 |                                     |
|-------------------------|-------------------------------------|
| POINT                   | COORDINATES                         |
| 9                       | LAT: 37.7092981<br>LON: -78.3254561 |
| 10                      | LAT: 37.7092608<br>LON: -78.3252797 |
| 11                      | LAT: 37.7091348<br>LON: -78.3243826 |
| 12                      | LAT: 37.7090749<br>LON: -78.3243494 |
| 13                      | LAT: 37.7088298<br>LON: -78.3235963 |
| 14                      | LAT: 37.7087288<br>LON: -78.3245384 |
| 15                      | LAT: 37.7081894<br>LON: -78.3235602 |
| 16                      | LAT: 37.7080386<br>LON: -78.3243358 |
| 17                      | LAT: 37.7078393<br>LON: -78.3248228 |
| 18                      | LAT: 37.7083866<br>LON: -78.3248088 |
| 19                      | LAT: 37.7085199<br>LON: -78.3247548 |
| 20                      | LAT: 37.7089108<br>LON: -78.3252855 |

| LINE TABLE - PARCEL 3 |             |          |
|-----------------------|-------------|----------|
| LINE                  | BEARING     | DISTANCE |
| L9                    | S75°10'41"E | 52.82'   |
| L10                   | S23°51'18"E | 23.84'   |
| L11                   | N19°06'48"E | 47.52'   |

| LAT. AND LONG. PARCEL 4 |                                     |
|-------------------------|-------------------------------------|
| POINT                   | COORDINATES                         |
| 21                      | LAT: 37.7096110<br>LON: -78.3255915 |
| 22                      | LAT: 37.7096815<br>LON: -78.3256220 |
| 23                      | LAT: 37.7109049<br>LON: -78.3242644 |
| 24                      | LAT: 37.7113118<br>LON: -78.3231611 |
| 25                      | LAT: 37.7094155<br>LON: -78.3244437 |
| 26                      | LAT: 37.7095261<br>LON: -78.3251907 |

| LINE TABLE - PARCEL 4 |             |          |
|-----------------------|-------------|----------|
| LINE                  | BEARING     | DISTANCE |
| L12                   | N75°10'41"W | 120.02'  |
| L13                   | N19°04'42"W | 27.12'   |

| STATE GRID COORDINATES - PARCEL 4<br>NAD 83, VA SOUTH ZONE |             |              |
|--|-------------|--------------|
| POINT  | NORTH       | EAST         |
| 21   | 3781977.028 | 11533370.494 |
| 22   | 3782002.658 | 11533361.629 |
| 23   | 3782448.858 | 11533753.546 |
| 24   | 3782597.641 | 11534072.430 |
| 25   | 3781906.460 | 11533702.676 |
| 26   | 3781948.325 | 11533486.518 |

| LAT. AND LONG. PARCEL 1 |                                     |
|-------------------------|-------------------------------------|
| POINT                   | COORDINATES                         |
| 1                       | LAT: 37.7066974<br>LON: -78.3273271 |
| 2                       | LAT: 37.7069146<br>LON: -78.3272301 |
| 3                       | LAT: 37.7068778<br>LON: -78.3270958 |
| 4                       | LAT: 37.7066807<br>LON: -78.3271958 |

| LAT. AND LONG. PARCEL 2 |                                     |
|-------------------------|-------------------------------------|
| POINT                   | COORDINATES                         |
| 5                       | LAT: 37.7075598<br>LON: -78.3269744 |
| 6                       | LAT: 37.7076662<br>LON: -78.3269401 |
| 7                       | LAT: 37.7076097<br>LON: -78.3266624 |
| 8                       | LAT: 37.7075033<br>LON: -78.3266967 |

| STATE GRID COORDINATES - PARCEL 3<br>NAD 83, VA SOUTH ZONE |             |              |
|--|-------------|--------------|
| POINT  | NORTH       | EAST         |
| 9  | 3781863.185 | 11533408.874 |
| 10   | 3781849.653 | 11533460.936 |
| 11   | 3781804.260 | 11533720.533 |
| 12   | 3781782.457 | 11533730.175 |
| 13   | 3781693.646 | 11533959.797 |
| 14   | 3781658.880 | 11533965.040 |
| 15   | 3781460.447 | 11533859.103 |
| 16   | 3781405.128 | 11533734.813 |
| 17   | 3781332.317 | 11533594.076 |
| 18   | 3781335.293 | 11533597.735 |
| 19   | 3781580.154 | 11533613.284 |
| 20   | 3781722.211 | 11533458.624 |

RESTRICTED  
PARCEL 1  
0.077 ACRE

RESTRICTED  
PARCEL 2  
0.076 ACRE

RESTRICTED  
PARCEL 3  
3.597 ACRES

RESTRICTED  
PARCEL 4  
4.206 ACRES

| STATE GRID COORDINATES<br>SOIL BORINGS & MONITORING WELLS<br>NAD 83, VA SOUTH ZONE |             |              |
|--|-------------|--------------|
| DESCRIPTION  | NORTH       | EAST         |
| D-SB1  | 3780927.390 | 11532895.879 |
| D-SB2  | 3780968.775 | 11532910.493 |
| WO-SB1   | 3781243.843 | 11532908.134 |
| WO-SB2   | 3781233.267 | 11533037.740 |
| TF-SB1   | 3781517.544 | 11533697.432 |
| TF-SB3   | 3781467.171 | 11533696.523 |
| TF-SB4   | 3781527.877 | 11533861.095 |
| TF-SB5   | 3781608.414 | 11533729.268 |
| UO-SB1, 2  | 3781618.635 | 11533854.859 |
| B-SB2  | 3781639.188 | 11533848.576 |
| B-SB3  | 3781589.891 | 11533858.736 |
| B-SB4  | 3781651.791 | 11533864.825 |
| K-SE1, 2   | 3781778.772 | 11533644.874 |
| SI-SB1   | 3782156.315 | 11534019.307 |
| SI-SB2   | 3782494.243 | 11534068.393 |
| SI-SB3   | 3782367.106 | 11533814.836 |
| MON. WELL BW2  | 3780827.906 | 11532952.404 |
| MON. WELL 5  | 3781585.478 | 11533812.577 |
| MON. WELL 6R   | 3781787.736 | 11533845.370 |
| MON. WELL 7  | 3781980.370 | 11533475.150 |

N/F  
STEADFAST HOLDINGS, LLC  
D.B. 404, PG. 925  
TM 30-32C

N/F  
ALLIED CONCRETE  
PRODUCTS LLC  
D.B. 394, PG. 224  
TM 30-32

APPROXIMATE  
LOCATION FEMA  
FLOOD HAZARD

N/F  
ALLIED CONCRETE  
PRODUCTS LLC  
D.B. 394, PG. 224  
TM 30-33

N/F  
GIANT RESOURCE  
RECOVERY INC.  
D.B. 311, PG. 106  
D.B. 315, PG. 111  
PLAT CABINET A,  
SLIDE 219-E  
TM 30-36

FIGURE 2  
COMPILED PLAT SHOWING  
TAX PARCELS TM 30-32 AND TM 30-33  
LYING ON THE NORTH AND SOUTH LINES  
OF THE BUCKINGHAM BRANCH  
RAILROAD CO. R/W AND THE EAST LINE OF ROUTE  
NO. 652, BRIDGEPORT ROAD

MARSHALL DISTRICT, BUCKINGHAM COUNTY, VIRGINIA  
DATE: JUNE 28, 2016 SCALE: 1" = 100'  
DRAWN BY: LJK CHECKED BY: LJK



**KOONTZ-BRYANT, P.C.**  
Site Development Solutions  
1703 N. PARKMAN ROAD  
RICHMOND, VIRGINIA 23229  
(804) 740-8200 (804) 740-7338 Fax  
kboo@koontzbryant.com

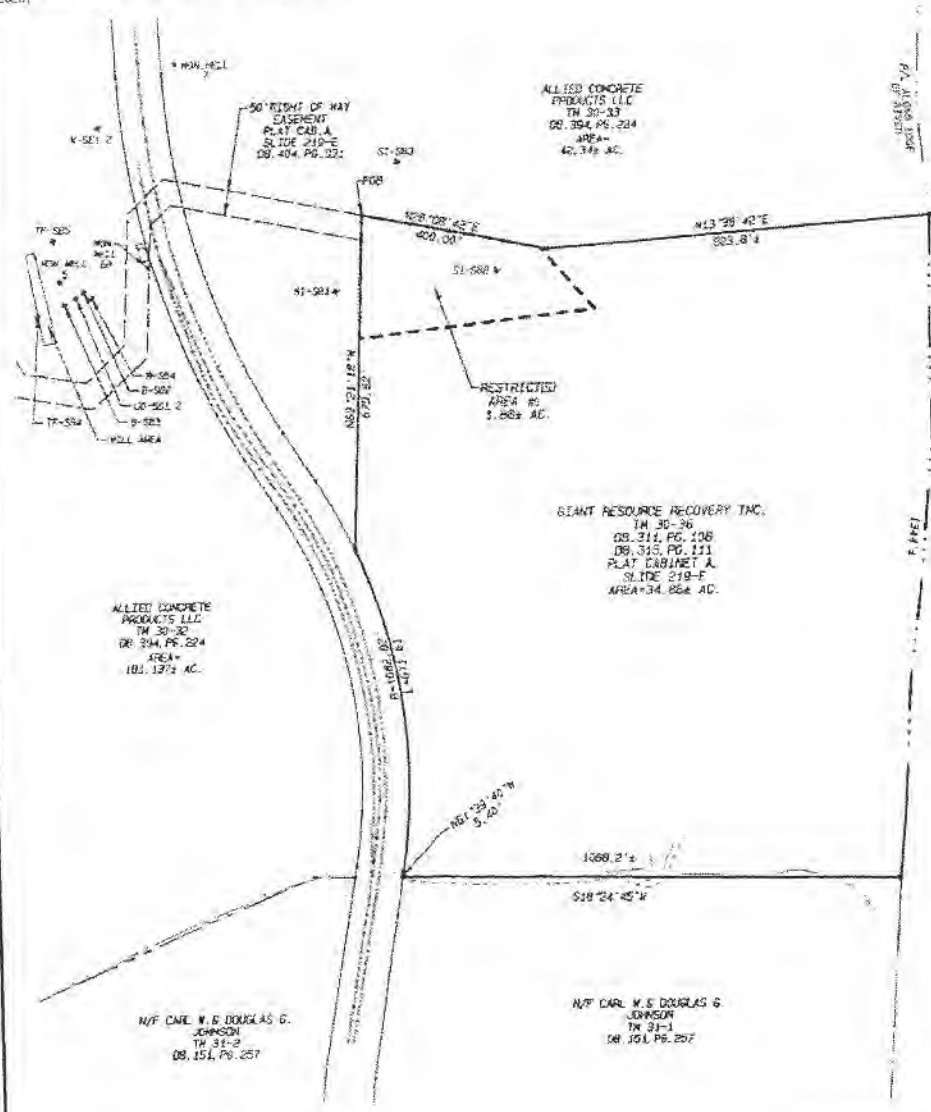


**Figure 2b – Soil Restriction Area 5**

REFERENCE:

THIS PROPERTY APPEARS TO FALL WITHIN ZONE 3(A) AS SHOWN ON FIRM FLOOD INSURANCE RATE MAP. NOTE THIS SURVEY WAS PREPARED WITHOUT THE BENEFIT OF A CURRENT TITLE REPORT. THE BOUNDARY INFORMATION WAS TAKEN FROM FORMER PLATS BY ENGINEERING DESIGN ASSOCIATES DATED MAY 7, 2013 & JANUARY 11, 2005. REFERENCE MAP BY WIDMAIER SURVEYING & MAPPING P.C. DATED DECEMBER 18, 2010 FOR STATE PLANE COORDINATE VALUES.

GRAPHIC SCALE 1"=200'



LATITUDE - LONGITUDE RESTRICTED AREA #5

|                 |            |
|-----------------|------------|
| POB -78.3237882 | 37.7103832 |
| -78.3271611     | 37.7113116 |
| -78.3226363     | 37.7158078 |
| -78.3228825     | 37.7151425 |
| POB -78.3237822 | 37.7103832 |

JAMES RIVER

PLAT OF PROPERTY SITUATED EAST OF ROUTE NO. 652 AND NORTH OF ROUTE NO. 15

MARSHALL DISTRICT, BUCKINGHAM COUNTY, VIRGINIA  
 I HEREBY CERTIFY THAT THIS SURVEY IS THE BEST OF MY KNOWLEDGE AND BELIEF IN ACCORDANCE WITH THE USUAL PRACTICES AND STANDARDS EXERCISED BY THE VIRGINIA SURVEYING BOARD OF ARCHITECTS, PROFESSIONAL ENGINEERS AND SURVEYORS CERTIFIED INTERSTATE SURVEYORS AND LANDSCAPE ARCHITECTS.

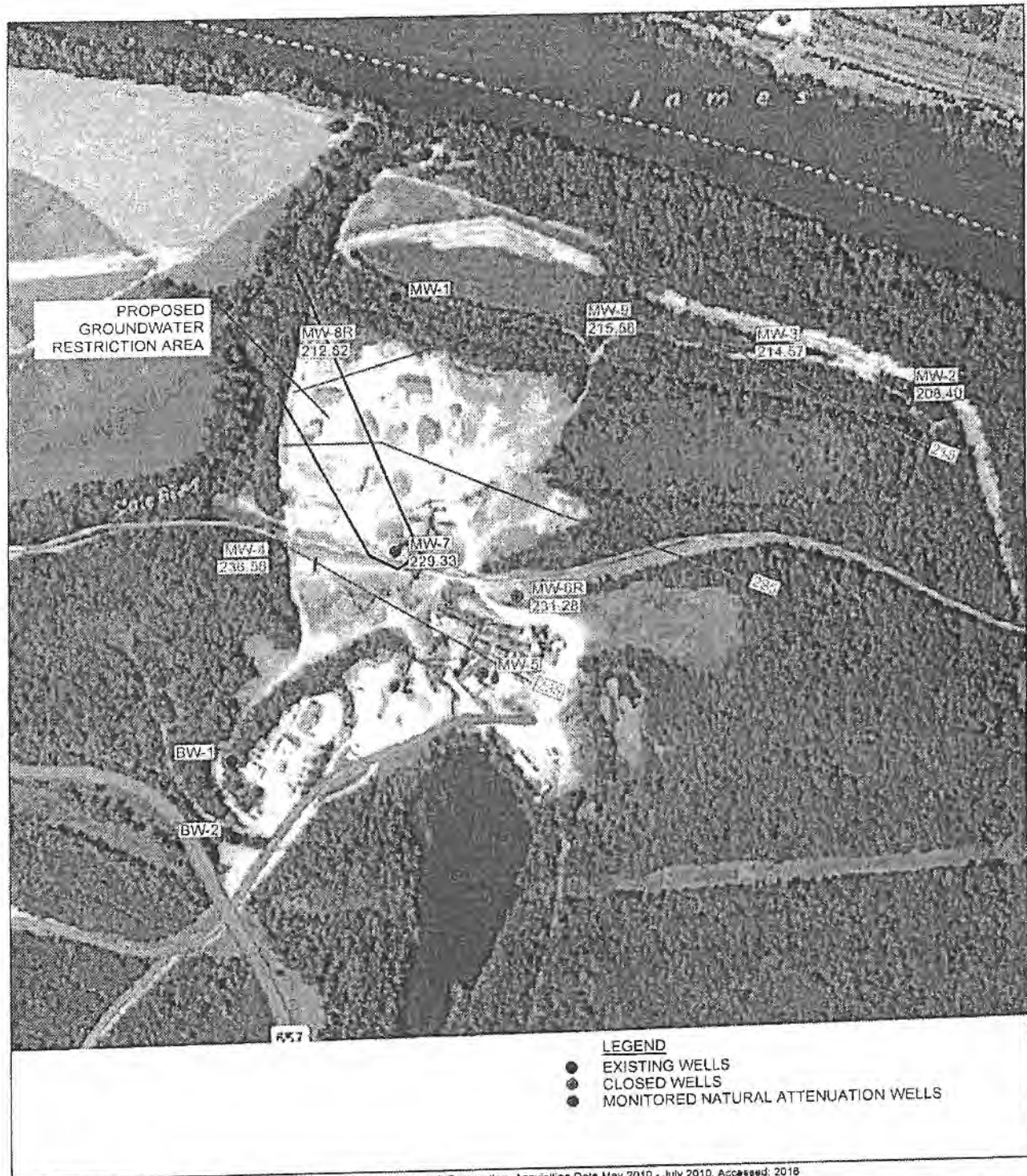
ENGINEERING DESIGN ASSOCIATES, INC.

R.D. BOX 50087 RICHMOND, VIRGINIA 23256 (804) 236-0100  
 DATE: MARCH 8, 2012 SCALE: 1"=200' JOB NO: 14247

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**Figure 3 – Groundwater Restriction Area and Monitoring Well Locations**





Source: Microsoft Product Screen Shot(s) Reprinted with permission from Microsoft Corporation, Acquisition Date May 2010 - July 2010, Accessed: 2018



GIANT RESOURCE RECOVERY  
 11045 BRIDGEPORT ROAD  
 ARVONIA, VIRGINIA  
**PROPOSED GROUNDWATER RESTRICTION AREA**

11109688-01  
 Feb 11, 2016

**FIGURE 1**

**Administrative Record – Index of Documents for Statement of Basis**



ALLIED CONCRETE PRODUCTS, LLC  
EPA ID NO. VAD042755082, VAD098443443

GIANT RESOURCE RECOVERY - ARVONIA, INC.  
EPA ID NO. VAR000518878  
Arvonias, Virginia

ADMINISTRATIVE RECORD  
INDEX OF DOCUMENTS FOR STATEMENT OF BASIS

This index includes documents that the Virginia Department of Environmental Quality (VDEQ) relied upon to develop and propose the final remedy selection determination described in the Statement of Basis. These documents were prepared for the Allied Concrete Products, LLC/Giant Resource Recovery - Arvonias, Inc. facility and are listed chronologically by document date.

1. April 17, 1997, *National Corrective Action Prioritization System (NCAPS) Assessment and Ranking for Solite Corporation Arvonias, Virginia*, VDEQ.
2. September 28, 1999, *Environmental Indicator Determination; Site Visit and Administrative Record*, VDEQ.
3. February 12, 2002, *Documentation of Environmental Indicator Determination - Current Human Exposures Under Control*, USEPA Region 3.
4. September 26, 2005, *Documentation of Environmental Indicator Determination - Current Human Exposures Under Control*, VDEQ.
5. November 3, 2005, *Evaluation of DEQ Collected Data - Revision 1*, Solite Corporation.
6. September 27, 2007, *Documentation of Environmental Indicator Determination - Migration of Contaminated Groundwater Under Control*, VDEQ.
7. July 29, 2010, *Response to June 17, 2010 Conference Call*, One Environmental Group LLC.
8. September 27, 2010, *Response to June 17, 2010 Conference Call - Comments/Approval of Sampling*, VDEQ.
9. February 9, 2011, *November 2010 Confirmatory Sampling Results*, One Environmental Group LLC.

10. January 4, 2012, *Notification of RCRA Closure*, Allied Concrete Products LLC.
11. August 8, 2012, *Kiln and Baghouse Closure Report*, Allied Concrete Products LLC.
12. December 12, 2012, *Approval of Final Closure: Closure Certifications and Final Closure Report Addressing the Kilns (2), and Air Pollution Control Equipment*, VDEQ.
13. December 13, 2012, *Tank Farm Closure Report*, Allied Concrete Products LLC.
14. February 26, 2013, *Approval of Final Closure: Closure Certifications and Final Closure Report Addressing the Tanks (15), Tank Farm Secondary Containment Pad and Tanker Truck Unloading Secondary Containment Pad and Associated Ancillary Equipment*, VDEQ.
15. December 5, 2013, *December 2013 Risk Evaluation Sampling Plan*, One Environmental Group LLC.
16. January 7, 2014, *December 2013 Risk Evaluation Sampling Plan – Approval*, VDEQ.
17. March 21, 2014, *Groundwater Monitoring Workplan and Proposed Well Closures*, One Environmental Group LLC.
18. April 2014, *2014 Comprehensive Site Evaluation Report*, One Environmental Group LLC.
19. March 24, 2015, *Groundwater Monitoring Workplan and Proposed Well Closures – Conditional Approval*, VDEQ.
20. December 3, 2015, *2014 Comprehensive Site Evaluation Report – Approval*, VDEQ.

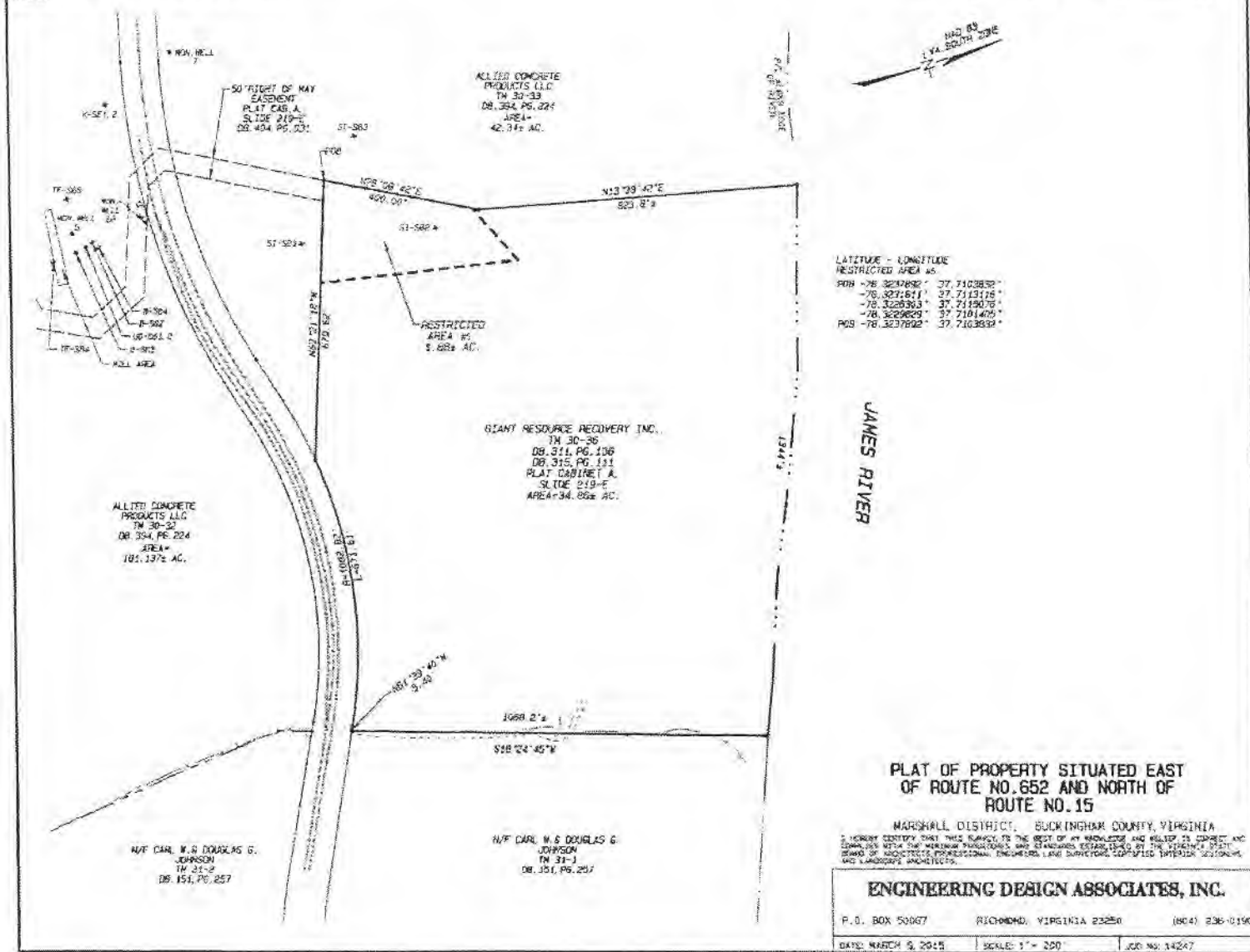
**EXHIBIT B**

**SOIL RESTRICTION AREA**

REFERENCE

THIS PROPERTY APPEARS TO FALL WITHIN ZONE 3-A, AS SHOWN ON FIRM FLOOD INSURANCE RATE MAP. NOTE THIS SURVEY WAS PREPARED WITHOUT THE BENEFIT OF A CURRENT TITLE REPORT. THE BOUNDARY INFORMATION WAS TAKEN FROM FORMER PLATS BY ENGINEERING DESIGN ASSOCIATES DATED MAY 7, 2013 & JANUARY 11, 2005. REFERENCE MAP BY MICHAEL SURVEYING & MAPPING P.C. DATED DECEMBER 18, 2012 FOR STATE PLANE COORDINATE VALUES.

GRAPHIC SCALE 1"=200'



LATITUDE - LONGITUDE  
RESTRICTED AREA #6  
POB -76.3227832° 37.7103832°  
-76.3227811° 37.7113176°  
-76.3228363° 37.7119076°  
-76.3228959° 37.7101405°  
POB -76.3227822° 37.7103832°

JAMES RIVER

PLAT OF PROPERTY SITUATED EAST OF ROUTE NO. 652 AND NORTH OF ROUTE NO. 15

MARSHALL DISTRICT, BUCKINGHAM COUNTY, VIRGINIA  
I HEREBY CERTIFY THAT THIS PLAT IS TO THE BEST OF MY KNOWLEDGE AND BELIEF IN ACCORDANCE WITH THE MARSHALL STATUTES AND STANDARDS ESTABLISHED BY THE VIRGINIA STATE BOARD OF REGISTERED PROFESSIONAL ENGINEERS, LAND SURVEYORS, COPYRIGHTED INTERIOR DESIGNERS, AND LANDSCAPE ARCHITECTS.

**ENGINEERING DESIGN ASSOCIATES, INC.**  
P.O. BOX 50067 RICHMOND, VIRGINIA 23250 (804) 236-0190  
DATE: MARCH 5, 2015 SCALE: 1" = 200' JOB NO: 14247

BOOK 445 PAGE 095

**EXHIBIT C**

**MATERIALS MANAGEMENT PLAN**

# MATERIALS MANAGEMENT PLAN

ALLIED CONCRETE PRODUCTS, LLC  
EPA ID NOS. VAD098443443/VAD042755082

GIANT RESOURCE RECOVERY - ARVONIA, INC.  
EPA ID NO. VAR000518878

JULY 7, 2017

*Prepared for:*

State Road 652  
Arvonias, Virginia 23004

*Prepared by:*

Giant Resource Recovery, Inc.  
654 Judge Street  
Harleville, South Carolina 29448

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**LIST OF ATTACHMENTS**

**ATTACHMENT A**            Soil Restriction Areas



## 1.0 INTRODUCTION

This Materials Management Plan (MMP) has been prepared for the Allied Concrete Products, LLC facility and the Giant Resource Recovery – Arvonía, Inc. facility located at State Road 652, Arvonía, Virginia 23004 (hereinafter referred to respectively as the Allied facility and the GRRA facility, and collectively as the Facility). The Allied facility consists of two parcels (Tax Map No. 30-32 and 30-33) totaling 223.477 acres now owned by Eagle Real Estate, LLC. The GRRA facility consists of one parcel (Tax Map No. 30-36) of 34.86 acres now owned by Giant Resource Recovery, Inc.

The Virginia Department of Environmental Quality (VDEQ) issued a Statement of Basis for the Facility on June 30, 2016. A component of the Statement of Basis required that certain land use restrictions and institutional controls be imposed in certain designated soil restriction areas of the Facility. These areas are shown as Restricted Parcels 1, 2, 3, 4, and 5 on the survey plats attached hereto as **Attachment A** prepared by Koontz-Bryant, P.C., dated June 28, 2016 and entitled, in part, “Combined Plat Showing Tax Parcels TM 30-32 and TM 30-33” and “Plat of Property Situated East of Route No. 652 and North of Route No. 15.”

## 1.1 BACKGROUND

The following narrative from the Statement of Basis issued for the Facility by VDEQ on June 30, 2016 provides a detailed description of the operational and ownership history of the Facility:

Solite Corporation owned and operated a lightweight aggregate manufacturing plant at the Facility, commencing operations in 1951. Lightweight aggregate is used in the manufacture of lightweight masonry units, lightweight pre-cast elements, structural concrete, and other building materials. This lightweight aggregate, bearing the registered trade name Solite®, was used in numerous construction applications where its strength-to-weight ratio, insulating, fire resistant, weather resistant, and geotechnical properties were desired.

Solite® was manufactured in four rotary kilns located on the Facility. Solite® was produced by a carefully controlled rotary kiln process in which a specially prepared raw material (clay, shale,

slate, and other materials) was fed into kilns fired at a minimum temperature of approximately 1,800° Fahrenheit (F) necessary to expand the raw material into lightweight aggregate. Initial operations utilized coal as a primary fuel source for the kilns. The kilns and associated raw material and finishing product processing facilities were located on an approximately 917 acre tract of land situated in Buckingham County, Virginia, along both sides of State Road 652 in the Town of Arvonla, Virginia. Raw materials were primarily obtained from the on-site slate quarry, the active portion of which is located south of State Road 652. To the north, the property borders the Slate River and then the James River east of its confluence with the Slate River. Buckingham Branch Rail Road bisects the former production area of the Facility.

Kiln Nos. 5, 6, 7, and 8 were constructed in 1951, 1952, 1961, and 1966, respectively. Kiln No. 5 ceased operations prior to 1991 and Kiln Nos. 6, 7, and 8 ceased operations by 2012. At the current time, all kilns and finish product processing facility equipment have been removed from the Facility.

In the 1970s, the Facility began to use alternative liquid fuels, now classified as hazardous waste derived fuel, to provide the energy for lightweight aggregate production. The liquids, primarily spent solvents and other liquid hydrocarbons, were obtained from various generators including, but not limited to, furniture, automobiles, textile, pharmaceutical, and cosmetic manufacturers. Upon promulgation of the Resource Conservation and Recovery Act (RCRA), the fuel used at the facility became classified as hazardous because it was ignitable, which made the material suitable for use as fuel. Consequently, the tank farm portion of the facility was transferred to Oldover Corporation, a subsidiary of Solite Corporation, and permitted as a hazardous waste storage facility under EPA ID No. VAD098443443.

At that time, the use of these flammable wastes as fuel (i.e. energy recovery) in lightweight aggregate kilns (i.e. industrial furnaces) was specifically exempted from RCRA permitting and therefore, the lightweight aggregate operations, owned and operated under Solite Corporation, were not permitted under RCRA at that time.

Upon promulgation of the RCRA Boiler and Industrial Furnace (BIF) regulations (August 21, 1991), the use of hazardous wastes as fuel in lightweight aggregate kilns was no longer exempt

from RCRA permitting. Prior to permitting, the facility operated under Interim Status under the BIF regulations and was later permitted under EPA ID No. VAD042755082 (under the company name Solite Corporation). The lightweight aggregate manufacturing operations later became subject to the Clean Air Act National Emissions Standards for Hazardous Waste Combustors (HWC MACT regulations).

In 1999, Solite Corporation (including Oldover Corporation), was purchased by Giant Cement Holding, Inc. (GCHI). The tank farm facility's name was eventually changed to Giant Resource Recovery – Arvonnia, Inc. and the lightweight aggregate facility continued to operate under the name "Solite Corporation".

In 2005, the real estate on which the lightweight aggregate facility operated (and permit VAD042755082) was purchased from Solite Corporation by Solite, LLC, a separately owned and operated Virginia company, unaffiliated with GCHI or the former Solite Corporation. Also in 2005, Solite, LLC purchased the real estate on which the hazardous waste tank farm operated. Giant Resource Recovery – Arvonnia, Inc. continued to operate the hazardous waste tank farm under permit VAD098443443 from 2005 until 2010. At that point, Solite, LLC took over the operation of the tank farm and became the permittee under permit VAD098443443.

The only portion of the Facility that Solite, LLC did not buy in 2005 contained the former lightweight aggregate kiln dust settling pond (SWMU No. 9). That parcel was conveyed by Solite Corporation to Giant Resource Recovery, Inc. in 2005. In 2010, a separate Final Hazardous Waste Management Permit for the Corrective Action of Solid Waste Management Unit No. 9 (VAR000518878) was issued to Giant Resource Recovery – Arvonnia, Inc. (GRR), (a subsidiary of Giant Resource Recovery, Inc.).

On August 30, 2011, Solite, LLC transferred the property it owned at the Facility to Allied Concrete Products, LLC, and the name of the permittee under the two operating permits at the Facility (VAD098443443 and VAD042755082) was changed to Allied. Allied thereafter operated the tank farm and kilns until closure was completed in 2012 (all RCRA permitted units have completed RCRA closure). The corrective action requirements under the lightweight aggregate kiln permit VAD042755082 were transferred to the hazardous waste tank farm storage

permit in 2013 and permit VAD042755082 was then allowed to expire. On June 30, 2015, Allied transferred the property it owned at the Facility to Eagle Real Estate, LLC, a related entity. Permit VAD098443443 which was issued to Allied and Permit VAD000518878 which was issued to GRRA remain in effect for the completion of corrective action.

## 1.2 PURPOSE

The purpose of this MMP is protect human health and the environment by ensuring that (i) appropriate precautions are taken by individuals who may come into contact with soil during intrusive activities in the five (5) soil restriction areas at the Facility, and (ii) any soil from the five (5) soil restriction areas at the Facility that is removed from these areas is appropriately characterized and then reused or disposed in accordance with applicable regulatory requirements. For purposes of this MMP, "intrusive activities" means any activities that penetrate the existing ground surface, such as excavation, drilling, or trenching.

## 1.4 PLAN DURATION AND REVISIONS

Once approved by VDEQ, this document is the VDEQ-approved MMP for the Facility. Amendments to this MMP may be requested by the then current owner(s) of the soil restriction area(s) in which intrusive activities will take place, but may not be implemented unless and until VDEQ approves the same in writing.

## 2.0 ROLES AND RESPONSIBILITIES

Implementation of this MMP is the responsibility of the then current owner(s) of the soil restriction area(s) in which intrusive activities will take place. Roles and responsibilities under the MMP are summarized in the following sections.

### 2.1 VDEQ

VDEQ is responsible for reviewing and, if appropriate, approving any proposed amendments to this MMP. Any proposed amendments or questions about this MMP should be directed to the RCRA Corrective Action program at VDEQ. For current contact information, visit [www.deq.virginia.gov](http://www.deq.virginia.gov).

## 2.2 CURRENT OWNER

The then current owner(s) of the soil restriction area(s) in which intrusive activities will take place is responsible for ensuring that all such activities are performed in accordance with this MMP. If such owner wishes to amend this MMP, it must contact VDEQ to have the proposed amendment reviewed and approved prior to conducting intrusive activities.

A copy of this MMP, and any future revisions, will be promptly provided by the then current owner(s) of the property to any entity operating on or leasing the property.

## 3.0 SOIL MANAGEMENT

Impacted subsurface soil may be encountered during excavation, construction, drilling, or other soil disturbing activity in any of the five (5) soil restriction areas. All personnel conducting excavation, digging, or other soil-disturbing operations must be made aware that there is a potential for encountering contamination, and must know the procedures for dealing with contamination. All soil-disturbing activities within each of the soil restriction areas is subject to this MMP and shall be conducted using the procedures described in this section.

### 3.1 RESTRICTED PARCEL NO. 1

As shown on **Attachment A**, Restricted Parcel No. 1 is 0.077 acres and square in shape. The contaminants of concern in the soil within Restricted Parcel No. 1 are aluminum, antimony, arsenic, cadmium, cobalt, copper, iron, lead, manganese, selenium, thallium, and vanadium. Excavation and disturbance of any soil within Restricted Parcel No. 1 shall be conducted in accordance with the following MMP requirements:

Intrusive activities are defined as activities penetrating the existing ground surface, such as excavation, drilling, or trenching.

Prior to initiating any intrusive activities at the Facility, the then current owner shall determine whether the activities will take place within Restricted Parcel No. 1. These requirements apply only to activities that take place within Restricted Parcel No. 1.



If an intrusive activity will take place wholly within Restricted Parcel No. 1, then any soil excavated or disturbed may remain within the boundaries of Restricted Parcel No. 1. Any soil excavated from Restricted Parcel No. 1 which is taken out of that area must be either:

- characterized and disposed of in accordance with applicable regulatory requirements, or
- characterized and, if applicable regulatory requirements are met, reused in accordance with regulatory requirements applicable to contaminated media.

If the intrusive activity takes place within Restricted Parcel No. 1 and also outside of that parcel, then the soil within the restricted parcel must:

- remain within Restricted Parcel No. 1;
- be characterized and disposed of in accordance with applicable regulatory requirements;
- or
- be characterized and, if applicable regulatory requirements are met, be reused in accordance with regulatory requirements applicable to contaminated media.

### 3.2 RESTRICTED PARCEL NO. 2

As shown on **Attachment A**, Restricted Parcel No. 2 is 0.076 acres and square in shape. The contaminants of concern in the soil within Restricted Parcel No. 2 are aluminum, antimony, arsenic, cadmium, cobalt, copper, iron, lead, manganese, selenium, thallium, and vanadium. Excavation and disturbance of any soil within Restricted Parcel No. 2 shall be conducted in accordance with the following requirements:

Intrusive activities are defined as activities penetrating the existing ground surface, such as excavation, drilling, or trenching.

Prior to initiating any intrusive activities at the Facility, the then current owner shall determine whether the activities will take place within Restricted Parcel No. 2. These requirements apply only to activities that take place within Restricted Parcel No. 2.

If an intrusive activity will take place wholly within Restricted Parcel No. 2, then any soil excavated or disturbed may remain within the boundaries of Restricted Parcel No. 2. Any soil excavated from Restricted Parcel No. 2 which is taken out of that area must be either:

- characterized and disposed of in accordance with applicable regulatory requirements, or
- characterized and, if applicable regulatory requirements are met, reused in accordance with regulatory requirements applicable to contaminated media.

If the intrusive activity takes place within Restricted Parcel No. 2 and also outside of that parcel, then the soil within the restricted parcel must:

- remain within Restricted Parcel No. 2;
- be characterized and disposed of in accordance with applicable regulatory requirements;
- or
- be characterized and, if applicable regulatory requirements are met, be reused in accordance with regulatory requirements applicable to contaminated media.

### 3.3 RESTRICTED PARCEL NO. 3

As shown on **Attachment A**, Restricted Parcel No. 3 is 3,597 acres. The contaminants of concern in the soil within Restricted Parcel No. 3 are aluminum, antimony, arsenic, cadmium, cobalt, copper, iron, lead, manganese, selenium, thallium, and vanadium. Excavation and disturbance of any soil within Restricted Parcel No. 3 shall be conducted in accordance with the following requirements:

Intrusive activities are defined as activities penetrating the existing ground surface, such as excavation, drilling, or trenching.

Prior to initiating any intrusive activities at the Facility, the then current owner shall determine whether the activities will take place within Restricted Parcel No. 3. These requirements apply only to activities that take place within Restricted Parcel No. 3.



If an intrusive activity will take place wholly within Restricted Parcel No. 3, then any soil excavated or disturbed may remain within the boundaries of Restricted Parcel No. 3. Any soil excavated from Restricted Parcel No. 3 which is taken out of that area must be either:

- characterized and disposed of in accordance with applicable regulatory requirements, or
- characterized and, if applicable regulatory requirements are met, reused in accordance with regulatory requirements applicable to contaminated media.

If the intrusive activity takes place within Restricted Parcel No. 3 and also outside of that parcel, then the soil within the restricted parcel must:

- remain within Restricted Parcel No. 3;
- be characterized and disposed of in accordance with applicable regulatory requirements;
- or
- be characterized and, if applicable regulatory requirements are met, be reused in accordance with regulatory requirements applicable to contaminated media.

#### 3.4 RESTRICTED PARCEL NO. 4

As shown on **Attachment A**, Restricted Parcel No. 4 is 4.206 acres. The contaminants of concern in the soil within Restricted Parcel No. 4 are aluminum, antimony, arsenic, cadmium, cobalt, copper, iron, lead, manganese, selenium, thallium, and vanadium. Excavation and disturbance of any soil within Restricted Parcel No. 4 shall be conducted in accordance with the following requirements:

Intrusive activities are defined as activities penetrating the existing ground surface, such as excavation, drilling, or trenching.

Prior to initiating any intrusive activities at the Facility, the then current owner shall determine whether the activities will take place within Restricted Parcel No. 4. These requirements apply only to activities that take place within Restricted Parcel No. 4.

If an intrusive activity will take place wholly within Restricted Parcel No. 4, then any soil excavated or disturbed may remain within the boundaries of Restricted Parcel No. 4. Any soil excavated from Restricted Parcel No. 4 which is taken out of that area must be either:

- characterized and disposed of in accordance with applicable regulatory requirements, or
- characterized and, if applicable regulatory requirements are met, reused in accordance with regulatory requirements applicable to contaminated media.

If the intrusive activity takes place within Restricted Parcel No. 4 and also outside of the parcel, then the soil within the restricted parcel must:

- remain within Restricted Parcel No. 4;
- be characterized and disposed of in accordance with applicable regulatory requirements;
- or
- be characterized and, if applicable regulatory requirements are met, be reused in accordance with regulatory requirements applicable to contaminated media.

### 3.5 RESTRICTED PARCEL NO. 5

As shown on **Attachment A**, Restricted Parcel No. 5 is 1.88 acres. The contaminants of concern in the soil within Restricted Parcel No. 5 are aluminum, antimony, arsenic, cadmium, cobalt, copper, iron, lead, manganese, selenium, thallium, and vanadium. Excavation and disturbance of any soil within Restricted Parcel No. 5 shall be conducted in accordance with the following requirements:

Intrusive activities are defined as activities penetrating the existing ground surface, such as excavation, drilling, or trenching.

Prior to initiating any intrusive activities at the Facility, the then current owner shall determine whether the activities will take place within Restricted Parcel No. 5. These requirements apply only to activities that take place within Restricted Parcel No. 5.

If an intrusive activity will take place wholly within Restricted Parcel No. 5, then any soil excavated or disturbed may remain within the boundaries of Restricted Parcel No. 5. Any soil excavated from Restricted Parcel No. 5 which is taken out of that area must be either:

- characterized and disposed of in accordance with applicable regulatory requirements, or
- characterized and, if applicable regulatory requirements are met, reused in accordance with regulatory requirements applicable to contaminated media.

If the intrusive activity takes place within Restricted Parcel No. 5 and also outside of the parcel, then the soil within the restricted parcel must:

- remain within Restricted Parcel No. 5;
- be characterized and disposed of in accordance with applicable regulatory requirements;
- or
- be characterized and, if applicable regulatory requirements are met, be reused in accordance with regulatory requirements applicable to contaminated media.

#### **4.0 MATERIALS CHARACTERIZATION AND MANAGEMENT**

The following sections describe materials that may be generated during intrusive activities in the five (5) soil restriction areas, how soil generated from these areas will be characterized, and how these materials will be managed.

##### **4.1 DESCRIPTION OF MATERIALS GENERATED; CHARACTERIZATION OF SOIL**

Intrusive activities in the five (5) soil restriction areas may generate soil that contains metals, spent personnel protection equipment, and decontamination water. Soil generated by intrusive activities within any of the five (5) soil restriction areas that is to be removed from the area shall be characterized for metals using EPA Method 6020A, as that method may be updated, revised or modified from time-to-time.

#### 4.2 MANAGEMENT OF MATERIALS

After being characterized, soil generated by intrusive activities within any of the five (5) soil restriction areas that is to be removed from that area may be reused (if the soil meets applicable regulatory requirements for reuse then established by VDEQ) or shall be disposed in accordance with applicable regulatory requirements.

Any spent personnel protection equipment and decontamination water shall be characterized and disposed of offsite in accordance with applicable regulatory requirements.

#### 5.0 INSPECTIONS

The then current owner of a soil restriction area in which intrusive activities are taking place shall inspect those activities on an on-going basis to ensure they comply with this MMP.

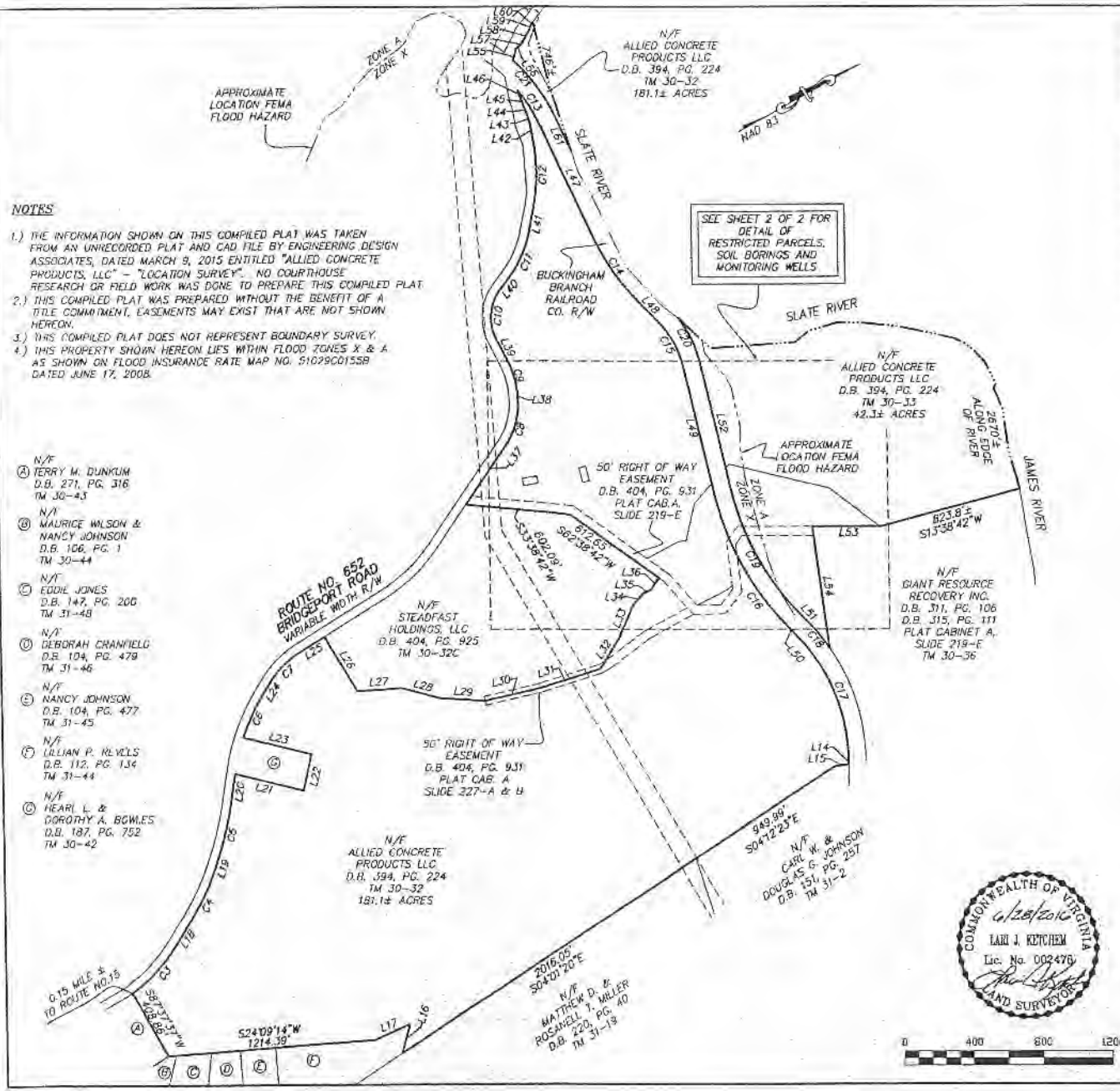
#### 6.0 DOCUMENTATION

The following records shall be maintained for a period of five (5) years by any owner who conducts an intrusive project subject to this MMP:

- Intrusive activity work plans;
- Analytical data; and
- Manifests for materials sent off-site;

BOOK 445 PAGE 110

**ATTACHMENT A**



- NOTES**
- 1.) THE INFORMATION SHOWN ON THIS COMPILED PLAT WAS TAKEN FROM AN UNRECORDED PLAT AND CAD FILE BY ENGINEERING DESIGN ASSOCIATES, DATED MARCH 9, 2015 ENTITLED "ALLIED CONCRETE PRODUCTS, LLC - "LOCATION SURVEY" - NO COURTHOUSE RESEARCH OR FIELD WORK WAS DONE TO PREPARE THIS COMPILED PLAT
  - 2.) THIS COMPILED PLAT WAS PREPARED WITHOUT THE BENEFIT OF A TITLE COMMITMENT. EASEMENTS MAY EXIST THAT ARE NOT SHOWN HEREON.
  - 3.) THIS COMPILED PLAT DOES NOT REPRESENT BOUNDARY SURVEY.
  - 4.) THIS PROPERTY SHOWN HEREON LIES WITHIN FLOOD ZONES X & A AS SHOWN ON FLOOD INSURANCE RATE MAP NO. S1029C01558 DATED JUNE 17, 2008.

- N/F TERRY M. DUNKUM  
D.B. 271, PG. 316  
TM 30-43
- N/A MAURICE WALSON & NANCY JOHNSON  
D.B. 106, PG. 1  
TM 30-44
- N/F EDDIE JONES  
D.B. 147, PG. 200  
TM 31-48
- N/F DEBORAH CHANFIELD  
D.B. 104, PG. 479  
TM 31-46
- N/F NANCY JOHNSON  
D.B. 104, PG. 477  
TM 31-45
- N/F ALLIAN R. RYVELS  
D.B. 112, PG. 134  
TM 31-44
- N/F HEARI L. & DOROTHY A. BOWLES  
D.B. 187, PG. 752  
TM 30-42

**CURVE TABLE - OVERALL**

| CURVE | RADIUS   | DELTA ANGLE | LENGTH  | TANGENT | CHORD BRNG  | CHORD   |
|-------|----------|-------------|---------|---------|-------------|---------|
| C3    | 952.10'  | 21°55'21"   | 364.29' | 184.40' | N16°38'13"W | 362.07' |
| C4    | 1348.70' | 14°13'55"   | 334.51' | 168.12' | N34°42'50"W | 333.65' |
| C5    | 1754.17' | 10°34'23"   | 323.71' | 162.31' | N47°06'59"W | 323.25' |
| C6    | 1175.81' | 14°04'12"   | 288.74' | 145.10' | N35°12'53"W | 288.02' |
| C7    | 535.06'  | 25°09'48"   | 234.99' | 119.42' | N15°35'53"W | 233.11' |
| C8    | 414.28'  | 39°57'05"   | 288.87' | 150.59' | N46°11'22"W | 283.05' |
| C9    | 518.99'  | 23°19'59"   | 211.35' | 107.16' | N77°49'54"W | 209.90' |
| C10   | 252.00'  | 66°22'54"   | 291.96' | 164.85' | N56°18'27"W | 275.80' |
| C11   | 597.96'  | 26°45'00"   | 279.17' | 142.18' | N36°28'32"W | 276.64' |
| C12   | 979.93'  | 23°34'06"   | 403.09' | 204.44' | N61°39'05"W | 400.25' |
| C13   | 910.41'  | 13°54'03"   | 220.88' | 110.98' | N85°23'30"E | 220.34' |
| C14   | 1171.64' | 19°34'43"   | 393.20' | 198.47' | N82°43'39"E | 391.36' |
| C15   | 513.39'  | 31°42'31"   | 284.12' | 145.60' | N88°58'03"E | 280.51' |
| C16   | 1541.46' | 30°44'30"   | 827.06' | 423.74' | N89°27'04"E | 817.17' |
| C17   | 982.82'  | 44°15'31"   | 759.19' | 399.67' | S83°47'25"E | 740.45' |
| C18   | 1082.82' | 8°43'17"    | 164.82' | 82.57'  | S78°26'28"W | 164.66' |
| C19   | 1441.46' | 30°44'30"   | 773.40' | 398.25' | S89°27'04"W | 764.16' |
| C20   | 613.39'  |             | 275.84' |         |             |         |
| C21   | 1070.41' | 22°06'12"   | 369.79' | 197.35' | S81°17'26"W | 387.58' |

**LINE TABLE - OVERALL**

| LINE | BEARING     | DISTANCE | LINE | BEARING     | DISTANCE |
|------|-------------|----------|------|-------------|----------|
| L14  | S61°39'40"E | 22.90'   | L38  | N66°09'54"W | 16.51'   |
| L15  | S18°24'45"W | 86.88'   | L39  | N89°20'02"W | 130.66'  |
| L16  | N45°31'04"W | 165.52'  | L40  | N23°07'02"W | 80.48'   |
| L17  | S05°25'40"W | 223.07'  | L41  | N49°58'47"W | 131.07'  |
| L18  | N27°35'53"W | 164.76'  | L42  | N71°58'47"W | 77.30'   |
| L19  | N41°49'48"W | 43.74'   | L43  | N79°26'02"W | 51.53'   |
| L20  | N52°24'11"W | 170.88'  | L44  | N84°10'09"W | 52.09'   |
| L21  | N41°42'14"E | 416.10'  | L45  | N83°15'11"W | 48.04'   |
| L22  | N48°37'55"W | 208.65'  | L46  | N80°52'02"W | 45.82'   |
| L23  | S41°48'13"W | 411.57'  | L47  | S87°39'29"E | 709.86'  |
| L24  | N28°10'47"W | 59.27'   | L48  | N73°06'48"E | 156.32'  |
| L25  | N03°00'59"W | 180.30'  | L49  | S75°10'41"E | 736.41'  |
| L26  | N86°59'01"E | 355.92'  | L50  | N74°04'49"E | 119.97'  |
| L27  | N24°36'03"E | 259.08'  | L51  | S74°04'49"W | 119.97'  |
| L28  | N42°47'49"E | 227.82'  | L52  | N75°10'41"W | 736.41'  |
| L29  | N31°31'49"E | 256.36'  | L53  | S28°08'42"W | 400.00'  |
| L30  | N15°48'16"E | 330.68'  | L54  | S89°21'18"E | 679.62'  |
| L31  | N10°44'49"E | 358.59'  | L55  | N46°37'14"W | 67.68'   |
| L32  | N29°12'49"W | 209.96'  | L56  | N07°54'49"W | 26.00'   |
| L33  | N37°39'22"W | 200.00'  | L57  | N25°35'37"W | 22.10'   |
| L34  | N19°15'18"W | 84.24'   | L58  | N31°26'15"W | 86.13'   |
| L35  | N02°01'42"E | 53.00'   | L59  | N43°30'08"W | 25.30'   |
| L36  | N27°21'18"W | 79.66'   | L60  | N25°04'02"W | 20.1'    |
| L37  | N26°12'49"W | 397.18'  | L61  | N87°39'29"W | 214.4'   |

**FIGURE 1**  
**COMPILED PLAT SHOWING**  
**TAX PARCELS TM 30-32 AND TM 30-33**  
**LYING ON THE NORTH AND SOUTH LINES**  
**OF THE BUCKINGHAM BRANCH RAILROAD**  
**CO. R/W AND THE EAST LINE OF ROUTE**  
**NO. 652, BRIDGEPORT ROAD**



MARSHALL DISTRICT, BUCKINGHAM COUNTY, VIRGINIA  
 DATE: JUNE 28, 2016 SCALE: 1" = 400'  
 DRAWN BY: LJK CHECKED BY: LJK

**KOONTZ-BRYANT, P.C.**  
 Site Development Solutions  
 1703 N. PARHAM ROAD  
 RICHMOND, VIRGINIA 23229  
 (804) 740-9200 (804) 740-7338 Fax  
 kbpo@koontzbryant.com





LINE TABLE - PARCEL 1

| LINE | BEARING     | DISTANCE |
|------|-------------|----------|
| L1   | N19°26'35"E | 83.90'   |
| L2   | S70°33'25"E | 40.00'   |
| L3   | S19°26'35"W | 83.90'   |
| L4   | N70°33'25"W | 40.00'   |

LINE TABLE - PARCEL 2

| LINE | BEARING     | DISTANCE |
|------|-------------|----------|
| L5   | N14°15'37"E | 40.00'   |
| L6   | S75°44'23"E | 82.94'   |
| L7   | S14°15'37"W | 40.00'   |
| L8   | N75°44'23"W | 82.94'   |

CURVE TABLE - PARCEL 3

| CURVE | RADIUS   | DELTA ANGLE | LENGTH  | TANGENT | CHORD BRNG  | CHORD   |
|-------|----------|-------------|---------|---------|-------------|---------|
| C1    | 1541.46' | 9°48'27"    | 263.86' | 132.25' | S80°04'54"E | 263.54' |

CURVE TABLE - PARCEL 4

| CURVE | RADIUS   | DELTA ANGLE | LENGTH  | TANGENT | CHORD BRNG  | CHORD   |
|-------|----------|-------------|---------|---------|-------------|---------|
| C2    | 1441.46' | 8°44'43"    | 220.01' | 110.22' | N79°33'02"W | 219.80' |

STATE GRID COORDINATES - PARCEL 1  
NAD 83, VA SOUTH ZONE

| POINT | NORTH       | EAST         |
|-------|-------------|--------------|
| 1     | 3780915.178 | 11532870.362 |
| 2     | 3780994.294 | 11532898.291 |
| 3     | 3780980.979 | 11532935.009 |
| 4     | 3780901.863 | 11532908.081 |

STATE GRID COORDINATES - PARCEL 2  
NAD 83, VA SOUTH ZONE

| POINT | NORTH       | EAST         |
|-------|-------------|--------------|
| 5     | 3781229.385 | 11532971.824 |
| 6     | 3781268.153 | 11532981.677 |
| 7     | 3781247.724 | 11533062.058 |
| 8     | 3781208.956 | 11533052.205 |

POINT LAT. AND LONG. PARCEL 3

| POINT | LAT. AND LONG.                      |
|-------|-------------------------------------|
| 9     | LAT: 37.7092981<br>LON: -78.3254561 |
| 10    | LAT: 37.7092608<br>LON: -78.3252797 |
| 11    | LAT: 37.7091348<br>LON: -78.3243826 |
| 12    | LAT: 37.7090749<br>LON: -78.3243494 |
| 13    | LAT: 37.7088298<br>LON: -78.3235563 |
| 14    | LAT: 37.7087288<br>LON: -78.3235384 |
| 15    | LAT: 37.7081694<br>LON: -78.3235602 |
| 16    | LAT: 37.7080386<br>LON: -78.3243358 |
| 17    | LAT: 37.7078193<br>LON: -78.3248228 |
| 18    | LAT: 37.7063966<br>LON: -78.3248088 |
| 19    | LAT: 37.7085199<br>LON: -78.3247548 |
| 20    | LAT: 37.7089108<br>LON: -78.3252885 |

LINE TABLE - PARCEL 3

| LINE | BEARING     | DISTANCE |
|------|-------------|----------|
| L9   | S25°10'41"E | 52.82'   |
| L10  | S23°51'18"E | 23.84'   |
| L11  | N19°06'46"E | 47.52'   |

POINT LAT. AND LONG. PARCEL 4

| POINT | LAT. AND LONG.                      |
|-------|-------------------------------------|
| 21    | LAT: 37.7096110<br>LON: -78.3255815 |
| 22    | LAT: 37.7098815<br>LON: -78.3256220 |
| 23    | LAT: 37.7109049<br>LON: -78.3242644 |
| 24    | LAT: 37.7113118<br>LON: -78.3231611 |
| 25    | LAT: 37.7094155<br>LON: -78.3244437 |
| 26    | LAT: 37.7095261<br>LON: -78.3251907 |

LINE TABLE - PARCEL 4

| LINE | BEARING     | DISTANCE |
|------|-------------|----------|
| L12  | N75°10'41"W | 120.02'  |
| L13  | N19°04'42"W | 27.12'   |

STATE GRID COORDINATES - PARCEL 4  
NAD 83, VA SOUTH ZONE

| POINT | NORTH       | EAST         |
|-------|-------------|--------------|
| 21    | 3781977.028 | 11533370.494 |
| 22    | 3782002.659 | 11533361.629 |
| 23    | 3782448.856 | 11533753.546 |
| 24    | 3782597.641 | 11534072.430 |
| 25    | 3781908.460 | 11533702.676 |
| 26    | 3781946.325 | 11534086.618 |

POINT LAT. AND LONG. PARCEL 1

| POINT | LAT. AND LONG.                      |
|-------|-------------------------------------|
| 1     | LAT: 37.7066974<br>LON: -78.3273271 |
| 2     | LAT: 37.7069146<br>LON: -78.3272301 |
| 3     | LAT: 37.7068778<br>LON: -78.3270998 |
| 4     | LAT: 37.7066607<br>LON: -78.3271968 |

POINT LAT. AND LONG. PARCEL 2

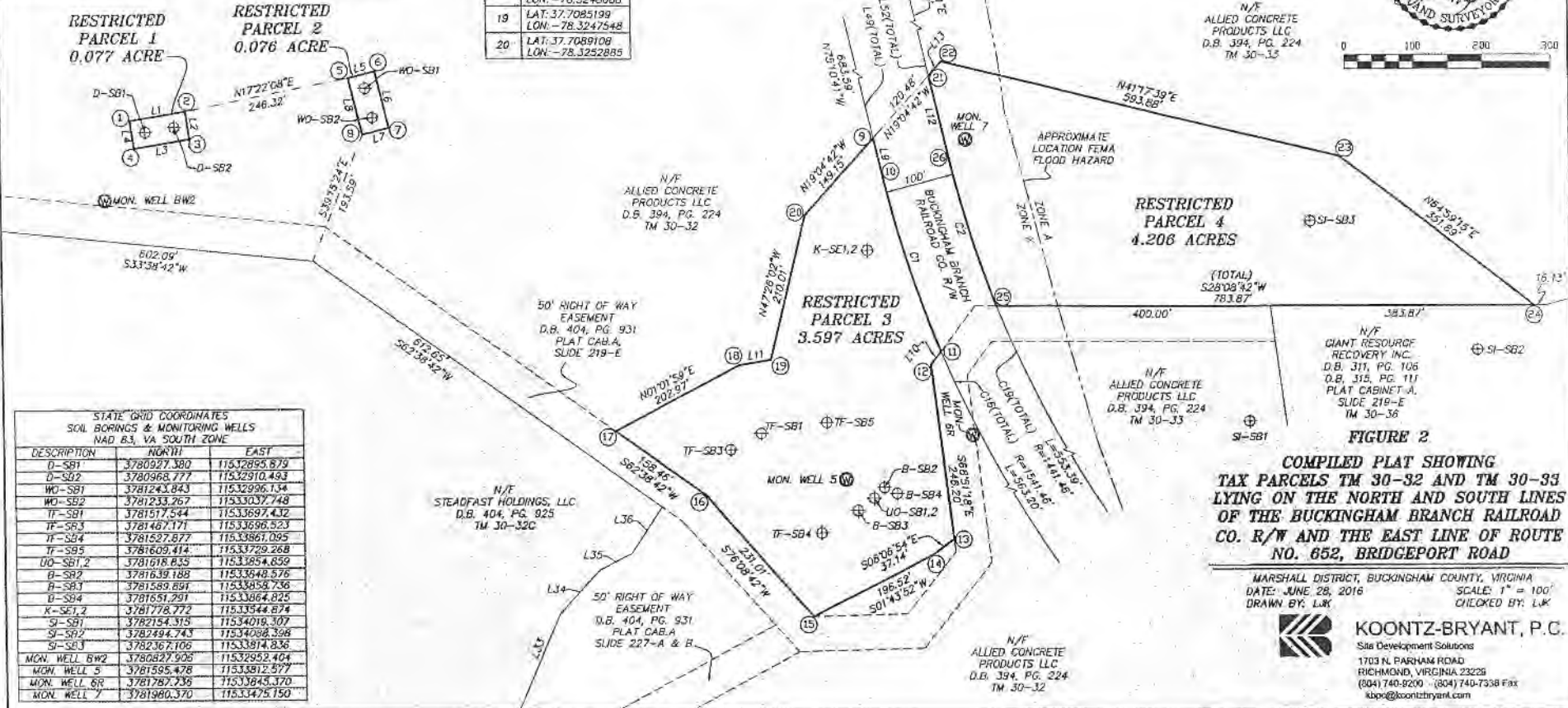
| POINT | LAT. AND LONG.                      |
|-------|-------------------------------------|
| 5     | LAT: 37.7075598<br>LON: -78.3269744 |
| 6     | LAT: 37.7076662<br>LON: -78.3269401 |
| 7     | LAT: 37.7076097<br>LON: -78.3268624 |
| 8     | LAT: 37.7075033<br>LON: -78.3268987 |

STATE GRID COORDINATES - PARCEL 3  
NAD 83, VA SOUTH ZONE

| POINT | NORTH       | EAST         |
|-------|-------------|--------------|
| 9     | 3781863.165 | 11533409.874 |
| 10    | 3781848.653 | 11533460.936 |
| 11    | 3781804.260 | 11533720.533 |
| 12    | 3781782.457 | 11533730.176 |
| 13    | 3781693.646 | 11533958.797 |
| 14    | 3781656.880 | 11533965.040 |
| 15    | 3781460.447 | 11533955.103 |
| 16    | 3781405.128 | 11533734.813 |
| 17    | 3781332.317 | 11533594.076 |
| 18    | 3781535.255 | 11533597.735 |
| 19    | 3781580.154 | 11533613.294 |
| 20    | 3781722.211 | 11533458.624 |

COMMONWEALTH OF VIRGINIA  
 LARRY J. KETCHUM  
 Lic. No. 802978  
 LAND SURVEYOR

0 100 200 300



STATE GRID COORDINATES  
 SCAL BORINGS & MONITORING WELLS  
 NAD 83, VA SOUTH ZONE

| DESCRIPTION   | NORTH       | EAST         |
|---------------|-------------|--------------|
| D-SB1         | 3780927.380 | 11532895.879 |
| D-SB2         | 3780968.777 | 11532910.493 |
| WO-SB1        | 3781243.843 | 11532996.134 |
| WO-SB2        | 3781233.267 | 11533037.748 |
| TF-SB1        | 3781517.544 | 11533697.432 |
| TF-SB3        | 3781467.171 | 11533696.523 |
| TF-SB4        | 3781527.877 | 11533861.095 |
| TF-SB5        | 3781609.414 | 11533729.268 |
| UO-SB1.2      | 3781618.835 | 11533854.659 |
| B-SB2         | 3781639.188 | 11533648.576 |
| B-SB3         | 3781589.891 | 11533853.736 |
| D-SB4         | 3781651.291 | 11533864.825 |
| K-SE1.2       | 3781778.772 | 11533944.874 |
| SI-SB1        | 3782154.315 | 11534019.307 |
| SI-SB2        | 3782494.743 | 11534088.398 |
| SI-SB3        | 3782367.106 | 11533814.836 |
| MON. WELL BW2 | 3780827.905 | 11532952.404 |
| MON. WELL 5   | 3781595.478 | 11533812.577 |
| MON. WELL 6R  | 3781787.736 | 11533845.370 |
| MON. WELL 7   | 3781980.370 | 11533475.150 |

**FIGURE 2**  
**COMPILED PLAT SHOWING**  
**TAX PARCELS TM 30-32 AND TM 30-33**  
**LYING ON THE NORTH AND SOUTH LINES**  
**OF THE BUCKINGHAM BRANCH RAILROAD**  
**CO. R/W AND THE EAST LINE OF ROUTE**  
**NO. 652, BRIDGEPORT ROAD**

MARSHALL DISTRICT, BUCKINGHAM COUNTY, VIRGINIA  
 DATE: JUNE 28, 2016  
 DRAWN BY: LJK

SCALE: 1" = 100'  
 CHECKED BY: LJK

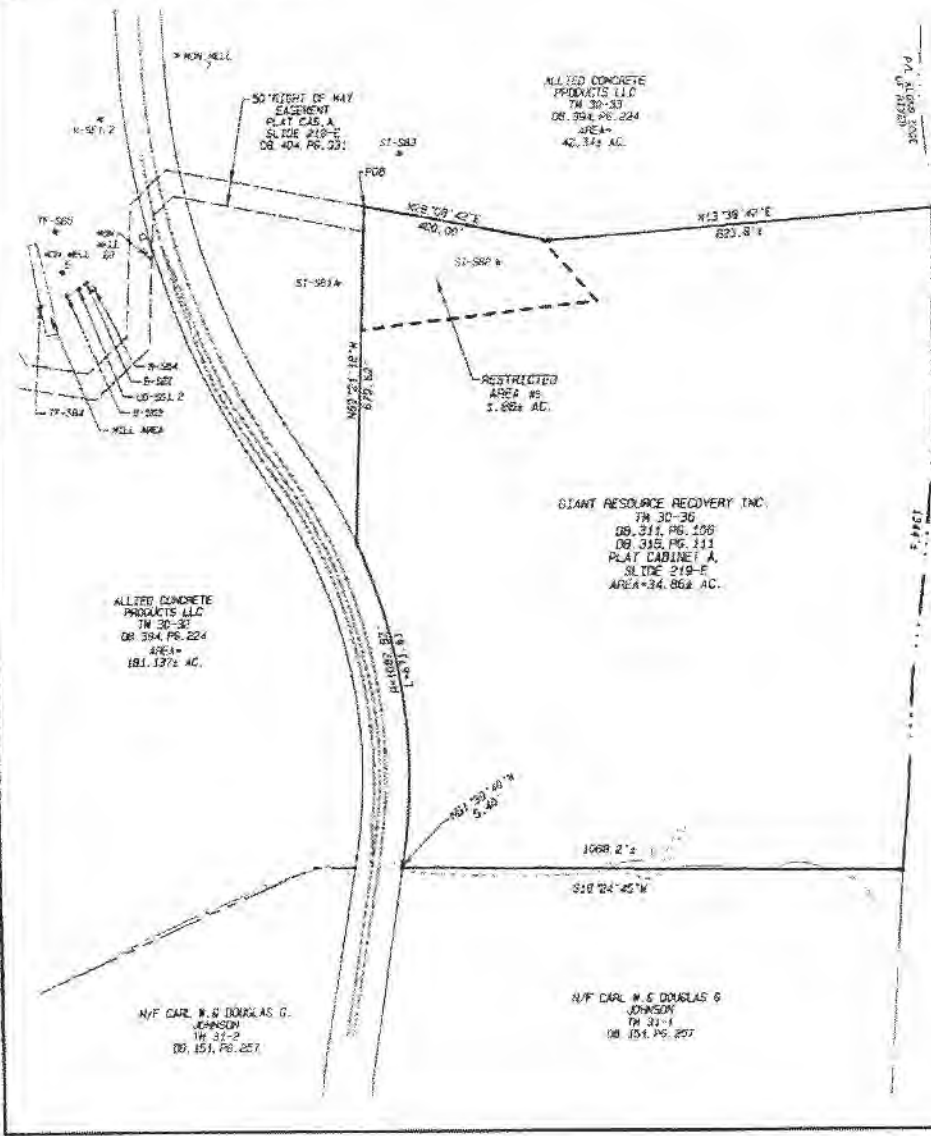
**KOONTZ-BRYANT, P.C.**  
 Site Development Solutions  
 1703 N. PARHAM ROAD  
 RICHMOND, VIRGINIA 23226  
 (804) 740-8200 (804) 740-7338 Fax  
 kbp@koontzbryant.com



REFERENCE

THIS PROPERTY APPEARS TO FALL WITHIN ZONE "2" AS SHOWN ON FIRM FLOOD INSURANCE RATE MAP. NOTE THIS SURVEY WAS PREPARED WITHOUT THE BENEFIT OF A CURRENT TITLE REPORT. THE BOUNDARY INFORMATION HAS TAKEN FROM FORMER PLATS BY ENGINEERING DESIGN ASSOCIATES DATED MAY 7, 2013 & JANUARY 11, 2005. REFERENCE MAP BY MICHAEL SURVEYING & MAPPING, P.C. DATED DECEMBER 16, 2012 FOR STATE PLANE COORDINATE VALUES.

GRAPHIC SCALE 1"=200'



LATITUDE - LONGITUDE RESTRICTED AREA #5  
 POB -78.3237682 37.7103632  
 -78.3237611 37.7113118  
 -78.3226363 37.7119078  
 -78.3226329 37.7118408  
 POB -78.3237682 37.7103632

JAMES RIVER

PLAT OF PROPERTY SITUATED EAST OF ROUTE NO. 652 AND NORTH OF ROUTE NO. 15

MARSHALL DISTRICT, BUCKINGHAM COUNTY, VIRGINIA  
 I HEREBY CERTIFY THAT THIS SURVEY IS THE BEST OF MY KNOWLEDGE AND BELIEF IN ACCORDANCE WITH THE VIRGINIA PROFESSIONAL ENGINEERING AND SURVEYING ACT AND THE VIRGINIA BOARD OF ARCHITECTURE, PROFESSIONAL ENGINEERING AND SURVEYING CERTIFIED INTERIOR DESIGNERS AND LANDSCAPE ARCHITECTS.

ENGINEERING DESIGN ASSOCIATES, INC.

P.O. BOX 93367 RICHMOND, VIRGINIA 23256 (804) 236-0190  
 DATE: MARCH 9, 2015 SCALE: 1"=200' JOB NO: 14247

INSTRUMENT 17001441  
 RECORDED IN THE CLERK'S OFFICE OF  
 COUNTY OF BUCKINGHAM CIRCUIT COURT ON  
 September 7, 2017 AT 10:05 AM  
 MALCOLM A. BUCKNER, JR., CLERK  
 RECORDED BY: JIB

BOOK 445 PAGE 113

