Periodic Review Report

(Reporting Period March 28, 2017 to March 28, 2020)

Former Orangeburg Pipe Manufacturing – Lowe's Site

Tax Map Numbers 74.15-1-3 and 74.15-1-4
206 Route 303
Orangeburg, New York 10962

Prepared Pursuant to Voluntary Cleanup Agreement

NYSDEC Site #: V00579
NYSDEC Index #: W3-0930-02-07

Orangeburg Holdings, LLC
Hackensack, New Jersey

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1 Summary

1.1 Site, Nature and Extent of Contamination, and Remedial History

This report is the Periodic Review Report (PRR) for portions of the Former Orangeburg Pipe Manufacturing – Lowe's site (the "site") at 206 Route 303 in Orangeburg (Town of Orangetown), Rockland County, New York and documents site management during the period March 28, 2017 to March 28, 2020. The site is in a commercial area and is the location of a Lowe's Home Improvement retail store (Lowe's). Groundwater at the site has been shown to be impacted with volatile and semivolatile organic compounds (VOCs and SVOCs). There have been two remedial excavations of contaminated soil, one in 2001 to remove VOC-contaminated soil in the northwest portion of the site and one in 2002 to remove oil-contaminated soil in the north-central portion of the site.

A groundwater extraction & treatment system (ETS), was in operation between December 2004 and October 2014. Based on the results of groundwater data and ETS discharge data for a decade and a recommendation in the 2014 PRR submitted in March 2014, the groundwater ETS was shut down in October 2014, subsequent to review and approval from New York State Department of Conservation (NYSDEC). Historic site fill is covered by a cap, consisting of a combination of the building slab, paved/concrete parking and walking areas, and soil cover.

1.2 Effectiveness of the Remedial Program

The site is subject to Voluntary Cleanup Agreement (VCA) V00579 between Orangeburg Holdings, LLC (the Volunteer) and NYSDEC under the New York Brownfield Cleanup Program. The remedial program consists of a remedial action work plan and operation, maintenance, and monitoring work plan (LMS 2005) approved by the NYSDEC on April 22, 2005 (together referred to as the Work Plan). The Site Management Plan (SMP) (HDR 2006) incorporates the Work Plan and includes by reference a Declaration of Covenants and Restrictions filed with the deed at the Rockland County Clerk's Office. The SMP has the following five, active elements:

1. Cap over historic fill;
2. Soil management plan;
3. Land use restrictions;
4. Groundwater use restrictions; and
5. Reporting.

As noted above, groundwater extraction and treatment was ceased at the site in October 2014.

The remedial program continues to prevent unacceptable exposure to the site contaminants and is meeting the remedial goals which are: (1) prevention of exposure to contaminated groundwater, (2) prevention of off-site migration of contaminated groundwater, and (3) prevention of contact with historic site fill through the beneath cap.

1.3 Compliance

There has been no non-compliance with the SMP during this 3-year reporting interval.

1.4 Recommendations

1. The groundwater ETS should remain inactive. However, the system will remain in place in the event future groundwater monitoring results demonstrates a need to reactivate the system.

2. The current groundwater monitoring program should continue with the same annual sample frequency using the monitoring wells recommended in the March 2014 PRR and approved by NYSDEC. The nine monitoring wells currently included in the annual groundwater sampling program are as follows:

    - MW03-11S
    - MW03-12S
    - MW03-12D
    - MW03-14S
    - MW03-18S
    - MW03-18D
    - MW03-27S
    - MW03-27D
    - MW07-29

    After the July 2014 annual groundwater monitoring event the following monitoring wells were removed from the monitoring program as recommended in the March 2014 PRR and approved by NYSDEC:

    - MW03-11D
    - MW03-14D
    - MW03-25
    - MW03-26
    - MW03-28

3. Requirements for discontinuing site management have not been met.

2 Site Overview

2.1 Description

The site is in in a commercial and industrial area. The site location is shown in Figure 1, a topographic map of the area, and Figure 2 an aerial view of the site location (Figures follow the References section of this report). Figure 3 is taken from the deed restriction put in place pursuant to the VCA. This figure shows that the site consists of two tax lots: 74.15-1-3 and 74.15-1-4. The two lots were subsequently merged into one lot: 74.15-1-3. The site is an approximately 12-acre portion of the former Orangeburg Pipe Manufacturing property. Two other adjacent sites that were part of the former Orangeburg Pipe Manufacturing are described below (these two sites are not included in this PRR).

1. 15.8-acre Lot 74.15-1-21 to the south across Stevens Way. This property, now known as Orangeburg Commons, has also undergone remediation under the Brownfield Cleanup Program (Site No. C344073). Remediation consists of a cap over historic fill and the installation of sub-slab depressurization systems to prevent vapor intrusion into buildings. Investigations have demonstrated that vapor intrusion is not a concern at the Lowe's site. In addition, the deed for Orangeburg Commons has a Declaration of Covenants and Restrictions similar to that for the Lowe's site.

2. 5.84-acre Lot 74.15-1-2 across Greenbush Road to the west. This property, referred as the Triangular Parcel during previous investigation activities and previous data summary reports, had also been in the voluntary cleanup program (V342-3); however, no progress on remediation appears to have taken place since the April 2014 PRR was submitted. This property, is now referred to the as the Orangeburg Commercial Center site. In April 2016 an application to be admitted into the Brownfield Cleanup Program (Site No. C344078) was prepared and submitted by Tenen Environmental, LLC on behalf of BF Orangetown LLC to NYSDEC for this Triangular Parcel. In September 2016, a draft Remedial Action Work Plan (RAWP) was submitted to NYSDEC for review and comments by the property owner. HDR contacted the NYSDEC Project Manager for this site in February 2017 to provide comments on the draft RAWP and our findings during previous historical investigations that were conducted on this portion of the site. As of February 2020, to HDR's knowledge, there have been no recent investigation or remediation activities at the Orangeburg Commercial Center site. As discussed in this PRR, the Triangular Parcel is believed to be the source of chlorinated VOCs detected in the upgradient, northwest corner of the Lowe's site.

Figure 4 shows the pertinent site features including the Lowe's building, the monitoring wells and the inactive ETS including the treatment building, and Figure 5 highlights the monitoring wells that are included in the current annual groundwater monitoring program. The Lowe's building at the site is a slab-on-grade construction without a basement and is used for retail sales.

2.2 Remedial Program

The primary element of the remedial program is the cap over the historic site fill. Most of the site is covered by the building slab, parking lot, and concrete sidewalks. The remainder of the property has an earthen cover, underlain by a filter fabric that acts as a visual warning in case excavation activities in these areas are required.

The secondary element of the remedial program was the groundwater remediation system that was in operation from December 2004 through October 2014. The objective of the groundwater ETS was to capture contaminants in the groundwater emanating from two areas in the northwestern portion of the site. One area is along Greenbush Road in the vicinity of monitoring well MW03-18S. This area was contaminated with 1,1,1-trichloroethane (TCA), TCA environmental degradation products (notably 1,1-dichloroethane [DCA]), and petroleum-related constituents. A remedial excavation (cross-hatched area in Figure 4) was conducted in 2001 to remove the contaminated soil and the area was back-filled with crushed stone to enhance the subsequent groundwater ETS's ability to remove the residual contamination. The second area targeted by the ETS is an area of oil contamination excavated in 2002 just east of the first area. A stone-filled trench was installed to intercept groundwater from the two excavation areas, collect groundwater from those areas and upgradient, and inhibit the groundwater from migrating downgradient. In addition to the groundwater collection trench, the groundwater remediation system included a manhole in the trench area from which water was extracted and pumped to an on-site building for metering, treatment, and discharge to the local sanitary sewer in accordance with a permit issued by the Town of Orangeburg. The treatment system was started on December 29, 2004.

The system was designed to provide treatment with bag filters (for removal of particulates) and activated carbon (for removal of organics), after which the effluent would be discharged to the Town of Orangetown sanitary sewer system for further processing at the municipal sewage treatment plant. Because chemical concentrations in the system influent were low, in December 2005, the Town of Orangetown allowed the filtration and activated carbon components of the site treatment system to be bypassed. However, the filtration vessels and carbon treatment remain in place (offline) in case there is a future need for reactivation of those components. As mentioned previously, the groundwater ETS was shut down on October 1, 2014, based on the results of the historical data from the monitoring wells and the treatment effluent since 2004. NYSDEC approved the recommendation in the March 2014 PRR to shut down the ETS for the site.

The results of the annual groundwater sampling conducted since the ETS shut down show no significant changes in the groundwater concentrations of the chemicals of concern (COC) since the prior PRR submittal. COC concentrations in the capture zone of the ETS remain low. Additional discussion of groundwater quality is presented in Chapter 5.

In addition to the above elements, the remedial program has a deed restriction that prevents the use of the site's groundwater without the NYSDEC first permitting such use. Also the deed restriction prevents the site from being used for purposes other than for restricted commercial use, which prevents day care, child care and medical care uses, unless approved by the NYSDEC.

3 Remedy Performance, Effectiveness, and Protectiveness

The current remediation goals for the site are:

1. Prevent use of the site groundwater. There is a Declaration of Covenants and Restrictions with the land records in the Rockland County Clerk's office that, among other restrictions, prevents the use of groundwater at the site. The site receives potable water from the municipal supply, and accordingly there is no use of the site groundwater. There are no water withdrawal wells at the site, other than the pump out manhole that previously operated for the ETS. The ETS did not operate during this 3-year PRR interval. Previous inventories and data reviews indicate that there are no private or public water supply wells downgradient of the site.

2. Prevent exposure to the historic site fill. The cap over the historic fill remains intact. During this 3-year reporting period, there were six cap repair / replacement / maintenance projects (including the geotechnical investigation activities conducted in December 2019) conducted by Lowe's in accordance with the SMP that are described in further detail in Section 6.2.

4 IC/EC Plan Compliance

4.1 IC/EC Requirements and Compliance

4.1.1 Extraction and Treatment System

Description. Initially the ETS was an engineering control consisting of a groundwater collection trench that drains to a pump out manhole whose operation served to capture groundwater that might otherwise migrate downgradient. The pumpage was discharged to the local municipal sanitary sewer system as authorized by a permit from the Town of Orangetown. It was determined with NYSDEC that the ETS engineering control was no longer required for the site. As discussed, the ETS was shut down on October 1, 2014 in accordance with the recommendations in the March 2014 PRR that were approved by NYSDEC in a letter to Mr. Steven Kolitch (Orangeburg Holdings, LLC) dated September 23, 2014. The ETS discharge permit remained open for several years after the ETS was shut down in the event the results from the annual groundwater sampling events indicate the contamination was moving away from the site requiring the ETS to be reactivated. The ETS equipment remains in place should it need to be reactivated in the future. If it is necessary to reactivate the ETS, Orangeburg Holdings, LLC will apply for a new discharge permit from the Town of Orangetown.

The performance of this control was evaluated by periodic sampling of monitoring wells and the pump out discharge when the ETS was in operation. The capture zone of the system was the shallow groundwater in the fill upgradient of the collection trench in the northwest corner of the site. No groundwater was discharged from the system during this 3-year PRR interval.

Goal Status. System operations were normal up to the point when the system was shut down in 2014.

The ETS was fully in place and meeting its remediation goals (capture contaminated groundwater in the upgradient fill) until it was determined that operation was no longer necessary. NYSDEC approved the shutdown of the ETS, and the system has not been in operation since October, 1, 2014.

Corrective Measures. There are no deficiencies in the system and corrective measures are not needed. The components of the system remain in place in the event groundwater data from the site indicates the system should be reactivated. The results of the groundwater sampling since the ETS was shut down have not shown a significant change that would warrant the reactivation of the ETS.

Conclusions and Recommendations. No changes to the extraction and treatment system are needed; it should remain inactive.

4.1.2 Water Use Restrictions

Description. The restriction is an institutional control included in the Declaration of Covenants and Restrictions that prohibits use of the site's groundwater unless NYSDEC approves otherwise. The site receives potable water from the municipal supply, and accordingly there is no use of the site groundwater.

Goal Status. The restriction is fully in place and there are no on-site wells, other than those associated with the monitoring and remedial system.

Corrective Measures. There are no deficiencies and corrective measures are not needed.

Conclusions and Recommendations. No changes are needed.

4.1.3 Land Use Restrictions

Description. The restriction is an institutional control included in the Declaration of Covenants and Restrictions that limits use of the site to "restricted commercial," which excludes day care, child care and medical care.

Goal Status. The restriction is fully in place. The site use is for a home improvement store.

Corrective Measures. There are no deficiencies and corrective measures are not needed.

Conclusions and Recommendations. No changes are needed.

4.1.4 Cap Over Historic Fill

Description. As noted previously, the site is capped by a combination of the site building, pavement, concrete sidewalks, and earthen fill. Excavation through the cap into the historic fill materials must first be approved by the NYSDEC.

Goal Status. During this 3-year reporting period, there have been six repair / maintenance / upgrade activities conducted by Lowe's that required the cap to be disturbed in several areas of the site. These activities included a geotechnical investigation conducted by Lowe's in December 2019 that included soil borings and dynamic cone penetrometer (DCP) testing to provide geotechnical information for the parking lot area. These activities were performed in accordance with the SMP and are described in more detail in Section 6.2.

Photographs of the cap maintenance / repair activities are presented in Appendix A.

The cap is in place and meets the requirements of the Remediation Work Plan.

Corrective Measures. There are no deficiencies and corrective measures are not needed.

Conclusions and Recommendations. No changes are needed.

4.2 IC/EC Certification

A copy of the requisite certification is presented in Appendix B. The Qualified Environmental Professional (QEP) section of the certification has been signed by Michael P. Musso, P.E. The original hard copy certification document can be submitted to the NYSDEC project manager if requested.

5 Monitoring Plan Compliance

5.1 Components of the Monitoring Plan

Prior to the 2014 PRR interval (March 2011 through March 2014) there were two NYSDEC-approved amendments to the monitoring plan specified in the original Remedial Action Work Plan which included the reduction of manhole discharge sample frequency from quarterly to semiannually, and elimination of the annual sampling of the storm water detention basin. As part of the March 2014 PRR approval, NYSDEC approved the reduction in the number of monitoring wells included in the annual groundwater monitoring program and the shutdown of the ETS. In accordance with the approval of the recommendations in the March 2014 PRR from NYSDEC, the following monitoring wells were removed from the monitoring program: MW03-11D, MW03-14D, MW03-25, MW03-26, and MW03-28. The nine monitoring wells currently included in the annual groundwater sampling program are as follows: MW03-11S, MW03-12S, MW03-12D, MW03-14S, MW03-18S, MW03-18D, MW03-27S, MW03-27D, and MW07-29. In July 2014, the annual groundwater monitoring event included the full set of monitoring wells because the 2014 annual groundwater sampling event was conducted prior to the approval of the recommendation to remove these monitoring wells from NYSDEC in September 2014. The nine groundwater monitoring wells now included in the sampling program continue to be sampled annually. Samples are analyzed for volatiles per EPA GC/MS Method 8260, rather than EPA GC Methods 601 and 602, as specified in the Work Plan; Method 8260 assesses a greater number of analytes and is less costly. Naphthalene has been included in the VOC parameter list as it has been a COC at the site.

In order to comply with the sewer discharge permit requirements from the Town of Orangetown when the ETS was in operation, additional analytical work was conducted on the sample collected from the manhole discharge (annual basis): pH, SVOCs (Method 625), BOD (Method 5210B), COD (Method 8000), cyanide (Method 335.4), cyanide-available (Method OIA-1677), oil & grease (Method 1664A), phenols (Method 420.1), and total suspended solids (Method 2540D). These samples were collected in July 2014 before the ETS was shut down. The 2011 and earlier permits required testing for additional parameters that were no longer required when the ETS was in operation: PCBs and pesticides (Method 608), metals (Methods 200.7 and 245.1) Discharge samples are no longer required to be collected and analyzed since the ETS is currently shut down as approved by NYSDEC.

EQuIS electronic deliverables for the sampling and analytical work have already been submitted to the NYSDEC. Therefore, copies of the laboratory data reports for the annual monitoring well sampling events are no longer included with the PRR.

In addition to the above monitoring required by the Work Plan, when the ETS was in operation, the Town of Orangetown would periodically sample the manhole discharge as part of the town's compliance monitoring program. Since the ETS was not in operation during the current PRR interval, there were no samples collected by HDR or the Town of Orangetown of the ETS discharge.

5.2 Summary of the Monitoring Completed

During this reporting period (March 28, 2017 through March 28, 2020), the annual sampling of the monitoring wells was conducted on the following days:

- July 18, 2017
- July 13, 2018
- July 02, 2019

Copies of the field data sheets for the groundwater sampling events are presented in Appendix C.

Tables 1, 2, and 3 summarize the VOC results for the July 2017, July 2018, and July 2019 groundwater monitoring events (Tables follow the References section of this report).

Table 4 summarizes the VOC results from the site monitoring wells since the sampling program began. Where a new well was constructed in 2003 as a replacement for a well abandoned during construction of the shopping center, the test results are grouped for the two wells as a single location.

5.3 Comparisons with Remedial Objectives

Reference is made to Table 1, Table 2, and Table 3 (annual monitoring well data results for the three sample events completed during this reporting period), which show all results for the nine monitoring wells along with the NYS Class GA groundwater standards and/or guidance values where applicable for comparison. Table 4 provides a summary of the historical data collected from the monitoring wells and Figure 6 provides graphical representations of summary data for each monitoring well, for total VOCs and total CVOCs or total BTEX since the sampling program was initiated. Locations of the monitoring wells and the ETS manhole are depicted in Figure 5.

5.3.1 Chlorinated VOCs

The original impetus for the installation of the groundwater remediation system was the presence of chlorinated VOCs in the area of MW-18S (now MW03-18S). Prior to remediation, 1,1-dichloroethane (DCA) concentrations had been in the range of 230 to 480 micrograms per liter (mcg/L). DCA is an environmental degradation product of 1,1,1-trichloroethane (TCA). The oily soil in the area was excavated and backfilled with crushed stone that drains to the groundwater ETS. DCA concentrations have been less than 3 mcg/L since 2005. Downgradient of the MW-18 area (MW03-11S, MW03-11D, MW03-12S, MW03-12D, MW03-14S, MW03-14D, MW03-27S, MW03-27D), the site is essentially free of chlorinated VOCs.

The highest chlorinated VOC concentrations have historically been at the upgradient fringe of the site (MW03-26 and MW03-18D). MW03-26 (DCA concentrations in the range of 3 to 4.9 mcg/L between 2010 and 2014) is upgradient and off-site in Greenbush Road. MW03-26 was removed from the groundwater sampling program after the 2014 sampling

event. MW03-18D continues to show a slight decreasing trend of DCA concentrations from 20 to 9.9 mcg/L from 2010 through 2019; this is the only deep well at the site that still has detections of chlorinated VOCs. MW03-18S continues to show a slight decreasing trend of low-level DCA concentrations as well; it was below the detection limit of 1 mcg/L during the annual sampling in 2017 and 2018 and 1.1 mcg/L during the July 2019 sampling event. The source of the chlorinated VOCs is believed to be the Triangular Parcel west of Greenbush Road where TCA and DCA concentrations of 12,000 and 720 mcg/L, respectively, were measured in what appears to be a foundation drain of a former Orangeburg Pipe manufacturing building (LMS 1991).

Remedial objectives for the site have been met for chlorinated VOCs. There is an upgradient source of chlorinated VOCs that appears to be impacting the deeper groundwater in an isolated upgradient portion of the site; the groundwater remediation system was not designed to address that off-site source. It is assumed the investigation and remedial activities to be conducted at this adjacent Brownfield Cleanup site (Orangeburg Commercial Center) (Site No. C344078) will aim to address the chlorinated VOCs coming from this upgradient site.

5.3.2 Naphthalene

MW-11D was sampled once for naphthalene prior to the construction of the shopping center; the compound was not detected (<10 mcg/L). After the construction of the shopping center, naphthalene was found in the replacement well MW03-11D at a concentration of 680 mcg/L (December 2004), indicating that there was probably an oil spill in the area during construction activities. There was no shallow well at this location prior to the shopping center construction; the first sampling of the new shallow well MW03-11S indicated that naphthalene was present at a concentration of 1,300 mcg/L (December 2004).

Since December 2004, the naphthalene concentration at MW03-11D had consistently declined such that naphthalene was not detected in this well between 2012 and 2014. MW03-11D was removed from the groundwater sampling program after the 2014 sampling event. Naphthalene degrades anaerobically and this decline over time is consistent with that process.

The naphthalene concentration in MW03-11S has also declined over time, though not to the degree exhibited by MW03-11D, consistent with the expected more aerobic condition of the shallow aquifer. The naphthalene concentrations in MW03-11S were 46, 180, and 250 mcg/L, in 2017, 2018, and 2019, respectively, during the annual groundwater monitoring events.

At the request of NYSDEC, MW07-29 was installed about 100 feet downgradient of the MW03-11S/11D cluster in response to the reported naphthalene in the MW03-11S/D cluster in 2007. Except for a low concentration of 1.1 mcg/L detected in 2009, naphthalene has not been detected at MW03-29 at a detection limit of 1.0 mcg/L, indicating that naphthalene is not a compound of concern in the eastern and southern portions of the site.

The naphthalene concentrations in MW03-14S, upgradient from MW03-11S/11D have been reported to be low, often below the detection limit of 1 mcg/L. The naphthalene concentrations in MW03-14S were 3.5, 2.8, and < 1 mcg/L, in 2017, 2018, and 2019, respectively, during the annual groundwater monitoring events.

The naphthalene concentrations in MW03-18S, on the upgradient edge of the property, has also been reported below the detection limit of 1 mcg/L since July 2008 (with the exception of July 2013 and July 2017 when naphthalene was detected at concentrations of 5.1 and 51 mcg/L, respectively). It appears the elevated naphthalene concentration detected in July 2017 may not be representative of the site data set since the concentrations in July 2018 and July 2019 were below the detection limit of 1 mcg/L.

5.3.3 Oil & Fuel Related Contaminants

In 2002, oil was discovered during test pit work conducted in the northwestern portion of the site during preliminary clearing of the property. The contaminated soil was excavated as best possible given the presence of large concrete foundation footings of the former manufacturing building at that location. The area of excavation is shown in Figures 4 and 5. The excavation was backfilled with crushed stone and the alignment of the groundwater collection trench for the ETS was subsequently adjusted to intercept shallow groundwater from that stone-filled excavation area.

During the July 2019 sampling event, the sample from MW03-14S contained benzene at 93 mcg/L, toluene at 13 mcg/L, and m&p-xylene at 3.3 mcg/L. Benzene and m&p-xylene had never been detected at this monitoring well location since the initial sampling event was conducted in March 1989, and toluene had only been detected once above the detection limit in July 2007 (4.5 mcg/L). It is likely that the elevated concentrations of benzene, toluene, ethylbenzene, and xylenes (BTEX compounds) detected at this location resulted from a vehicle that was parked over or near the well location that may have had an undocumented fuel spill or release (possibly a leaking gas tank). MW03-11S, downgradient from MW03-14S, did not reveal any type of increase of these contaminants during the July 2019 sampling event when the elevated concentrations were detected in MW03-14S.

MW03-11S continues to have low-level detections of gasoline-related VOCs including BTEX compounds, 1,2,4-trimethylbenzene, 1,3,5-trimethylbenzene, and methyl tert-butyl ether (MTBE). The contaminants in this well are not likely from the historic fill and are likely from undocumented gasoline releases in the vicinity of this monitoring well in the parking lot. These gasoline-related VOCs (with the exception of MTBE) have not been detected in any of the other wells included in the annual monitoring program, including wells upgradient from MW03-11S prior to the July 2019 sampling event when BTEX compounds were detected in MW03-14S. The paired deep well at this location, MW03-11D, contained these same gasoline-related VOCs until they degraded enough such that they were non-detect after the July 2011 sampling events. MW03-11D was removed from the annual sampling program after the July 2014 sampling event.

MTBE has also been detected in MW03-14S during most of the sampling events since it was included in the VOC analytical parameter list in 2004. MTBE was not detected in MW03-14S in 2019 but it was detected at concentrations of 5.5 and 6.4 mcg/L in 2017 and 2018, respectively.

Other than MTBE, and the recent detection of elevated concentrations of BTEX compounds in MW-14S, petroleum-related VOCs have not been present at monitoring locations downgradient of the excavated area (MW03-12 cluster, MW03-14 cluster, and MW03-27 cluster), indicating that the contamination has been and remains localized and is not mobile.

During the July 2019 sampling event, it was determined that the concrete well pads in the parking lot area for two of the monitoring well clusters (MW03-14S & -14D and MW03-27 & -27D) were cracked and damaged from the constant vehicle traffic. Fuels or petroleum-related compounds that leak from a vehicle in the parking lot could seep down through the area of the damaged concrete well pads and impact the groundwater in the immediate area of the monitoring well. The well pads in the parking lot were replaced in March 2020. HDR is assessing the remaining well pads and vaults and will replace them as required.

The occasional detections of MTBE and other fuel-related compounds in the shallow monitoring wells would be expected for a large parking lot and appears to be unrelated to the historic oil contamination at the site.

Sampling (LMS 1990) prior to Work Plan approval demonstrated that SVOCs were not at groundwater concentrations of concern elsewhere at the site, so there has been no testing for these compounds since before the shopping center was constructed. Those historical results also demonstrate that the oil contamination in the 2002 excavation area had not migrated.

5.4 Monitoring Deficiencies

There were no monitoring deficiencies during this PRR interval between March 28, 2017 and March 28, 2020; the monitoring fully complied with the Monitoring Plan.

5.5 Conclusions and Recommendations

The monitoring being conducted demonstrates that remediation goals have been achieved, except in three areas:

1. There remains naphthalene contamination localized around MW03-11S. Water quality in the deeper aquifer has been restored. The contamination has not spread and is slowly declining. During the July 2017 sampling event the concentration of naphthalene in this well was 46 mcg/L, the lowest concentration since the sampling was initiated in December 2004; however, the concentrations increased in 2018 and 2019 with concentrations of 180 and 250 mcg/L, respectively.

2. There remains oil contamination localized to the 2002 excavation area. Historical sampling demonstrates that the contamination has not spread.

3. There remains deep DCA contamination at MW03-18D (low-level), the source of which is upgradient and off site. The remediation system was not designed to address this off site source of CVOCs.

4. Based on the results of the BTEX concentrations in MW03-14S during the July 2019 sampling event, it appears that the damaged monitoring well pad in the parking lot area may have allowed fuel leaks from vehicles to impact the groundwater in the area of this well. The concrete well pads in the parking lot area were replaced in March 2020. The remaining well pads and vaults will be assessed and replaced if necessary.

The current groundwater monitoring program should be continued with no changes or revisions at this time.

6 Operation and Maintenance Plan Compliance

6.1 Components

The inactive ETS includes a stone-filled groundwater collection trench. There is perforated pipe at the bottom of the trench that drains to the pump-out manhole. The pump-out manhole had a single pump that was controlled with pump-ON and pump-OFF float switches. The discharge from the pump flowed through a flexible hose riser to a force main that leads to the treatment building. At the treatment building, the pumpage was metered and sampled before being discharged to the municipal sanitary sewer system. The bag filter and activated carbon treatment in the building was bypassed as approved by the Town since December 2005. As discussed previously, the ETS was shut down on October 1, 2014 as approved by NYSDEC. However, the ETS components and equipment remain in place or stored in the treatment system building in the event results from the annual groundwater sampling indicate the ETS should be reactivated. If the ETS is required to be reactivated, a new discharge permit will be acquired from the Town prior to reactivation of the ETS.

6.2 Summary of O&M Completed

The Work Plan required regular inspection of the treatment facility and manhole to verify that all systems are functioning properly and that there are no leaks or blockages. Water meter readings and water levels in the pumping system were recorded. The manhole inspection determined whether oil floating on the water surface should be vacuumed or absorbed, and whether sediment has accumulated to a depth that might be drawn into the sump pump. The inspection frequency specified in the Work Plan was biweekly when the ETS was in operation. Since the ETS was shut down, there were no regular inspection events for the manhole or ETS. HDR typically inspects the treatment building on a monthly basis to make sure it is in working condition and there are no vandalism issues; the heat is turned on in the building during the winter months so the piping and equipment does not get damaged from freezing.

During this PRR interval, Lowe's conducted several cap maintenance and/or repair activities as part of its upkeep of the property, as detailed below and in accordance with the SMP. Lowe's has kept HDR and Orangeburg Holdings, LLC informed of any activities that involve replacement or disturbance of the site cap components.

1. In October 2017, Lowe's removed and replaced several sections of the exterior concrete slab in the general loading dock area off the northwest corner area of the building and the outdoor garden center. The concrete in this area was settling a bit and cracking in several locations. The concrete replacement activities did not disturb the sub-base materials below the concrete slab and did not disturb the historic fill materials below the cap materials. No soils from under the concrete slabs were removed from the site as part of these activities. HDR conducted several site visits during these activities to document that the historic fill material below the cap were not being disturbed. Appendix A contains documentation and photos taken during these concrete slab removal and replacement activities.

2. In February and March 2018, Lowe's removed and replaced several sections of the interior concrete slab in the lumber area section of the store. It was noted that there has been settlement of the concrete slab in this area of the building for a number of years. Lowe's initially used a process where they injected foam underneath the settling slab sections to bring them back up to the proper grade. After several years of using the foam injection procedures, Lowe's decided that they needed to replace the interior concrete slabs in several locations as the settlement issues persisted in some areas. For the interior concrete slab replacement activities, the area was cleared and prepped and plastic sheeting was installed from floor to ceiling surrounding the work area so the work would not disturb the patrons in the store and dust and/or debris would be contained in the work area. The interior concrete replacement activities did not disturb the sub-base materials below the concrete slab and did not disturb the historic fill materials below the cap materials. No soils from below the concrete slabs were removed from the site as part of this activity. HDR conducted several site visits during this work to document that the historic fill material below the cap was not being disturbed. Appendix A contains photos taken during these concrete slab removal and replacement activities.

3. In November and December 2018, Lowe's removed and replaced several sections of the exterior concrete slab in the general loading dock area off the northwest corner of the building and the outdoor garden center as well as the storage area along the back of the building and the loading dock area at the southwest corner area of the building. The concrete slabs in these area were settling a bit and cracking in several locations. In addition, Lowe's removed and replaced several sections of the sidewalks along the east and west sides of the property that had settled or cracked or had begun to tilt. The concrete replacement activities did not disturb the sub-base materials below the concrete slab and did not disturb the historic fill materials below the cap materials. No soils from below the concrete slabs were removed from the site as part of these activities. HDR conducted several site visits during these activities to document that the historic fill material below the cap were not being disturbed. Appendix A contains photos taken during these concrete slab removal and replacement activities.

4. In December 2018, Lowe's informed HDR and Orangeburg Holdings LLC of a suspected water line leak in the area along the back of the building (based on some investigations and water usage records). A leak was identified in a small 2-in. diameter line that ran from the back of the building to another water line running along Greenbush Road. They determined that the leak was just off the back wall of the building. On December 13, 2018 a subcontractor hired by Lowe's saw-cut an approximate 4 ft by 4 ft section of the concrete slab along the back of the building to expose the pipe for repairs. Soil was excavated to approximately 3.5 ft to expose the water line. The excavated soils were placed on plastic and after the repairs were made to the water line, the fill and soils were placed back in the hole. No soils from the excavation were removed from the site as part of this water line repair activity. The following day, the soils in the hole were compacted and the excavation area was capped with a poured concrete slab to match the existing slab. HDR conducted a site visit during the excavation and repair activities to

document that the historic fill material below the cap were not removed from the site. Appendix A contains photos taken during this water line repair activity.

5. In October 2019, Lowe's had a subcontractor plant some shrubs/trees in the soil berm along the parking lot in the northwest section of the property as requested by the Town of Orangeburg. The subcontractor also removed some plantings in this area and replaced them with other plantings. Excavation down to about 2 feet was necessary to make room for the root balls of the plantings. It did not appear that this excavation exposed the demarcation layer or any of the historic fill materials under the soil cap in this area. All of the excavated soils were replaced back in the area of the plantings. No soils from the planting activities were removed from the site. HDR conducted site visits during this 2-day activity to document that the historic fill material below the cap were not disturbed. Appendix A contains photos taken during the plantings activities.

6. The parking lot area along the stormwater retention basin at the southeast corner of the property has settled somewhat over the years. Lowe's hired a subcontractor to conduct geotechnical borings in the parking lot along the retention basin to determine what may be causing the settlement in this area. As part of this same investigation activities, the subcontractor conducted some DCP testing in a number of areas throughout the parking lot. The subcontractor advanced five borings in the parking lot above the retention basin to approximately 20 ft bgs, and they conducted 12 DCP tests in total throughout the larger parking lot area. When each boring and DCP test was completed, all of the drill cutting were placed back in the boring or the hole and asphalt cold patch was used to seal the opening at the surface. HDR observed these geotechnical activities conducted over two days to document that the site fill and/or historic fill materials removed from the borings were placed back in the holes after the geotechnical work was completed at each location. Appendix A contains photos taken during these concrete slab removal and replacement activities.

6.3 Evaluation

The cap continues to prevent exposure to the historic fill and has operated as designed. Appendix D contains photos of the parking lot during the site inspection conducted in April 2020 and the before and after photos of the parking lot concrete well pads (MW03-14S & -14D and MW03-27 & -27D).

6.4 Deficiencies

There were no deficiencies in complying with the O&M Plan during this reporting period.

6.5 Conclusions and Recommendations

No modifications to the ETS are required; it should remain shut down.

7 Overall PRR Conclusions and Recommendations

7.1 Compliance with Site Management Plan

1. For each component of the SMP, all requirements were met during the reporting period.
2. There were no requirements that were not met.
3. New compliance plans/schedules are not needed.
4. The concrete well pads in the parking lot that were damaged were replaced and the remaining well pads and vaults will be assessed and replaced as required.

7.2 Performance and Effectiveness of the Remedy

The site management plan is achieving the remedial objectives for the site:

1. Groundwater at the site is not being used.
2. Excavation through the cap over the historic fill is controlled and monitored.
3. Contaminated groundwater is not migrating.

7.3 Future PRR Submittals

The current triennial frequency for PRR submittals should be retained.

7.4 Continued Shutdown of the Extraction and Treatment System

The ETS should remain shut down. The results of the annual groundwater sampling events since the ETS has been shut down (July 2015 through July 2019) revealed no significant changes in the contaminants of concern at the site. The system will be kept in operational condition in the event future monitoring demonstrates a need for reactivation of the ETS.

8 References

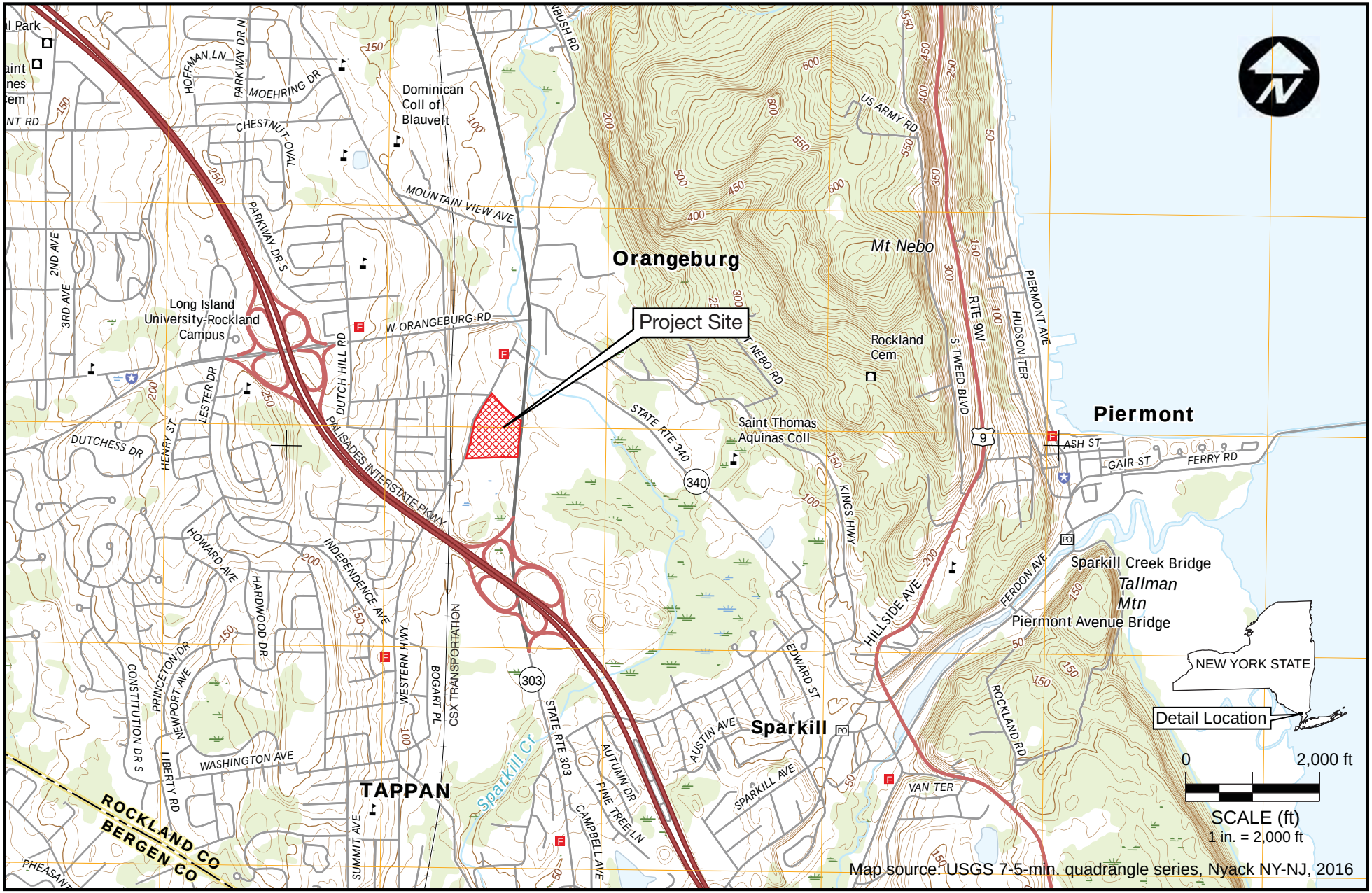
HDR. 2006. Site Management Plan for Portions of Former Orangeburg Pipe Manufacturing Site Tax Map Numbers 74.15-1-3 and 74.15-1-4.

Lawler, Matusky & Skelly Engineers (LMS) 1990. Remedial Action Work Plan – Soil and Groundwater Investigations Conducted on the Former Orangeburg Pipe Manufacturing Site.

Lawler, Matusky & Skelly Engineers (LMS) 1991. Remedial Action Work Plan – Soil and Groundwater Investigations Conducted on Block 754 of the Former Orangeburg Pipe Manufacturing Site.

Lawler, Matusky & Skelly Engineers LLP (LMS) 2005. Remedial Action Work Plan - Operation, Maintenance, and Monitoring Work Plan for Portions of Former Orangeburg Pipe Manufacturing Site.

Figures



Henningson, Durham & Richardson Architecture and Engineering, P.C. in association with HDR Engineering, Inc. 711 Westchester Avenue White Plains, NY 10604-3504	**Site Location** **FORMER ORANGEBURG PIPE MANUFACTURING FACILITY – LOWE'S SITE**	**Figure** **1**

M:\Graphics\Projects\10016690_FormerOrangeburgPipe\Fig1_SiteLocation.ai

Henningson, Durham & Richardson Architecture and Engineering, P.C. in association with HDR Engineering, Inc. 711 Westchester Avenue White Plains, NY 10604-3504	**Site Vicinity** **FORMER ORANGEBURG PIPE MANUFACTURING FACILITY – LOWE'S SITE**	**Figure** **2**

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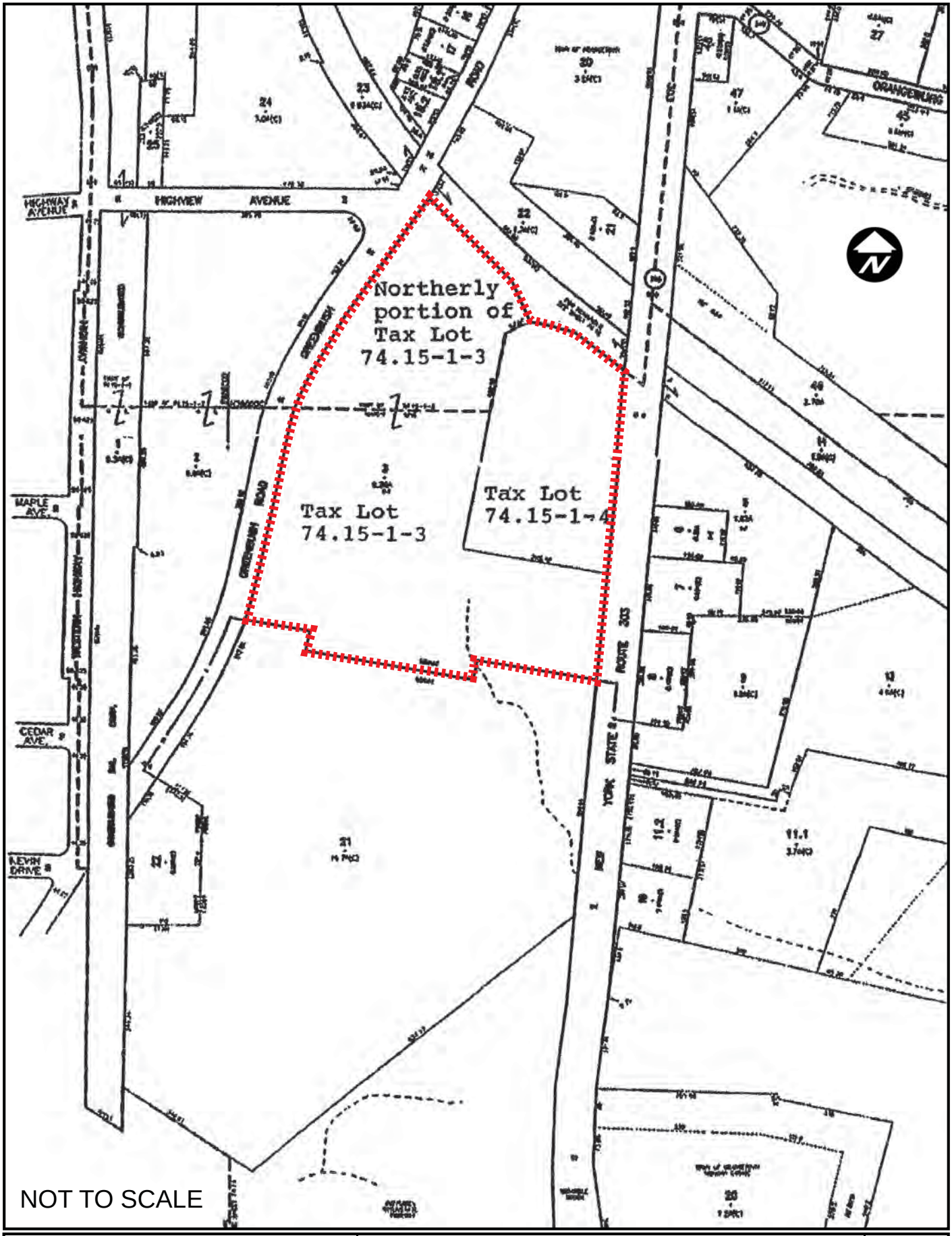

Henningson, Durham & Richardson Architecture and Engineering, P.C. in association with HDR Engineering, Inc. 711 Westchester Avenue White Plains, NY 10604-3504	**Site Tax Map** **FORMER ORANGEBURG PIPE MANUFACTURING FACILITY – LOWE'S SITE**	**Figure 3**

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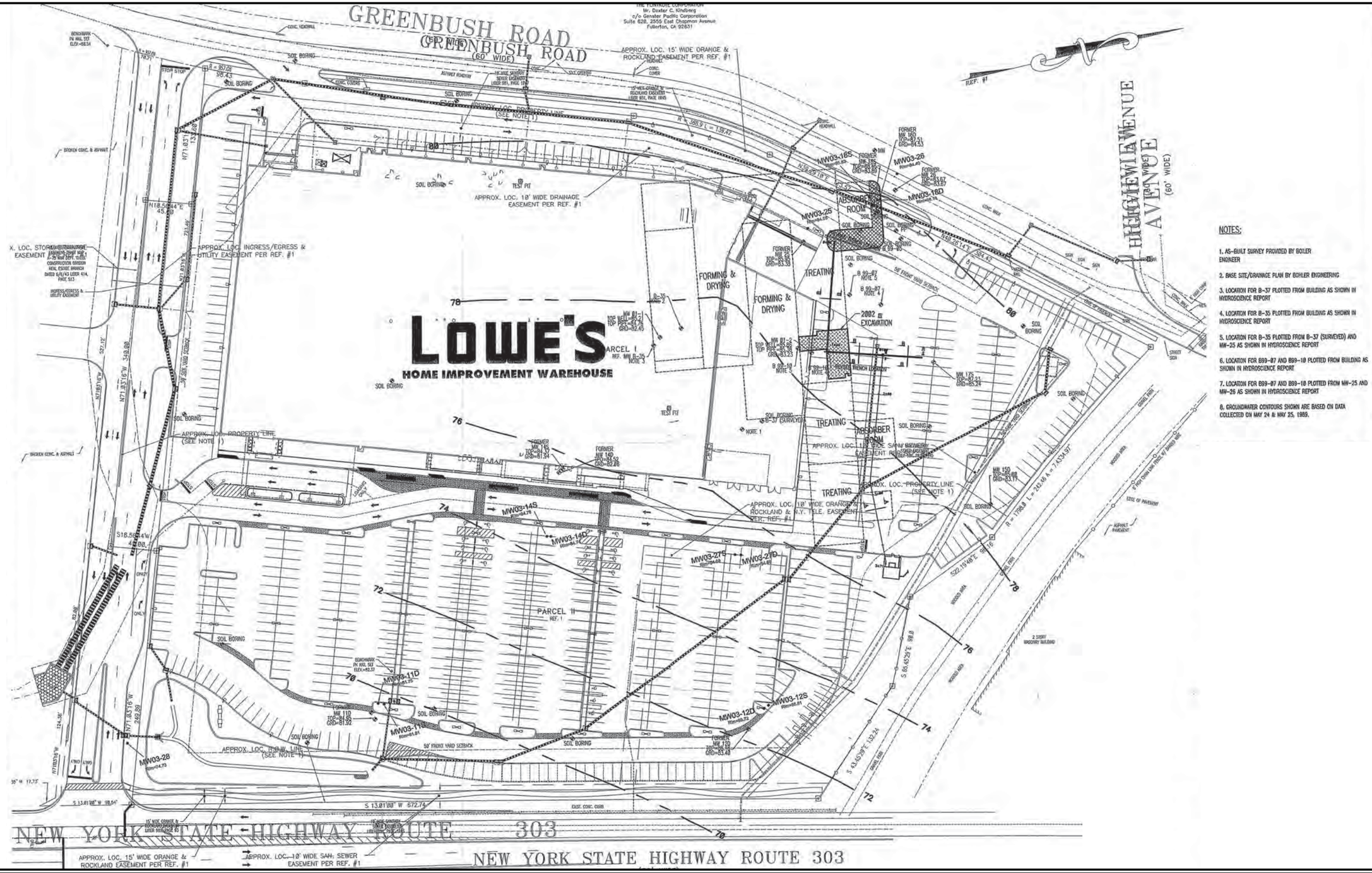

NOTES:

1. AS-BUILT SURVEY PROVIDED BY BOILER ENGINEER
2. BASE SITE/DRAINAGE PLAN BY BOHLER ENGINEERING
3. LOCATION FOR B-37 PLOTTED FROM BUILDING AS SHOWN IN HYDROSCIENCE REPORT
4. LOCATION FOR B-35 PLOTTED FROM BUILDING AS SHOWN IN HYDROSCIENCE REPORT
5. LOCATION FOR B-35 PLOTTED FROM B-37 (SURVEYED) AND MW-25 AS SHOWN IN HYDROSCIENCE REPORT
6. LOCATION FOR B99-07 AND B99-10 PLOTTED FROM BUILDING AS SHOWN IN HYDROSCIENCE REPORT
7. LOCATION FOR B99-07 AND B99-10 PLOTTED FROM MW-25 AND MW-26 AS SHOWN IN HYDROSCIENCE REPORT
8. GROUNDWATER CONTOURS SHOWN ARE BASED ON DATA COLLECTED ON MAY 24 & MAY 25, 1989.

Henningson, Durham & Richardson
Architecture and Engineering, P.C.
in association with HDR Engineering, Inc.
711 Westchester Avenue
White Plains, NY 10604-3504

Site Details

FORMER ORANGEBURG PIPE MANUFACTURING FACILITY
LOWE'S SITE

Figure 4

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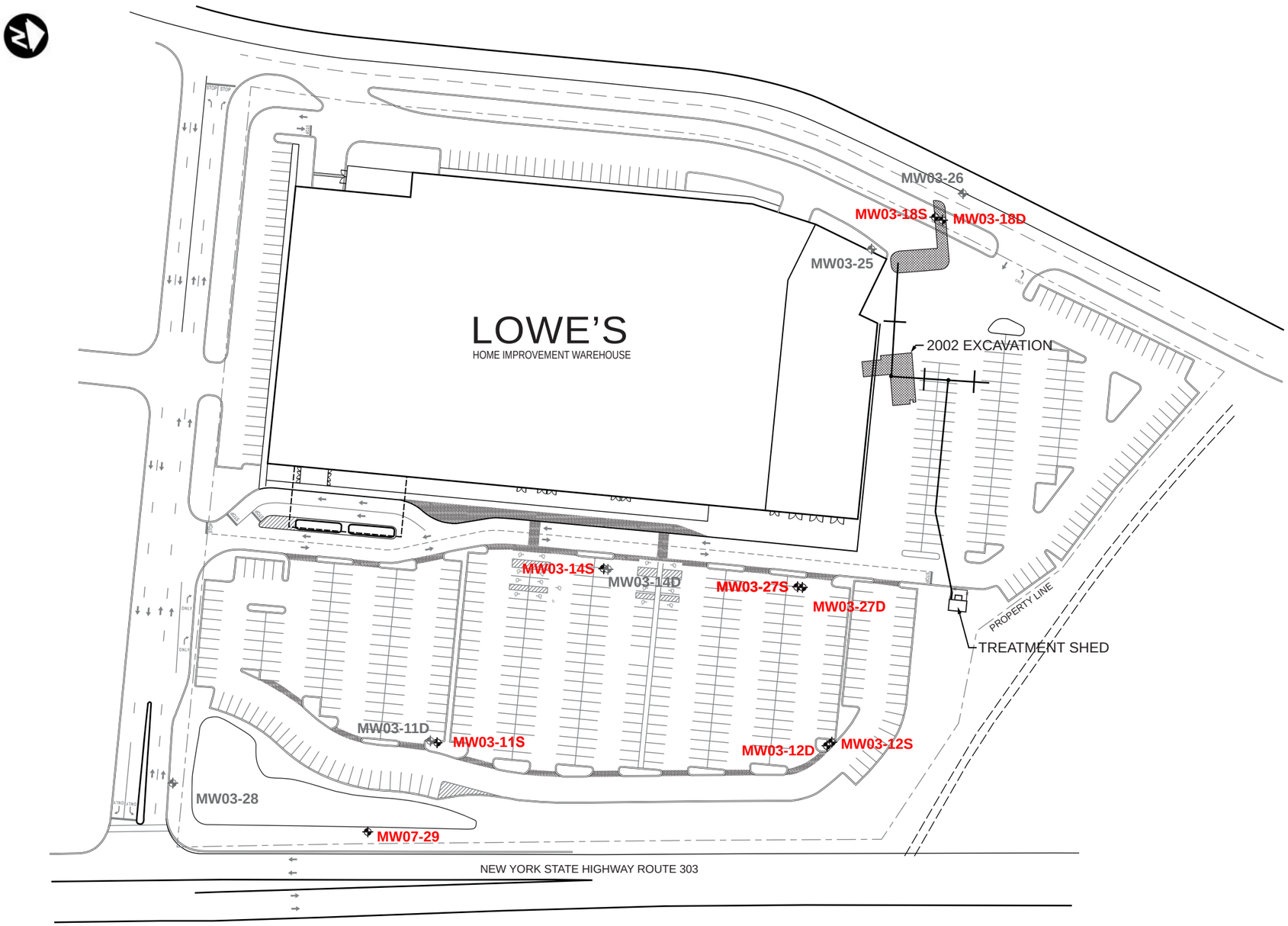

Legend

MW #
Monitoring well in current Annual Groundwater Monitoring Program

MW #
Additional monitoring well on site

0 80 ft
~SCALE (ft)

Map source: Lawler, Matusky & Skelly Engineers LLP, 2002

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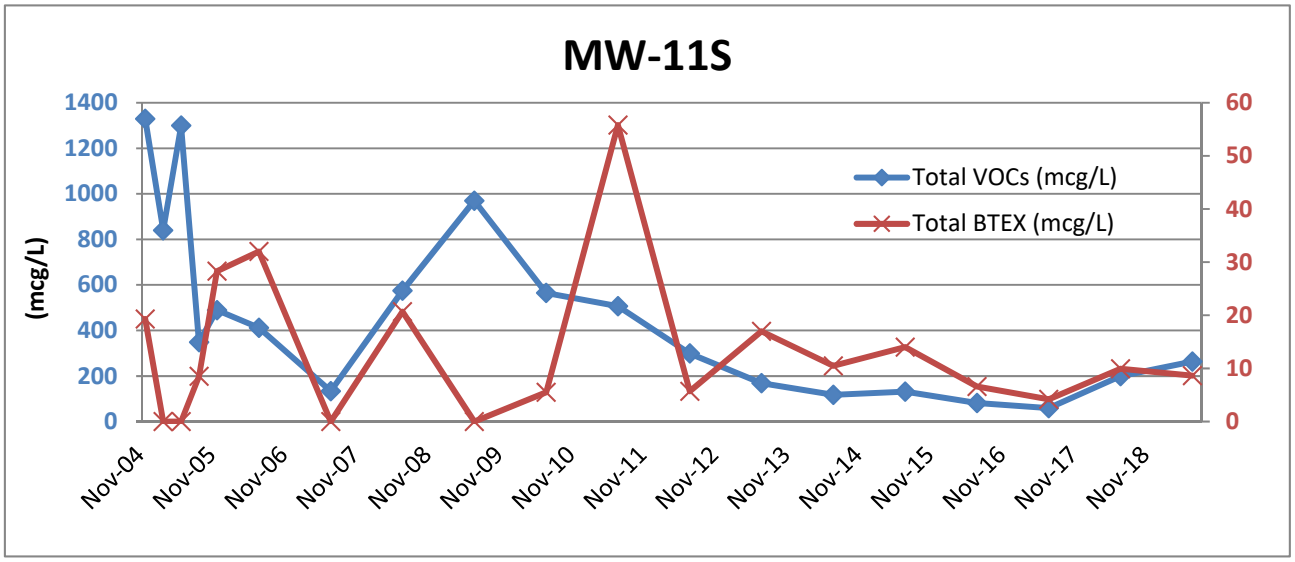
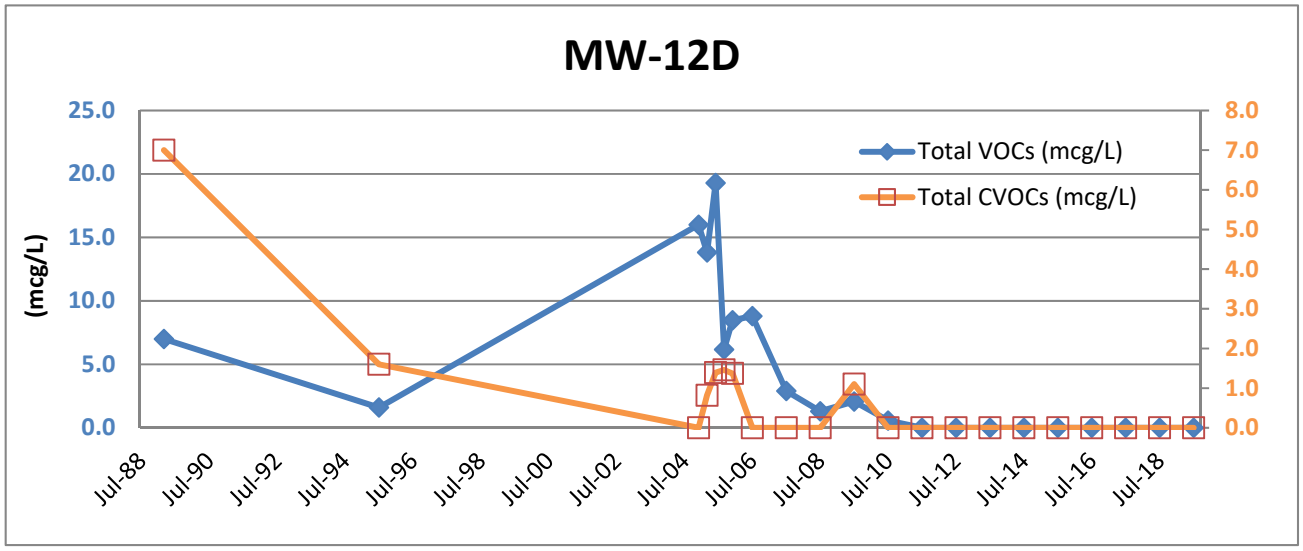
MONITORING WELL LOCATIONS
Former Orangeburg Pipe Manufacturing Facility Lowe's Site
FIGURE 5

\\nahpl-file01\M:\Graphics\Projects\10016690_Lowes\BaseMap_LowesSite_20180809.ai

Figure 6

Groundwater - Total VOCs Data Summary Graphs (1989 to Present)
Orangeburg Holdings - Lowe's Site





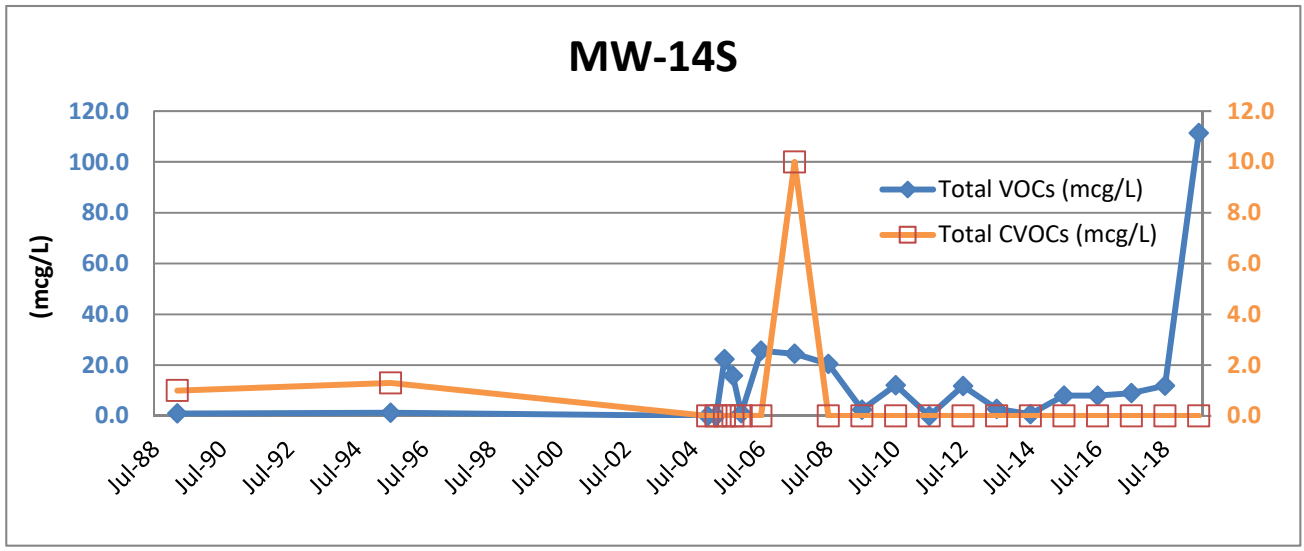
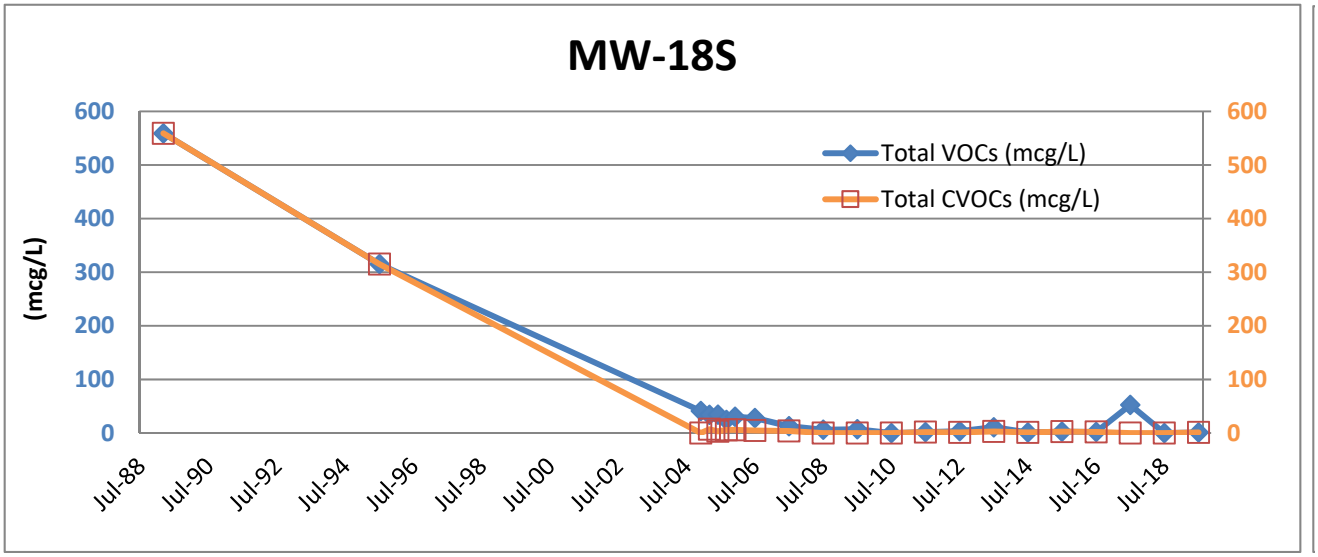
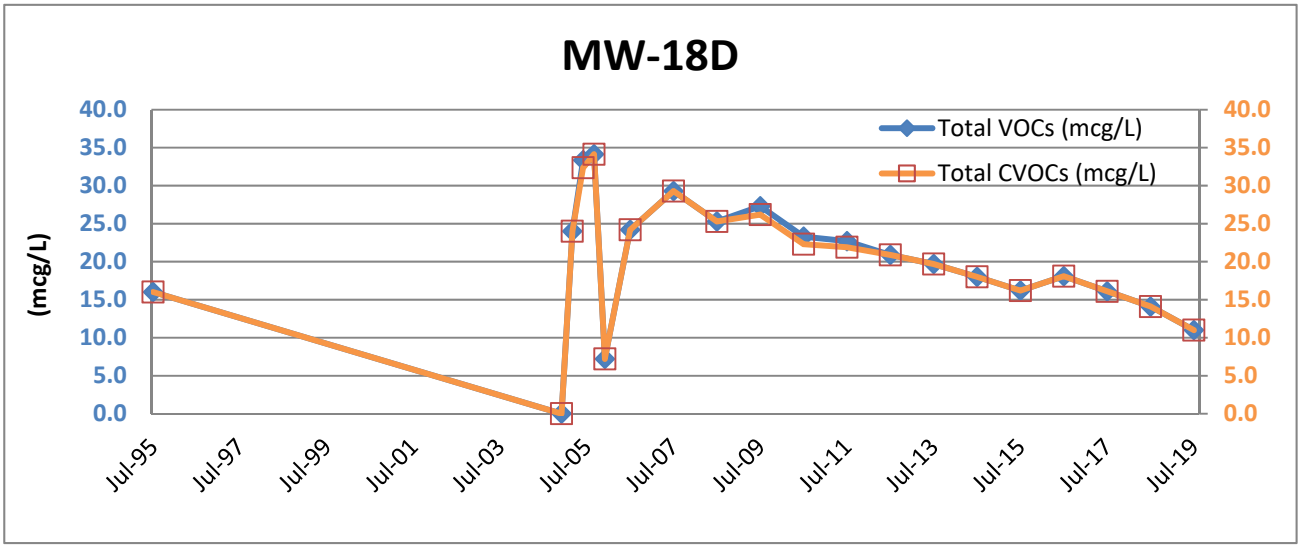


Figure 6

Groundwater - Total VOCs Data Summary Graphs (1989 to Present)
Orangeburg Holdings - Lowe's Site





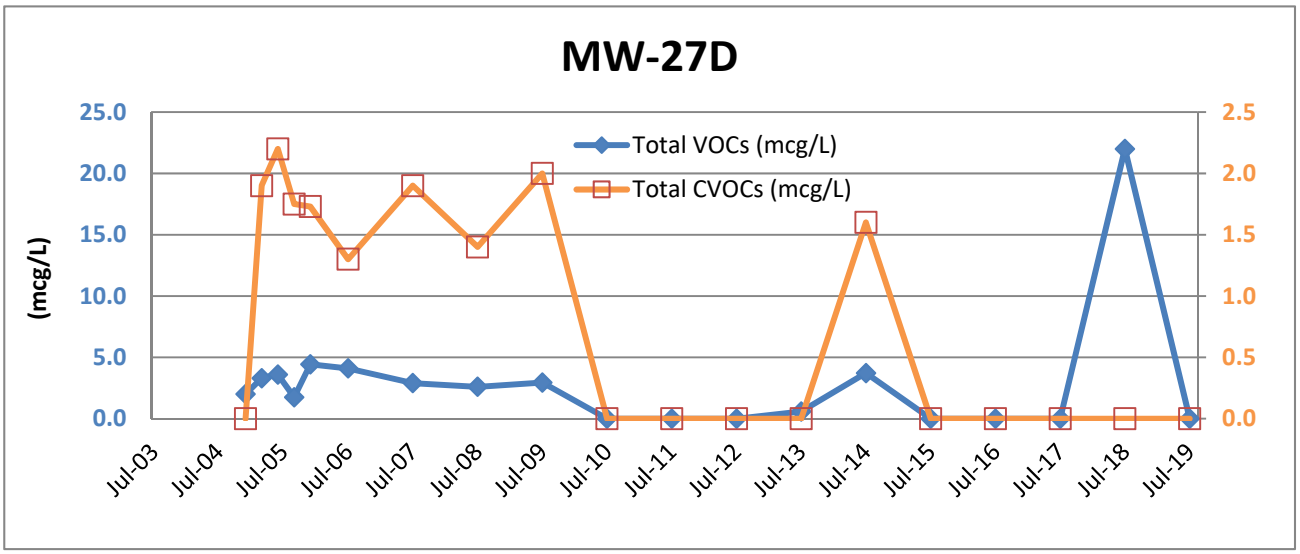
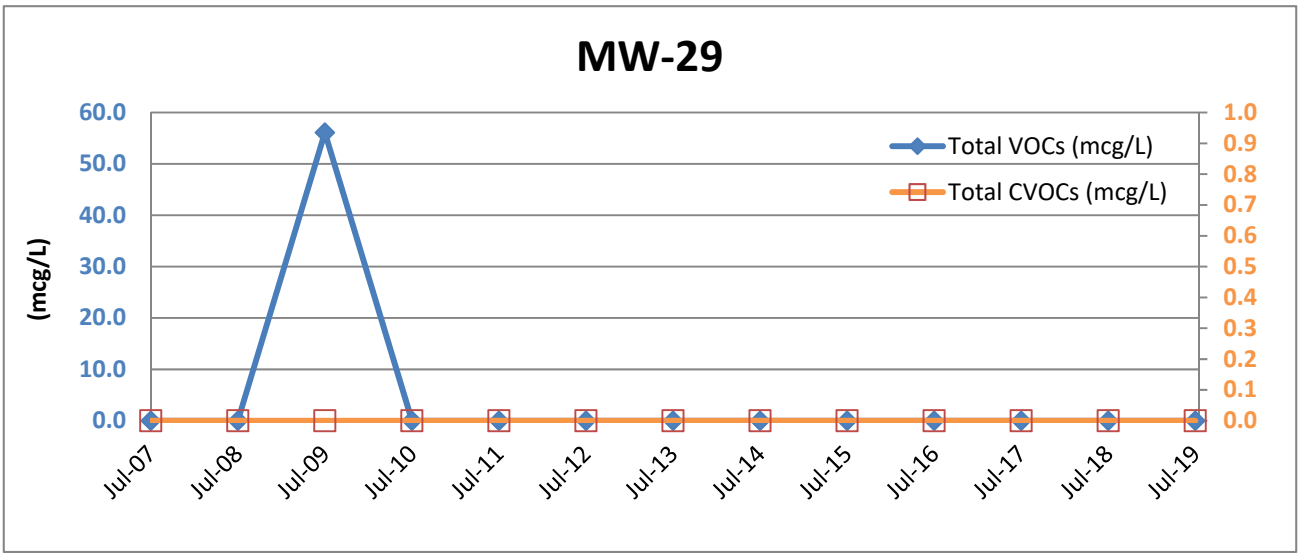
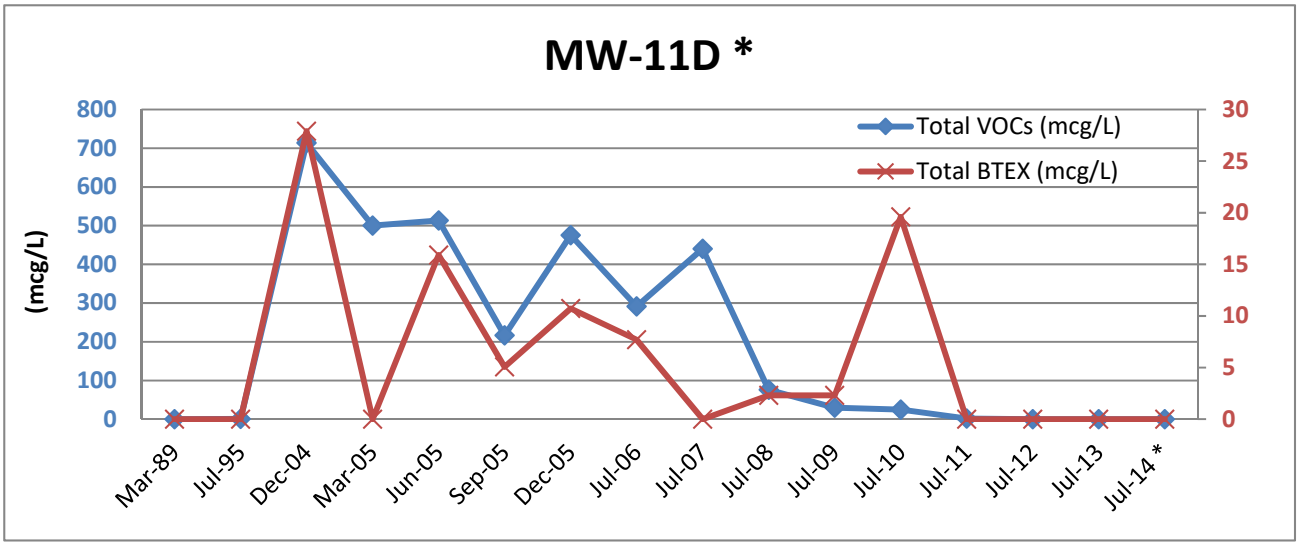
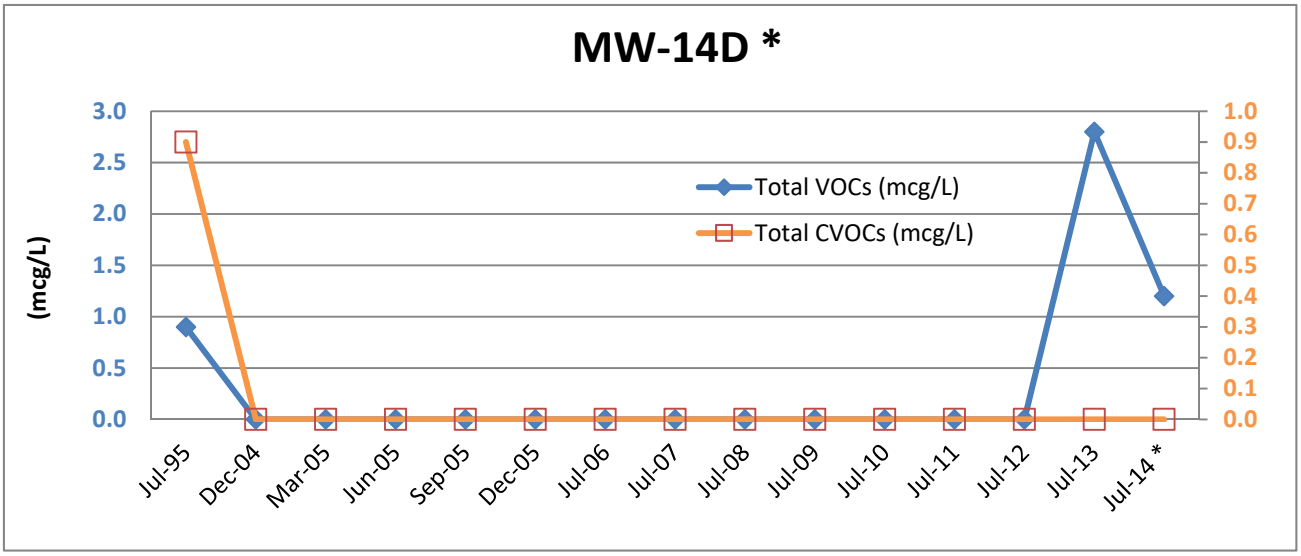


Figure 6

Groundwater - Total VOCs Data Summary Graphs (1989 to Present)
Orangeburg Holdings - Lowe's Site



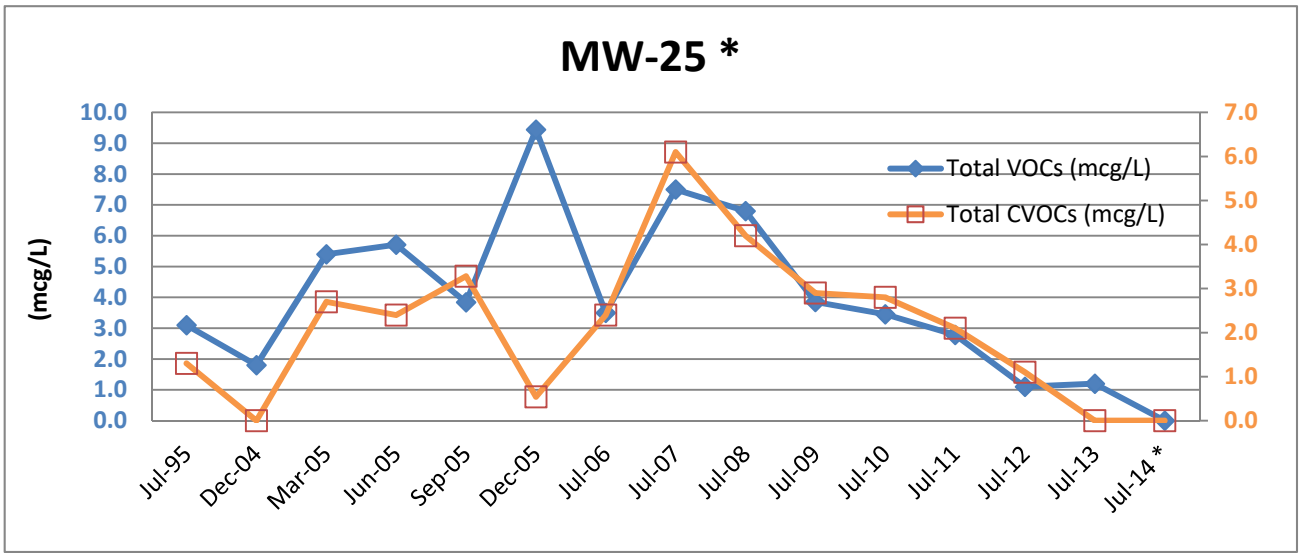


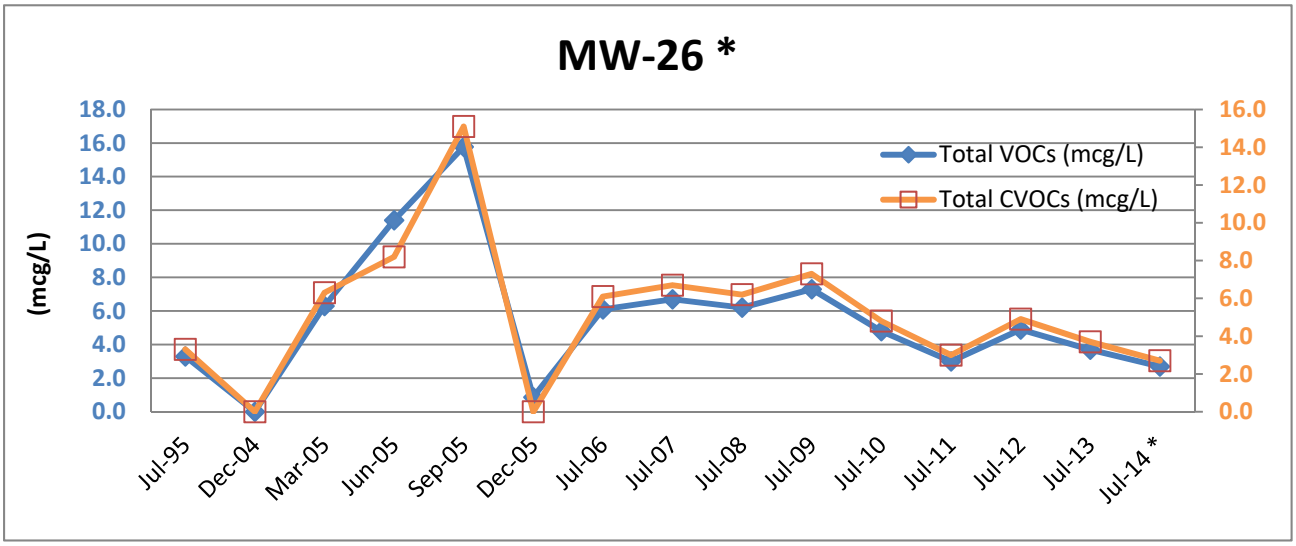


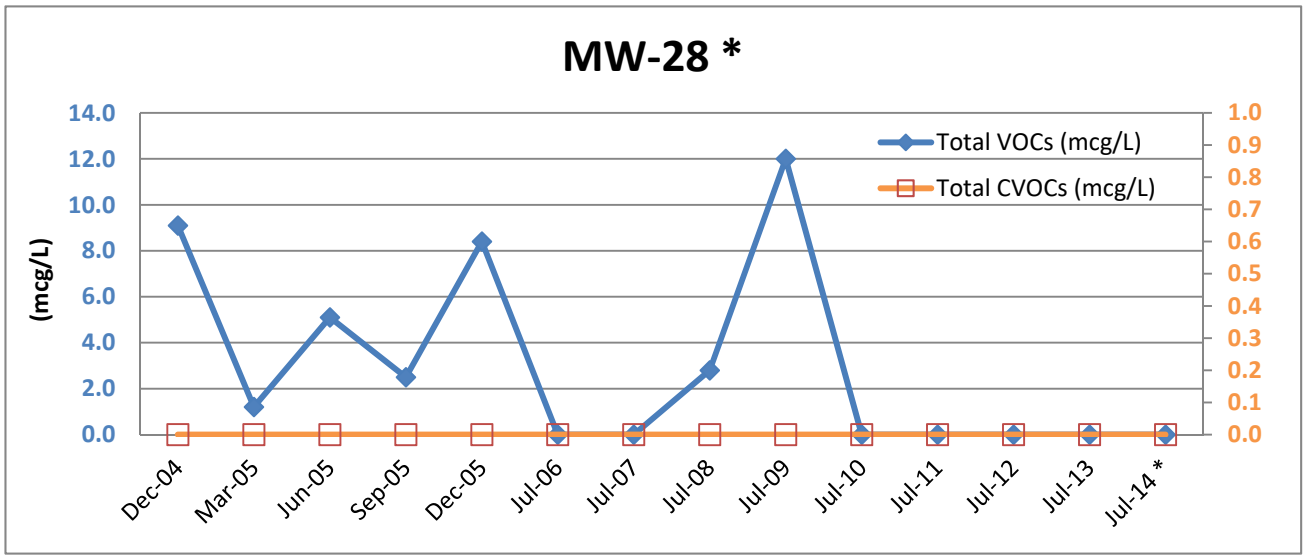
* - Removed from annual monitoring program after 2014 sampling event.

Figure 6

Groundwater - Total VOCs Data Summary Graphs (1989 to Present)
Orangeburg Holdings - Lowe's Site







* - Removed from annual monitoring program after 2014 sampling event.

Tables

Table 1

Annual Groundwater Sampling Data Results (July 18, 2017)
Former Orangeburg Pipe Manufacturing Facility (Lowe's Home Center)

HDR Sample ID		NYSDEC	MW03-11S		MW03-12S		MW03-12D		MW03-14S		MW03-18S		MW03-18D		MW03-27S		MW03-27D		MW07-29		Trip Blank	
Lab Sample ID		Class GA	AC99047-008				AC99047-004		AC99047-003		AC99047-006		AC99047-007		AC99047-002		AC99047-001		AC99047-005		AC99047-009	
Date Sampled		Standards (a)	7/18/17		7/18/17		7/18/17		7/18/17		7/18/17		7/18/17		7/18/17		7/18/17		7/18/17		7/18/17	
			Results	RL	Results	RL	Results	RL	Results	RL	Results	RL	Results	RL	Results	RL	Results	RL	Results	RL	Results	RL
VOCs (mcg/L)	**CAS No.**																					
1,1-Dichloroethane	75-34-4	5	**1.5**	1	**No Sample**		ND	1	ND	1	ND	1	**14**	1	ND	1	ND	1	ND	1	ND	1
1,1,1-Trichloroethane	71-55-6	5	ND	1	**(Dry)**		ND	1	ND	1	ND	1	ND	1	ND	1	ND	1	ND	1	ND	1
1,1-Dichloroethene	75-35-4	5	ND	1			ND	1	ND	1	ND	1	**2.1**	1	**1.5**	1	ND	1	ND	1	ND	1
Methylene chloride	75-09-2	5	ND	1			ND	1	ND	1	ND	1	ND	1	ND	1	ND	1	ND	1	ND	1
Chloroethane	75-00-3	5 GV	ND	1			ND	1	ND	1	ND	1	ND	1	ND	1	ND	1	ND	1	ND	1
Benzene	71-43-2	1	ND	0.5			ND	0.5	ND	0.5	ND	0.5	ND	0.5	ND	0.5	ND	0.5	ND	0.5	ND	0.5
Toluene	108-88-3	5	ND	1			ND	1	ND	1	ND	1	ND	1	ND	1	ND	1	ND	1	ND	1
Ethylbenzene	100-41-4	5	ND	1			ND	1	ND	1	ND	1	ND	1	ND	1	ND	1	ND	1	ND	1
m&p-Xylenes	108-38-3 106-42-3	5	ND	1			ND	1	ND	1	ND	1	ND	1	ND	1	ND	1	ND	1	ND	1
o-Xylene	95-47-6	5	**4.2**	1			ND	1	ND	1	**1.4**	1	ND	1	ND	1	ND	1	ND	1	ND	1
Naphthalene	91-20-3	10 GV	**46**	1			ND	1	**3.5**	1	**51**	1	ND	1	ND	1	ND	1	ND	1	ND	1
Methyl tert-butyl ether (MTBE)	1634-04-4	10 GV	**3.1**	0.5			ND	0.5	**5.5**	0.5	ND	0.5	ND	0.5	ND	0.5	ND	0.5	ND	0.5	ND	0.5
n-Propylbenzene	103-65-1	5	ND	1			ND	1	ND	1	ND	1	ND	1	ND	1	ND	1	ND	1	ND	1
n-Butylbenzene	104-51-8	5	ND	1			ND	1	ND	1	ND	1	ND	1	ND	1	ND	1	ND	1	ND	1
sec-Butylbenzene	135-98-8	5	ND	1			ND	1	ND	1	ND	1	ND	1	ND	1	ND	1	ND	1	ND	1
Isopropylbenzene	98-82-8	5	ND	1			ND	1	ND	1	ND	1	ND	1	ND	1	ND	1	ND	1	ND	1
1,2,4-Trimethylbenzene	95-63-6	5	**1.1**	1			ND	1	ND	1	ND	1	ND	1	ND	1	ND	1	ND	1	ND	1
1,3,5-Trimethylbenzene	108-67-8	5	**3.3**	1			ND	1	ND	1	ND	1	ND	1	ND	1	ND	1	ND	1	ND	1
Acetone	67-64-1	50 GV	ND	5			ND	5	ND	5	ND	5	ND	5	ND	5	ND	5	ND	5	ND	5
		Total VOCs:	*59*				*ND*		*9*		*52*		*16*		*1.5*		*ND*		*ND*		*ND*	
		Total CVOCs:	*1.5*				*ND*		*ND*		*ND*		*16*		*1.5*		*ND*		*ND*		*ND*	
		Total BTEX:	*4.2*				*ND*		*ND*		*1.4*		*ND*		*ND*		*ND*		*ND*		*ND*	

(a) - NYSDEC Part 703 & TOGS 1.1.1, June 1998.
ND - Not detected at analytical reporting limit.
1.6 - **Bold** indicates parameter detected above analytical reporting limit.
67 - **Bold** & color indicates exceedance of applicable standard or guidance value.

GV - Guidance value.
NS - No standard or guidance value available.
RL - Reporting Limit
Note - The results represent detected parameters only. Please refer to the laboratory data packages in the appendix of this report for all parameters analyzed.

Table 2

Annual Groundwater Sampling Data Results (July 13, 2018)
Former Orangeburg Pipe Manufacturing Facility (Lowe's Home Center)

HDR Sample ID		NYSDEC	MW03-11S		MW03-12S		MW03-12D		MW03-14S		MW03-18S		MW03-18D		MW03-27S		MW03-27D		MW07-29		Trip Blank	
Lab Sample ID		Class GA	AD05432-006				AD05432-004		AD05432-001		AD05432-007		AD05432-008		AD05432-002		AD05432-003		AD05432-005		AD05432-009	
Date Sampled		Standards (a)	7/13/18		7/13/18		7/13/18		7/13/18		7/13/18		7/13/18		7/13/18		7/13/18		7/13/18		7/13/18	
			Results	RL	Results	RL	Results	RL	Results	RL	Results	RL	Results	RL	Results	RL	Results	RL	Results	RL	Results	RL
VOCs (mcg/L)	**CAS No.**																					
1,1-Dichloroethane	75-34-4	5	ND	1	**No Sample**		ND	1	ND	1	ND	1	**12**	1	ND	1	ND	1	ND	1	ND	1
1,1,1-Trichloroethane	71-55-6	5	ND	1	**(Dry)**		ND	1	ND	1	ND	1	ND	1	ND	1	ND	1	ND	1	ND	1
1,1-Dichloroethene	75-35-4	5	ND	1			ND	1	ND	1	ND	1	**2.1**	1	**1.3**	1	ND	1	ND	1	ND	1
Methylene chloride	75-09-2	5	ND	1			ND	1	ND	1	ND	1	ND	1	ND	1	ND	1	ND	1	ND	1
Chloroethane	75-00-3	5 GV	ND	1			ND	1	ND	1	ND	1	ND	1	ND	1	ND	1	ND	1	ND	1
Benzene	71-43-2	1	**0.64**	0.5			ND	0.5	ND	0.5	ND	0.5	ND	0.5	ND	0.5	ND	0.5	ND	0.5	ND	0.5
Toluene	108-88-3	5	**1.1**	1			ND	1	ND	1	ND	1	ND	1	ND	1	ND	1	ND	1	ND	1
Ethylbenzene	100-41-4	5	**2.4**	1			ND	1	ND	1	ND	1	ND	1	ND	1	ND	1	ND	1	ND	1
m&p-Xylenes	108-38-3 106-42-3	5	**1.6**	1			ND	1	ND	1	ND	1	ND	1	ND	1	ND	1	ND	1	ND	1
o-Xylene	95-47-6	5	**4.2**	1			ND	1	ND	1	ND	1	ND	1	ND	1	ND	1	ND	1	ND	1
Naphthalene	91-20-3	10 GV	**180**	1			ND	1	**2.8**	1	ND	1	ND	1	ND	1	ND	1	ND	1	ND	1
Methyl tert-butyl ether (MTBE)	1634-04-4	10 GV	**3.9**	0.5			ND	0.5	**6.4**	0.5	ND	0.5	ND	0.5	**0.6**	0.5	ND	0.5	ND	0.5	ND	0.5
n-Propylbenzene	103-65-1	5	ND	1			ND	1	ND	1	ND	1	ND	1	ND	1	ND	1	ND	1	ND	1
n-Butylbenzene	104-51-8	5	ND	1			ND	1	ND	1	ND	1	ND	1	ND	1	ND	1	ND	1	ND	1
sec-Butylbenzene	135-98-8	5	ND	1			ND	1	ND	1	ND	1	ND	1	ND	1	ND	1	ND	1	ND	1
Isopropylbenzene	98-82-8	5	ND	1			ND	1	ND	1	ND	1	ND	1	ND	1	ND	1	ND	1	ND	1
1,2,4-Trimethylbenzene	95-63-6	5	**1.7**	1			ND	1	ND	1	ND	1	ND	1	ND	1	ND	1	ND	1	ND	1
1,3,5-Trimethylbenzene	108-67-8	5	**4.2**	1			ND	1	**2.7**	1	ND	1	ND	1	ND	1	ND	1	ND	1	ND	1
Acetone	67-64-1	50 GV	ND	5			ND	5	ND	5	ND	5	ND	5	ND	5	**22**	5	ND	5	ND	5
		Total VOCs:	*200*				*ND*		*12*		*ND*		*14*		*1.9*		*22*		*ND*		*ND*	
		Total CVOCs:	*ND*				*ND*				*ND*		*14*		*1.3*		*ND*		*ND*		*ND*	
		Total BTEX:	*9.9*				*ND*		*ND*		*ND*		*ND*		*ND*		*ND*		*ND*		*ND*	

(a) - NYSDEC Part 703 & TOGS 1.1.1, June 1998.
ND - Not detected at analytical reporting limit.
1.6 - **Bold** indicates parameter detected above analytical reporting limit.
67 - **Bold** & color indicates exceedance of applicable standard or guidance value.

GV - Guidance value.
NS - No standard or guidance value available.
RL - Reporting Limit
Note - The results represent detected parameters only. Please refer to the laboratory data packages in the appendix of this report for all parameters analyzed.

Table 3

Annual Groundwater Sampling Data Results (July 2, 2019)
Former Orangeburg Pipe Manufacturing Facility (Lowe's Home Center)

HDR Sample ID		NYSDEC	MW03-11S		MW03-12S		MW03-12D		MW03-14S		MW03-18S		MW03-18D		MW03-27S		MW03-27D		MW07-29		Trip Blank	
Lab Sample ID		Class GA	AD11636-006				AD11636-004		AD11636-001		AD11636-007		AD11636-008		AD11636-002		AD11636-003		AD11636-005		AD11636-009	
Date Sampled		Standards (a)	7/2/19		7/2/19		7/2/19		7/2/19		7/2/19		7/2/19		7/2/19		7/2/19		7/2/19		7/2/19	
			Results	RL	Results	RL	Results	RL	Results	RL	Results	RL	Results	RL	Results	RL	Results	RL	Results	RL	Results	RL
VOCs (mcg/L)	**CAS No.**																					
1,1-Dichloroethane	75-34-4	5	ND	1	No Sample		ND	1	ND	1	**1.1**	1	**9.9**	1	ND	1	ND	1	ND	1	ND	1
1,1,1-Trichloroethane	71-55-6	5	ND	1	(Dry)		ND	1	ND	1	ND	1	ND	1	ND	1	ND	1	ND	1	ND	1
1,1-Dichloroethene	75-35-4	5	ND	1			ND	1	ND	1	ND	1	**1.1**	1	ND	1	ND	1	ND	1	ND	1
Methylene chloride	75-09-2	5	ND	1			ND	1	ND	1	ND	1	ND	1	ND	1	ND	1	ND	1	ND	1
Chloromethane	74-87-3	5	ND	1			ND	1	**1.0**		ND	1	ND	1	ND	1	ND	1	ND	1	ND	1
Chloroethane	75-00-3	5 GV	ND	1			ND	1	ND	1	ND	1	ND	1	ND	1	ND	1	ND	1	ND	1
Benzene	71-43-2	1	**0.66**	0.5			ND	0.5	**93**	0.5	ND	0.5	ND	0.5	ND	0.5	ND	0.5	ND	0.5	ND	0.5
Toluene	108-88-3	5	**1.1**	1			ND	1	**13**	1	ND	1	ND	1	ND	1	ND	1	ND	1	ND	1
Ethylbenzene	100-41-4	5	**1.9**	1			ND	1	ND	1	ND	1	ND	1	ND	1	ND	1	ND	1	ND	1
m&p-Xylenes	108-38-3 106-42-3	5	**1.5**	1			ND	1	**3.3**	1	ND	1	ND	1	ND	1	ND	1	ND	1	ND	1
o-Xylene	95-47-6	5	**3.5**	1			ND	1	ND	1	ND	1	ND	1	ND	1	ND	1	ND	1	ND	1
Naphthalene	91-20-3	10 GV	**250**	1			ND	1	ND	1	ND	1	ND	1	ND	1	ND	1	ND	1	ND	1
Methyl tert-butyl ether (MTBE)	1634-04-4	10 GV	**3.5**	0.5			ND	0.5	ND	0.5	ND	0.5	ND	0.5	**1.0**	0.5	ND	0.5	ND	0.5	ND	0.5
n-Propylbenzene	103-65-1	5	ND	1			ND	1	ND	1	ND	1	ND	1	ND	1	ND	1	ND	1	ND	1
n-Butylbenzene	104-51-8	5	ND	1			ND	1	ND	1	ND	1	ND	1	ND	1	ND	1	ND	1	ND	1
sec-Butylbenzene	135-98-8	5	ND	1			ND	1	ND	1	ND	1	ND	1	ND	1	ND	1	ND	1	ND	1
Isopropylbenzene	98-82-8	5	ND	1			ND	1	ND	1	ND	1	ND	1	ND	1	ND	1	ND	1	ND	1
1,2,4-Trimethylbenzene	95-63-6	5	**1.5**	1			ND	1	ND	1	ND	1	ND	1	ND	1	ND	1	ND	1	ND	1
1,3,5-Trimethylbenzene	108-67-8	5	ND	1			ND	1	ND	1	ND	1	ND	1	ND	1	ND	1	ND	1	ND	1
Styrene	100-42-5	5	ND	1			ND	1	**1.1**	1	ND	1	ND	1	ND	1	ND	1	ND	1	ND	1
Acetone	67-64-1	50 GV	ND	5			ND	5	ND	5	ND	5	ND	5	ND	5	ND	5	ND	5	ND	5
		Total VOCs:	*264*				*ND*		*111*		*1.1*		*11*		*1.0*		*ND*		*ND*		*ND*	
		Total CVOCs:	*ND*				*ND*		*1.0*		*1.1*		*11*		*ND*		*ND*		*ND*		*ND*	
		Total BTEX:	*8.7*				*ND*		*109.3*		*ND*		*ND*		*ND*		*ND*		*ND*		*ND*	

(a) - NYSDEC Part 703 & TOGS 1.1.1, June 1998.
ND - Not detected at analytical reporting limit.
1.6 - **Bold** indicates parameter detected above analytical reporting limit.
67 - **Bold** & color indicates exceedance of applicable standard or guidance value.

GV - Guidance value.
NS - No standard or guidance value available.
RL - Reporting Limit
Note - The results represent detected parameters only. Please refer to the laboratory data packages in the appendix of this report for all parameters analyzed.

Table 4

Historical Groundwater Sampling Data Summary
Former Orangeburg Pipe Manufacturing Facility (Lowe's Home Center)

HDR Sample ID		NYSDEC Stds (a)	MW03-11S																		
Date Sampled			Dec-04 Rslts	Mar-05 Rslts	Jun-05 Rslts	Sep-05 Rslts	Dec-05 Rslts	Jul-06 Rslts	Jul-07 Rslts	Jul-08 Rslts	Jul-09 Rslts	Jul-10 Rslts	Jul-11 Rslts	Jul-12 Rslts	Jul-13 Rslts	Jul-14 Rslts	Jul-15 Rslts	Jul-16 Rslts	Jul-17 Rslts	Jul-18 Rslts	Jul-19 Rslts
VOCs (mcg/L)	**CAS No.**																				
1,1-Dichloroethane	75-34-4	5	NA	<20	<50	**5.1**	<1	<1	<1	<1	<20	<2	<5	<1	<1	<1	<1	<1	**1.5**	<1	<1
1,1,1-Trichloroethane	71-55-6	5	NA	<20	<50	<1	<1	<1	<1	<1	<20	<2	<5	<1	<1	<1	<1	<1	<1	<1	<1
1,1-Dichloroethene	75-35-4	5	NA	<20	<50	<1	<1	<1	<1	<1	<20	<2	<5	<1	<1	<1	<1	<1	<1	<1	<1
Methylene chloride	75-09-2	5	NA	<20	<50	<1	<1	<1	<1	<1	<20	<2	<5	<1	<1	<1	<1	<1	<1	<1	<1
Chloroethane	75-00-3	5 GV	NA	<20	<50	<1	<1	<1	<1	<1	<20	<2	<5	<1	<1	<1	<1	<1	<1	<1	<1
Benzene	71-43-2	1	<1	<20	<25	**0.94**	**1.5**	**2.3**	<1	**1.4**	<10	**1.6**	**2.8**	<1	**1.3**	**0.87**	**1.0**	<0.5	<0.5	**0.64**	**0.66**
Toluene	108-88-3	5	**2.3**	<20	<50	**1.5**	**4.2**	**3.7**	<1	**1.9**	<20	<2	<5	<1	<1	<1	**1.3**	<1	<1	**1.1**	**1.1**
Ethylbenzene	100-41-4	5	**5.8**	<20	<50	<1	**10**	**12**	<1	**6.8**	<20	<2	**29**	**5.7**	**5.6**	**3.1**	**2.7**	**1.6**	<1	**2.4**	**1.9**
m&p-Xylenes	108-38-3 106-42-3	5	**6.5**	<20	<50	**2.7**	**5.4**	**6.5**	<1	**4.9**	<20	**3.9**	**11**	<1	**3.9**	**2.2**	**3.0**	**1.0**	<1	**1.6**	**1.5**
o-Xylene	95-47-6	5	**4.7**	<20	<50	**3.4**	**7.2**	**7.5**	<1	**5.7**	<20	<2	**13**	<1	**6.2**	**4.3**	**6.0**	**4.0**	**4.2**	**4.2**	**3.5**
Naphthalene	91-20-3	10 GV	**1300**	**840**	**1300**	**330**	**450**	**370**	**130**	**540**	**970**	**550**	**430**	**290**	**140**	**100**	**110**	**67**	**46**	**180**	**250**
Methyl tert-butyl ether (MTBE)	1634-04-4	10 GV	**1.7**	<10	<25	**1.1**	**1.1**	<0.5	**2.5**	**7.2**	<10	**3.7**	**7.8**	**3.4**	**5.7**	**3.8**	**4.6**	**5.1**	**3.1**	**3.9**	**3.5**
n-Propylbenzene	103-65-1	5	<1	<20	<50	<1	**3.0**	<1	<1	<1	<20	<2	<5	<1	<1	<1	<1	<1	<1	<1	<1
n-Butylbenzene	104-51-8	5	**2.5**	<20	<50	**1.4**	<1	**3.2**	<1	<1	<20	<2	<5	<1	<1	<1	<1	<1	<1	<1	<1
sec-Butylbenzene	135-98-8	5	<1	<20	<50	<1	<1	<1	<1	<1	<20	<2	<5	<1	<1	<1	<1	<1	<1	<1	<1
Isopropylbenzene	98-82-8	5	**0.85**	<20	<50	<1	**0.66**	<1	<1	<1	<20	<2	<5	<1	<1	<1	<1	<1	<1	<1	<1
1,2,4-Trimethylbenzene	95-63-6	5	**4.5**	<20	<50	**2.3**	**4.6**	**5.0**	**1.3**	**5.1**	<20	**5.6**	**13**	<1	**5.8**	**3.3**	**2.7**	**1.9**	**1.1**	**1.7**	**1.5**
1,3,5-Trimethylbenzene	108-67-8	5	**0.72**	<20	<50	<1	**1.4**	**1.6**	<1	**1.6**	<20	<2	<5	<1	<1	<1	<1	**1.1**	**3.3**	**4.2**	<1
Acetone	67-64-1	50 GV	<5	<20	<50	<5	<5	<5	<5	<5	<20	<10	<5	<5	<5	<5	<5	<5	<5	<5	<5
		Total VOCs:	*1330*	*840*	*1300*	*348*	*489*	*412*	*134*	*575*	*970*	*565*	*507*	*299*	*169*	*118*	*131*	*81.7*	*59.2*	*200*	*264*
		Total CVOCs:	*ND*	*ND*	*ND*	*5.1*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*1.5*	*ND*	*ND*
		Total BTEX:	*19*	*ND*	*ND*	*8.5*	*28*	*32*	*ND*	*21*	*ND*	*5.5*	*56*	*5.7*	*17*	*10.5*	*14*	*6.6*	*4.2*	*9.9*	*8.7*

(a) - NYSDEC TOGS 1.1.1 GA Standards, June 1998.
<1 - Result was not detected at the listed reporting limit.
ND - Not detected at analytical reporting limit.
1.6 - **Bold** indicates parameter detected above analytical reporting limit.
67 - **Bold** & color indicates exceedance of applicable standard or guidance value.

GV - Guidance value.
NA - Not Analyzed.
RL - Reporting Limit
Note - The results represent detected parameters only.

Table 4

Historical Groundwater Sampling Data Summary
Former Orangeburg Pipe Manufacturing Facility (Lowe's Home Center)

HDR Sample ID		NYSDEC Stds (a)	MW03-12D																			
Date Sampled			Mar-89	Jul-95	Dec-04	Mar-05	Jun-05	Sep-05	Dec-05	Jul-06	Jul-07	Jul-08	Jul-09	Jul-10	Jul-11	Jul-12	Jul-13	Jul-14	Jul-15	Jul-16	Jul-17	Jul-18	Jul-19
			Rslts	Rslts	Rslts	Rslts	Rslts	Rslts	Rslts	Rslts	Rslts	Rslts	Rslts	Rslts	Rslts	Rslts	Rslts	Rslts	Rslts	Rslts	Rslts	Rslts	Rslts
VOCs (mcg/L)	**CAS No.**																						
1,1-Dichloroethane	75-34-4	5	**6.0**	**1.6**	NA	**0.82**	**0.85**	**0.78**	**0.76**	<1	<1	<1	**1.1**	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1,1-Trichloroethane	71-55-6	5	<1	<1	NA	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1-Dichloroethene	75-35-4	5	**1.0**	<1	NA	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Trichloroethene	79-01-6	5	<1	<1	NA	<1	**0.54**	**0.68**	**0.61**	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Methylene chloride	75-09-2	5	<1	<1	NA	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chloroethane	75-00-3	5 GV	<1	<1	NA	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Benzene	71-43-2	1	<1	<1	<1	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Toluene	108-88-3	5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Ethylbenzene	100-41-4	5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
m&p-Xylenes	108-38-3 106-42-3	5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
o-Xylene	95-47-6	5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Naphthalene	91-20-3	10 GV	NA	NA	<1	<1	**2.9**	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Methyl tert-butyl ether (MTBE)	1634-04-4	10 GV	NA	NA	**16**	**13**	**15**	**4.7**	**7.1**	**8.8**	**2.9**	**1.3**	**0.97**	**0.57**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
n-Propylbenzene	103-65-1	5	NA	NA	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
n-Butylbenzene	104-51-8	5	NA	NA	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
sec-Butylbenzene	135-98-8	5	NA	NA	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Isopropylbenzene	98-82-8	5	NA	NA	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2,4-Trimethylbenzene	95-63-6	5	NA	NA	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,3,5-Trimethylbenzene	108-67-8	5	NA	NA	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Acetone	67-64-1	50 GV	NA	NA	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
		Total VOCs:	*7.0*	*1.6*	*16.0*	*13.8*	*19.3*	*6.2*	*8.5*	*8.8*	*2.9*	*1.3*	*2.1*	*0.6*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*
		Total CVOCs:	*7.0*	*1.6*	*ND*	*0.8*	*1.4*	*1.5*	*1.4*	*ND*	*ND*	*ND*	*1.1*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*
		Total BTEX:	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*

(a) - NYSDEC TOGS 1.1.1 GA Standards, June 1998.
<1 - Result was not detected at the listed reporting limit.
ND - Not detected at analytical reporting limit.
1.6 - **Bold** indicates parameter detected above analytical reporting limit.
67 - **Bold** & color indicates exceedance of applicable standard or guidance value.

GV - Guidance value.
NA - Not Analyzed.
RL - Reporting Limit
Note - The results represent detected parameters only.

Table 4

Historical Groundwater Sampling Data Summary
Former Orangeburg Pipe Manufacturing Facility (Lowe's Home Center)

HDR Sample ID		NYSDEC Stds (a)	MW03-14S																			
Date Sampled			Mar-89	Jul-95	Dec-04	Mar-05	Jun-05	Sep-05	Dec-05	Jul-06	Jul-07	Jul-08	Jul-09	Jul-10	Jul-11	Jul-12	Jul-13	Jul-14	Jul-15	Jul-16	Jul-17	Jul-18	Jul-19
			Rslts	Rslts	Rslts	Rslts	Rslts	Rslts	Rslts	Rslts	Rslts	Rslts	Rslts	Rslts	Rslts	Rslts	Rslts	Rslts	Rslts	Rslts	Rslts	Rslts	Rslts
VOCs (mcg/L)	**CAS No.**																						
1,1-Dichloroethane	75-34-4	5	**1.0**	**1.3**	NA	<1	<1	<1	<1	<1	<5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1,1-Trichloroethane	71-55-6	5	<1	<1	NA	<1	<1	<1	<1	<1	<5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1-Dichloroethene	75-35-4	5	<1	<1	NA	<1	<1	<1	<1	<1	<5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Methylene chloride	75-09-2	5	<1	<1	NA	<1	<1	<1	<1	<1	**10**	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chloroethane	75-00-3	5 GV	<1	<1	NA	<1	<1	<1	<1	<1	<5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chloromethane	74-87-3	5	<1	<1	NA	<1	<1	<1	<1	<1	<5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	**1.0**
Benzene	71-43-2	1	<1	<1	<1	<1	<1	<0.5	<0.5	<0.5	<5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**93**
Toluene	108-88-3	5	<1	<1	<1	<1	<1	<1	<1	<1	**4.5**	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	**13**
Ethylbenzene	100-41-4	5	<1	<1	<1	<1	<1	<1	<1	<1	<5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
m&p-Xylenes	108-38-3 106-42-3	5	<1	<1	<1	<1	<1	<1	<1	<1	<5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	**3.3**
o-Xylene	95-47-6	5	<1	<1	<1	<1	<1	<1	<1	<1	<5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Naphthalene	91-20-3	10 GV	NA	NA	<1	<1	**4.4**	**4.8**	<1	**1.7**	<5	**2.5**	**2.5**	**2.1**	<1	**2.5**	<1	<1	<1	<1	**3.5**	**2.8**	<1
Methyl tert-butyl ether (MTBE)	1634-04-4	10 GV	NA	NA	<1	<1	**18**	**11**	**1.1**	**24**	**10**	**18**	<0.5	**10**	<0.5	**9.3**	**2.8**	**0.73**	**8.0**	**8.0**	**5.5**	**6.4**	<1
n-Propylbenzene	103-65-1	5	NA	NA	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
n-Butylbenzene	104-51-8	5	NA	NA	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
sec-Butylbenzene	135-98-8	5	NA	NA	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Isopropylbenzene	98-82-8	5	NA	NA	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2,4-Trimethylbenzene	95-63-6	5	NA	NA	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,3,5-Trimethylbenzene	108-67-8	5	NA	NA	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	2.7	<1
Styrene	100-42-5	5	NA	NA	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	**1.1**
Acetone	67-64-1	50 GV	NA	NA	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
		Total VOCs:	*1.0*	*1.3*	*ND*	*ND*	*22.4*	*15.8*	*1.1*	*25.7*	*24.5*	*20.5*	*2.5*	*12.1*	*ND*	*11.8*	*2.8*	*0.7*	*8.0*	*8.0*	*9.0*	*11.9*	*111*
		Total CVOCs:	*1.0*	*1.3*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*10.0*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*
		Total BTEX:	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*4.5*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*109.3*

(a) - NYSDEC TOGS 1.1.1 GA Standards, June 1998.
<1 - Result was not detected at the listed reporting limit.
ND - Not detected at analytical reporting limit.
1.6 - **Bold** indicates parameter detected above analytical reporting limit.
67 - **Bold** & color indicates exceedance of applicable standard or guidance value.

GV - Guidance value.
NA - Not Analyzed.
RL - Reporting Limit
Note - The results represent detected parameters only.

Table 4

Historical Groundwater Sampling Data Summary
Former Orangeburg Pipe Manufacturing Facility (Lowe's Home Center)

HDR Sample ID		NYSDEC Stds (a)	MW03-18S																			
Date Sampled			Mar-89	Jul-95	Dec-04	Mar-05	Jun-05	Sep-05	Dec-05	Jul-06	Jul-07	Jul-08	Jul-09	Jul-10	Jul-11	Jul-12	Jul-13	Jul-14	Jul-15	Jul-16	Jul-17	Jul-18	Jul-19
			Rslts	Rslts	Rslts	Rslts	Rslts	Rslts	Rslts	Rslts	Rslts	Rslts	Rslts	Rslts	Rslts	Rslts	Rslts	Rslts	Rslts	Rslts	Rslts	Rslts	Rslts
VOCs (mcg/L)	**CAS No.**																						
1,1-Dichloroethane	75-34-4	5	**480**	**230**	NA	**2.3**	**1.6**	**2.9**	**2.6**	**2.5**	**2.3**	<1	<1	<1	**1.6**	**1.2**	**1.5**	**1.1**	**2.5**	**1.9**	ND	ND	**1.1**
1,1,1-Trichloroethane	71-55-6	5	**14**	**59**	NA	**0.65**	<1	<1	**1.2**	<1	<5	<1	<1	<1	<1	<1	**1.5**	<1	<1	<1	<1	<1	<1
1,1-Dichloroethene	75-35-4	5	<1	<10	NA	<1	<1	<1	<1	<1	<5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Cis-1,2-Dichloroethene	156-59-2		<1	<10	NA	<1	<1	**0.52**	<1	<1	<5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2-Dichloroethane	107-06-2	5	**5.0**	<10	NA	<1	<1	<1	<1	<1	<5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Methylene chloride	75-09-2	5	<1	<10	NA	<1	<1	<1	<1	<1	<5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chloroethane	75-00-3	5 GV	**60**	**26**	NA	**4.1**	**1.5**	**2.5**	**2.0**	**2.1**	**1.4**	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Benzene	71-43-2	1	<1	<10	<1	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Toluene	108-88-3	5	<1	<1	<1	<1	<1	<1	<1	<1	<5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Ethylbenzene	100-41-4	5	<1	<1	<1	<1	<1	<1	<1	<1	<5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
m&p-Xylenes	108-38-3 106-42-3	5	<1	<10	**1.2**	<1	<1	<1	**0.6**	<1	<5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
o-Xylene	95-47-6	5	<1	<1	<1	<1	<1	<1	<1	<1	<5	<1	<1	<1	<1	<1	<1	<1	<1	<1	**1.4**	<1	<1
Naphthalene	91-20-3	10 GV	NA	NA	**25**	**14**	**17**	**10**	**12**	**8.6**	**2.1**	<1	<1	<1	<1	<1	**5.1**	<1	<1	<1	**51**	<1	<1
Methyl tert-butyl ether (MTBE)	1634-04-4	10 GV	NA	NA	<1	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
n-Propylbenzene	103-65-1	5	NA	NA	**2.2**	**1.9**	**1.7**	**0.96**	**1.7**	**2.2**	**1.6**	**1.5**	**1.9**	<1	<1	**1.1**	**1.4**	<1	<1	<1	<1	<1	<1
n-Butylbenzene	104-51-8	5	NA	NA	**3.8**	**3.0**	**3.1**	**1.8**	**2.6**	**3.9**	**1.5**	**1.1**	**1.1**	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
sec-Butylbenzene	135-98-8	5	NA	NA	**1.3**	**1.7**	**1.3**	**0.68**	**1.6**	**1.9**	**1.4**	**1.7**	**1.4**	<1	<1	**1.3**	**1.3**	<1	<1	<1	<1	<1	<1
Isopropylbenzene	98-82-8	5	NA	NA	**1.3**	**1.1**	<1	**0.59**	**0.91**	**1.2**	<1	<1	**1.1**	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2,4-Trimethylbenzene	95-63-6	5	NA	NA	**6.4**	**5.2**	**8.0**	**4.3**	**5.1**	**5.6**	**2.5**	**1.9**	**1.6**	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,3,5-Trimethylbenzene	108-67-8	5	NA	NA	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Acetone	67-64-1	50 GV	NA	NA	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
		Total VOCs:	*559*	*315*	*41.2*	*34.0*	*34.2*	*24.3*	*30.3*	*28.0*	*12.8*	*6.2*	*7.1*	*ND*	*1.6*	*3.6*	*11*	*1.1*	*2.5*	*1.9*	*52.4*	*ND*	*1.1*
		Total CVOCs:	*559*	*315*	*ND*	*7.1*	*3.1*	*5.9*	*5.8*	*4.6*	*3.7*	*ND*	*ND*	*ND*	*1.6*	*1.2*	*3.0*	*1.1*	*2.5*	*1.9*	*ND*	*ND*	*1.1*
		Total BTEX:	*ND*	*ND*	*1.2*	*ND*	*ND*	*ND*	*0.6*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*1.4*	*ND*	*ND*

(a) - NYSDEC TOGS 1.1.1 GA Standards, June 1998.
<1 - Result was not detected at the listed reporting limit.
ND - Not detected at analytical reporting limit.
1.6 - **Bold** indicates parameter detected above analytical reporting limit.
67 - **Bold** & color indicates exceedance of applicable standard or guidance value.

GV - Guidance value.
NA - Not Analyzed.
RL - Reporting Limit
Note - The results represent detected parameters only.

Table 4

Historical Groundwater Sampling Data Summary
Former Orangeburg Pipe Manufacturing Facility (Lowe's Home Center)

HDR Sample ID		NYSDEC Stds (a)	MW03-18D																		
Date Sampled			Jul-95	Dec-04	Mar-05	Jun-05	Sep-05	Dec-05	Jul-06	Jul-07	Jul-08	Jul-09	Jul-10	Jul-11	Jul-12	Jul-13	Jul-14	Jul-15	Jul-16	Jul-17	Jul-18	Jul-19
			Rslts	Rslts	Rslts	Rslts	Rslts	Rslts	Rslts	Rslts	Rslts	Rslts	Rslts	Rslts	Rslts	Rslts	Rslts	Rslts	Rslts	Rslts	Rslts	Rslts
VOCs (mcg/L)	**CAS No.**																				
1,1-Dichloroethane	75-34-4	5	**6.1**	NA	**22**	**29**	**29**	**6.6**	**22**	**26**	**23**	**23**	**20**	**19**	**18**	**17**	**16**	**14**	**15**	**14**	**12**	**9.9**
1,1,1-Trichloroethane	71-55-6	5	**1.1**	NA	<1	<1	**0.9**	**0.61**	<1	<5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1-Dichloroethene	75-35-4	5	**5.9**	NA	**2.0**	**2.6**	**3.3**	<1	**2.2**	**3.3**	**2.3**	**3.2**	**2.3**	**2.9**	**2.3**	**2.7**	**2.0**	**2.2**	**3.1**	**2.1**	**2.1**	**1.1**
1,2-Dichloroethane	107-06-2	5	**2.9**	NA	<1	**0.77**	**0.94**	<1	<1	<5	<1	<1	<1	<1	**0.59**	<1	<1	<1	<1	<1	<1	<1
Methylene chloride	75-09-2	5	<10	NA	<1	<1	<1	<1	<1	<5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chloroethane	75-00-3	5 GV	<1	NA	<1	<1	<1	<1	<1	<5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
			Rslts	Rslts	Rslts	Rslts	Rslts	Rslts	Rslts	Rslts	Rslts	Rslts	Rslts	Rslts	Rslts	Rslts	Rslts	Rslts	Rslts	Rslts	Rslts	Rslts
VOCs (mcg/L)	**CAS No.**																				
1,1-Dichloroethane	75-34-4	5	**6.1**	NA	**22**	**29**	**29**	**6.6**	**22**	**26**	**23**	**23**	**20**	**19**	**18**	**17**	**16**	**14**	**15**	**14**	**12**	**9.9**
1,1,1-Trichloroethane	71-55-6	5	**1.1**	NA	<1	<1	**0.9**	**0.61**	<1	<5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1-Dichloroethene	75-35-4	5	**5.9**	NA	**2.0**	**2.6**	**3.3**	<1	**2.2**	**3.3**	**2.3**	**3.2**	**2.3**	**2.9**	**2.3**	**2.7**	**2.0**	**2.2**	**3.1**	**2.1**	**2.1**	**1.1**
1,2-Dichloroethane	107-06-2	5	**2.9**	NA	<1	**0.77**	**0.94**	<1	<1	<5	<1	<1	<1	<1	**0.59**	<1	<1	<1	<1	<1	<1	<1
Methylene chloride	75-09-2	5	<10	NA	<1	<1	<1	<1	<1	<5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chloroethane	75-00-3	5 GV	<1	NA	<1	<1	<1	<1	<1	<5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Benzene	71-43-2	1	<10	<1	<1	<1	<0.5	<0.5	<0.5	<5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Toluene	108-88-3	5	<1	<1	<1	<1	<1	<1	<1	<5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Ethylbenzene	100-41-4	5	<1	<1	<1	<1	<1	<1	<1	<5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
m&p-Xylenes	108-38-3 106-42-3	5	<10	<1	<1	<1	<1	<1	<1	<5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
o-Xylene	95-47-6	5	<1	<1	<1	<1	<1	<1	<1	<5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Naphthalene	91-20-3	10 GV	NA	<1	<1	**0.98**	<1	<1	<1	<5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Methyl tert-butyl ether (MTBE)	1634-04-4	10 GV	NA	<1	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	**1.1**	**1.0**	**0.81**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
n-Propylbenzene	103-65-1	5	NA	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
n-Butylbenzene	104-51-8	5	NA	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
~~sec-Butylbenzene~~	~~135-98-8~~	~~5~~	~~NA~~	~~<1~~	~~<1~~	~~<1~~	~~<1~~	~~<1~~	~~<1~~	~~<1~~	~~<1~~	~~<1~~	~~<1~~	~~<1~~	~~<1~~	~~<1~~	~~<1~~	~~<1~~	~~<1~~	~~<1~~	~~<1~~	~~<1~~
Isopropylbenzene	98-82-8	5	NA	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2,4-Trimethylbenzene	95-63-6	5	NA	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,3,5-Trimethylbenzene	108-67-8	5	NA	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Acetone	67-64-1	50 GV	NA	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5

Table 4

Historical Groundwater Sampling Data Summary
Former Orangeburg Pipe Manufacturing Facility (Lowe's Home Center)

HDR Sample ID		NYSDEC Stds (a)	MW03-27S																	
Date Sampled			Dec-04	Mar-05	Jun-05	Sep-05	Dec-05	Jul-06	Jul-07	Jul-08	Jul-09	Jul-10	Jul-11	Jul-12	Jul-13	Jul-14	Jul-15	Jul-16	Jul-17	Jul-18	Jul-19
			Rslts	Rslts	Rslts	Rslts	Rslts	Rslts	Rslts	Rslts	Rslts	Rslts	Rslts	Rslts	Rslts	Rslts	Rslts	Rslts	Rslts	Rslts	Rslts
VOCs (mcg/L)	**CAS No.**																				
1,1-Dichloroethane	75-34-4	5	NA	**1.9**	**2.8**	**0.7**	**1.7**	ND	**1.3**	<1	**1.7**	<1	<1	<1	**1.1**	<1	<1	**1.3**	<1	<1	<1
1,1,1-Trichloroethane	71-55-6	5	NA	<1	<1	<1	<1	<1	<5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1-Dichloroethene	75-35-4	5	NA	**1.4**	**2.3**	**0.77**	**1.7**	<1	**3.2**	<1	**2.8**	<1	**1.7**	<1	**2.3**	**2.1**	<1	**1.8**	**1.5**	**1.3**	<1
Cis-1,2-Dichloroethene	156-59-2		NA	<1	<1	<1	<1	<1	<5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2-Dichloroethane	107-06-2	5	NA	<1	<1	<1	<1	<1	<5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Methylene chloride	75-09-2	5	NA	<1	<1	<1	<1	<1	<5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chloroethane	75-00-3	5 GV	NA	<1	<1	<1	<1	<1	<5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Benzene	71-43-2	1	<1	<1	<1	<0.5	<0.5	<0.5	<5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Toluene	108-88-3	5	<1	<1	<1	<1	<1	<1	<5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Ethylbenzene	100-41-4	5	<1	<1	<1	<1	<1	<1	<5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
m&p-Xylenes	108-38-3 106-42-3	5	<1	<1	<1	<1	**0.6**	<1	<5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
o-Xylene	95-47-6	5	<1	<1	<1	<1	<1	<1	<5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Naphthalene	91-20-3	10 GV	<1	<1	<1	<1	<1	<1	<5	<1	<1	<1	<1	<1	<1	**1.1**	<1	<1	<1	<1	<1
Methyl tert-butyl ether (MTBE)	1634-04-4	10 GV	**9.2**	**7.4**	**5.4**	**4.9**	**5.9**	**17**	**4.2**	**7.3**	**2.5**	<0.5	**1.6**	**3.3**	**1.2**	**4.0**	**2.1**	**2.5**	<0.5	**0.60**	**1.0**
n-Propylbenzene	103-65-1	5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
n-Butylbenzene	104-51-8	5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
sec-Butylbenzene	135-98-8	5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Isopropylbenzene	98-82-8	5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2,4-Trimethylbenzene	95-63-6	5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,3,5-Trimethylbenzene	108-67-8	5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Acetone	67-64-1	50 GV	<5	<5	<5	<5	<5	<5	<5	<5	<5	**36**	<5	<5	<5	**23**	<5	<5	<5	<5	<5
		Total VOCs:	*9.2*	*10.7*	*10.5*	*6.4*	*9.9*	*17.0*	*8.7*	*7.3*	*5.3*	*36.0*	*3.3*	*3.3*	*4.6*	*30.2*	*2.1*	*5.6*	*1.5*	*1.9*	*1.0*
		Total CVOCs:	*ND*	*3.3*	*5.1*	*1.5*	*3.4*	*ND*	*4.5*	*ND*	*4.5*	*ND*	*1.7*	*ND*	*3.4*	*2.1*	*ND*	*3.1*	*1.5*	*1.3*	*ND*
		Total BTEX:	*ND*	*ND*	*ND*	*ND*	*0.6*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*

(a) - NYSDEC TOGS 1.1.1 GA Standards, June 1998.
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ND - Not detected at analytical reporting limit.
1.6 - **Bold** indicates parameter detected above analytical reporting limit.
67 - **Bold** & color indicates exceedance of applicable standard or guidance value.

GV - Guidance value.
NA - Not Analyzed.
RL - Reporting Limit
Note - The results represent detected parameters only.

Table 4

Historical Groundwater Sampling Data Summary
Former Orangeburg Pipe Manufacturing Facility (Lowe's Home Center)

HDR Sample ID		NYSDEC Stds (a)	MW03-27D																	
Date Sampled			Dec-04	Mar-05	Jun-05	Sep-05	Dec-05	Jul-06	Jul-07	Jul-08	Jul-09	Jul-10	Jul-11	Jul-12	Jul-13	Jul-14	Jul-15	Jul-16	Jul-17	Jul-18	Jul-19
			Rslts	Rslts	Rslts	Rslts	Rslts	Rslts	Rslts	Rslts	Rslts	Rslts	Rslts	Rslts	Rslts	Rslts	Rslts	Rslts	Rslts	Rslts	Rslts
VOCs (mcg/L)	**CAS No.**																				
1,1-Dichloroethane	75-34-4	5	NA	**0.93**	**1.0**	**0.88**	**0.80**	<1	<5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1,1-Trichloroethane	71-55-6	5	NA	<1	<1	<1	<1	<1	<5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1-Dichloroethene	75-35-4	5	NA	**0.97**	**1.2**	**0.87**	**0.93**	**1.3**	**1.9**	**1.4**	**2.0**	<1	<1	<1	<1	**1.6**	<1	<1	<1	<1	<1
1,2-Dichloroethene	156-59-2		NA	<1	<1	<1	<1	<1	<5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2-Dichloroethane	107-06-2	5	NA	<1	<1	<1	<1	<1	<5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Methylene chloride	75-09-2	5	NA	<1	<1	<1	<1	<1	<5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chloroethane	75-00-3	5 GV	NA	<1	<1	<1	<1	<1	<5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Benzene	71-43-2	1	<1	<1	<1	<0.5	<0.5	<0.5	<5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Toluene	108-88-3	5	<1	<1	<1	<1	<1	<1	<5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Ethylbenzene	100-41-4	5	<1	<1	<1	<1	<1	<1	<5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
m&p-Xylenes	108-38-3 106-42-3	5	<1	<1	<1	<1	**0.6**	<1	<5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
o-Xylene	95-47-6	5	<1	<1	<1	<1	<1	<1	<5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Naphthalene	91-20-3	10 GV	<1	<1	<1	<1	<1	<1	<5	<1	<1	<1	<1	<1	<1	**1.4**	<1	<1	<1	<1	<1
Methyl tert-butyl ether (MTBE)	1634-04-4	10 GV	**2.0**	**1.4**	**1.4**	<0.5	**2.1**	**2.8**	**1.0**	**1.2**	**0.95**	<0.5	<0.5	<0.5	**0.58**	**0.72**	<0.5	<0.5	<0.5	<0.5	<0.5
n-Propylbenzene	103-65-1	5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
n-Butylbenzene	104-51-8	5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
sec-Butylbenzene	135-98-8	5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Isopropylbenzene	98-82-8	5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2,4-Trimethylbenzene	95-63-6	5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,3,5-Trimethylbenzene	108-67-8	5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Acetone	67-64-1	50 GV	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	**22**	<5
		Total VOCs:	*2.0*	*3.3*	*3.6*	*1.8*	*4.4*	*4.1*	*2.9*	*2.6*	*3.0*	*ND*	*ND*	*ND*	*0.6*	*3.7*	*ND*	*ND*	*ND*	*22.0*	*ND*
		Total CVOCs:	*ND*	*1.9*	*2.2*	*1.8*	*1.7*	*1.3*	*1.9*	*1.4*	*2.0*	*ND*	*ND*	*ND*	*ND*	*1.6*	*ND*	*ND*	*ND*	*ND*	*ND*
		Total BTEX:	*ND*	*ND*	*ND*	*ND*	*0.6*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*

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Table 4

Historical Groundwater Sampling Data Summary
Former Orangeburg Pipe Manufacturing Facility (Lowe's Home Center)

HDR Sample ID		NYSDEC Stds (a)	MW07-29												
Date Sampled			Jul-07 Rslts	Jul-08 Rslts	Jul-09 Rslts	Jul-10 Rslts	Jul-11 Rslts	Jul-12 Rslts	Jul-13 Rslts	Jul-14 Rslts	Jul-15 Rslts	Jul-16 Rslts	Jul-17 Rslts	Jul-18 Rslts	Jul-19 Rslts
VOCs (mcg/L)	**CAS No.**														
1,1-Dichloroethane	75-34-4	5	<5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1,1-Trichloroethane	71-55-6	5	<5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1-Dichloroethene	75-35-4	5	<5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2-Dichloroethene	156-59-2		<5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2-Dichloroethane	107-06-2	5	<5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Methylene chloride	75-09-2	5	<5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chloroethane	75-00-3	5 GV	<5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Benzene	71-43-2	1	<5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Toluene	108-88-3	5	<5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Ethylbenzene	100-41-4	5	<5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
m&p-Xylenes	108-38-3 106-42-3	5	<5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
o-Xylene	95-47-6	5	<5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Naphthalene	91-20-3	10 GV	<5	<1	**1.1**	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Methyl tert-butyl ether (MTBE)	1634-04-4	10 GV	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
n-Propylbenzene	103-65-1	5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
n-Butylbenzene	104-51-8	5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
sec-Butylbenzene	135-98-8	5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Isopropylbenzene	98-82-8	5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2,4-Trimethylbenzene	95-63-6	5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,3,5-Trimethylbenzene	108-67-8	5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Acetone	67-64-1	50 GV	<5	<5	**55**	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
		Total VOCs:	*ND*	*ND*	*56.1*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*
		Total CVOCs:	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*
		Total BTEX:	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*

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NA - Not Analyzed.
RL - Reporting Limit
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Table 4

Historical Groundwater Sampling Data Summary
Former Orangeburg Pipe Manufacturing Facility (Lowe's Home Center)

HDR Sample ID		NYSDEC Stds (a)	MW03-11D															
Date Sampled			Mar-89 Rslts	Jul-95 Rslts	Dec-04 Rslts	Mar-05 Rslts	Jun-05 Rslts	Sep-05 Rslts	Dec-05 Rslts	Jul-06 Rslts	Jul-07 Rslts	Jul-08 Rslts	Jul-09 Rslts	Jul-10 Rslts	Jul-11 Rslts	Jul-12 Rslts	Jul-13 Rslts	Jul-14 * Rslts
VOCs (mcg/L)	**CAS No.**																	
1,1-Dichloroethane	75-34-4	5	<1	**0.7**	NA	<20	<1	<1	<1	<1	<100	<1	<1	<1	<1	<1	<1	<1
1,1,1-Trichloroethane	71-55-6	5	<1	<1	NA	<20	<1	<1	<1	<1	<100	<1	<1	<1	<1	<1	<1	<1
1,1-Dichloroethene	75-35-4	5	<1	<1	NA	<20	<1	<1	<1	<1	<100	<1	<1	<1	<1	<1	<1	<1
Methylene chloride	75-09-2	5	<1	<1	NA	<20	<1	<1	<1	<1	<100	<1	<1	<1	<1	<1	<1	<1
Chloroethane	75-00-3	5 GV	<1	<1	NA	<20	<1	<1	<1	<1	<100	<1	<1	<1	<1	<1	<1	<1
Benzene	71-43-2	1	<1	<1	<1	<10	<1	<0.5	<0.5	<0.5	<100	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Toluene	108-88-3	5	<1	<1	**5.2**	<20	**1.7**	**0.56**	**0.93**	<1	<100	<1	<1	<1	<1	<1	<1	<1
Ethylbenzene	100-41-4	5	<1	<1	**11**	<20	**6.1**	**1.9**	**4.5**	**3.1**	<100	**1.1**	**1.1**	**13**	<1	<1	<1	<1
m&p-Xylenes	108-38-3 106-42-3	5	<1	<1	**3.5**	<20	**3.8**	**1.2**	**2.6**	**2.2**	<40	<1	**1.2**	<1	<1	<1	<1	<1
o-Xylene	95-47-6	5	<1	<1	**8.2**	<20	**4.3**	**1.4**	**2.7**	**2.4**	<100	**1.2**	<1	**6.6**	<1	<1	<1	<1
Naphthalene	91-20-3	10 GV	NA	NA	**680**	**500**	**490**	**210**	**460**	**280**	**440**	**72**	**26**	**5.0**	**1.7**	<1	<1	<1
Methyl tert-butyl ether (MTBE)	1634-04-4	10 GV	NA	NA	<1	<10	<0.5	<0.5	<0.5	<0.5	<20	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
n-Propylbenzene	103-65-1	5	NA	NA	<1	<20	<1	<1	**1.6**	<1	<20	<1	<1	<1	<1	<1	<1	<1
n-Butylbenzene	104-51-8	5	NA	NA	**1.9**	<20	**2.3**	<1	<1	**1.3**	<20	<1	<1	<1	<1	<1	<1	<1
sec-Butylbenzene	135-98-8	5	NA	NA	<1	<20	<1	<1	<1	<1	<20	<1	<1	<1	<1	<1	<1	<1
Isopropylbenzene	98-82-8	5	NA	NA	<1	<20	**0.51**	<1	<1	<1	<20	<1	<1	<1	<1	<1	<1	<1
1,2,4-Trimethylbenzene	95-63-6	5	NA	NA	**2.9**	<20	**3.4**	**1.3**	**2.5**	**2.4**	<20	**1.6**	**1.3**	<1	<1	<1	<1	<1
1,3,5-Trimethylbenzene	108-67-8	5	NA	NA	**1.1**	<20	**1.1**	<1	**0.66**	<1	<20	<1	<1	<1	<1	<1	<1	<1
Acetone	67-64-1	50 GV	NA	NA	<5	<20	<5	<5	<5	<5	<20	<5	<5	<5	<5	<5	<5	<5
		Total VOCs:	*ND*	*0.7*	*714*	*500*	*513*	*216*	*475*	*291*	*440*	*75.9*	*29.6*	*24.6*	*1.7*	*ND*	*ND*	*ND*
		Total CVOCs:	*ND*	*0.7*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*
		Total BTEX:	*ND*	*ND*	*27.9*	*ND*	*15.9*	*5.1*	*10.7*	*7.7*	*ND*	*2.3*	*2.3*	*19.6*	*ND*	*ND*	*ND*	*ND*

(a) - NYSDEC TOGS 1.1.1 GA Standards, June 1998.
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ND - Not detected at analytical reporting limit.
1.6 - **Bold** indicates parameter detected above analytical reporting limit.
67 - **Bold** & color indicates exceedance of applicable standard or guidance value.

GV - Guidance value.
NA - Not Analyzed.
RL - Reporting Limit
Note - The results represent detected parameters only.
* - Removed from sampling program after July 2014 sampling event.

Table 4

Historical Groundwater Sampling Data Summary
Former Orangeburg Pipe Manufacturing Facility (Lowe's Home Center)

HDR Sample ID		NYSDEC Stds (a)	MW03-14D														
Date Sampled			Jul-95 Rslts	Dec-04 Rslts	Mar-05 Rslts	Jun-05 Rslts	Sep-05 Rslts	Dec-05 Rslts	Jul-06 Rslts	Jul-07 Rslts	Jul-08 Rslts	Jul-09 Rslts	Jul-10 Rslts	Jul-11 Rslts	Jul-12 Rslts	Jul-13 Rslts	Jul-14 * Rslts
VOCs (mcg/L)	**CAS No.**																
1,1-Dichloroethane	75-34-4	5	**0.9**	NA	<1	<1	<1	<1	<1	<5	<1	<1	<1	<1	<1	<1	<1
1,1,1-Trichloroethane	71-55-6	5	<1	NA	<1	<1	<1	<1	<1	<5	<1	<1	<1	<1	<1	<1	<1
1,1-Dichloroethene	75-35-4	5	<1	NA	<1	<1	<1	<1	<1	<5	<1	<1	<1	<1	<1	<1	<1
Methylene chloride	75-09-2	5	<1	NA	<1	<1	<1	<1	<1	<5	<1	<1	<1	<1	<1	<1	<1
Chloroethane	75-00-3	5 GV	<1	NA	<1	<1	<1	<1	<1	<5	<1	<1	<1	<1	<1	<1	<1
Benzene	71-43-2	1	<1	<1	<1	<1	<0.5	<0.5	<0.5	<5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Toluene	108-88-3	5	<1	<1	<1	<1	<1	<1	<1	<5	<1	<1	<1	<1	<1	<1	<1
Ethylbenzene	100-41-4	5	<1	<1	<1	<1	<1	<1	<1	<5	<1	<1	<1	<1	<1	<1	<1
m&p-Xylenes	108-38-3 106-42-3	5	<1	<1	<1	<1	<1	<1	<1	<5	<1	<1	<1	<1	<1	<1	<1
o-Xylene	95-47-6	5	<1	<1	<1	<1	<1	<1	<1	<5	<1	<1	<1	<1	<1	<1	<1
Naphthalene	91-20-3	10 GV	NA	<1	<1	<1	<1	<1	<1	<5	<1	<1	<1	<1	<1	<1	**1.2**
Methyl tert-butyl ether (MTBE)	1634-04-4	10 GV	NA	<1	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**2.8**	<0.5
n-Propylbenzene	103-65-1	5	NA	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
n-Butylbenzene	104-51-8	5	NA	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
sec-Butylbenzene	135-98-8	5	NA	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Isopropylbenzene	98-82-8	5	NA	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2,4-Trimethylbenzene	95-63-6	5	NA	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,3,5-Trimethylbenzene	108-67-8	5	NA	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Acetone	67-64-1	50 GV	NA	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
		Total VOCs:	*0.9*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*2.8*	*1.2*
		Total CVOCs:	*0.9*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*
		Total BTEX:	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*

(a) - NYSDEC TOGS 1.1.1 GA Standards, June 1998.
<1 - Result was not detected at the listed reporting limit.
ND - Not detected at analytical reporting limit.
1.6 - **Bold** indicates parameter detected above analytical reporting limit.
* **67** - **Bold** & color indicates exceedance of applicable standard or guidance value.

GV - Guidance value.
NA - Not Analyzed.
RL - Reporting Limit
Note - The results represent detected parameters only.
* - Removed from sampling program after July 2014 sampling event.

Table 4

Historical Groundwater Sampling Data Summary
Former Orangeburg Pipe Manufacturing Facility (Lowe's Home Center)

HDR Sample ID		NYSDEC Stds (a)	MW03-25														
Date Sampled			Jul-95 Rslts	Dec-04 Rslts	Mar-05 Rslts	Jun-05 Rslts	Sep-05 Rslts	Dec-05 Rslts	Jul-06 Rslts	Jul-07 Rslts	Jul-08 Rslts	Jul-09 Rslts	Jul-10 Rslts	Jul-11 Rslts	Jul-12 Rslts	Jul-13 Rslts	Jul-14 * Rslts
VOCs (mcg/L)	**CAS No.**																
1,1-Dichloroethane	75-34-4	5	**1.3**	NA	**2.7**	**2.4**	**2.7**	**0.54**	**2.4**	**3.9**	**4.2**	**2.9**	**2.8**	**2.1**	**1.1**	<1	<1
1,1,1-Trichloroethane	71-55-6	5	<1	NA	<1	<1	<1	<1	<1	<5	<1	<1	<1	<1	<1	<1	<1
1,1-Dichloroethene	75-35-4	5	<10	NA	<1	<1	<1	<1	<1	<5	<1	<1	<1	<1	<1	<1	<1
Cis-1,2-Dichloroethene	156-59-2	5	<10	NA	<1	<1	**0.58**	<1	<1	<5	<1	<1	<1	<1	<1	<1	<1
1,2-Dichloroethane	107-06-2	5	<10	NA	<1	<1	<1	<1	<1	<5	<1	<1	<1	<1	<1	<1	<1
Methylene chloride	75-09-2	5	<10	NA	<1	<1	<1	<1	<1	**2.2**	<1	<1	<1	<1	<1	<1	<1
Chloroethane	75-00-3	5 GV	<1	NA	<1	<1	<1	<1	<1	<5	<1	<1	<1	<1	<1	<1	<1
Benzene	71-43-2	1	**1.8**	<1	<1	**0.51**	<0.5	<0.5	**1.1**	<5	**1.2**	**0.95**	**0.65**	**0.68**	<0.5	<0.5	<0.5
Toluene	108-88-3	5	<1	<1	<1	<1	<1	<1	<1	<5	<1	<1	<1	<1	<1	<1	<1
Ethylbenzene	100-41-4	5	<1	<1	<1	<1	<1	<1	<1	<5	<1	<1	<1	<1	<1	<1	<1
m&p-Xylenes	108-38-3 106-42-3	5	<10	<1	<1	<1	<1	<1	<1	<5	<1	<1	<1	<1	<1	<1	<1
o-Xylene	95-47-6	5	<1	<1	<1	<1	<1	<1	<1	<5	<1	<1	<1	<1	<1	<1	<1
Naphthalene	91-20-3	10 GV	NA	**1.8**	**2.7**	**1.2**	**0.56**	**8.9**	<1	<5	<1	<1	<1	<1	<1	**1.2**	<1
Methyl tert-butyl ether (MTBE)	1634-04-4	10 GV	NA	<1	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Cyclohexane	110-82-7	NS	NA	<1	<1	<1	<1	<1	<1	**1.4**	**1.4**	<1	<1	<1	<1	<1	<1
n-Propylbenzene	103-65-1	5	NA	<1	<1	**0.53**	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
n-Butylbenzene	104-51-8	5	NA	<1	<1	**0.53**	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
sec-Butylbenzene	135-98-8	5	NA	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Isopropylbenzene	98-82-8	5	NA	<1	<1	**0.54**	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2,4-Trimethylbenzene	95-63-6	5	NA	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,3,5-Trimethylbenzene	108-67-8	5	NA	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Acetone	67-64-1	50 GV	NA	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
		Total VOCs:	*3.1*	*1.8*	*5.4*	*5.7*	*3.8*	*9.4*	*3.5*	*7.5*	*6.8*	*3.9*	*3.5*	*2.8*	*1.1*	*1.2*	*ND*
		Total CVOCs:	*1.3*	*ND*	*2.7*	*2.4*	*3.3*	*0.5*	*2.4*	*6.1*	*4.2*	*2.9*	*2.8*	*2.1*	*1.1*	*ND*	*ND*
		Total BTEX:	*1.8*	*ND*	*ND*	*0.5*	*ND*	*ND*	*1.1*	*ND*	*1.2*	*1.0*	*0.7*	*0.7*	*ND*	*ND*	*ND*

(a) - NYSDEC TOGS 1.1.1 GA Standards, June 1998.
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ND - Not detected at analytical reporting limit.
2.3 - **Bold** indicates parameter detected above analytical reporting limit.
6.1 - **Bold** & color indicates exceedance of applicable standard or guidance value.

GV - Guidance value.
NA - Not Analyzed.
RL - Reporting Limit
Note - The results represent detected parameters only.
* - Removed from sampling program after July 2014 sampling event.

Table 4

Historical Groundwater Sampling Data Summary
Former Orangeburg Pipe Manufacturing Facility (Lowe's Home Center)

HDR Sample ID		NYSDEC Stds (a)	MW03-26														
Date Sampled			Jul-95 Rslts	Dec-04 Rslts	Mar-05 Rslts	Jun-05 Rslts	Sep-05 Rslts	Dec-05 Rslts	Jul-06 Rslts	Jul-07 Rslts	Jul-08 Rslts	Jul-09 Rslts	Jul-10 Rslts	Jul-11 Rslts	Jul-12 Rslts	Jul-13 Rslts	Jul-14 * Rslts
VOCs (mcg/L)	**CAS No.**																
1,1-Dichloroethane	75-34-4	5	<1	NA	**5.1**	**7.1**	**8.7**	<1	**6.1**	**6.7**	**6.2**	**7.3**	**4.8**	**3.0**	**4.9**	**3.7**	**2.7**
1,1,1-Trichloroethane	71-55-6	5	**3.3**	NA	**1.2**	**1.1**	**4.3**	<1	<1	<5	<1	<1	<1	<1	<1	<1	<1
Trichloroethene	79-01-6	5	<10	NA	<1	<1	**0.6**	<1	<1	<5	<1	<1	<1	<1	<1	<1	<1
1,1-Dichloroethene	75-35-4	5	<10	NA	<1	<1	**1.5**	<1	<1	<5	<1	<1	<1	<1	<1	<1	<1
Cis-1,2-Dichloroethene	156-59-2	5	<10	NA	<1	<1	<1	<1	<1	<5	<1	<1	<1	<1	<1	<1	<1
1,2-Dichloroethane	107-06-2	5	<10	NA	<1	<1	<1	<1	<1	<5	<1	<1	<1	<1	<1	<1	<1
Methylene chloride	75-09-2	5	<10	NA	<1	<1	<1	<1	<1	<5	<1	<1	<1	<1	<1	<1	<1
Chloroethane	75-00-3	5 GV	<1	NA	<1	<1	<1	<1	<1	<5	<1	<1	<1	<1	<1	<1	<1
Benzene	71-43-2	1	<1	NA	<1	<1	<1	<1	<1	<5	<1	<1	<1	<0.5	<0.5	<0.5	<0.5
Toluene	108-88-3	5	<1	<1	<1	<1	<1	<1	<1	<5	<1	<1	<1	<1	<1	<1	<1
Ethylbenzene	100-41-4	5	<1	<1	<1	<1	<1	<1	<1	<5	<1	<1	<1	<1	<1	<1	<1
m&p-Xylenes	108-38-3 106-42-3	5	<10	<1	<1	<1	<1	<1	<1	<5	<1	<1	<1	<1	<1	<1	<1
o-Xylene	95-47-6	5	<1	<1	<1	<1	<1	<1	<1	<5	<1	<1	<1	<1	<1	<1	<1
Naphthalene	91-20-3	10 GV	NA	<1	<1	**1.6**	**0.68**	**0.87**	ND	<5	<1	<1	<1	<1	<1	<1	<1
Methyl tert-butyl ether (MTBE)	1634-04-4	10 GV	NA	<1	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
n-Propylbenzene	103-65-1	5	NA	<1	<1	**0.53**	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
n-Butylbenzene	104-51-8	5	NA	<1	<1	**0.53**	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
sec-Butylbenzene	135-98-8	5	NA	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Isopropylbenzene	98-82-8	5	NA	<1	<1	**0.54**	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2,4-Trimethylbenzene	95-63-6	5	NA	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,3,5-Trimethylbenzene	108-67-8	5	NA	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Acetone	67-64-1	50 GV	NA	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
		Total VOCs:	*3.3*	*ND*	*6.3*	*11.4*	*15.8*	*0.9*	*6.1*	*6.7*	*6.2*	*7.3*	*4.8*	*3.0*	*4.9*	*3.7*	*2.7*
		Total CVOCs:	*3.3*	*ND*	*6.3*	*8.2*	*15.1*	*ND*	*6.1*	*6.7*	*6.2*	*7.3*	*4.8*	*3.0*	*4.9*	*3.7*	*2.7*
		Total BTEX:	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*

(a) - NYSDEC TOGS 1.1.1 GA Standards, June 1998.
<1 - Result was not detected at the listed reporting limit.
ND - Not detected at analytical reporting limit.
2.3 - **Bold** indicates parameter detected above analytical reporting limit.
6.1 - **Bold** & color indicates exceedance of applicable standard or guidance value.

GV - Guidance value.
NA - Not Analyzed.
RL - Reporting Limit
Note - The results represent detected parameters only.
* - Removed from sampling program after July 2014 sampling event.

Table 4

Historical Groundwater Sampling Data Summary
Former Orangeburg Pipe Manufacturing Facility (Lowe's Home Center)

HDR Sample ID		NYSDEC Stds (a)	MW03-28													
Date Sampled			Dec-04 Rslts	Mar-05 Rslts	Jun-05 Rslts	Sep-05 Rslts	Dec-05 Rslts	Jul-06 Rslts	Jul-07 Rslts	Jul-08 Rslts	Jul-09 Rslts	Jul-10 Rslts	Jul-11 Rslts	Jul-12 Rslts	Jul-13 Rslts	Jul-14 * Rslts
VOCs (mcg/L)	**CAS No.**															
1,1-Dichloroethane	75-34-4	5	NA	<1	<1	<1	<1	<1	<5	<1	<1	<1	<1	<1	<1	<1
1,1,1-Trichloroethane	71-55-6	5	NA	<1	<1	<1	<1	<1	<5	<1	<1	<1	<1	<1	<1	<1
Trichloroethene	79-01-6	5	NA	<1	<1	<1	<1	<1	<5	<1	<1	<1	<1	<1	<1	<1
1,1-Dichloroethene	75-35-4	5	NA	<1	<1	<1	<1	<1	<5	<1	<1	<1	<1	<1	<1	<1
Cis-1,2-Dichloroethene	156-59-2	5	NA	<1	<1	<1	<1	<1	<5	<1	<1	<1	<1	<1	<1	<1
1,2-Dichloroethane	107-06-2	5	NA	<1	<1	<1	<1	<1	<5	<1	<1	<1	<1	<1	<1	<1
Methylene chloride	75-09-2	5	NA	<1	<1	<1	<1	<1	<5	<1	<1	<1	<1	<1	<1	<1
Chloroethane	75-00-3	5 GV	NA	<1	<1	<1	<1	<1	<5	<1	<1	<1	<1	<1	<1	<1
Benzene	71-43-2	1	NA	<1	<1	<1	<1	<1	<5	<1	<1	<1	<0.5	<0.5	<0.5	<0.5
Toluene	108-88-3	5	<1	<1	<1	<1	<1	<1	<5	<1	<1	<1	<1	<1	<1	<1
Ethylbenzene	100-41-4	5	<1	<1	<1	<1	<1	<1	<5	<1	<1	<1	<1	<1	<1	<1
m&p-Xylenes	108-38-3 106-42-3	5	<1	<1	<1	<1	<1	<1	<5	<1	<1	<1	<1	<1	<1	<1
o-Xylene	95-47-6	5	<1	<1	<1	<1	<1	<1	<5	<1	<1	<1	<1	<1	<1	<1
Naphthalene	91-20-3	10 GV	**9.1**	**1.2**	<1	**2.5**	**8.4**	<1	<5	**2.8**	**12**	<1	<1	<1	<1	<1
Methyl tert-butyl ether (MTBE)	1634-04-4	10 GV	<1	<1	**5.1**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
n-Propylbenzene	103-65-1	5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
n-Butylbenzene	104-51-8	5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
sec-Butylbenzene	135-98-8	5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Isopropylbenzene	98-82-8	5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2,4-Trimethylbenzene	95-63-6	5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,3,5-Trimethylbenzene	108-67-8	5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Acetone	67-64-1	50 GV	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
		Total VOCs:	*9.1*	*1.2*	*5.1*	*2.5*	*8.4*	*ND*	*ND*	*2.8*	*12.0*	*ND*	*ND*	*ND*	*ND*	*ND*
		Total CVOCs:	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*
		Total BTEX:	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*

(a) - NYSDEC TOGS 1.1.1 GA Standards, June 1998.
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ND - Not detected at analytical reporting limit.
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6.1 - **Bold** & color indicates exceedance of applicable standard or guidance value.

GV - Guidance value.
NA - Not Analyzed.
RL - Reporting Limit
Note - The results represent detected parameters only.
* - Removed from sampling program after July 2014 sampling event.

Appendix A

Cap Maintenance and/or Repair Documentation

Outside Concrete Slab Replacement

(October 2017)

Mailing Address: Lowe's Home Centers, Inc.,
P.O. Box 1111, North Wilkesboro, NC 28656-0001

Shipping Address: Customer Support Center – West
1605 Curtis Bridge Rd. – REEC Dock, Wilkesboro, NC 28697

Telephone: 336-658-4000
Fax: 336-658-3257

Direct Mailing to:
R. Patrick Burns
c/o Lowe's
60 Saltaire Drive
Old Lyme, CT 06371

October 10, 2017

John Guzewich
HDR
1 International Boulevard
10th Floor, Suite 1000
Mahwah, NJ 07495

RE: Lowe's Orangeburg, NY
Concrete Settlement Repairs

Dear Mr. Guzewich,

Similar to the 2015 Garden Center concrete slab replacement project, Lowe's plans to replace both interior & exterior concrete slabs sections to address safety concerns. The original site development incorporated dynamic compaction as an economical geotechnical solution to compact site soils. Differential settlements have caused areas of the interior & exterior concrete slabs to deflect & settle in a non-uniform manner. Interior power equipment use & high rack product storage has been affected by the non-uniform differential settlements and has become a safety concern for the normal operations at the store. For the past decade and as a stop gap measure, Lowe's has employed pressure injection products to lift, level off & stabilize affected concrete sales floor areas. We are recognizing that diminishing satisfactory results from these stop gap pressure injection methods necessitates the replacement of the concrete slab in several areas of the property (interior and exterior concrete slabs). At no time will the existing sub base material be excavated below the existing cap material. The existing compacted sub-grade material below the concrete slab will remain in place such that the impacted soil below the cap will not be disturbed as part of this work. Attached are two drawings showing the locations of the concrete slab replacement activities.

We anticipate for the next few years to replace sections of concrete slabs as allowed by Store Management, Store Planning & Operations. It's a fluid process with variables that will likely cause delays and sudden changes to planned work areas. Safety of the customers and employees necessitates that we strive to make repairs at every opportunity keying in on the retail sales opportunities presented to us in October & February of each year. Lowe's will contact HDR prior to commencing each phase of the replacement activities so that an inspection can be conducted to documentation the slab replacement activities.

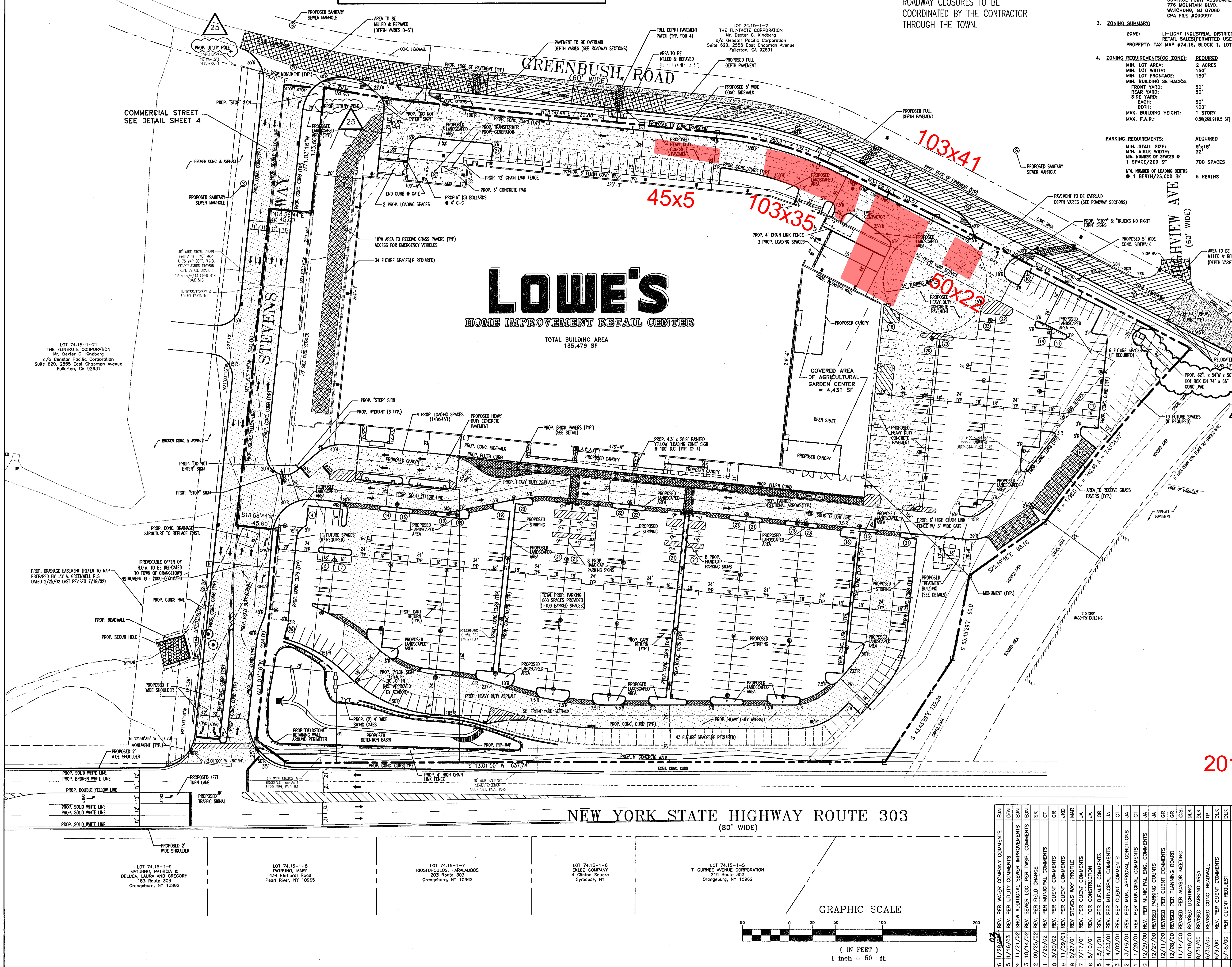
Thank you for your assistance in this matter. Should you have any questions, feel free to contact me at (860) 805-3989.

Sincerely,

R. Patrick Burns

R. Patrick Burns
Regional Facility Manager
LOWE'S HOME CENTERS INC.

LOWES, ORANGETOWN – Wastewater projected flow calculations
AVE. DAILY FLOW = (RETAIL AREA x 0.1 GPD/SF) = (139,910 x 0.1 GPD/SF) = 13,991 GPD
PROJECTED FLOW WAS CALCULATED IN ACCORDANCE WITH THE N.Y.D.E.C. CRITERIA.



GENERAL NOTES:

1. APPLICANT: LOWE'S COMPANIES INC.
P.O.BOX 1111
NORTH WILKESBORO, NC 28656

OWNER: ORANGEBURGE HOLDING L.L.C.
411 ROUTE 17 SOUTH
SUITE 110
HASBROUCK HEIGHTS, NJ 07604

DISTRICTS:
School District: South Orangetown
Fire District: Orangeburgh Fire Department
Water: Town of Orangetown
Lighting: Town of Orangetown
Sewer: Orangetown Sewer District
Zoning District: LI-Light Industrial

2. THIS PLAN REFERENCES A TOPOGRAPHIC & LOCATION SURVEY PREPARED BY:
CONTROL POINT ASSOCIATES, INC.
776 MOUNTAIN BLVD.
WATCHUNG, NJ 07060
CPA FILE #C00097

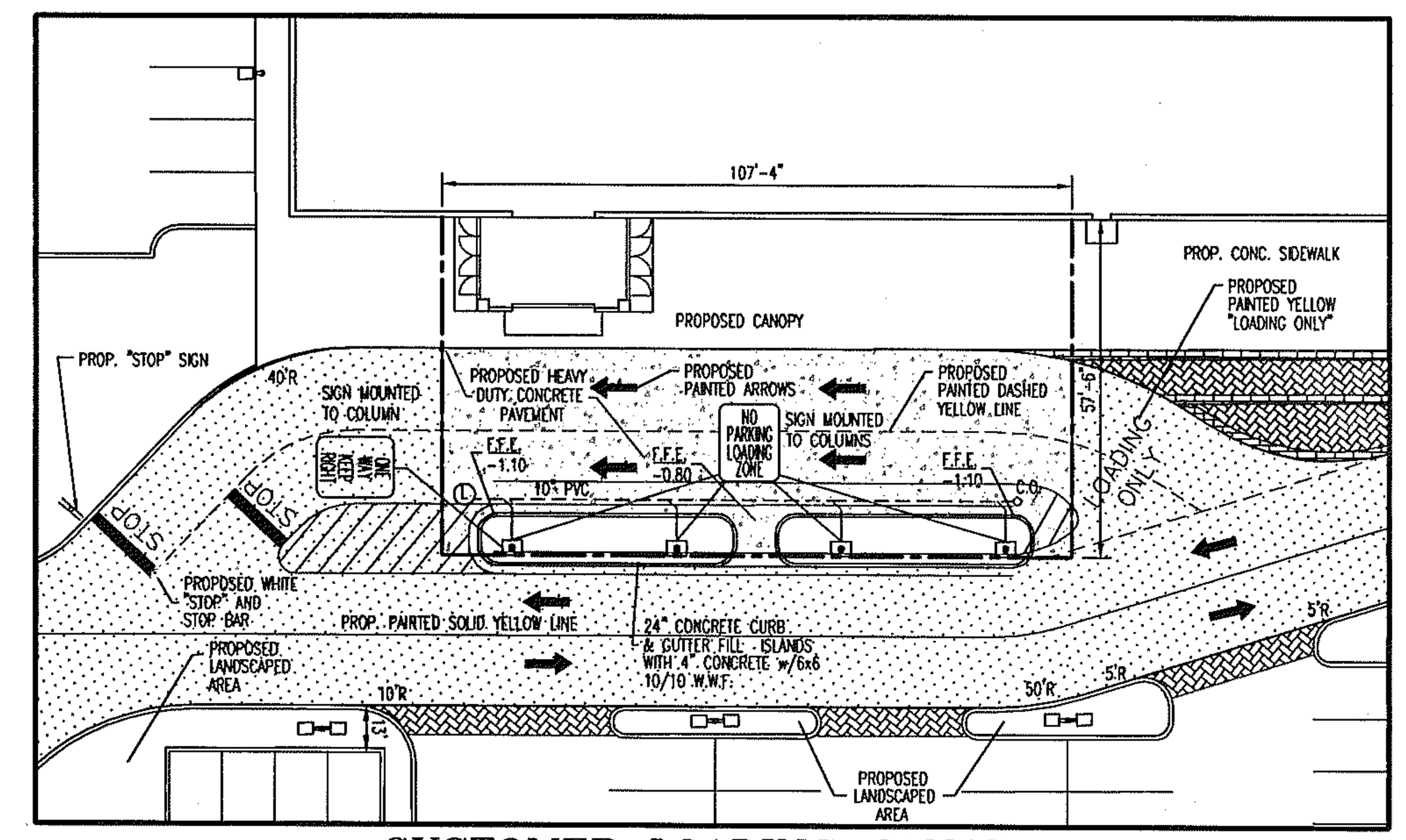
3. ZONING SUMMARY:

ZONE: LI-LIGHT INDUSTRIAL DISTRICT
RETAIL SALES(PERMITTED USE)
PROPERTY: TAX MAP #74.15, BLOCK 1, LOTS 3 & 4

4. ZONING REQUIREMENTS(CC ZONE):	REQUIRED	EXISTING	PROPOSED	
MIN. LOT AREA:	2 ACRES	539,812 SF(12.39 ACRES)	524,077 SF(12.03 ACRES)	
MIN. LOT WIDTH:	150'	670.13'	670.13'	
MIN. LOT FRONTAGE:	150'	695.13'	695.13'	
MIN. BUILDING SETBACKS:				
FRONT YARD:	50'	86.75'	50'	
REAR YARD:	50'	N/A	N/A	
SIDE YARD:				
EACH:	50'	117.10'	50'	
BOTH:	100'	607.44'	204.5'	
MAX. BUILDING HEIGHT:	1 STORY	1 STORY	1 STORY	
MAX. F.A.R.:	0.50(269,910.5 SF)	0.017(9136 SF)	MAIN BULIDING– COVERED AGRICULTURAL GARDEN CENTER–	135,479 SF 4,431 SF 0.259(139,910 SF)

PARKING REQUIREMENTS:	REQUIRED	EXISTING	PROPOSED
MIN. STALL SIZE:	9'x18'	10'x20'	9'x18'
MIN. AISLE WIDTH:	22'	24'	24'
MIN. NUMBER OF SPACES @ 1 SPACE/200 SF	700 SPACES	N/A	600 SPACES (V) 600 SPACES + 109 FUTURE SPACES = 709 SPACES
MIN. NUMBER OF LOADING BERTHS @ 1 BERTH/25,000 SF	6 BERTHS	N/A	9 BERTHS

1. ASPHALT PARKING LOT TO BE STRIPED WITH 4" WIDE PAINTED WHITE LINES AS INDICATED. CONCRETE PAVED AREAS TO BE PAINTED YELLOW. PAINT SHALL BE SHERWIN WILLIAMS "PROMAR TRAFFIC MARKING".
2. CONTRACTOR SHALL COORDINATE AND COMPLY WITH ALL UTILITY COMPANIES INVOLVED IN PROJECT AND PAY ALL REQUIRED FEES AND COSTS.
3. ALL DIMENSIONS ARE TO FACE OF CURB UNLESS OTHERWISE NOTED.
4. ALL RADII SHALL BE 4' UNLESS OTHERWISE NOTED.
5. ALL CONCRETE SIDEWALKS AND APRONS SHALL RECEIVE CONSTRUCTION JOINTS AT 25'-0" O.C. UNLESS OTHERWISE NOTED.
6. FOR SITE UTILITIES, SEE SITE UTILITIES PLAN.
7. THE SOILS REPORT AND RECOMMENDATIONS SET FORTH THEREIN ARE A PART OF THE REQUIRED CONSTRUCTION DOCUMENTS AND IN CASE OF CONFLICT SHALL TAKE PRECEDENCE UNLESS SPECIFICALLY NOTED OTHERWISE ON THE PLANS. THE CONTRACTOR SHALL NOTIFY THE ENGINEER CONSTRUCTION MANAGER OF ANY DISCREPANCY BETWEEN SOILS REPORT & PLANS, ETC?
8. THE PROPERTY SURVEY SHALL BE CONSIDERED A PART OF THESE PLANS.
9. ALL DIMENSIONS SHOWN ON THE PLANS SHALL BE FIELD VERIFIED BY THE CONTRACTOR PRIOR TO CONSTRUCTION. CONTRACTOR SHALL NOTIFY ENGINEER IF ANY DISCREPANCIES EXIST PRIOR TO PROCEEDING WITH CONSTRUCTION FOR NECESSARY PLAN CHANGES. NO EXTRA COMPENSATION SHALL BE PAID TO THE CONTRACTOR FOR WORK HAVING TO BE REDONE DUE TO DIMENSIONS OR GRADES SHOWN INCORRECTLY ON THESE PLANS IF SUCH NOTIFICATION HAS NOT BEEN GIVEN.
10. SOLID WASTE TO BE DISPOSED OF BY CONTRACTOR IN ACCORDANCE WITH ALL LOCAL, STATE AND FEDERAL REGULATIONS.
11. ALL EXCAVATED UNSUITABLE MATERIAL MUST BE TRANSPORTED TO AN APPROVED DISPOSAL LOCATION.
12. CONTRACTOR IS RESPONSIBLE FOR ALL SHORING REQUIRED DURING EXCAVATION AND SHALL BE PERFORMED IN ACCORDANCE WITH CURRENT OSHA STANDARDS, AS WELL AS ADDITIONAL PROVISIONS TO ASSURE STABILITY OF CONTIGUOUS STRUCTURES, AS FIELD CONDITIONS DICTATE.
13. PRIOR TO STARTING CONSTRUCTION, THE CONTRACTOR SHALL BE RESPONSIBLE TO MAKE SURE THAT ALL REQUIRED PERMITS AND APPROVALS HAVE BEEN OBTAINED. NO CONSTRUCTION OR FABRICATION SHALL BEGIN UNTIL THE CONTRACTOR HAS RECEIVED AND THOROUGHLY REVIEWED ALL PLANS AND OTHER DOCUMENTS APPROVED BY ALL OF THE PERMITTING AUTHORITIES.
14. ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THESE PLANS AND SPECIFICATIONS AND THE REQUIREMENTS AND STANDARDS OF THE LOCAL GOVERNING AUTHORITY.
15. SITE CLEARING SHALL INCLUDE THE LOCATION AND REMOVAL OF ALL UNDERGROUND TANKS, PIPES, VALVES ETC.
16. THE LOCATIONS OF UNDERGROUND FACILITIES SHOWN ON THESE PLAN ARE BASED ON FIELD SURVEYS AND LOCAL UTILITY COMPANY RECORDS. IT SHALL BE THE CONTRACTORS FULL RESPONSIBILITY TO CONTACT THE VARIOUS UTILITY COMPANIES TO LOCATE THEIR FACILITIES PRIOR TO STARTING CONSTRUCTION
17. ALL EXISTING ITEMS ARE TO REMAIN UNLESS OTHERWISE NOTED ON THE DEMOLITION PLAN.
18. ALL CURB RADII ARE 3' UNLESS OTHERWISE NOTED.
19. LOCATIONS OF EASEMENTS ARE SHOWN AS DEPICTED ON THE SURVEY PREPARED BY: ROBERT R. RAHNEFELD, LAND AND BOUNDARY CONSULTANT
20. BUILDING AREA INFORMATION PROVIDED BY PERRY M. PETRILLO ARCHITECTS.
21. A PRE-CONSTRUCTION MEETING MUST BE ARRANGED AT LEAST ONE (1) WEEK PRIOR TO THE COMMENCEMENT OF ANY WORK.
22. ALL UTILITIES, INCLUDING ELECTRIC AND TELEPHONE SERVICE. SHALL BE INSTALLED UNDERGROUND.
23. SIDEWALKS AND CURBS SHALL BE INSTALLED IN ACCORDANCE WITH THE HIGHWAY DEPARTMENT SPECIFICATIONS FOR SIDEWALKS AND CURBS.
24. THIS PLAN DOES NOT CONFLICT WITH THE COUNTY OFFICIAL MAP AND HAS BEEN APPROVED IN THE MANNER SPECIFIED BY SECTION 239K OF THE GENERAL MUNICIPAL LAWS OF THE STATE OF NEW YORK.
25. CERTIFICATE OF OCCUPANCY SHALL NOT BE REQUESTED FROM THE TOWN OF ORANGETOWN BUILDING DEPARTMENT UNTIL RESULTS OF INFILTRATION AND EXFILTRATION TESTS FOR SANITARY SEWERS ARE CERTIFIED BY A NEW YORK STATE LICENSED PROFESSIONAL ENGINEER AND APPROVED BY THE DIRECTOR, DIVISION OF SEWERS.
26. ZONING BOARD VARIANCE, ZBA No. 00-27, RECIEVED 4/5/00 FOR THIS PROJECT.



CUSTOMER LOADING CANOPY
SCALE: 1" = 30'

I HEREBY CERTIFY THAT I AM THE OWNER OF RECORD OF THE SITE HEREIN DEPICTED AND THAT I CONCUR WITH THE PLAN:

OWNER

Rev.	Date	Comment	BY
26	1/28/03	REV. PER WATER COMPANY COMMENTS	BJN
25	1/16/03	REV. PER UTILITY COMMENTS	DTN
24	11/21/02	SHOW ADDITIONAL SEWER IMPROVEMENTS	BJN
23	10/14/02	REV. SEWER LOC. PER TWSP. COMMENTS	BJN
22	09/25/02	REV. PER FIELD CHANGE	SK
21	7/25/02	REV. PER MUNICIPAL COMMENTS	CT
20	3/20/02	REV. PER CLIENT COMMENTS	GR
19	11/09/01	REV. PER CLIENT COMMENTS	JKD
18	9/27/01	REV STEVENS WAY PROFILE	MAR
17	7/17/01	REV. PER CLIENT COMMENTS	JA
16	5/10/01	REV. FOR CONSTRUCTION	JA
15	5/1/01	REV. PER D.E.M.E. COMMENTS	GR
14	4/23/01	REV. PER MUNICIPAL COMMENTS	JA
13	4/02/01	REV. PER CLIENT COMMENTS	CT
12	3/16/01	REV. PER MUN. APPROVAL CONDITIONS	JA
11	1/29/01	REV. PER MUNICIPAL COMMENTS	CT
10	12/29/00	REV. PER MUNICIPAL ENG. COMMENTS	JA
9	12/27/00	REVISED PARKING COUNTS	JA
8	12/11/00	REVISED PER CLIENT COMMENTS	GR
7	12/08/00	REVISED PER PLANNING BOARD	GR
6	11/14/00	REVISED PER ACABOR MEETING	G.S.
5	10/19/00	REVISED LIGHTING	DLK
4	8/31/00	REVISED PARKING AREA	DLK
3	6/30/00	REVISED CONC. HEADWALL	TP
2	6/9/00	REV. PER CLIENT COMMENTS	DLK
1	5/18/00	PER CLIENT REQUEST	DLK

BOHLER ENGINEERING, P.C.

• CIVIL & CONSULTING ENGINEERS • PROJECT MANAGERS • ENVIRONMENTAL & SITE PLANNERS • MUNICIPAL ENGINEERS •

1120 WELSH ROAD, SUITE 200
NORTH WALES, PENNSYLVANIA 19454
(215) 393-8300

776 MOUNTAIN BLVD.
WATCHUNG, NEW JERSEY 07060
(908) 668-8300

70 EAST SUNRISE HIGHWAY, SUITE 609
VALLEY STREAM, NEW YORK 11581
(516) 872-2000

PROJECT: LOWE'S COMPANIES, INC.
PROPOSED DEVELOPMENT
TAX MAP 74.15, BLOCK 1, LOTS 3 & 4
NYSH ROUTE 303, TOWN OF ORANGETOWN
ROCKLAND COUNTY, NEW YORK

TITLE: SITE PLAN

J.G. JAWORSKI
PROFESSIONAL ENGINEER
NEW JERSEY LICENSE No. 36618
PENNSYLVANIA LICENSE No. 47943
NEW YORK LICENSE No. 075707
CONNECTICUT LICENSE No. 20811
MASSACHUSETTS LICENSE No. 40835

G.S. GALLAS
N.Y. PROFESSIONAL L.S. LIC.#50124
I HERE BY CERTIFY THAT THE BOUNDARY AND EASEMENT LINES SHOWN ARE BASED UPON A SURVEY PREPARED IN THE FIELD UNDER MY SUPERVISION, AND TO THE BEST OF MY KNOWLEDGE BELIEF, AND INFORMATION, THAT THE SURVEY WAS PERFORMED IN ACCORDANCE WITH CURRENTLY ACCEPTED ACCURACY STANDARDS.

SCALE: (H) 1"=50' (V)	DATE: 5/16/00
DRAWN BY: G.S.	PROJECT No: J000803
CHECKED BY: KLH	CAD I.D. #: J00803SS26
CONSTRUCTION CHECK	DATE

SHEET No: 3 OF 18

REV. No. 26

FOUNDATION PLAN

SCALE 1"=20'-0"

WALL FOOTING SCHEDULE

DESIGN SOIL BRG. 2,000 PSF.

MARK	SIZE (LxT)	REINFORCING (CONT.)
W3	CONT. 3'-0"x12"	2-#5(B), 4-#5(T), & #4 @ 18" O.C.

caulk reseiving area

2018

77x16

2017

2018

aisle 10
24x24

aisle 7
24x24

aisle 4
(3) 12x12's

2019

2019

2020

2017/18 pb

SUBBASE BELOW ALL SLABS ON GRADE SHALL BE DYNAMICALLY COMPACTED IN ACCORDANCE WITH THE SOILS REPORT (TYP. FOR ENTIRE BUILDING PAD)

NOTES: THESE NOTES ARE SUPPLEMENTARY TO THE PROJECT SPECIFICATIONS.
1- ALL BAR REINFORCING SHALL CONFORM TO ASTM A-615, GRADE 60.
2- ALL WIDTH OF REINFORCING BARS SHALL BE DONE W/ NO16 ANNEALED WIRE.
3- CONCRETE STRENGTH SHALL NOT BE LESS THAN 4000 P.S.I. AT 28 DAYS.
4- NOMINAL SLUMP SHALL BE 4 INCHES.
5- THERE SHALL BE NO VEHICULAR TRAFFIC PERMITTED ON SLAB/APRONS.
6- ALL MASONRY WALLS SHALL BE LAYED FROM INSIDE OF BUILDING ON COMPACTED STONE BASE.
7- SEE SITE GRADING PLAN FOR SLOPE OF ALL EXTERIOR SLABS.
8- COORDINATE WITH OTHER TRADES FOR REQUIREMENTS AND LOCATIONS OF SLAB PENETRATIONS.(PIPE BOLLARDS; PLUMBING PIPES; ELEC. STUB-UPS, ETC.)
9- SEE SHEET E-9 FOR LOCATIONS & DETAILS OF ELECTRICAL GROUNDING REQUIREMENTS.
10- SAWCUT CONTROL JOINTS MAY BE USED IN LIEU OF CONSTRUCTION JOINTS PROVIDED WIDTH OF POUR EQUALS ONE BAY SPACE. MAXIMUM LENGTH OF POUR SHALL BE BASED ON WEATHER CONDITIONS, CONTRACTOR'S CAPABILITIES, & GOOD CONSTRUCTION PRACTICES.
11- SEE PROJECT SPECIFICATIONS FOR MORE DETAILED INFORMATION.
12- COMPACTED STONE BASE SHALL BE IN PLACE ON BUILDING PAD, GARDEN CENTER PAD & CONC. APRONS AREA PRIOR TO EXCAVATING PERIMETER OR INTERIOR FOOTINGS. DISPOSE OF EXCAVATED FILL.

NOTE:
PROVIDE (2) PIPE GUARDPOST AT GAS METER AND (2) PIPE GUARDPOST AT ELECTRICAL TRANSFORMER. SEE SITE PLAN FOR LOCATION OF EACH. FOR ADDITIONAL GUARDPOST LOCATIONS IN BUILDING SEE SHT. A-1 & A-2

NOTE:
SEE SHT. # A-5 FOR LOCATION OF MASONRY WALL CONTROL JOINTS AT ALL WALLS

LEGEND:
A.M.O. =ACTUAL MASONRY OPENING.
M.O. =MASONRY OPENING.
S= =STEP IN WALL ETC..

NOTE:
SEE DETAILS FOR DIMENSIONAL RELATIONSHIP OF MASONRY, FTG., ETC. TO GRID LINES

FROST SLAB NOTE:
PROVIDE FROST SLAB AT ALL OPENINGS AT GRADE. SEE DETAIL 10S3 FOR SLAB CONSTRUCTION

No.	REVISION/DESCRIPTION	DATE:	BY.
	ISSUED FOR PERMIT	4/2/00	
1	LOWES REVISIONS	05/30/00	
	GENERAL REVISION	8/22/01	
	REVISED PER LOWES COMMENTS	9/28/01	
	REVISED PER LOWES COMMENTS	1/28/01	

PERRY M. PETRILLO ARCHITECTS
900-D Lake Street
Ramsey, New Jersey 07446
Telephone (201) 236-9181
Facsimile (201) 236-5952

LICENSE:
NCARB: 44575
NEW JERSEY
Lic. No. 12114
NEW YORK
Lic. No. 034975-1
PENNSYLVANIA
Lic. No. RA-018810-B
VIRGINIA
Lic. No. 0401 011655

PROJECT:
A NEW STORE FACILITY FOR:
LOWE'S of Orangeburg, NY

DRAWING: FOUNDATION PLAN
DRAWN: ssm
DATE: June 2, 2000
SCALE: AS NOTED
JOB NO. 00.124
SHEET: S-1
OF 14 SHEETS

REVISED CONTRACT DATE: 9/2/12

FORMER ORANGEBURG PIPE MANUFACTURING FACILITY – LOWE'S SITE

NYSDEC Site #: V-00579-3

NYSDEC Index #: W3-0930-02-07

PHOTO LOG – Concrete Slab Replacement Activity – October 2017

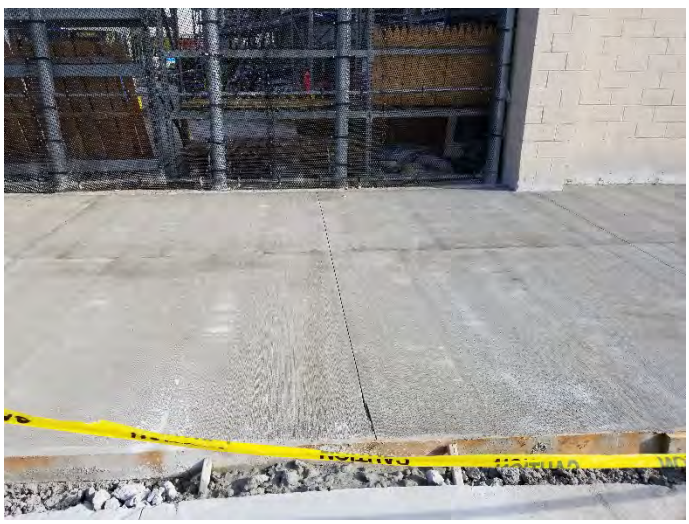
Photos of Concrete Slab Areas – During Removal

FORMER ORANGEBURG PIPE MANUFACTURING FACILITY – LOWE'S SITE

NYSDEC Site #: V-00579-3

NYSDEC Index #: W3-0930-02-07

PHOTO LOG – Concrete Slab Replacement Activity – October 2017



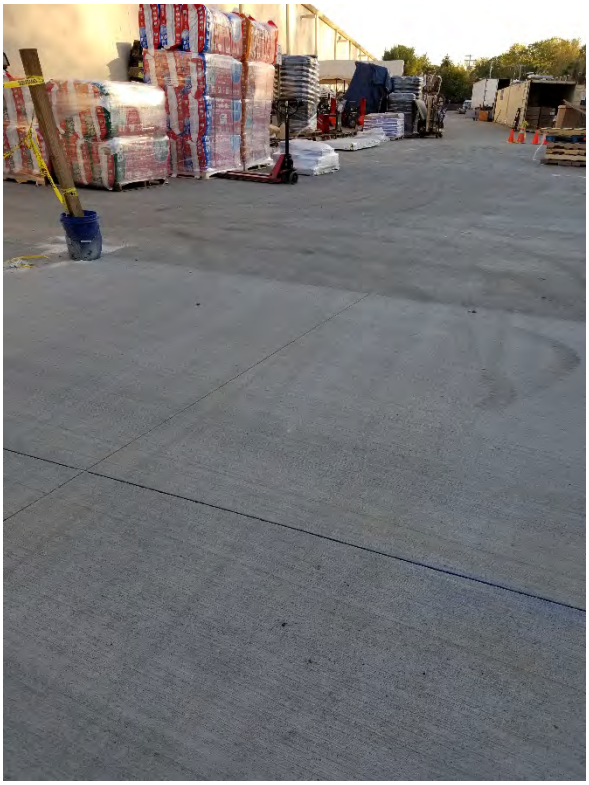
Photos of Concrete Slab Replacement

FORMER ORANGEBURG PIPE MANUFACTURING FACILITY – LOWE'S SITE

NYSDEC Site #: V-00579-3

NYSDEC Index #: W3-0930-02-07

PHOTO LOG – Concrete Slab Replacement Activity – October 2017

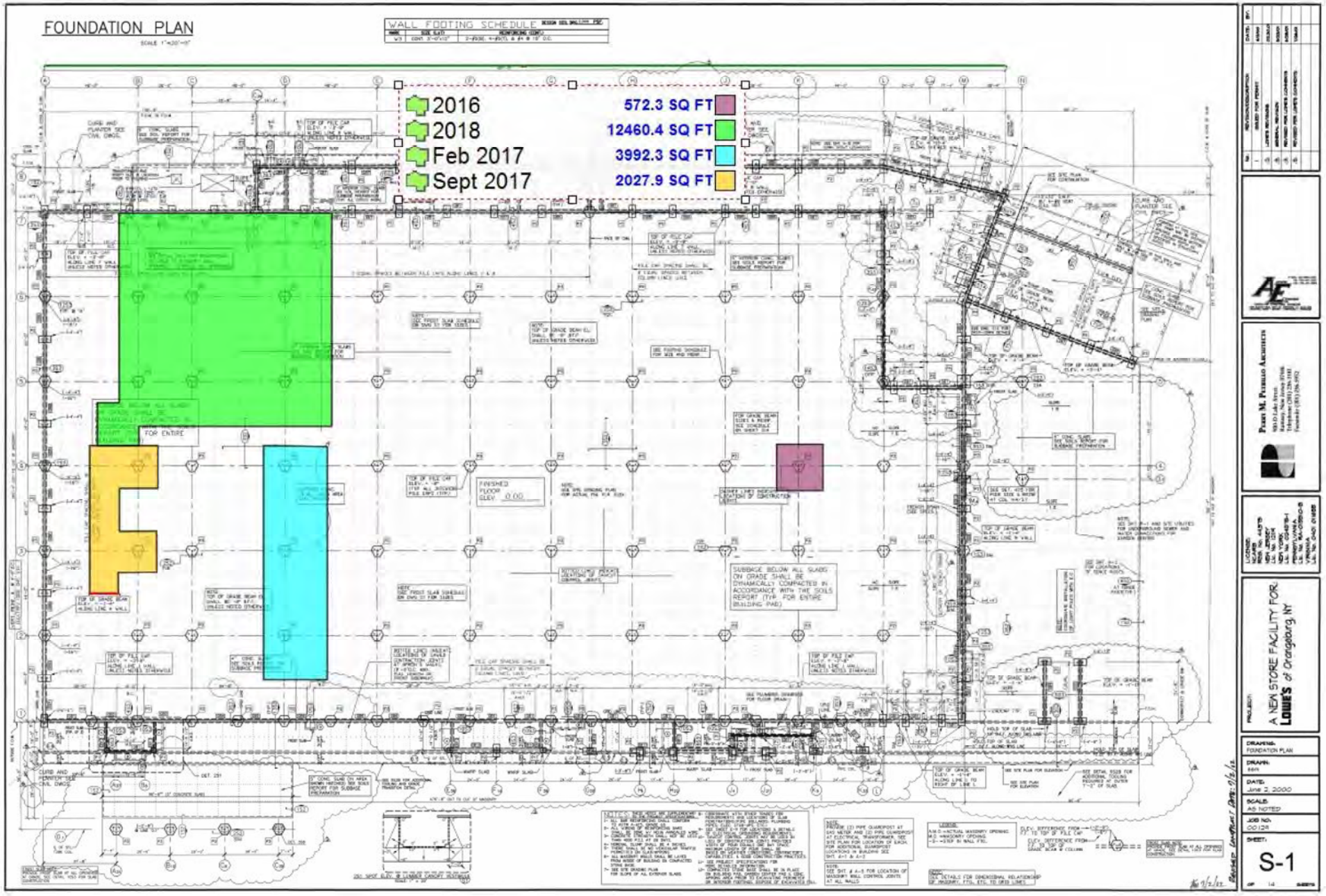


Photos of Concrete Slab Replacement

Inside Concrete Slab Replacement

(February 2018)

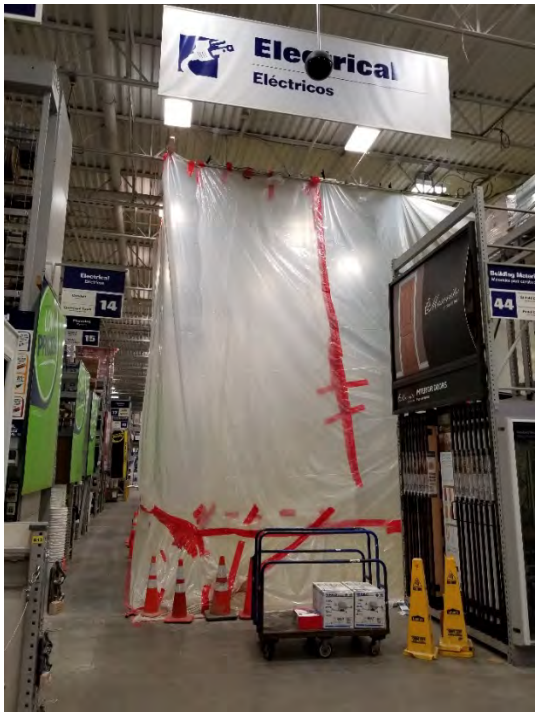
36.00 x 23.93

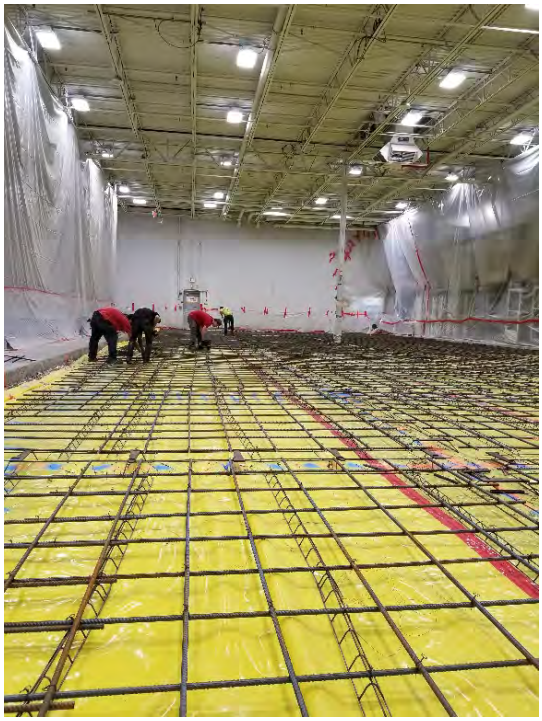


Measurement Type : Imperial

FORMER ORANGEBURG PIPE MANUFACTURING FACILITY – LOWE'S SITE
NYSDEC Site #: V-00579-3
NYSDEC Index #: W3-0930-02-07

PHOTO LOG – Concrete Slab Replacement Activity –February 2018





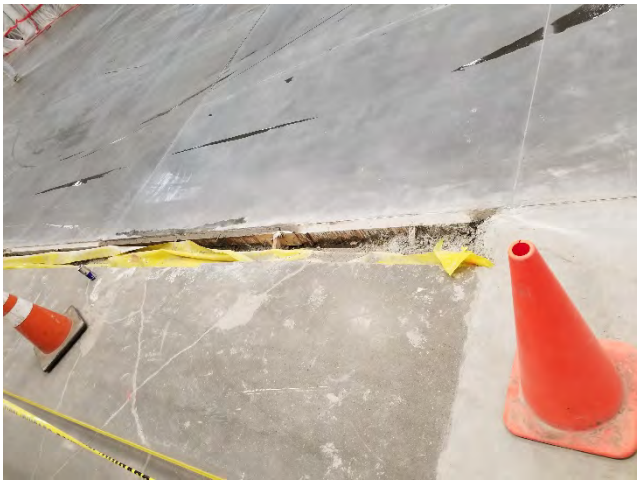
Photos of Isolated Work Areas Inside Building – During Slab Removal & Replacement

FORMER ORANGEBURG PIPE MANUFACTURING FACILITY – LOWE'S SITE

NYSDEC Site #: V-00579-3

NYSDEC Index #: W3-0930-02-07

PHOTO LOG – Concrete Slab Replacement Activity –February 2018



Photos of Isolated Work Areas Inside Building – During Slab Replacement

Inside Concrete Slab Replacement

(March 2018)

FORMER ORANGEBURG PIPE MANUFACTURING FACILITY – LOWE'S SITE

NYSDEC Site #: V-00579-3

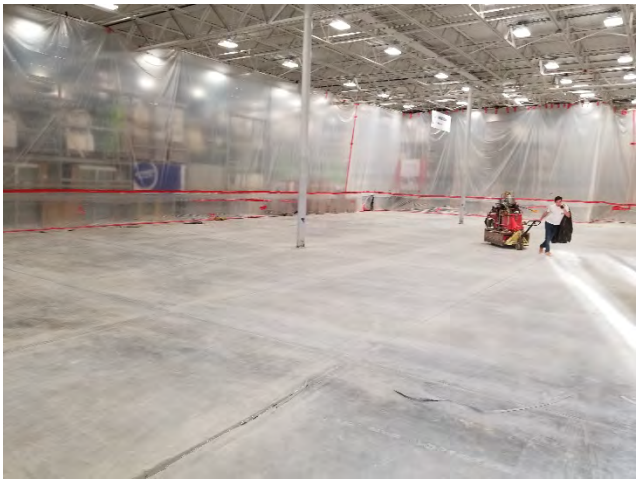
NYSDEC Index #: W3-0930-02-07

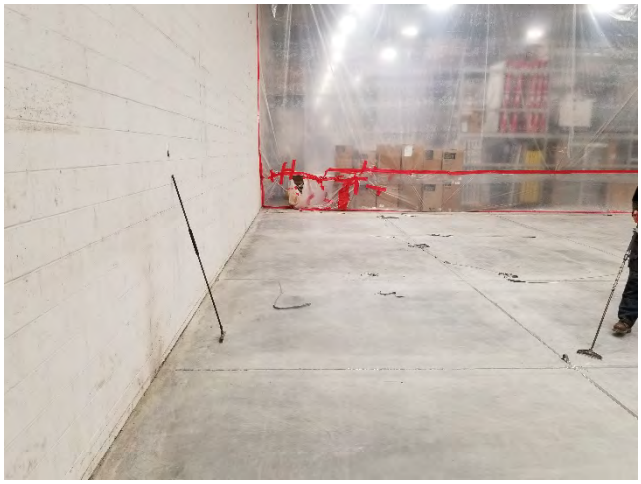
PHOTO LOG – Concrete Slab Replacement Activity –March 2018

Photos of Isolated Work Areas Inside Building – During Slab Removal

FORMER ORANGEBURG PIPE MANUFACTURING FACILITY – LOWE'S SITE
NYSDEC Site #: V-00579-3
NYSDEC Index #: W3-0930-02-07

PHOTO LOG – Concrete Slab Replacement Activity –March 2018





Photos of Isolated Work Areas Inside Building – During Slab Replacement

Outside Concrete Slab & Sidewalk Replacement

(November-December 2018)

Mailing Address: Lowe's Home Centers, Inc.,
P.O. Box 1111, North Wilkesboro, NC 28656-0001

Shipping Address: Customer Support Center – West
1605 Curtis Bridge Rd. – REEC Dock, Wilkesboro, NC 28697

Telephone: 336-658-4000
Fax: 336-658-3257

October 11, 2018

Direct Mailing to:
R. Patrick Burns
c/o Lowe's
60 Saltaire Drive
Old Lyme, CT 06371

Mr. John M. Guzewich
HDR
1 Blue Hill Plaza 12th Floor
Pearl River, NY 10965
RE: Lowe's Orangeburg, NY

Site Concrete & Asphalt Repairs

Dear Mr. Guzewich,

We have a small concrete and Asphalt repair project planned in 2018. With your approval, we plan to remove and replace the concrete and some Asphalt patching per the attached plan.

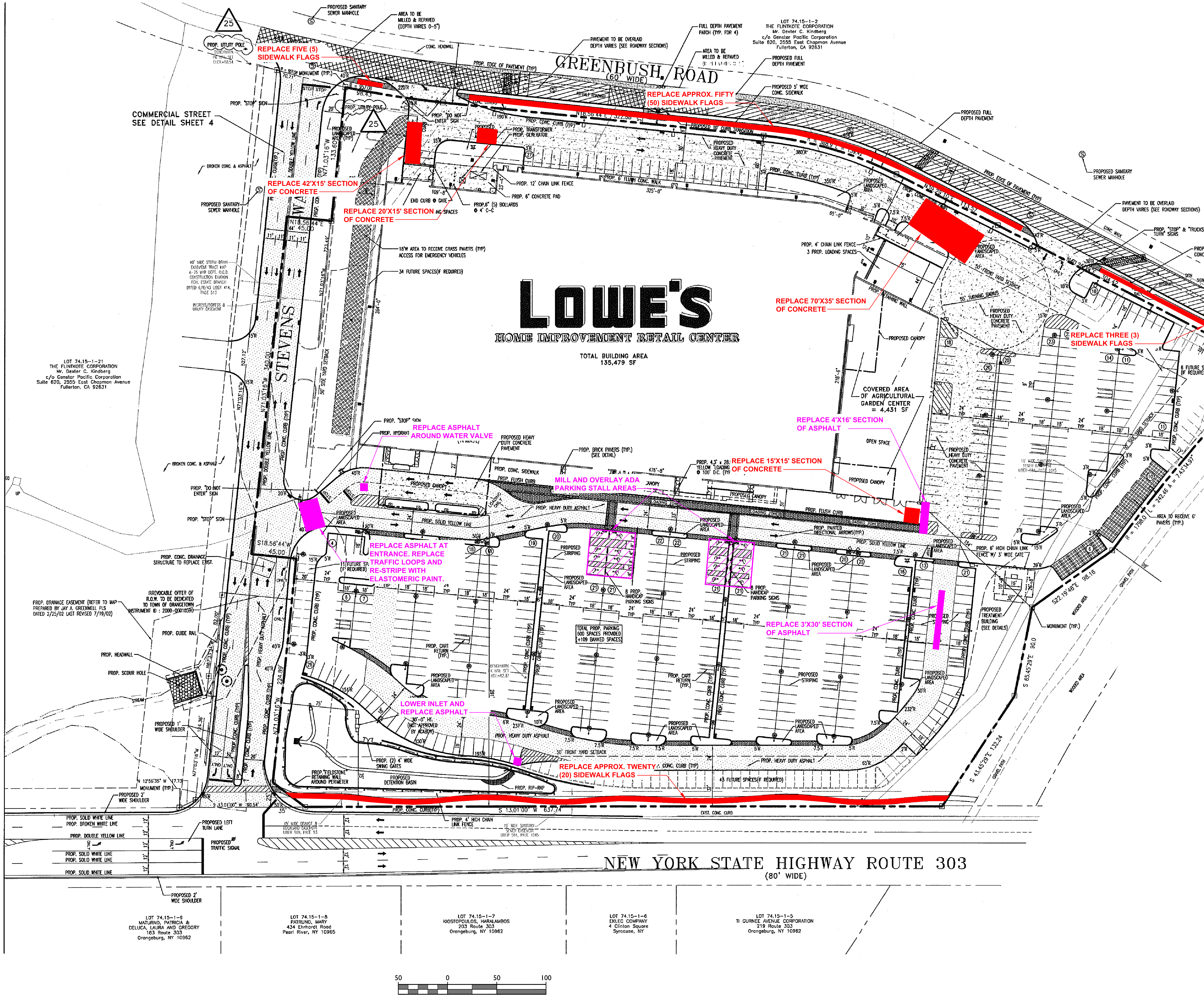
At no time will the existing sub base material be excavated below the existing cap material. The existing compacted sub-grade material below the concrete slab will remain in place such that the impacted soil below the cap will not be exposed or disturbed as part of this work.

Thank you for your assistance in this matter. Should you have any questions, feel free to contact me at (860) 805-3989.

Sincerely,

R. Patrick Burns

R. Patrick Burns
Regional Facility Manager
LOWE'S HOME CENTERS INC.
860 805-3989 cell



GENERAL NOTES:

1. PROPERTY ADDRESS: 206 ROUTE 303
   ORANGEBURG, NY 10962
   TOWN OF ORANGETOWN
   ROCKLAND COUNTY, NY
2. THE SITE IS LOCATED WITHIN THE LIGHT INDUSTRIAL (LI) ZONING DISTRICT ACCORDING TO THE TOWN OF ORANGETOWN ZONING MAP, LAST REVISED SEPTEMBER, 2011.
3. THE BASE PLAN FOR THIS DESIGN UTILIZES A "SITE PLAN" PREPARED BY BOHLER ENGINEERING, P.C., DATED MAY 16, 2006, REVISED JANUARY 28, 2003.
4. FEATURES SHOWN ON THIS PLAN ARE APPROXIMATE. THIS PLAN DOES NOT REPRESENT A PHYSICAL SURVEY OF THE SITE.
5. THIS PLAN HAS BEEN PREPARED FOR SCHEMATIC PURPOSES. CONTRACTOR SHALL VERIFY AREAS INDICATED ON THIS PLAN PRIOR TO CONSTRUCTION.
6. DO NOT SCALE DRAWING, AS THEY PERTAIN TO ADJACENT SURROUNDING PHYSICAL CONDITIONS, BUILDINGS, STRUCTURES, ETC. THEY ARE SCHEMATIC ONLY AND ALL DIMENSIONS ARE APPROXIMATE.
7. THIS PLAN HAS BEEN PREPARED FOR BUILDING PERMIT AS REQUIRED BY THE TOWN OF ORANGETOWN BUILDING DEPARTMENT.
8. THE CONTRACTOR IS RESPONSIBLE FOR PROJECT SAFETY, INCLUDING PROVISION OF ALL APPROPRIATE SAFETY DEVICES AND TRAINING REQUIRED.
9. PRIOR TO ANY EXCAVATION, THE CONTRACTOR SHALL CALL 811 TO REQUEST A UTILITY MARKOUT.

ADA INSTRUCTIONS TO CONTRACTOR:

1. CONTRACTOR TO INSPECT HANDICAP RAMPS AND WARNING PAVERS LOCATED ON THE SITE. ANY RAMPS NOT MEETING CODE, SHALL BE REPLACED MEETING THE BELOW REQUIREMENTS.
2. CONTRACTOR SHALL EXERCISE APPROPRIATE CARE AND PRECISION IN CONSTRUCTION OF ADA (HANDICAPPED) ACCESSIBLE COMPONENTS FOR THE SITE. THESE COMPONENTS, AS CONSTRUCTED, MUST COMPLY WITH THE LATEST ADA STANDARDS FOR ACCESSIBLE DESIGN. FINISHED SURFACES ALONG THE ACCESSIBLE ROUTE OF TRAVEL FROM PARKING SPACE, PUBLIC TRANSPORTATION, PEDESTRIAN ACCESS, INTER-BUILDING ACCESS, TO POINTS OF ACCESSIBLE BUILDING ENTRANCE/EGRESS, SHALL COMPLY WITH THESE ADA CODE REQUIREMENTS. THESE INCLUDE, BUT ARE NOT LIMITED TO THE FOLLOWING:

   A. PARKING SPACES - SLOPE SHALL NOT EXCEED 1:48 (1/4" PER FOOT OR NOMINALLY 2.0%) IN ANY DIRECTION.

   B. CURB RAMPS- SLOPES SHALL NOT EXCEED 1:12 (8.3%).

   C. LANDINGS -SHALL BE PROVIDED AT EACH END OF RAMPS, SHALL PROVIDE POSITIVE DRAINAGE, AND SHALL NOT EXCEED 1:48 (1/4" PER FOOT OR NOMINALLY 2.0%) IN ANY DIRECTION.

   D. PATH OF TRAVEL ALONG ACCESSIBLE ROUTE - SHALL PROVIDE A 36 INCH OR GREATER UNOBSTRUCTED WIDTH OF TRAVEL, (CAR OVERHANGS CANNOT REDUCE THIS MINIMUM WIDTH), THE SLOPE SHALL BE NO GREATER THAN 1:20 (5.0%) IN THE DIRECTION OF TRAVEL, AND SHALL NOT EXCEED 1:48 (1/4" PER FOOT OR NOMINALLY 2.0%) IN CROSS SLOPE.

   E. WHERE PATH OF TRAVEL WILL BE GREATER THAN 1:20 (5.0%), AN ADA RAMP WITH A MAXIMUM SLOPE OF 1:12 (8.3%), FOR A MAXIMUM DISTANCE OF 30 FEET, SHALL BE PROVIDED. THE RAMP SHALL HAVE ADA HAND RAILS AND "LEVEL" LANDINGS ON EACH END THAT ARE SLOPED NO MORE THAN 1:48 (1/4" PER FOOT OR NOMINALLY 2.0%) FOR POSITIVE DRAINAGE.

   F. DOORWAYS - SHALL HAVE A "LEVEL" LANDING AREA ON THE EXTERIOR SIDE OF THE DOOR THAT IS SLOPED NO MORE THAN 1:48 (1/4" PER FOOT OR NORMALLY 2.0%) FOR POSITIVE DRAINAGE. THIS LANDING AREA SHALL BE NO LESS THAN 60 INCHES (5 FEET) LONG, EXCEPT WHERE OTHER WISE PERMITTED BY ADA STANDARDS FOR ALTERNATIVE DOORWAY OPENING CONDITIONS (SEE APPLICABLE CODE SECTIONS).
3. IT IS RECOMMENDED THAT THE CONTRACTOR REVIEW THE INTENDED CONSTRUCTION WITH THE LOCAL BUILDING CODE OFFICIAL PRIOR TO COMMENCING WORK.

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- Philadelphia, PA
- Pittsburgh, PA
- Tampa, FL
- Orlando, FL
- Miami, FL
- Jacksonville, FL
- Sterling, VA
- Norfolk, VA
- Albuquerque, NM
- Columbia, MD

811 Know what's below. Call before you dig.

PROTECT YOURSELF
ALL STATES REQUIRE NOTIFICATION OF EXCAVATORS, DESIGNERS, OR ANY PERSON PREPARING TO DISTURB THE EARTH'S SURFACE ANYWHERE IN ANY STATE

FOR STATE SPECIFIC DIRECT PHONE NUMBERS VISIT: WWW.CALL811.COM

REV	DATE	DRAWN BY	DESCRIPTION

RUSSELL T. McFALL II
NEW YORK LICENSED PROFESSIONAL ENGINEER - LICENSE NUMBER: 090030

PAVEMENT AND SIDEWALK RENOVATION EXHIBIT

FOR

LOWE'S

206 NYS ROUTE 303

TOWN OF ORANGETOWN
ROCKLAND COUNTY
NEW YORK

EXTON OFFICE
410 Eagleview Boulevard
Suite 104
Exton, PA 19341
Phone: 610.254.9140
Fax: 610.254.9141

SCALE:	DATE:	DRAWN BY:	CHECKED BY:
AS SHOWN	09/26/18	SVD	CJR

PROJECT NUMBER:	DRAWING NAME:
18006363A	18-0926 SITE RENOVATION

SHEET TITLE:

SITE PLAN

FORMER ORANGEBURG PIPE MANUFACTURING FACILITY – LOWE'S SITE

NYSDEC Site #: V-00579-3

NYSDEC Index #: W3-0930-02-07

PHOTO LOG – Concrete Slab Replacement Activity – November-December 2018

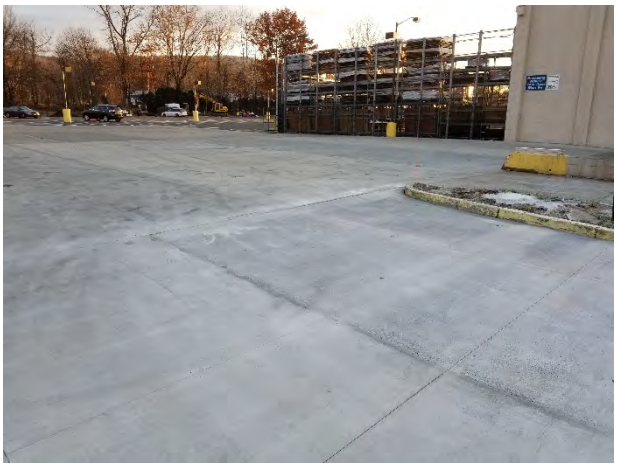
Photos of Concrete Slab Areas – After Removal

FORMER ORANGEBURG PIPE MANUFACTURING FACILITY – LOWE'S SITE

NYSDEC Site #: V-00579-3

NYSDEC Index #: W3-0930-02-07

PHOTO LOG – Concrete Slab Replacement Activity – November-December 2018



Photos of Concrete Slab Areas – After Replacement

FORMER ORANGEBURG PIPE MANUFACTURING FACILITY – LOWE'S SITE

NYSDEC Site #: V-00579-3

NYSDEC Index #: W3-0930-02-07

PHOTO LOG – Concrete Slab Replacement Activity – November-December 2018

Photos of Concrete Sidewalk Repairs

Water Line Repair

(December 2018)

UTILITY LEGEND

— — — W — — —	APPROX. LOC. UNDERGROUND WATER LINE
——— W ———	WATER LINE
═ ═ ═ ═	EXISTING STORM SEWER
——— G ———	GAS MAIN
— — — G — — —	APPROX. LOC. UNDERGROUND GAS LINE
——— OH ———	EXISTING POWER POLE & O.H. ELECTRIC LINES
— — — T — — —	APPROX. LOC. UNDERGROUND TEL. LINE
——— E/T ———	PROPOSED UNDERGROUND ELECTRIC SERVICE (NO. & SIZE OF CONDUITS NOT DEFINED) PROPOSED CONDUIT FOR TELEPHONE SERVICE
	PROPOSED SANITARY SEWER LINE
	PROPOSED STORM DRAIN LINE
	PROPOSED DIRECTION OF DRAINAGE FLOW ARROW
C/O	PROP CLEAN OUT
	HYDRANT
⋈	UTILITY VALVE
	UTILITY POLE
	TRAFFIC SIGNAL

UTILITY NOTES:

1. CONTRACTOR IS RESPONSIBLE FOR VERIFICATION OF EXISTING TOPOGRAPHY AND UTILITY INVERT ELEVATIONS PRIOR TO COMMENCEMENT OF ANY CONSTRUCTION. CONTRACTOR TO ENSURE 1.0% MIN. SLOPE AGAINST ALL GUTTERS TO PREVENT PUDDLING. ANY DISCREPANCIES SHALL BE PROVIDED TO THE ENGINEER IN WRITING IMMEDIATELY.
2. LOCATION OF ALL EXISTING AND PROPOSED SERVICES ARE APPROXIMATE AND MUST BE CONFIRMED INDEPENDENTLY WITH LOCAL UTILITY COMPANIES PRIOR TO COMMENCEMENT OF ANY CONSTRUCTION OR EXCAVATION. SANITARY SEWER AND ALL OTHER UTILITY SERVICES CONNECTION POINTS SHALL BE CONFIRMED INDEPENDENTLY BY THE CONTRACTOR IN FIELD PRIOR TO THE COMMENCEMENT OF CONSTRUCTION. ALL DISCREPANCIES SHALL BE REPORTED IMMEDIATELY IN WRITING TO THE ENGINEER. CONSTRUCTION SHALL COMMENCE BEGINNING AT THE LOWEST POINTS. CROSSINGS WITH EXISTING UNDERGROUND INSTALLATIONS SHALL BE FIELD VERIFIED FOR INLET ELEVATIONS AND LOCATION BY TEST PIT PRIOR TO COMMENCEMENT OF CONSTRUCTION.
3. THE SUITABILITY OF EXCAVATING MATERIAL FOR USE AS BACK FILL SHALL BE DETERMINED BY THE TOWNSHIP ENGINEER.
4. SUB BASE MATERIAL FOR SIDEWALKS, CURB, OR ASPHALT SHALL BE FREE OF ORGANICS AND OTHER UNSUITABLE MATERIALS. SHOULD SUB BASE BE DEEMED UNSUITABLE, SUB BASE IS TO BE REMOVED AND FILLED WITH APPROVED FILL MATERIAL COMPACTED TO 95% OPTIMUM DENSITY (AS DETERMINED BY MODIFIED PROCTOR METHOD).
5. ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THESE PLANS AND THE REQUIREMENTS AND STANDARDS OF THE LOCAL GOVERNING AUTHORITY AND OSHA STANDARDS.
6. SITE GRADING SHALL BE PERFORMED IN ACCORDANCE WITH THESE PLANS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REMOVING AND REPLACING ALL SOFT, YIELDING OR UNSUITABLE MATERIALS AND REPLACING WITH SUITABLE MATERIALS. ALL EXCAVATED OR FILLED AREAS SHALL BE COMPACTED TO 95% OF MODIFIED PROCTOR MAXIMUM DENSITY PER A.S.T.M. TEST D-1557. MOISTURE CONTENT AT TIME OF PLACEMENT SHALL NOT EXCEED 2% ABOVE NOR 3% BELOW OPTIMUM. CONTRACTOR SHALL SUBMIT A COMPACTION REPORT PREPARED BY A QUALIFIED SOILS ENGINEER, REGISTERED IN THE STATE OF NEW JERSEY CERTIFYING THAT THE SOILS WITHIN THE AREAS TO BE PAVED AN OR BELOW PAD HAVE BEEN COMPACTED IN ACCORDANCE WITH THESE PLANS AND SPECS.
7. WATER SERVICE MATERIALS SHALL BE COPPER TYPE "K". DIAMETER SHALL BE AS NOTED ON PLANS AND SHALL BE INSTALLED WITH 36" MINIMUM COVER OR BELOW FROST LINE WHICHEVER IS GREATER. CONTRACTOR'S PRICE FOR WATER SERVICE SHALL INCLUDE ALL FEES AND APPURTENANCES REQUIRED BY THE UTILITY TO PROVIDE A COMPLETE WORKING SERVICE.
8. SITE CLEARING SHALL INCLUDE THE LOCATION AND REMOVAL OF ALL UNDERGROUND TANKS, PIPES, VALVES, SEPTIC SYSTEMS ETC.
9. ALL DIMENSIONS AND GRADES SHOWN ON THE PLANS SHALL BE FIELD VERIFIED BY THE CONTRACTOR PRIOR TO CONSTRUCTION. CONTRACTOR SHALL NOTIFY CONSTRUCTION MANAGER IF ANY DISCREPANCIES EXIST PRIOR TO PROCEEDING WITH CONSTRUCTION FOR NECESSARY PLAN OR GRADE CHANGES.
10. EXISTING ON-SITE INLETS WITHIN THE PROJECT AREA SHALL BE CLEANED AND REPAIRED AS NECESSARY, AND DIRECTED BY THE SITE ENGINEER / INSPECTOR PIPING SHALL BE CLEANED TO THE POINT OF DISCHARGE WITHIN RIGHT-OF-WAY.
11. ALL UTILITY VALVE COVERS, FRAMES ETC. SHALL BE RESET TO THE PROPOSED GRADES.
12. HYDRANTS SHALL BE CONSTRUCTED PRIOR TO ABOVE GRADE CONSTRUCTION.
13. ALL EXISTING STRUCTURES, UNLESS OTHERWISE NOTED TO REMAIN, FENCING, TREES, & ETC., WITHIN CONSTRUCTION AREA SHALL BE REMOVED & DISPOSED OF OFF SITE. ANY BURNING ON SITE SHALL BE SUBJECT TO LOCAL ORDINANCES & LOWE'S SPECIFICATIONS.
14. ALL CORRUGATED METAL PIPES SHALL BE FULLY ASPHALT COATED OR ALUMINIZED STEEL TYPE-2. 18" & SMALLER TO BE 16 GAUGE, PIPES 24"-30" TO BE 14 GAUGE, PIPES 36"-48" SHALL BE 12 GAUGE, AND ALL PIPES LARGER THAN 48" TO BE 10 GAUGE. ALL CONCRETE PIPES SHALL BE IN ACCORDANCE TO ASTM-C-76 CLASS III.
15. ALL DRAINAGE STRUCTURES SHALL BE PRE-CAST.
16. ALL DRAINAGE STRUCTURES AND STORM SEWER PIPES SHALL MEET HEAVY DUTY TRAFFIC (H20) LOADING AND BE INSTALLED ACCORDINGLY.
17. CONTRACTOR SHALL NOTIFY ALL UTILITY COMPANIES HAVING UNDERGROUND UTILITIES ON SITE OR IN RIGHT-OF-WAY PRIOR TO EXCAVATION. CONTRACTOR SHALL CONTACT UTILITY LOCATING COMPANY AND LOCATE ALL UTILITIES PRIOR TO GRADING START.
18. SITE GRADING SHALL NOT PROCEED UNTIL EROSION CONTROL MEASURES HAVE BEEN INSTALLED.
19. SICP – SMOOTH INTERIOR CORRUGATED PLASTIC PIPES & FITTINGS MAY BE UTILIZED FOR PIPE SIZES 24" OR SMALLER, FROM THE FOLLOWING MANUFACTURERS.

    A.D.S.-N12 MFRD. BY ADVANCED DRAINAGE SYSTEMS, INC.
    3300 RIVERSIDE DRIVE, COLUMBUS, OHIO 43221
    (614) 457-3051

    OR

    "SURE_LOCK" MFRD. BY HANCOR INC.
    401 OLIVE STREET
    FINDLAY, OH. 45840
    1-888-FOR-PIPE

    OR

    LANE ENTERPRISES, INC.
    34 STROHM ROAD
    SHIPPENSBURG, PA 17257
    (717) 532-5959

    SICP SHALL BE INSTALLED PER MANUFACTURER'S GUIDELINE FOR HEAVY DUTY DRAINAGE APPLICATIONS.
20. FRENCH DRAIN SHALL BE INSTALLED IF DIRECTED BY THE GEOTECHNICAL ENGINEER OR AS SHOWN ON PLANS.
21. CONTRACTOR SHALL PROVIDE 2' x 2' x 8" THICK CONCRETE APRON AT ALL CLEANOUTS OUTSIDE OF BUILDING.
22. ALL UTILITIES, INCLUDING ELECTRIC AND TELEPHONE SERVICE. SHALL BE INSTALLED UNDERGROUND.

I HEREBY CERTIFY THAT I AM THE OWNER OF RECORD OF THE SITE HEREIN DEPICTED AND THAT I CONCUR WITH THE PLAN:

OWNER

Rev.	Date	Comment	BY
26	1/28/03	REV. PER WATER COMPANY COMMENTS	BJN
25	1/16/03	REV. PER UTILITY COMMENTS	DTN
24	11/21/02	SHOW ADDITIONAL SEWER IMPROVEMENTS	BJN
23	10/14/02	REV. SEWER LOC. PER TWSP. COMMENTS	BJN
22	09/25/02	REV. PER FIELD CHANGE	SK
21	7/25/02	REV. PER MUNICIPAL COMMENTS	CT
20	3/20/02	REV. PER CLIENT COMMENTS	GR
19	11/09/01	REV. PER CLIENT COMMENTS	JKD
18	9/27/01	REV STEVENS WAY PROFILE	MAR
17	7/17/01	REV. PER CLIENT COMMENTS	JA
16	5/10/01	REV. FOR CONSTRUCTION	JA
15	5/1/01	REV. PER D.E.M.E. COMMENTS	GR
14	4/23/01	REV. PER MUNICIPAL COMMENTS	JA
13	4/02/01	REV. PER CLIENT COMMENTS	CT
12	3/16/01	REV. PER MUN. APPROVAL CONDITIONS	JA
11	1/29/01	REV. PER MUNICIPAL COMMENTS	CT
10	12/29/00	REV. PER MUNICIPAL ENG. COMMENTS	JA
9	12/27/00	REVISED PARKING COUNTS	JA
8	12/11/00	REVISED PER CLIENT COMMENTS	GR
7	12/08/00	REVISED PER PLANNING BOARD	GR
6	11/14/00	REVISED PER ACABOR MEETING	G.S.
5	10/19/00	REVISED LIGHTING	DLK
4	8/31/00	REVISED PARKING AREA	DLK
3	6/30/00	REVISED CONC. HEADWALL	TP
2	6/9/00	REV. PER CLIENT COMMENTS	DLK
1	5/18/00	PER CLIENT REQUEST	DLK

BOHLER ENGINEERING, P.C.
• CIVIL & CONSULTING ENGINEERS • PROJECT MANAGERS • ENVIRONMENTAL & SITE PLANNERS • MUNICIPAL ENGINEERS •

1120 WELSH ROAD, SUITE 200
NORTH WALES, PENNSYLVANIA 19454
(215) 393-8300

776 MOUNTAIN BLVD.
WATCHUNG, NEW JERSEY 07060
(908) 668-8300

70 EAST SUNRISE HIGHWAY, SUITE 609
VALLEY STREAM, NEW YORK 11581
(516) 872-2000

PROJECT: LOWE'S COMPANIES, INC.
PROPOSED DEVELOPMENT
TAX MAP 74.15, BLOCK 1, LOTS 3 & 4
NYSH ROUTE 303, TOWN OF ORANGETOWN
ROCKLAND COUNTY, NEW YORK

TITLE: DRAINAGE & UTILITY PLAN

J.G. JAWORSKI
PROFESSIONAL ENGINEER
NEW JERSEY LICENSE No. 36618
PENNSYLVANIA LICENSE No. 47943
NEW YORK LICENSE No. 075707
CONNECTICUT LICENSE No. 20811
MASSACHUSETTS LICENSE No. 40835

G.S. GALLAS
N.Y. PROFESSIONAL L.S. LIC.#50124
I HERE BY CERTIFY THAT THE BOUNDARY AND EASEMENT LINES SHOWN ARE BASED UPON A SURVEY PREPARED IN THE FIELD UNDER MY SUPERVISION, AND TO THE BEST OF MY KNOWLEDGE BELIEF, AND INFORMATION, THAT THE SURVEY WAS PERFORMED IN ACCORDANCE WITH CURRENTLY ACCEPTED ACCURACY STANDARDS.

SCALE: (H) 1"=50' (V)
DATE: 5/16/00
DRAWN BY: G.S.
PROJECT No: J000803
CHECKED BY: KLH
CAD I.D. #: J00803SS26
CONSTRUCTION CHECK
DATE
SHEET No: 5 OF 18
REV. No. 26

BVD 2-6-03

FORMER ORANGEBURG PIPE MANUFACTURING FACILITY – LOWE'S SITE

NYSDEC Site #: V-00579-3

NYSDEC Index #: W3-0930-02-07

PHOTO LOG – Water Line Repair Activity – December 2018

Photos of Repair Activities

FORMER ORANGEBURG PIPE MANUFACTURING FACILITY – LOWE'S SITE

NYSDEC Site #: V-00579-3

NYSDEC Index #: W3-0930-02-07

PHOTO LOG – Water Line Repair Activity – December 2018

Photos of Cap Repair Activities

Berm Plantings Activities

(October 2019)

GREENBUSH ROAD

NEW YORK STATE HIGHWAY ROUTE 303

STEVENS WAY

LOWE'S

BUILDING AREA = 135,196± SF

26' FIRE LANE BEHIND BUILDING TO REMAIN CLEAR AT ALL TIMES

FIRE LANE

PROPOSED "NO PARKING" AND "FIRE LANE" PAINT (TYP.)

FIRE DEPT. CONNECTION

OUTDOOR STORAGE (18'X243')

MISCELLANEOUS STORAGE (24'X265')

GARDEN SHED & FENCE PANELS DISPLAY (5'x40')

DRYWALL AND LUMBER DISPLAY AREA (13'x56')

SEASONAL SALES AREA (5'x45')

SEASONAL SALES AREA (5'x28')

SEASONAL PLANT TABLE DISPLAY IN FRONT OF GARDEN CENTER AREA (10'x148') MARCH THROUGH SEPTEMBER

PROPANE TANK SALES AND DISPLAY (4'x20')

EXISTING GARDEN CENTER

EXISTING "NO PARKING" AND "FIRE LANE" PAINT TO REMAIN (TYP.)

EXISTING BOPUIS SPACES

EXISTING ASPHALT PAVEMENT

FUTURE PARKING

PROPOSED LANDSCAPING SCREENING 14 - SHRUBS (VIBURNUM RHYTIDOPHYLLUM, LEATHERLEAF VIBURNUM, 48" MIN. HEIGHT AT PLANTING, 60" O.C.)

EXISTING LANDSCAPING SCREENING 2 - DECIDUOUS TREES

STORAGE TRAILER FOR PALLET STORAGE

APPROXIMATE LOCATION OF EXISTING 10' WIDE SANITARY SEWER EASEMENT LIBER 981, PAGE 1045

TEMPORARY PRODUCT OVERFLOW (18'X65' AND 18'X100')

INSTALL SILT SOCK AROUND EXISTING INLET

PROPOSED LANDSCAPING SCREENING 16 - SHRUBS (10 VIBURNUM RHYTIDOPHYLLUM, LEATHERLEAF VIBURNUM, 48" MIN. HEIGHT AT PLANTING, 60" O.C. & 6 CORNUS ALBA 'SIBIRICA', RED TWIG DOGWOOD, 36" MIN. HEIGHT AT PLANTING, 60" O.C.) NEW PLANTINGS SHALL BE ADDED BETWEEN EXISTING PLANTS WITHOUT ANY DETRIMENT TO EXISTING PLANTS.

STORAGE TRAILER FOR RECYCLED APPLIANCES

GARDEN FREIGHT STORAGE - SOIL, FENCING, ETC. (18'X81') MARCH THROUGH SEPTEMBER

MULCH STORAGE (18'X54') MARCH THROUGH SEPTEMBER

APPROXIMATE LOCATION OF EXISTING 10' WIDE SANITARY SEWER EASEMENT LIBER 981, PAGE 1045

10 SHEDS TO BE SOLD/REMOVED BY SEPTEMBER

FIRE LANE

FUTURE PARKING

GRAPHIC SCALE

40 0 20 40 80 160

(IN FEET)

1 inch = 40 ft.

LOCATION MAP

SCALE: 1" = 1000'

(SOURCE: GOOGLE MAPS)

GENERAL NOTES:

1. LOWE'S PARCEL: 12.03± ACRES
2. PARCEL ID: 74.15-1-3
3. PROPERTY ADDRESS: 206 NY STATE ROUTE 303 ORANGEBURG, NY 10962 TOWN OF ORANGETOWN ROCKLAND COUNTY, NY
4. THE SITE IS LOCATED WITHIN THE LIGHT INDUSTRIAL (LI) ZONING DISTRICT AND THE ROUTE 303 OVERLAY DISTRICT ACCORDING TO "THE TOWN OF ORANGETOWN ZONING MAP", ADOPTED DECEMBER 11, 2018.
5. BASE PLAN FROM "SITE PLAN AND DEMOLITION PLAN - ADDITIONS & ALTERATIONS TO: LOWE'S OF ORANGEBURG," PREPARED BY BRR, DATED MARCH 4, 2008, LAST REVISED SEPTEMBER 19, 2008.
6. THE STORM SEWER FACILITIES, SANITARY SEWER FACILITIES, AND SANITARY SEWER EASEMENT SHOWN ARE APPROXIMATE AND WERE TAKEN FROM A "DRAINAGE & UTILITY PLAN," PREPARED BY BOHLER ENGINEERING, P.C., DATED MAY 16, 2000, LAST REVISED JANUARY 28, 2003.
7. THIS PLAN HAS BEEN PREPARED FOR SCHEMATIC PURPOSES ONLY AND SHALL NOT BE UTILIZED FOR CONSTRUCTION.
8. DO NOT SCALE DRAWINGS AS THEY PERTAIN TO ADJACENT SURROUNDING PHYSICAL CONDITIONS, BUILDINGS, STRUCTURES, ETC. THEY ARE SCHEMATIC ONLY AND ALL DIMENSIONS ARE APPROXIMATE.
9. EXISTING TOPOGRAPHY, UTILITIES, AND FEATURES SHOWN ON THIS PLAN ARE APPROXIMATE.
10. NO STORAGE OR VEHICLES ARE PERMITTED IN ANY FIRE LANE AT ANY TIME.
11. EXTERIOR AREAS IN FRONT OF ALL FIRE EXIT DOORS MUST BE STRIPED AND SIGNS PLACED ON EXTERIOR OF DOORS INDICATING "FIRE EXIT DO NOT BLOCK".

PARKING REQUIREMENTS:

BUILDING AREA (SQUARE FEET): 135,196 SF

REQUIRED=	676 SPACES (1 PER 200 SF OF FLOOR AREA)
EXISTING=	655 SPACES (INCLUDES 88 FUTURE SPACES)
PROPOSED=	557 SPACES (INCLUDES 54 FUTURE SPACES)
ADA=	NO CHANGE

* LOWE'S REQUIRES 474 SPACES (3.5 PER 1,000 SF OF FLOOR AREA

VARIANCES REQUESTED:

- VARIANCE TO PROVIDE 557 PARKING STALLS (WHICH INCLUDES 54 FUTURE SPACES)
- VARIANCE TO PROVIDE OUTDOOR SALES AND STORAGE AREA
- VARIANCE TO PLACE OUTDOOR STORAGE WITHIN REQUIRED SIDE YARD (EXISTING SCREENING IN-PLACE) **REQUIRED: 50 FT. / PROPOSED: 4.6 FT.**
- VARIANCE REQUIRED TO PLACE OUTDOOR STORAGE WITHIN REQUIRED REAR YARD (EXISTING SCREENING IN-PLACE) **REQUIRED: 50 FT. / PROPOSED: 36.0 FT.**

REVISIONS

◇ PRE-BID SET. ISSUE DATE △ POST BID SET. ISSUE DATE

	DATE	DESCRIPTION
1.	03/19/19	REVISED PER PLANNING BOARD COMMENTS
2.	05/10/19	REV. PER ZONING BOARD OF APPEALS COMMENTS
3.	07/18/19	REV. PER ACABOR MEETING COMMENTS
4.	09/19/19	RESOLUTION COMPLIANCE

RUSSELL T. McFALL II
NEW YORK LICENSED PROFESSIONAL ENGINEER - LICENSE NUMBER: 090030

MASER CONSULTING P.A.

LOWE'S HOME CENTERS, LLC
1605 CURTIS BRIDGE ROAD
WILKESBORO, NC 28697

336.658.4000 (V) 336.658.2527 (F)

Never Stop Improving ©

FIRE ACCESS AND OUTDOOR STORAGE PLAN

LOWE'S OF: ORANGEBURG, NY

ORANGEBURG, NEW YORK

PROJECT No: 18007441A | DRAWN BY: CJR | CHECKED BY: CJR

STORE NUMBER: 1192

ISSUE DATE: 12.14.2018

DRAWING NUMBER:

SP-1

FORMER ORANGEBURG PIPE MANUFACTURING FACILITY – LOWE'S SITE

NYSDEC Site #: V-00579-3

NYSDEC Index #: W3-0930-02-07

PHOTO LOG – Berm Plantings Activities – October 2019

Photos of Berm Plantings Activities

FORMER ORANGEBURG PIPE MANUFACTURING FACILITY – LOWE'S SITE

NYSDEC Site #: V-00579-3

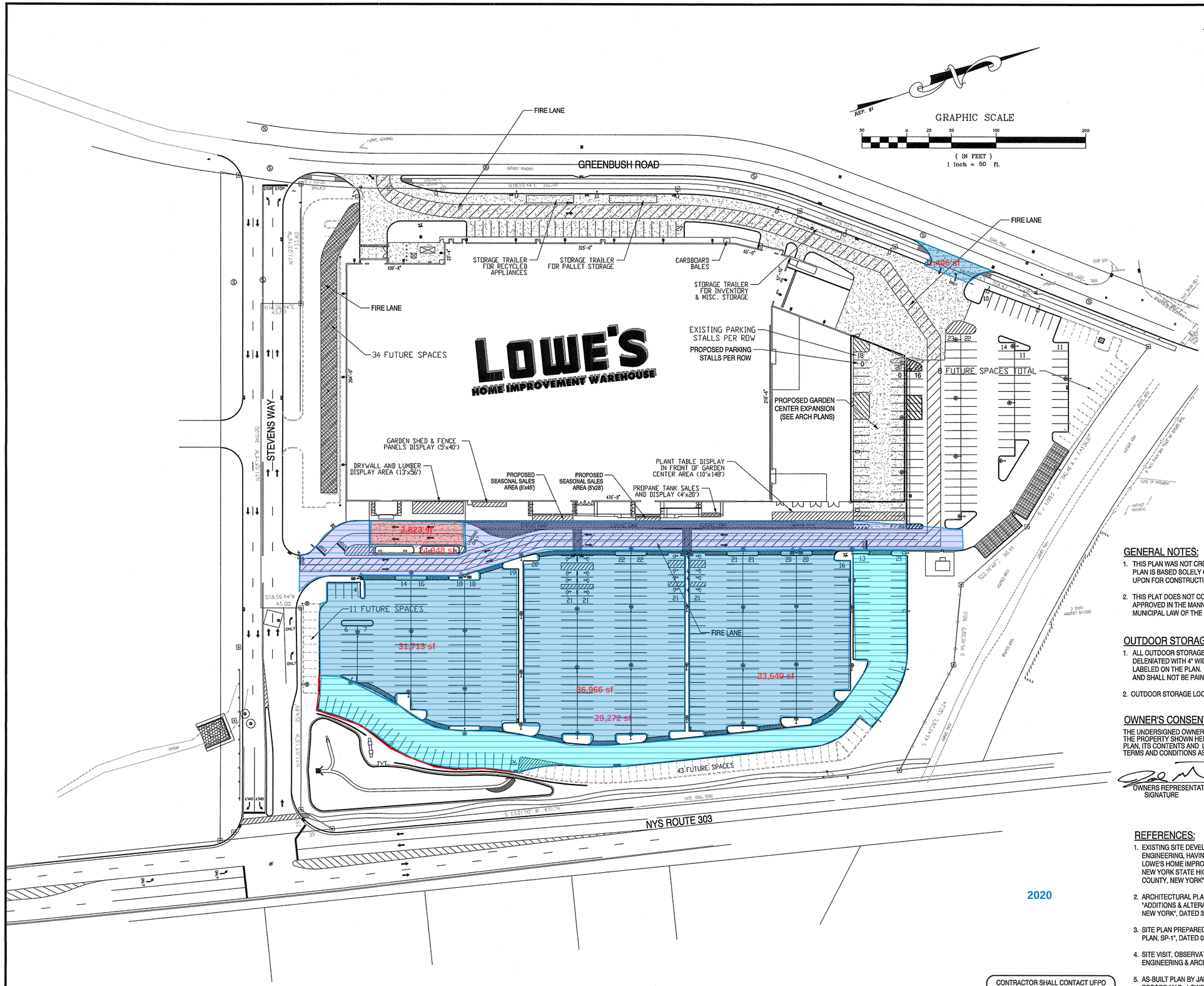
NYSDEC Index #: W3-0930-02-07

PHOTO LOG – Berm Plantings Activities – October 2019

Photos of Berm Plantings Activities

Geotechnical Investigation Activities

(December 2019)



GRAPHIC SCALE

50 0 25 50 100 200

(IN FEET)
1 inch = 50 ft.

ZONING BULK TABLE:

1. TOTAL LOWE'S PARCEL: 12.03± ACRES
2. ZONING: LI - LIGHT INDUSTRIAL DISTRICT
   ROUTE 303 OVERLAY DISTRICT
   (RETAIL SALES PERMITTED USE)
3. BUILDING SQUARE FOOTAGE:
   EXISTING TOTAL BUILDING = 135,479± SF

   GARDEN CENTER:
   EXISTING COVERED AREA = 4,431± SF
   EXISTING OPEN AREA = 13,197± SF
   EXISTING TOTAL GARDEN CENTER = 17,610± SF

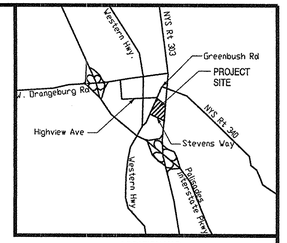
   PROPOSED GARDEN CENTER EXPANSION = 10,640± SF
   PROPOSED GARDEN CENTER COVERED AREA = 12,207± SF
   PROPOSED GARDEN CENTER OPEN AREA = 16,043± SF
   NEW TOTAL GARDEN CENTER AREA = 28,250± SF
4. BUILDING COVERAGE CALCULATION:
   REQUIRED: 50% MAX
   EXISTING: 139,910± SF = 25.9%
   PROPOSED: 147,686± SF = 28.2%
5. PARKING REQUIREMENTS:

EXISTING STANDARD =	584 SPACES
EXISTING HANDICAP =	16 SPACES
EXISTING TOTAL =	696 SPACES (W FUTURE)
PROPOSED STANDARD =	542 SPACES
PROPOSED HANDICAP =	16 SPACES (NO CHANGE)
POSSIBLE FUTURE SPACES =	96 SPACES
PROPOSED TOTAL =	554 SPACES (W/ FUTURE)
(42 REGULAR SPACES LOST)	

   REQUIRED PARKING = 739 SPACES (1 SPACE /200 SF)
6. VARIANCES REQUIRED: PARKING (RELIEF FOR 85 SPACES)
   - ZBA #09-40 OFF STREET PARKING VARIANCE WITH REVISED OUTDOOR STORAGE PLAN APPROVED JULY 1, 2009.
7. APPLICABLE SETBACKS ARE AS FOLLOWS:

	REQUIRED	PROVIDED
FRONT YARD =	50'	50.7± (EXISTING)
SIDE YARD =	50'	110.6'±
REAR YARD =	N/A	N/A

8. THERE ARE NO ADDITIONAL CHANGES PROPOSED TO THE SITE AS A PART OF THIS PROJECT THAT ARE REGULATED IN THE TOWN ZONING CODE.



LOCATION MAP
Scale 1"=2000'

GENERAL NOTES:

1. THIS PLAN WAS NOT CREATED BASED ON AN ACTUAL FIELD SURVEY. THIS PLAN IS BASED SOLELY ON THE REFERENCES LISTED AND SHALL NOT BE RELIED UPON FOR CONSTRUCTION PURPOSES.
2. THIS PLAT DOES NOT CONFLICT WITH THE COUNTY OFFICIAL MAP AND HAS BEEN APPROVED IN THE MANNER SPECIFIED BY SECTION 239L AND 239M OF THE GENERAL MUNICIPAL LAW OF THE STATE OF NEW YORK.

OUTDOOR STORAGE NOTES:

1. ALL OUTDOOR STORAGE AREAS IN THE FRONT OF THE STORE SHALL BE DELENIATED WITH 4" WIDE BLUE TRAFFIC PAINT BORDER AT THE DIMENTIONS LABELED ON THE PLAN. THE HATCHING SHOWN ON THE PLAN IS FOR CLARITY AND SHALL NOT BE PAINTED.
2. OUTDOOR STORAGE LOCATIONS ARE BASED ON REFERENCE #6.

OWNER'S CONSENT NOTE:

THE UNDERSIGNED OWNER, AGENT OR AUTHORIZED REPRESENTATIVE FOR THE PROPERTY SHOWN HEREIN STATES THAT HE/SHE IS FAMILIAR WITH THE PLAN, ITS CONTENTS AND LEGENDS AND HEREBY CONSENTS TO ALL SAID TERMS AND CONDITIONS AS STATED HEREIN.

OWNERS REPRESENTATIVE'S SIGNATURE

11/9/09
DATE

REFERENCES:

1. EXISTING SITE DEVELOPMENT PLANS 3, 4 & 5 OF 18, PREPARED BY BOHLER ENGINEERING, HAVING BEEN NAMED "FINAL SITE DEVELOPMENT PLAN FOR LOWE'S HOME IMPROVEMENT CENTER, TAX MAP #74.15 BLOCK 1 LOTS 3 & 4, NEW YORK STATE HIGHWAY ROUTE 303, TOWN OF ORANGETOWN, ROCKLAND COUNTY, NEW YORK", DATED 5/16/00, AND LAST REVISED ON 3/28/03.
2. ARCHITECTURAL PLANS A-3 & P-1 PREPARED BY BRR ARCHITECTS ENTITLED "ADDITIONS & ALTERATIONS TO: LOWE'S OF ORANGEBURG, ORANGEBURG, NEW YORK", DATED 3/04/08, LAST REVISED 6/13/08.
3. SITE PLAN PREPARED BY BRR ARCHITECTS ENTITLED "SITE PLAN AND DEMOLITION PLAN, SP-1", DATED 03/04/08, LAST REVISED 9/19/08.
4. SITE VISIT, OBSERVATIONS, MEASUREMENTS AND PHOTOS TAKEN BY APD ENGINEERING & ARCHITECTURE, PLLC, ON 2/4/09.
5. AS-BUILT PLAN BY JAMES H. MISSELL AND ASSOCIATES ENTITLED "ASBUILT RECORD MAP - LOWES HOME IMPROVEMENT RETAIL CENTER" DATED APRIL 2009.
6. SITE PLAN ENTITLED "ARCHITECTURAL SITE PLAN W/ PROPOSED DISPLAY AREAS, C-1", PREPARED BY FREDERICK J. GOGLIA LAST REVISED 5/31/06.

CONTRACTOR SHALL CONTACT UFPO @ 1-800-962-7962 FOR LOCATION OF ALL UTILITIES, AT LEAST 72 HOURS PRIOR TO BEGINNING CONSTRUCTION

2020

Revisions:		Date:
1	REVISED TO SHOW OUTDOOR STORAGE	6/18/09
2	ADD ZONING BULK TABLE	7/10/09
3	ADD VARIANCE APPROVAL	8/6/09
4	REVISED NOTES PER TOWN COMMENT	10/13/09
5	ADD OWNER CONSENT NOTE	11/5/09
6		
7		
8		
9		

Seal

PROJECT MANAGER DATE

PROJECT ENGINEER / ARCHITECT DATE

PROJECT DESIGNER DATE

APD Engineering & Architecture
615 Fishers Run
Victor, NY 14564
585.742.2222
585.924.4914.fax
www.apd.com

Lowe's Garden Center Expansion

Store #1192

NYS Route 303

Town of Orangetown

Rockland County, NY

Project Name & Location:

Overall Site Plan

Drawing Name:

Date: 4/02/09	Project No. 09-0110
Type:	
Drawn By: DPY	OV-1
Scale: 1"=50'	Drawing No.

24x36

FORMER ORANGEBURG PIPE MANUFACTURING FACILITY – LOWE'S SITE

NYSDEC Site #: V-00579-3

NYSDEC Index #: W3-0930-02-07

PHOTO LOG – Geotechnical Investigation Activities – December 2019

Geotechnical Borings in the Parking Lot Near the Retention Basin

FORMER ORANGEBURG PIPE MANUFACTURING FACILITY – LOWE'S SITE
NYSDEC Site #: V-00579-3
NYSDEC Index #: W3-0930-02-07

PHOTO LOG – Geotechnical Investigation Activities – December 2019

Geotechnical Borings in the Parking Lot Near the Retention Basin

FORMER ORANGEBURG PIPE MANUFACTURING FACILITY – LOWE'S SITE

NYSDEC Site #: V-00579-3

NYSDEC Index #: W3-0930-02-07

PHOTO LOG – Geotechnical Investigation Activities – December 2019

Dynamic Cone Penetrometer Testing Throughout the Parking Lot

FORMER ORANGEBURG PIPE MANUFACTURING FACILITY – LOWE'S SITE

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PHOTO LOG – Geotechnical Investigation Activities – December 2019

Dynamic Cone Penetrometer Testing Throughout the Parking Lot

Appendix B

IC/EC Certification

Enclosure 2
NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
Site Management Periodic Review Report Notice
Institutional and Engineering Controls Certification Form

Site Details **Box 1**

Site No. V00579

Site Name Former Orangeburg Pipe Mfg-Lowe's Site

Site Address: Route 303 Zip Code: 10962
City/Town: Orangetown
County: Rockland
Site Acreage: 12.400

Reporting Period: March 28, 2017 to March 28, 2020

		YES	NO
1.	Is the information above correct? correct address is 206 Route 303	☐	X
	If NO, include handwritten above or on a separate sheet.		
2.	Has some or all of the site property been sold, subdivided, merged, or undergone a tax map amendment during this Reporting Period?	☐	X
3.	Has there been any change of use at the site during this Reporting Period (see 6NYCRR 375-1.11(d))?	☐	X
4.	Have any federal, state, and/or local permits (e.g., building, discharge) been issued for or at the property during this Reporting Period?	☐	X
	If you answered YES to questions 2 thru 4, include documentation or evidence that documentation has been previously submitted with this certification form.		
5.	Is the site currently undergoing development?	☐	X

Box 2

		YES	NO
6.	Is the current site use consistent with the use(s) listed below? Commercial and Industrial	X	☐
7.	Are all ICs/ECs in place and functioning as designed?	X	☐

IF THE ANSWER TO EITHER QUESTION 6 OR 7 IS NO, sign and date below and DO NOT COMPLETE THE REST OF THIS FORM. Otherwise continue.

A Corrective Measures Work Plan must be submitted along with this form to address these issues.

Signature of Owner, Remedial Party or Designated Representative Date

SITE NO. V00579 **Box 3**

Description of Institutional Controls

Parcel	Owner	Institutional Control
0740150001003	Orangeburg Holdings, LLC	Ground Water Use Restriction Soil Management Plan Landuse Restriction

NOW, THEREFORE, Orangeburg Holdings, LLC, for itself and its successors and/or assigns, covenants that:

First, the Property subject to this Declaration of Covenants and Restrictions, is as shown on a map attached to this declaration as Appendix "B" and made a part hereof, and consists of the real property described by etes and bounds on Appendix "A".

Second, unless prior written approval by the New York State Department of Environmental Conservation or, if the Department shall no longer exist, any New York State agency or agencies subsequently created to protect the environment of the State and the health of the State's citizens, hereinafter referred to as "the Relevant Agency," is first obtained, there shall be no construction, use or occupancy of the Property that results in the disturbance or excavation of the Property, which threatens the integrity of the soil cap, or which results in unacceptable human exposure to contaminated soils.

Third, the owner of the Property shall maintain the cap covering the Property by maintaining its grass cover or, after obtaining the written approval of the Relevant Agency, by capping the Property with another material.

Fourth, the owner of the Property shall prohibit the Property fiom ever being used for purposes other than for restricted commercial use excluding day care, child care and medical care uses without the express written waiver of such prohibition by the Relevant Agency.

Fifth, the owner of the Property shall prohibit the use of the groundwater underlying the Property without treatment rendering it safe for drinking water or industrial purposes, as appropriate, unless the user first obtains permission to do so from the Relevant Agency.

Sixth, the owner of the Property shall continue in full force and effect any institutional and engineering controls required under the Agreement and maintain such controls unless the owner first obtains permission to discontinue such controls from the Relevant Agency.

Seventh, this Declaration is and shall be deemed a covenant that shall run with the land and shall be binding upon all future owners of the Property, and shall provide that the owner, and its successors and assigns, consents to enforcement by the Relevant Agency of the prohibitions and restrictions that Paragraph X of the Agreement requires to be recorded, and hereby covenants not to contest the authority of the Relevant Agency to seek enforcement.

Eighth, any deed of conveyance of the Property, or any portion thereof, shall recite, unless the Relevant Agency has consented to the termination of such covenants and resrictions, that said conveyance is subject to this Declaration of Covenants and Restrictions.

Box 4

Description of Engineering Controls

Parcel	Engineering Control
0740150001003	Cover System

Box 5

Periodic Review Report (PRR) Certification Statements

1. I certify by checking "YES" below that:

   a) the Periodic Review report and all attachments were prepared under the direction of, and reviewed by, the party making the certification;

   b) to the best of my knowledge and belief, the work and conclusions described in this certification are in accordance with the requirements of the site remedial program, and generally accepted engineering practices; and the information presented is accurate and compete.

YES	NO
X	☐

2. If this site has an IC/EC Plan (or equivalent as required in the Decision Document), for each Institutional or Engineering control listed in Boxes 3 and/or 4, I certify by checking "YES" below that all of the following statements are true:

   (a) the Institutional Control and/or Engineering Control(s) employed at this site is unchanged since the date that the Control was put in-place, or was last approved by the Department;

   (b) nothing has occurred that would impair the ability of such Control, to protect public health and the environment;

   (c) access to the site will continue to be provided to the Department, to evaluate the remedy, including access to evaluate the continued maintenance of this Control;

   (d) nothing has occurred that would constitute a violation or failure to comply with the Site Management Plan for this Control; and

   (e) if a financial assurance mechanism is required by the oversight document for the site, the mechanism remains valid and sufficient for its intended purpose established in the document.

YES	NO
X	☐

IF THE ANSWER TO QUESTION 2 IS NO, sign and date below and DO NOT COMPLETE THE REST OF THIS FORM. Otherwise continue.

A Corrective Measures Work Plan must be submitted along with this form to address these issues.

_____ _____

Signature of Owner, Remedial Party or Designated Representative | Date

IC CERTIFICATIONS
SITE NO. V00579

Box 6

SITE OWNER OR DESIGNATED REPRESENTATIVE SIGNATURE

I certify that all information and statements in Boxes 1,2, and 3 are true. I understand that a false statement made herein is punishable as a Class "A" misdemeanor, pursuant to Section 210.45 of the Penal Law.

I Steven Kolitch (print name) at c/o ILY Properties, Inc. 13038 Redon Drive, Palm Beach, FL 33410 (print business address),

am certifying as Owner's designated representative (Owner or Remedial Party)

for the Site named in the Site Details Section of this form.

Signature of Owner, Remedial Party, or Designated Representative Rendering Certification

4/27/20
Date

IC/EC CERTIFICATIONS

Box 7

Professional Engineer Signature

I certify that all information in Boxes 4 and 5 are true. I understand that a false statement made herein is punishable as a Class "A" misdemeanor, pursuant to Section 210.45 of the Penal Law.

I Michael P. Musso, P.E. (NY) (print name) at HDR Engineering* 711 Westchester Avenue, White Plains, NY 10604-3504, (print business address)

am certifying as a Professional Engineer for the Owner (Owner or Remedial Party)

STATE OF NEW YORK
MICHAEL PAUL MUSSO
081074-1
LICENSED PROFESSIONAL ENGINEER

Signature of Professional Engineer, for the Owner or Remedial Party, Rendering Certification (Required for PE)

4/27/2020
Date

*Henningson, Durham & Richardson Architecture and Engineering, P.C.
in association with HDR Engineering, Inc.

Appendix C

Well Monitoring Data Sheets

HDR
Crew Chief Report **Page ___of ___**

Crew Chief: Donald Kassell	Project: Lowe's Orangeburg
Crew; SJN	Project No; 10016690
Vehicle(s) Used: F 250	Survey: Well Sample
Boat(s) Used:	Project Manager; John Guzewich

Crew Chief Report (complete after survey):

Survey Start Date; 7/18/17	Survey Start/End Time: 0700 1600

Describe Details Below:	**Yes**	**No**		**From**	**To**
Sampling gear working properly (if no, describe in comments)	Yes		Boat usage (dates):		
			Engine Hours:		
Was downtime incurred (no.hrs.) (If yes, describe in comments)		No	Boat Location:		
			Radio Logs:		
Any incidents, accidents or pertinent observations (describe)	Yes		Were the following forms completed and submitted?	**Yes**	**No**
Field Meters Calibrated		No	Boat Log:		
Chain-of Custody completed	Yes		Vehicle Log:	Yes	
Samples signed over - Nanuet Lab		No	Equipment Usage Sheet:	yes	
-Outside Lab	yes				

Comments/Observations:

MW-27D MW-27S, MW-14S, MW-12D, MW18S, MW-18D were purged with a whale pump. MW-11S and MW-29 were purged with a bailer. MW-12S was dry. Purge water from MW-27D 27S and 14S were dumped in the floor drain in the building.

HDR WELL SAMPLING LOG

Date:	7/18/2017
Crew:	DK SJN
Job No:	10016690
Project:	Lowe's Orangeburg
Project Site:	Orangeburg NY

Meters used

Temperature:	N/A
pH:	N/A
Conductivity:	N/A
Orp	N/A
Dissoved Oxygen:	N/A
Turbidity:	N/A

WELL DATA: PURGE

WELL ID no:	MW03 - 27D 7/17
Well Condition;	good
Well Depth/Diameter:	34' / 2"
Well Casing Type:	pvc
Screened Interval:	
Casing Ht./Lock No.:	curb box
Reference Point:	top of casing
Depth to Water (DTW):	8.7'
Water Column Ht./Vol.:	25.3' / 4.3 gallons
Purge Estimate:	4.3 x 3 = 12.9 gallons
Purge Method(s):	whale pump
Purge Date:	7/18/2017
Purge Time(s)	0817- 0828
Depth(s):	
Rates (gpm):	1.25
Purged Volume:	13 gallons
DTW After Purging:	14.2'
Yield Rate:	L M (H)
Purge Observations:	turbid to clear

Oil Interface Detection; yes no (N/A)

PURGE CHEMISTRIES

Vol.	Temp (°C)	pH	SPC@25	DO	Orp	Turbidity (NTU)

observations; purge water dumped in floor drain in building

Crew Chief Signature: DONALD KASSEL

WELL DATA: SAMPLING

DTW Before Sampling;	10.9'
Sample Date/Time:	7/18/17 0855
Sampling Method:	poly bailer
Sampling Depth(s):	mid depth
DTW After Sampling:	
Analytical Lab(s):	Hampton / Clarke
Sampling Observations:	slightly turbid

SAMPLE CHEMISTRIES

Status	Temp. (°C)	pH	SPC@25	DO	turb - orp
Start					
End					

Parameters	Inv. No.			Filter

8260

Air Temperature (°C): 30

Weather Conditions: SUNNY

Date: 7/24/17

HDR WELL SAMPLING LOG

Date:	7/18/2017
Crew:	DK SJN
Job No:	10016690
Project:	Lowe's Orangeburg
Project Site:	Orangeburg NY

Meters used

Temperature:	N/A
pH:	N/A
Conductivity:	N/A
Orp	N/A
Dissoved Oxygen:	N/A
Turbidity:	N/A

WELL DATA: PURGE

WELL ID no:	MW03- 27S 7/17
Well Condition;	good
Well Depth/Diameter:	24.6' / 2"
Well Casing Type:	pvc
Screened Interval:	
Casing Ht./Lock No.:	curb box
Reference Point:	top of casing
Depth to Water (DTW):	10.71'
Water Column Ht./Vol.:	13.9' / 2.4 gallons
Purge Estimate:	2.4' x 3 = 7.4 gallons
Purge Method(s):	whale pump
Purge Date:	7/18/2017
Purge Time(s)	0837 - 0844
Depth(s):	
Rates (gpm):	1
Purged Volume:	7.5 gallons
DTW After Purging:	11.1
Yield Rate:	L M H
Purge Observations:	turbid to clear

Oil Interface Detection; yes no N/A

PURGE CHEMISTRIES

Vol.	Temp (°C)	pH	SPC@25	DO	Orp	Turbidity (NTU)

observations; purge water dumped in floor drain in building

WELL DATA: SAMPLING

DTW Before Sampling;	10.8'
Sample Date/Time:	7/18/17 / 0900
Sampling Method:	poly bailer
Sampling Depth(s):	mid depth
DTW After Sampling:	
Analytical Lab(s):	Hampton / Clarke
Sampling Observations:	clear

SAMPLE CHEMISTRIES

Status	Temp. (°C)	pH	SPC@25	DO	turb - orp
Start					
End					

Parameters	Inv. No.			Filter
				8260

Air Temperature (°C): 30

Weather Conditions: SUNNY

Crew Chief Signature: DONALD HASSELL

Date: 7/24/17

HDR WELL SAMPLING LOG

Date:	7/18/2017
Crew:	DK SJN
Job No:	10016690
Project:	Lowe's Orangeburg
Project Site:	Orangeburg NY

Meters used

Temperature:	N/A
pH:	N/A
Conductivity:	N/A
Orp	N/A
Dissoved Oxygen:	N/A
Turbidity:	N/A

WELL DATA: PURGE

WELL ID no:	MW03 - 14S 7/17
Well Condition;	good
Well Depth/Diameter:	24' / 2'
Well Casing Type:	pvc
Screened Interval:	
Casing Ht./Lock No.:	curb box
Reference Point:	top of casing
Depth to Water (DTW):	9.9'
Water Column Ht./Vol.:	14.1 / 2.4 gallons
Purge Estimate:	2.4' x 3 = 7.4 gallons
Purge Method(s):	whale pump
Purge Date:	7/18/2017
Purge Time(s)	0917 - 0925
Depth(s):	bottom
Rates (gpm):	1
Purged Volume:	7.5 gallons
DTW After Purging:	22.1'
Yield Rate:	L M (H)
Purge Observations:	turbid to clear

Oil Interface Detection; yes no (N/A)

PURGE CHEMISTRIES

Vol	Temp (°C)	pH	SPC@25	DO	Orp	Turbidity (NTU)

observations; purge water dumped in floor drain in building

Crew Chief Signature: DONALD KASSELL

WELL DATA: SAMPLING

DTW Before Sampling;	12'
Sample Date/Time:	7/18/17 / 0940
Sampling Method:	poly bailer
Sampling Depth(s):	mid depth
DTW After Sampling:	
Analytical Lab(s):	Hampton / Clarke
Sampling Observations:	clear

SAMPLE CHEMISTRIES

Status	Temp. (°C)	pH	SPC@25	DO	turb - orp
Start					
End					

Parameters	Inv. No.			Filter

8260

Air Temperature (°C):	30
Weather Conditions:	sunny

Date:

HDR WELL SAMPLING LOG

Date:	7/18/2017
Crew:	DK SJN
Job No:	10016690
Project:	Lowe's Orangeburg
Project Site:	Orangeburg NY

Meters used

Temperature:	N/A
pH:	N/A
Conductivity:	N/A
Orp	N/A
Dissoved Oxygen:	N/A
Turbidity:	N/A

WELL DATA: PURGE

WELL ID no:	MW03 - 12S
Well Condition;	good
Well Depth/Diameter:	13.5' / 2"
Well Casing Type:	pvc
Screened Interval:	
Casing Ht./Lock No.:	curb box
Reference Point:	top of casing
Depth to Water (DTW):	well is dry
Water Column Ht./Vol.:	
Purge Estimate:	
Purge Method(s):	
Purge Date:	
Purge Time(s)	
Depth(s):	
Rates (gpm):	
Purged Volume:	
DTW After Purging:	
Yield Rate:	L M H
Purge Observations:	

Oil Interface Detection; yes no N/A

PURGE CHEMISTRIES

Vol.	Temp (°C)	pH	SPC@25	DO	Orp	Turbidity (NTU)

observations;

WELL DATA: SAMPLING

DTW Before Sampling;	
Sample Date/Time:	
Sampling Method:	
Sampling Depth(s):	
DTW After Sampling:	
Analytical Lab(s):	
Sampling Observations:	

SAMPLE CHEMISTRIES

Status	Temp. (°C)	pH	SPC@25	DO	turb - orp
Start					
End					

Parameters	Inv. No.			Filter

NO SAMPLE

Air Temperature (°C):	30
Weather Conditions:	sunny

Crew Chief Signature: DONALD KAISER

Date: 7/24/17

HDR WELL SAMPLING LOG

Date:	7/18/2017
Crew:	DK SJN
Job No:	10016690
Project:	Lowe's Orangeburg
Project Site:	Orangeburg NY

Meters used

Temperature:	N/A
pH:	N/A
Conductivity:	N/A
Orp	N/A
Dissoved Oxygen:	N/A
Turbidity:	N/A

WELL DATA: PURGE

WELL ID no:	MW03 - 12D 7/17
Well Condition;	good
Well Depth/Diameter:	21' / 2"
Well Casing Type:	pvc
Screened Interval:	
Casing Ht./Lock No.:	curb box
Reference Point:	top of casing
Depth to Water (DTW):	11.6
Water Column Ht./Vol.:	9.4' / 1.6 gallons
Purge Estimate:	1.6 x 3 = 4.8 gallons
Purge Method(s):	whale pump
Purge Date:	7/18/2017
Purge Time(s)	1000-1005 / 1017-1019
Depth(s):	bottom
Rates (gpm):	0.75
Purged Volume:	5 gallons
DTW After Purging:	dry
Yield Rate:	L (M) H
Purge Observations:	turbid to clear

Oil Interface Detection; yes no (N/A)

PURGE CHEMISTRIES

Vol.	Temp (°C)	pH	SPC@25	DO	Orp	Turbidity (NTU)

observations;

WELL DATA: SAMPLING

DTW Before Sampling;	11.9'
Sample Date/Time:	7/18/17 / 1030
Sampling Method:	poly bailer
Sampling Depth(s):	mid depth
DTW After Sampling:	
Analytical Lab(s):	Hampton / Clarke
Sampling Observations:	clear

SAMPLE CHEMISTRIES

Status	Temp. (°C)	pH	SPC@25	DO	turb - orp
Start					
End					

Parameters	Inv. No.			Filter

8260

Air Temperature (°C):	30
Weather Conditions:	sunny

Crew Chief Signature: Don Kassell

Date: 7/24/2017

HDR WELL SAMPLING LOG

Date:	7/18/2017
Crew:	DK SJN
Job No:	10016690
Project:	Lowe's Orangeburg
Project Site:	Orangeburg NY

Meters used

Temperature:	N/A
pH:	N/A
Conductivity:	N/A
Orp	N/A
Dissoved Oxygen:	N/A
Turbidity:	N/A

WELL DATA: PURGE

WELL ID no:	MW03- 11S 7/17
Well Condition;	good
Well Depth/Diameter:	15.3' / 2"
Well Casing Type:	pvc
Screened Interval:	
Casing Ht./Lock No.:	curb box
Reference Point:	top of casing
Depth to Water (DTW):	10.98'
Water Column Ht./Vol.:	4.32' / 0.7344
Purge Estimate:	0.7344 x 3 = 2.2 gallons
Purge Method(s):	bailer
Purge Date:	7/18/2017
Purge Time(s)	1048 - 1052
Depth(s):	bottom
Rates (gpm):	
Purged Volume:	1.5 gallons
DTW After Purging:	dry
Yield Rate:	(L) M H
Purge Observations:	turbid to clear

Oil Interface Detection; yes no (N/A)

PURGE CHEMISTRIES

Vol.	Temp (°C)	pH	SPC@25	DO	Orp	Turbidity (NTU)

observations;

WELL DATA: SAMPLING

DTW Before Sampling;	13.3'
Sample Date/Time:	7/18/17 / 1350
Sampling Method:	poly bailer
Sampling Depth(s):	surface
DTW After Sampling:	
Analytical Lab(s):	Hampton / Clarke
Sampling Observations:	slightly turbid

SAMPLE CHEMISTRIES

Status	Temp. (°C)	pH	SPC@25	DO	turb - orp
Start					
End					

Parameters	Inv. No.			Filter

8260

Air Temperature (°C):	30
Weather Conditions:	sunny

Crew Chief Signature: DONALD KASTELL

Date: 7/24/2017

HDR WELL SAMPLING LOG

Date:	7/18/2017
Crew:	DK SJN
Job No:	10016690
Project:	Lowe's Orangeburg
Project Site:	Orangeburg NY

Meters used

Temperature:	N/A
pH:	N/A
Conductivity:	N/A
Orp	N/A
Dissoved Oxygen:	N/A
Turbidity:	N/A

WELL DATA: PURGE

WELL ID no:	MW03 - 29 7/17
Well Condition;	good
Well Depth/Diameter:	13,3' / 2"
Well Casing Type:	pvc
Screened Interval:	
Casing Ht./Lock No.:	curb box
Reference Point:	top of casing
Depth to Water (DTW):	9.7'
Water Column Ht./Vol.:	3.6' / 0.288 gallon
Purge Estimate:	0.288 3 = 0.864 gallon
Purge Method(s):	bailer
Purge Date:	7/18/2017
Purge Time(s)	1102 - 1116
Depth(s):	surface
Rates (gpm):	
Purged Volume:	0.75
DTW After Purging:	dry
Yield Rate:	L M H
Purge Observations:	clear to turbid

Oil Interface Detection; yes no N/A

PURGE CHEMISTRIES

Vol.	Temp (°C)	pH	SPC@25	DO	Orp	Turbidity (NTU)

observations;

WELL DATA: SAMPLING

DTW Before Sampling;	9.6'
Sample Date/Time:	7/18/17 / 1145
Sampling Method:	1.25' bailer
Sampling Depth(s):	surface
DTW After Sampling:	
Analytical Lab(s):	Hampton / Clarke
Sampling Observations:	slightly turbid

SAMPLE CHEMISTRIES

Status	Temp. (°C)	pH	SPC@25	DO	turb - orp
Start					
End					

Parameters	Inv. No.			Filter

8260

Air Temperature (^{0}C):	**30**
Weather Conditions:	sunny

Crew Chief Signature: DONALD KASSELL

Date: 7/24/2017

HDR WELL SAMPLING LOG

Date:	7/18/2017
Crew:	DK SJN
Job No:	10016690
Project:	Lowe's Orangeburg
Project Site:	Orangeburg NY

Meters used

Temperature:	N/A
pH:	N/A
Conductivity:	N/A
Orp	N/A
Dissoved Oxygen:	N/A
Turbidity:	N/A

WELL DATA: PURGE

WELL ID no:	MW03-18S 7/17
Well Condition;	good
Well Depth/Diameter:	10.8' / 2"
Well Casing Type:	pvc
Screened Interval:	
Casing Ht./Lock No.:	curb box
Reference Point:	top of casing
Depth to Water (DTW):	8.9'
Water Column Ht./Vol.:	1.9' / 0.4123
Purge Estimate:	0.4123 X 3 = 2.5 gallons
Purge Method(s):	whale pump
Purge Date:	7/18/2017
Purge Time(s)	1231-1233
Depth(s):	surface
Rates (gpm):	1.75
Purged Volume:	2.5 gallons
DTW After Purging:	9.7'
Yield Rate:	L M H
Purge Observations:	clear

Oil Interface Detection; yes no (N/A)

PURGE CHEMISTRIES

Vol	Temp (°C)	pH	SPC@25	DO	Orp	Turbidity (NTU)

observations;

WELL DATA: SAMPLING

DTW Before Sampling;	9.2'
Sample Date/Time:	7/18/17 / 1250
Sampling Method:	bailer
Sampling Depth(s):	surface
DTW After Sampling:	
Analytical Lab(s):	Hampton / Clarke
Sampling Observations:	clear

SAMPLE CHEMISTRIES

Status	Temp. (°C)	pH	SPC@25	DO	turb - orp
Start					
End					

Parameters	Inv. No.			Filter

8260

Air Temperature (^{0}C):	**30**
Weather Conditions:	sunny

Crew Chief Signature: DONALD KASSELL

Date: 7/24/2017

HDR WELL SAMPLING LOG

Date:	7/18/2017	**Meters used**	
Crew:	DK SJN	Temperature:	N/A
Job No:	10016690	pH:	N/A
Project:	Lowe's Orangeburg	Conductivity:	N/A
		Orp	N/A
		Dissoved Oxygen:	N/A
Project Site:	Orangeburg NY	Turbidity:	N/A

WELL DATA: PURGE		**WELL DATA: SAMPLING**	
WELL ID no:	MW03 - 18D 7/17	DTW Before Sampling;	12.71'
Well Condition;	good	Sample Date/Time:	7/18/17 / 1300
Well Depth/Diameter:	34.7' / 2"	Sampling Method:	bailer
Well Casing Type:	pvc	Sampling Depth(s):	surface
Screened Interval:		DTW After Sampling:	
Casing Ht./Lock No.:	curb box	Analytical Lab(s):	Hampton / Clarke
Reference Point:	top of casing		
Depth to Water (DTW):	8.75'	Sampling Observations:	clear
Water Column Ht./Vol.:	25.95' / 5.6 gallons		
Purge Estimate:	5.6 x 3 = 16.8 gallons		
Purge Method(s):	whale pump	**SAMPLE CHEMISTRIES**	
Purge Date:	7/18/2017		
Purge Time(s)	1212 - 1225		
Depth(s):	bottom		
Rates (gpm):	1.25		
Purged Volume:	8 gallons		
DTW After Purging:	dry		
Yield Rate:	(L) M H		
Purge Observations:	clear to turbid		

Status	Temp. (°C)	pH	SPC@25	DO	turb - orp
Start					
End					

Parameters	Inv. No.			Filter

Oil Interface Detection; yes no (N/A)

PURGE CHEMISTRIES

Vol.	Temp (°C)	pH	SPC@25	DO	Orp	Turbidity (NTU)

8260

observations;

Air Temperature (^{0}C):	**30**
Weather Conditions:	sunny

Crew Chief Signature: DONALD KASSEY

Date: 7/24/2017

HDR
Crew Chief Report **Page ___ of ___**

Crew Chief: Donald Kassell	Project; Lowe's Orangeburg
Crew; MP	Project No; 10016690
Vehicle(s) Used: F 250	Survey: Well Sample
Boat(s) Used:	Project Manager; John Guzewich

Crew Chief Report (complete after survey):

Survey Start Date; 7/13/18	Survey Start/End Time: 0630- 1430

Describe Details Below:	**Yes**	**No**		**From**	**To**
Sampling gear working properly (if no, describe in comments)	Yes		Boat usage (dates):		
			Engine Hours:		
Was downtime incurred (no.hrs.) (If yes, describe in comments)		No	Boat Location:		
			Radio Logs:		
Any incidents, accidents or pertinent observations (describe)	Yes		Were the following forms completed and submitted?	**Yes**	**No**
Field Meters Calibrated		No	Boat Log:		
Chain-of Custody completed	Yes		Vehicle Log:	Yes	
Samples signed over - Nanuet Lab		No	Equipment Usage Sheet:	yes	
-Outside Lab	yes				

Comments/Observations:

ALL wells purged with a whale pump, except MW07-29 which was purged with a bailer each well had its own dedicated tubing. The pump was cleaned between each well. The purge water from MW0314S, MW03-27S and MW03-27D was put in a drum for disposal in the treatment building. When we started to put the water in the floor drain the water backed up we were told to dump the water out side in the gravel' We sampled the wells using a disposable Teflon bailer, each well had its own dedicated bailer.

HDR Well Sampling Log

Date;	7/13/2018
Crew:	DK MP
Job No:	10016690
Project:	Groundwater Sample
Project Site:	Loew"s Orangeburg

Meters used

Temperature;	N/A
ph	N/A
Conductivity:	N/A
Orp	N/A
Dissoved Oxygen:	N/A
Turbidity:	N/A

WELL DATA; PURGE

WELL ID no:	MW03-14S-7/18
Well Condition:	good
Well Depth / Diameter	24' / 2"
Well Casing Type;	pvc
Screened Interval:	unknown
Casing Ht./Lock No.:	curb box
Reference Point:	top of pvc
Depth to Water (DTW):	9.8'
Water Column Ht./Vol.:	14.2' /2.4 gallons
Purge Estimate:	2.4 x 3 =7.2 gallons
Purge Method(s):	whale pump
Purge Date:	7/13/2018
Purge Time(s)	0745- 0757
Depth(s):	bottom
Rates (gpm):	.5 G
Purged Volume:	8 gallons
DTW After Purging:	17.4
Yield Rate:	good
Purge Observations:	turbid to clear
	oil interface; Y - N - (N/A)
	purge water put in drum for disposal

PURGE CHEMISTRIES

Vol.	Temp (°C)	pH	SPC@25	DO	Orp	Turbidity (NTU)

Comments:

WELL DATA; SAMPLE

DTW Before Sampling;	11.1'
Sample Date/Time:	7/13/18 /0815
Sampling Method:	teflon bailer
Sampling Depth(s):	surface
DTW After Sampling:	
Analytical Lab(s):	Hampton / Clarke
Sampling Observations:	slightly turbid

SAMPLE CHEMISTRIES

	Temp. (°C)	pH	SPC@25	DO	turb - orp
Start					
End					

Parameters	Inv. No.			
8260 (no tics)				

Air Temperature (^{0}C):	**25**
Weather Conditions:	sunny
Crew Chief Signature:	DONALD KASSELL
Date:	7/19/2018

HDR Well Sampling Log

Date;	7/13/2018
Crew:	DK MP
Job No:	10016690
Project:	Groundwater Sample
Project Site:	Loew"s Orangeburg

Meters used

Temperature;	N/A
ph	N/A
Conductivity:	N/A
Orp	N/A
Dissoved Oxygen:	N/A
Turbidity:	N/A

WELL DATA; PURGE

WELL ID no:	MW03-27S-7/18
Well Condition:	good
Well Depth / Diameter	24.3' - 2"
Well Casing Type;	pvc
Screened Interval:	unknown
Casing Ht./Lock No.:	curb box
Reference Point:	top of pvc
Depth to Water (DTW):	11.18"
Water Column Ht./Vol.:	13.12' / 2.2 gallons
Purge Estimate:	2.2 x 3 =6.6 gallons
Purge Method(s):	whale pump
Purge Date:	7/13/2018
Purge Time(s)	0842-0853
Depth(s):	bottom
Rates (gpm):	.75
Purged Volume:	7 gallons
DTW After Purging:	10.1'
Yield Rate:	good
Purge Observations:	turbid to clear

oil interface; Y - N - (N/A)

purge water put in drum for disposal

PURGE CHEMISTRIES

Vol.	Temp (°C)	pH	SPC@25	DO	Orp	Turbidity (NTU)

WELL DATA; SAMPLE

DTW Before Sampling;	11.21'
Sample Date/Time:	7/13/18 / 0935
Sampling Method:	teflon bailer
Sampling Depth(s):	mid
DTW After Sampling:	
Analytical Lab(s):	Hampton / Clarke
Sampling Observations:	clear

SAMPLE CHEMISTRIES

	Temp. (°C)	pH	SPC@25	DO	turb - orp
Start					
End					

Parameters	Inv. No.			
8260 (no tics)				

Comments:

Air Temperature (^{0}C):	25
Weather Conditions:	sunny

Crew Chief Signature: DONALD KASSELL

Date: 7/19/2018

HDR Well Sampling Log

Date;	7/13/2018
Crew:	DK MP
Job No:	10016690
Project:	Groundwater Sample
Project Site:	Loew"s Orangeburg

Meters used

Temperature;	N/A
ph	N/A
Conductivity:	N/A
Orp	N/A
Dissoved Oxygen:	N/A
Turbidity:	N/A

WELL DATA; PURGE

WELL ID no:	MW03-27D-7/18
Well Condition:	good
Well Depth / Diameter	33.71' / 2"
Well Casing Type;	pvc
Screened Interval:	unknown
Casing Ht./Lock No.:	curb box
Reference Point:	top of pvc
Depth to Water (DTW):	8.19'
Water Column Ht./Vol.:	25.52' - 4.3 gallons
Purge Estimate:	4.3 x 3= 12.9 gallons
Purge Method(s):	whale pump
Purge Date:	7/13/2018
Purge Time(s)	0900-0927
Depth(s):	bottom
Rates (gpm):	.50
Purged Volume:	13 gallons
DTW After Purging:	8.70'
Yield Rate:	good
Purge Observations:	turbid

oil interface; Y - N - (N/A)

purge water put in drum for disposal

PURGE CHEMISTRIES

Vol.	Temp (°C)	pH	SPC@25	DO	Orp	Turbidity (NTU)

WELL DATA; SAMPLE

DTW Before Sampling;	8.25'
Sample Date/Time:	7/13/18 / 0945
Sampling Method:	teflon bailer
Sampling Depth(s):	mid
DTW After Sampling:	
Analytical Lab(s):	Hampton / Clarke
Sampling Observations:	turbid

SAMPLE CHEMISTRIES

	Temp. (°C)	pH	SPC@25	DO	turb - orp
Start					
End					

Parameters	Inv. No.			
8260 (no tics)				

Comments:

Air Temperature (^{0}C):	**25**
Weather Conditions:	sunny

Crew Chief Signature: DONALD KASSELL

Date: 7/19/2018

HDR Well Sampling Log

Date;	7/13/2018
Crew:	DK MP
Job No:	10016690
Project:	Groundwater Sample
Project Site:	Loew"s Orangeburg

Meters used

Temperature;	N/A
ph	N/A
Conductivity:	N/A
Orp	N/A
Dissoved Oxygen:	N/A
Turbidity:	N/A

WELL DATA; PURGE

WELL ID no:	MW03-12S-7/18
Well Condition:	good
Well Depth / Diameter	13.5' / 2"
Well Casing Type;	pvc
Screened Interval:	unknown
Casing Ht./Lock No.:	curb box
Reference Point:	top of pvc
Depth to Water (DTW):	well is dry
Water Column Ht./Vol.:	
Purge Estimate:	
Purge Method(s):	
Purge Date:	
Purge Time(s)	
Depth(s):	
Rates (gpm):	
Purged Volume:	
DTW After Purging:	
Yield Rate:	

Purge Observations:

oil interface; Y - N - (N/A)

PURGE CHEMISTRIES

Vol.	Temp (°C)	pH	SPC@25	DO	Orp	Turbidity (NTU)

Comments:

WELL DATA; SAMPLE

DTW Before Sampling;	
Sample Date/Time:	
Sampling Method:	
Sampling Depth(s):	
DTW After Sampling:	
Analytical Lab(s):	
Sampling Observations:	

SAMPLE CHEMISTRIES

	Temp. (°C)	pH	SPC@25	DO	turb - orp
Start					
End					

Parameters	Inv. No.			

no sample well is dry

Air Temperature (^{0}C):	25
Weather Conditions:	sunny

Crew Chief Signature: DONALD KASSELL

Date: 7/19/2018

HDR Well Sampling Log

Date;	7/13/2018
Crew:	DK MP
Job No:	10016690
Project:	Groundwater Sample
Project Site:	Loew"s Orangeburg

Meters used

Temperature;	N/A
ph	N/A
Conductivity:	N/A
Orp	N/A
Dissoved Oxygen:	N/A
Turbidity:	N/A

WELL DATA; PURGE

WELL ID no:	MW03-12D-7/18
Well Condition:	good
Well Depth / Diameter	21' / 2"
Well Casing Type;	pvc
Screened Interval:	unknown
Casing Ht./Lock No.:	curb box
Reference Point:	top of pvc
Depth to Water (DTW):	11.51'
Water Column Ht./Vol.:	9.49' / 1.6 gallons
Purge Estimate:	1.6 x 3 =4.8 gallons
Purge Method(s):	whale pump
Purge Date:	7/13/2018
Purge Time(s)	1009-1024
Depth(s):	bottom
Rates (gpm):	~.50
Purged Volume:	5 gallons
DTW After Purging:	17.15'
Yield Rate:	good
Purge Observations:	clear

oil interface; Y - N - (N/A)

PURGE CHEMISTRIES

Vol	Temp (°C)	pH	SPC@25	DO	Orp	Turbidity (NTU)

Comments:

WELL DATA; SAMPLE

DTW Before Sampling;	13.12'
Sample Date/Time:	7/13/18/1035
Sampling Method:	teflon bailer
Sampling Depth(s):	mid
DTW After Sampling:	
Analytical Lab(s):	Hampton / Clarke
Sampling Observations:	clear

SAMPLE CHEMISTRIES

	Temp. (°C)	pH	SPC@25	DO	turb - orp
Start					
End					

Parameters	Inv. No.			
8260 (no tics)				

Air Temperature (°C):	**25**
Weather Conditions:	sunny

Crew Chief Signature: DONALD KASSEL

Date: 7/19/2018

HDR Well Sampling Log

Date;	7/13/2018
Crew:	DK MP
Job No:	10016690
Project:	Groundwater Sample
Project Site:	Loew"s Orangeburg

Meters used

Temperature;	N/A
ph	N/A
Conductivity:	N/A
Orp	N/A
Dissoved Oxygen:	N/A
Turbidity:	N/A

WELL DATA; PURGE

WELL ID no:	MW03-11S-7/18
Well Condition:	good
Well Depth' / Diameter	15.3' / 2"
Well Casing Type;	pvc
Screened Interval:	unknown
Casing Ht./Lock No.:	curb box
Reference Point:	top of pvc
Depth to Water (DTW):	11.41'
Water Column Ht./Vol.:	3.89' / 0.66 gallon
Purge Estimate:	0.66 x 3 =1.98 gallons
Purge Method(s):	whale pump
Purge Date:	7/13/2018
Purge Time(s)	1103-1105
Depth(s):	bottom
Rates (gpm):	1
Purged Volume:	1 gallon
DTW After Purging:	dry
Yield Rate:	low
Purge Observations:	slightly turbid
oil interface; Y - N - (N/A)	

PURGE CHEMISTRIES

Vol.	Temp (°C)	pH	SPC@25	DO	Orp	Turbidity (NTU)

Comments:

WELL DATA; SAMPLE

DTW Before Sampling;	13.2'
Sample Date/Time:	7/13/18 1205
Sampling Method:	teflon bailer
Sampling Depth(s):	surface
DTW After Sampling:	
Analytical Lab(s):	Hampton / Clarke
Sampling Observations:	slightly turbid

SAMPLE CHEMISTRIES

	Temp. (°C)	pH	SPC@25	DO	turb - orp
Start					
End					

Parameters	Inv. No.			
8260 (no tics)				

Air Temperature (°C):	**25**
Weather Conditions:	sunny

Crew Chief Signature: DONALD KASSELL

Date: 7/19/2018

HDR Well Sampling Log

Date;	7/13/2018
Crew:	DK MP
Job No:	10016690
Project:	Groundwater Sample
Project Site:	Loew"s Orangeburg

Meters used

Temperature;	N/A
ph	N/A
Conductivity:	N/A
Orp	N/A
Dissoved Oxygen:	N/A
Turbidity:	N/A

WELL DATA; PURGE

WELL ID no:	MW07-29-7/18
Well Condition:	good
Well Depth / Diameter	13.3' / 1.25"
Well Casing Type;	pvc
Screened Interval:	unknown
Casing Ht./Lock No.:	curb box
Reference Point:	top of pvc
Depth to Water (DTW):	7.18'
Water Column Ht./Vol.:	6.12' / 0.4896 gallon
Purge Estimate:	0.4896 x 3 =1.5 gallon
Purge Method(s):	bailer
Purge Date:	7/13/2018
Purge Time(s)	1120 -1123
Depth(s):	surface
Rates (gpm):	—
Purged Volume:	1 gallon
DTW After Purging:	dry
Yield Rate:	low
Purge Observations:	slightly turbid
oil interface; Y - N - (N/A)	

PURGE CHEMISTRIES

Vol.	Temp (°C)	pH	SPC@25	DO	Orp	Turbidity (NTU)

Comments:

WELL DATA; SAMPLE

DTW Before Sampling;	8.70'
Sample Date/Time:	7/13/18/ 1145
Sampling Method:	teflon bailer
Sampling Depth(s):	surface
DTW After Sampling:	
Analytical Lab(s):	Hampton / Clarke
Sampling Observations:	slightly turbid

SAMPLE CHEMISTRIES

	Temp. (°C)	pH	SPC@25	DO	turb - orp
Start					
End					

Parameters	Inv. No.			
8260 (no tics)				

Air Temperature (^{0}C):	**25**
Weather Conditions:	sunny

Crew Chief Signature: DONALD KASSELL

Date: 7/19/2018

HDR Well Sampling Log

Date;	7/13/2018	**Meters used**	
Crew:	DK MP	Temperature;	N/A
Job No:	10016690	ph	N/A
Project:	Groundwater Sample	Conductivity:	N/A
		Orp	N/A
		Dissoved Oxygen:	N/A
Project Site:	Loew"s Orangeburg	Turbidity:	N/A

WELL DATA; PURGE		**WELL DATA; SAMPLE**	
WELL ID no:	MW03-18D	DTW Before Sampling;	13.52'
Well Condition:	good	Sample Date/Time:	7/13/18 / 1315
Well Depth / Diameter	34.7' / 2"	Sampling Method:	teflon bailer
Well Casing Type;	pvc	Sampling Depth(s):	surface
Screened Interval:	unknown	DTW After Sampling:	
Casing Ht./Lock No.:	curb box	Analytical Lab(s):	Hampton / Clarke
Reference Point:	top of pvc		
Depth to Water (DTW):	7.48'	Sampling Observations:	clear
Water Column Ht./Vol.:	27.22' - 4.6 gallons		
Purge Estimate:	4.6 x 3 =13 gallons		
Purge Method(s):	whale pump	**SAMPLE CHEMISTRIES**	
Purge Date:	7/13/2018		
Purge Time(s)	1227 - 1254	Start	
Depth(s):	bottom	End	
Rates (gpm):	.50		
Purged Volume:	9 gallons		
DTW After Purging:	dry	Parameters	Inv. No.
Yield Rate:	low	8260 (no tics)	
Purge Observations:	slightly turbid		
	oil interface; Y - N - (N/A)		

Temp. (°C)	pH	SPC@25	DO	turb - orp

Vol.	Temp (°C)	pH	SPC@25	DO	Orp	Turbidity (NTU)

PURGE CHEMISTRIES

Comments:

Air Temperature (°C):	**25**
Weather Conditions:	sunny

Crew Chief Signature: DONALD KASSEL

Date: 7/19/2018

HDR Well Sampling Log

Date;	7/13/2018
Crew:	DK MP
Job No:	10016690
Project:	Groundwater Sample
Project Site:	Loew"s Orangeburg

Meters used

Temperature;	N/A
ph	N/A
Conductivity:	N/A
Orp	N/A
Dissoved Oxygen:	N/A
Turbidity:	N/A

WELL DATA; PURGE

WELL ID no:	MW03-18S-7/18
Well Condition:	good
Well Depth / Diameter	10.8' / 2"
Well Casing Type;	pvc
Screened Interval:	unknown
Casing Ht./Lock No.:	curb box
Reference Point:	top of pvc
Depth to Water (DTW):	7.95'
Water Column Ht./Vol.:	2.85' / 0.48 gallon
Purge Estimate:	0.48' x 3 = 1.44 gallon
Purge Method(s):	whale pump
Purge Date:	7/13/2018
Purge Time(s)	1258 1300
Depth(s):	bottom
Rates (gpm):	1
Purged Volume:	2 gallons
DTW After Purging:	9.75'
Yield Rate:	high
Purge Observations:	clear

oil interface; Y - N - (N/A)

PURGE CHEMISTRIES

Vol.	Temp (°C)	pH	SPC@25	DO	Orp	Turbidity (NTU)

Comments:

WELL DATA; SAMPLE

DTW Before Sampling;	8.0'
Sample Date/Time:	7/13/18 / 1305
Sampling Method:	teflon bailer
Sampling Depth(s):	surface
DTW After Sampling:	
Analytical Lab(s):	Hampton / Clarke
Sampling Observations:	clear

SAMPLE CHEMISTRIES

	Temp. (°C)	pH	SPC@25	DO	turb - orp
Start					
End					

Parameters	Inv. No.			
8260 (no tics)				

Air Temperature (°C):	25
Weather Conditions:	sunny

Crew Chief Signature: DONALD KASSELL

Date: 7/19/2018

HDR Well Sampling Log

Date:	2-Jul-19
Crew:	MTP/DK
Job Number:	10016690
Project:	Annual Groundwater Sampling Event
Project Site:	Lowe's; Orangeburg, NY

Meter's Used

Tempurature:	N/A
pH:	N/A
Conductivity:	N/A
Orp:	N/A
Dissolved Oxegen:	N/A
Turbidity:	N/A

Well Data: Purge

Well ID No:	MW03-14S
Well Condition:	Poor
Well Depth/Diameter:	24' / 2"
Well Casting Type:	PVC
Screened Interval:	14' - 24'
Casing Ht./Lock No:	Curb Box
Referance Point:	Top of Casing
Depth to Water (DTW):	9.19
Water Column Ht./Volume:	14.81 / 2.52
Purge Estimate:	7.55
Purge Method:	Whale Pump
Purge Date:	2-Jul-19
Purge Time:	0753 - 0801
Depths:	Bottom 24'
Rate (gpm):	0.75
Purged Volume:	6 Gallons
DTW After Purging:	Dry
Yeild Rate:	Low
Purge Observations:	Very turbid starting, Clear at end.

Oil Interface: Y N N/A

Purge Chemistries

Volume	Temp. (°C)	pH	SPC@25	DO	Orp	Turbidity (NTU)

Well Data: Sample

DTW Before Sampling:	10.4
Sample Date/Time:	02-jul-2019 / 0820
Sampling Method:	Teflon Bailer
Sampling Depth:	10.4
DTW After Sampling:	-
Sample ID:	MW03-14S-7/19
Analytical Labs:	Hampton Clarke
Sampling Observation:	Turbid

Sample Chemistries

	Temp. (°C)	pH	SPC@25	DO	Orp	Turbidity (NTU)
Start						
End						

Sample Analysis

8260 (No Tics), special parameter list

Comments: Curb Box cracked, Well Pad Cracked

Missing bolts, curb box filled with soil, casing is uneven.

Weather

Temp (°C)	Humidity	Wind Dir	Wind Speed	Cloud Cover	Precipitation
21	77%	WNW	4 MPH	Clear	None

Crew Chief Signature: 

Date: 2-Jul-19

HDR Well Sampling Log

Date:	2-Jul-19
Crew:	MTP/DK
Job Number:	10016690
Project:	Annual Groundwater Sampling Event
Project Site:	Lowe's; Orangeburg, NY

Meter's Used

Tempurature:	N/A
pH:	N/A
Conductivity:	N/A
Orp:	N/A
Dissolved Oxegen:	N/A
Turbidity:	N/A

Well Data: Purge

Well ID No:	MW03-27S
Well Condition:	Fair
Well Depth/Diameter:	24.3' / 2"
Well Casting Type:	PVC
Screened Interval:	14.6' - 24.6'
Casing Ht./Lock No:	Curb Box
Referance Point:	Top of Casing
Depth to Water (DTW):	10.11
Water Column Ht./Volume:	14.19 / 2.41
Purge Estimate:	7.24
Purge Method:	Whale Pump
Purge Date:	2-Jul-19
Purge Time:	0901 - 0906
Depths:	Bottom to Surface
Rate (gpm):	1.6
Purged Volume:	8 Gallons
DTW After Purging:	12.75
Yeild Rate:	Good
Purge Observations:	Started Turbid, Cleared towards End

Oil Interface: Y N N/A

Purge Chemistries

Volume	Temp. (°C)	pH	SPC@25	DO	Orp	Turbidity (NTU)

Well Data: Sample

DTW Before Sampling:	10.17
Sample Date/Time:	02 - Jul-2019 / 0941
Sampling Method:	Teflon Bailer
Sampling Depth:	10.17
DTW After Sampling:	
Sample ID:	MW03-27S-7/19
Analytical Labs:	Hampton Clarke
Sampling Observation:	Slightly Turbid

Sample Chemistries

	Temp. (°C)	pH	SPC@25	DO	Orp	Turbidity (NTU)
Start						
End						

Sample Analysis

8260 (No Tics), special parameter list

Comments: Cracked Well Pad, Missing Bolts.
Top of well is uneven, PVC riser is too high.

Weather

Temp (°C)	Humidity	Wind Dir	Wind Speed	Cloud Cover	Precipitation
23	72%	S	5 MPH	Pt. Cloudy	None

Crew Chief Signature: 

Date: 2-Jul-19

HDR Well Sampling Log

Date:	2-Jul-19
Crew:	MTP/DK
Job Number:	10016690
Project:	Annual Groundwater Sampling Event
Project Site:	Lowe's; Orangeburg, NY

Meter's Used

Tempurature:	N/A
pH:	N/A
Conductivity:	N/A
Orp:	N/A
Dissolved Oxegen:	N/A
Turbidity:	N/A

Well Data: Purge

Well ID No:	MW03 - 27D
Well Condition:	Fair
Well Depth/Diameter:	33.7' - 2"
Well Casting Type:	PVC
Screened Interval:	29.0' - 34.0'
Casing Ht./Lock No:	Curb Box
Referance Point:	Top of Casing
Depth to Water (DTW):	9.54
Water Column Ht./Volume:	24.16 / 4.11
Purge Estimate:	12.32
Purge Method:	Whale Pump
Purge Date:	2-Jul-19
Purge Time:	0916 - 0928
Depths:	Bottom to Surface
Rate (gpm):	1.08
Purged Volume:	13 Gallons
DTW After Purging:	10.8
Yeild Rate:	Good
Purge Observations:	Started very Turb., Sl Turb. at end

Oil Interface: Y N N/A

Purge Chemistries

Volume	Temp. (°C)	pH	SPC@25	DO	Orp	Turbidity (NTU)

Well Data: Sample

DTW Before Sampling:	10.41
Sample Date/Time:	02-Jul-2019 / 0950
Sampling Method:	Teflon Bailer
Sampling Depth:	10.41
DTW After Sampling:	-
Sample ID:	MW09-27D-7/19
Analytical Labs:	Hampton Clarke
Sampling Observation:	Slightly Turbid

Sample Chemistries

	Temp. (°C)	pH	SPC@25	DO	Orp	Turbidity (NTU)
Start						
End						

Sample Analysis

8260 (No Tics), special parameter list

Comments: Cracked Well Pad, Missing Bolts

missing ear, stripped bolts, water pooled in vault.

Weather

Temp (°C)	Humidity	Wind Dir	Wind Speed	Cloud Cover	Precipitation
23	72%	S	5 MPH	Pt. Cloudy	None

Crew Chief Signature: 

Date: 2-Jul-19

HDR Well Sampling Log

Date:	2-Jul-19
Crew:	MTP/DK
Job Number:	10016690
Project:	Annual Groundwater Sampling Event
Project Site:	Lowe's; Orangeburg, NY

Meter's Used

Tempurature:	N/A
pH:	N/A
Conductivity:	N/A
Orp:	N/A
Dissolved Oxegen:	N/A
Turbidity:	N/A

Well Data: Purge

Well ID No:	MW03 - 12S
Well Condition:	Fair
Well Depth/Diameter:	13.5' / 2"
Well Casting Type:	PVC
Screened Interval:	8.5' - 13.5'
Casing Ht./Lock No:	Curb Box
Referance Point:	Top of Casing
Depth to Water (DTW):	Dry
Water Column Ht./Volume:	-
Purge Estimate:	-
Purge Method:	-
Purge Date:	-
Purge Time:	-
Depths:	-
Rate (gpm):	-
Purged Volume:	-
DTW After Purging:	-
Yeild Rate:	-
Purge Observations:	Well Dry

Oil Interface: Y N N/A

Purge Chemistries

Volume	Temp. (°C)	pH	SPC@25	DO	Orp	Turbidity (NTU)

Well Data: Sample

DTW Before Sampling:	-
Sample Date/Time:	**No Sample**
Sampling Method:	-
Sampling Depth:	-
DTW After Sampling:	-
Sample ID:	-
Analytical Labs:	-
Sampling Observation:	-

Sample Chemistries

	Temp. (°C)	pH	SPC@25	DO	Orp	Turbidity (NTU)
Start						
End						

Sample Analysis

No Sample, Well is Dry.

Comments: Well is under juniper bush. Well is dry.
No J-plug.

Weather

Temp (°C)	Humidity	Wind Dir	Wind Speed	Cloud Cover	Precipitation
26	61%	WNW	5 MPH	Pt. Cloudy	None

Crew Chief Signature: 

Date: 2-Jul-19

HDR Well Sampling Log

Date:	2-Jul-19
Crew:	MTP/DK
Job Number:	10016690
Project:	Annual Groundwater Sampling Event
Project Site:	Lowe's; Orangeburg, NY

Meter's Used

Tempurature:	N/A
pH:	N/A
Conductivity:	N/A
Orp:	N/A
Dissolved Oxegen:	N/A
Turbidity:	N/A

Well Data: Purge

Well ID No:	MW03 - 12D
Well Condition:	Good
Well Depth/Diameter:	21' / 2"
Well Casting Type:	PVC
Screened Interval:	11' - 21'
Casing Ht./Lock No:	Curb Box
Referance Point:	Top of Casing
Depth to Water (DTW):	11
Water Column Ht./Volume:	10 / 1.7
Purge Estimate:	5.1
Purge Method:	Whale Pump
Purge Date:	2-Jul-19
Purge Time:	1037 - 1043
Depths:	Bottom to Surface
Rate (gpm):	9.2
Purged Volume:	5.5 gallons
DTW After Purging:	11
Yeild Rate:	Good
Purge Observations:	Sl turbid at start; clear at end.

Oil Interface: Y N N/A

Purge Chemistries

Volume	Temp. (°C)	pH	SPC@25	DO	Orp	Turbidity (NTU)

Well Data: Sample

DTW Before Sampling:	11
Sample Date/Time:	02-Jul-2019/1050
Sampling Method:	Teflon Bailer
Sampling Depth:	11
DTW After Sampling:	-
Sample ID:	MW03-12D-7/19
Analytical Labs:	Hampton Clarke
Sampling Observation:	Slghtly Turbid

Sample Chemistries

	Temp. (°C)	pH	SPC@25	DO	Orp	Turbidity (NTU)
Start						
End						

Sample Analysis

8260 (No Tics), special parameter list

Comments: Well is under Juniper Bush.

Weather

Temp (°C)	Humidity	Wind Dir	Wind Speed	Cloud Cover	Precipitation
26	61%	WNW	5 MPH	PT. Cloudy	None

Crew Chief Signature: 

Date: 2-Jul-19

HDR Well Sampling Log

Date:	2-Jul-19
Crew:	MTP/DK
Job Number:	10016690
Project:	Annual Groundwater Sampling Event
Project Site:	Lowe's; Orangeburg, NY

Meter's Used

Tempurature:	N/A
pH:	N/A
Conductivity:	N/A
Orp:	N/A
Dissolved Oxegen:	N/A
Turbidity:	N/A

Well Data: Purge

Well ID No:	MW07 - 29
Well Condition:	Fair
Well Depth/Diameter:	13.3' / 1.25"
Well Casting Type:	PVC
Screened Interval:	4' - 14'
Casing Ht./Lock No:	Curb Box
Referance Point:	Top of Casing
Depth to Water (DTW):	10.56
Water Column Ht./Volume:	2.74 / 0.26
Purge Estimate:	0.66
Purge Method:	Hand Bailer
Purge Date:	2-Jul-19
Purge Time:	1145 - 1148
Depths:	Bottom to Surface
Rate (gpm):	0.25
Purged Volume:	0.75
DTW After Purging:	11.01
Yeild Rate:	Fair
Purge Observations:	Sl. Turbid

Oil Interface: Y N N/A

Purge Chemistries

Volume	Temp. (°C)	pH	SPC@25	DO	Orp	Turbidity (NTU)

Well Data: Sample

DTW Before Sampling:	11.01
Sample Date/Time:	02-Jul-2019/1150
Sampling Method:	Teflon Bailer
Sampling Depth:	11.01
DTW After Sampling:	-
Sample ID:	MW07-29-7/19
Analytical Labs:	Hampton Clarke
Sampling Observation:	Slightly Turbid

Sample Chemistries

	Temp. (°C)	pH	SPC@25	DO	Orp	Turbidity (NTU)
Start						
End						

Sample Analysis

8260 (No Tics), special parameter list

Comments: Cracked well pad, Water pooled in curb box

Weather

Temp (°C)	Humidity	Wind Dir	Wind Speed	Cloud Cover	Precipitation
26	65%	NW	8 MPH	Cloudy	None

Crew Chief Signature: 

Date: 2-Jul-19

HDR Well Sampling Log

Date:	2-Jul-19
Crew:	MTP/DK
Job Number:	10016690
Project:	Annual Groundwater Sampling Event
Project Site:	Lowe's; Orangeburg, NY

Meter's Used	
Tempurature:	N/A
pH:	N/A
Conductivity:	N/A
Orp:	N/A
Dissolved Oxegen:	N/A
Turbidity:	N/A

Well Data: Purge	
Well ID No:	MW03 - 11S
Well Condition:	Good
Well Depth/Diameter:	15.3' / 2"
Well Casting Type:	PVC
Screened Interval:	10.5' - 15.5'
Casing Ht./Lock No:	Curb Box
Referance Point:	Top of Casing
Depth to Water (DTW):	10.67
Water Column Ht./Volume:	4.63 / 0.79
Purge Estimate:	2.4 gallons
Purge Method:	Whale Pump
Purge Date:	2-Jul-19
Purge Time:	1119 - 1120
Depths:	Bottom
Rate (gpm):	1
Purged Volume:	1 gallon
DTW After Purging:	Dry
Yeild Rate:	Poor
Purge Observations:	Slightly Turbid

Oil Interface: Y N N/A

Well Data: Sample	
DTW Before Sampling:	12.8
Sample Date/Time:	02-Jul-2019/1210
Sampling Method:	Teflon Bailer
Sampling Depth:	12.8
DTW After Sampling:	-
Sample ID:	MW03-11S-7/19
Analytical Labs:	Hampton Clarke
Sampling Observation:	Slightly Turbid

Purge Chemistries

Volume	Temp. (°C)	pH	SPC@25	DO	Orp	Turbidity (NTU)

Sample Chemistries

	Temp. (°C)	pH	SPC@25	DO	Orp	Turbidity (NTU)
Start						
End						

Sample Analysis

8260 (No Tics), special parameter list

Comments: Well in good condition.

Weather

Temp (°C)	Humidity	Wind Dir	Wind Speed	Cloud Cover	Precipitation
26	63%	NW	8	Cloudy	None

Crew Chief Signature: 

Date: 2-Jul-19

HDR Well Sampling Log

Date:	2-Jul-19
Crew:	MTP/DK
Job Number:	10016690
Project:	Annual Groundwater Sampling Event
Project Site:	Lowe's; Orangeburg, NY

Meter's Used

Tempurature:	N/A
pH:	N/A
Conductivity:	N/A
Orp:	N/A
Dissolved Oxegen:	N/A
Turbidity:	N/A

Well Data: Purge

Well ID No:	MW03 - 18S
Well Condition:	Good
Well Depth/Diameter:	10.8' / 2"
Well Casting Type:	PVC
Screened Interval:	4' - 11'
Casing Ht./Lock No:	Curb Box
Referance Point:	Top of Casing
Depth to Water (DTW):	7.75
Water Column Ht./Volume:	3.05 / 0.59
Purge Estimate:	1.65
Purge Method:	Whale Pump
Purge Date:	2-Jul-19
Purge Time:	1303 - 1305
Depths:	Bottom to Surface
Rate (gpm):	1
Purged Volume:	2 Gallons
DTW After Purging:	7.77
Yeild Rate:	Good
Purge Observations:	Slightly Turbid

Oil Interface: Y N N/A

Purge Chemistries

Volume	Temp. (°C)	pH	SPC@25	DO	Orp	Turbidity (NTU)

Well Data: Sample

DTW Before Sampling:	7.77
Sample Date/Time:	02-Jul-2019 / 1310
Sampling Method:	Teflon Bailer
Sampling Depth:	7.77
DTW After Sampling:	-
Sample ID:	MW03-18S-7/19
Analytical Labs:	Hampton Clarke
Sampling Observation:	Slightly Turbid

Sample Chemistries

	Temp. (°C)	pH	SPC@25	DO	Orp	Turbidity (NTU)
Start						
End						

Sample Analysis

8260 (No Tics), special parameter list

Comments: Lid uneven, PVC riser too high

Weather

Temp (°C)	Humidity	Wind Dir	Wind Speed	Cloud Cover	Precipitation
27	59%	NW	7 MPH	Overcast	Light Rain

Crew Chief Signature: 

Date: 2-Jul-19

HDR Well Sampling Log

Date:	2-Jul-19
Crew:	MTP/DK
Job Number:	10016690
Project:	Annual Groundwater Sampling Event
Project Site:	Lowe's; Orangeburg, NY

Meter's Used

Tempurature:	N/A
pH:	N/A
Conductivity:	N/A
Orp:	N/A
Dissolved Oxegen:	N/A
Turbidity:	N/A

Well Data: Purge

Well ID No:	MW03 - 18D
Well Condition:	Good
Well Depth/Diameter:	34.8' / 2"
Well Casting Type:	PVC
Screened Interval:	30.5' - 35.5'
Casing Ht./Lock No:	Curb Box
Referance Point:	Top of Casing
Depth to Water (DTW):	6.62
Water Column Ht./Volume:	28.18 / 5.1
Purge Estimate:	15.3
Purge Method:	Whale Pump
Purge Date:	2-Jul-19
Purge Time:	1245 / 1253
Depths:	Bottom
Rate (gpm):	1
Purged Volume:	8 Gallons
DTW After Purging:	Dry
Yeild Rate:	Poor
Purge Observations:	Slightly Turb, cleared before end

Oil Interface: Y N N/A

Purge Chemistries

Volume	Temp. (°C)	pH	SPC@25	DO	Orp	Turbidity (NTU)

Well Data: Sample

DTW Before Sampling:	13.21
Sample Date/Time:	02-Jul-2019 / 1325
Sampling Method:	Teflon Bailer
Sampling Depth:	13.21
DTW After Sampling:	-
Sample ID:	MW03-18D-7/19
Analytical Labs:	Hampton Clarke
Sampling Observation:	Clear

Sample Chemistries

	Temp. (°C)	pH	SPC@25	DO	Orp	Turbidity (NTU)
Start						
End						

Sample Analysis

8260 (No Tics), special parameter list

Comments:

Weather

Temp (°C)	Humidity	Wind Dir	Wind Speed	Cloud Cover	Precipitation
27	59%	NW	7 MPH	Overcast	Light Rain

Crew Chief Signature: 

Date: 2-Jul-19

Appendix D

Cap Inspection
Photographs (April 2020)

FORMER ORANGEBURG PIPE MANUFACTURING FACILITY – LOWE'S SITE

NYSDEC Site #: V-00579-3

NYSDEC Index #: W3-0930-02-07

PHOTO LOG – Site Cap Condition – April 2020

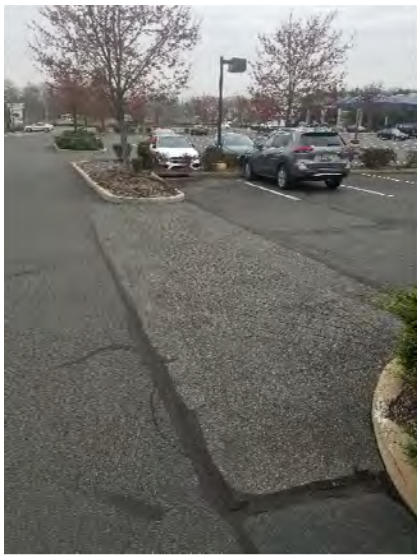
Photos of Site Cap

FORMER ORANGEBURG PIPE MANUFACTURING FACILITY – LOWE'S SITE

NYSDEC Site #: V-00579-3

NYSDEC Index #: W3-0930-02-07

PHOTO LOG – Site Cap Condition – April 2020



Photos of Site Cap

FORMER ORANGEBURG PIPE MANUFACTURING FACILITY – LOWE'S SITE

NYSDEC Site #: V-00579-3

NYSDEC Index #: W3-0930-02-07

PHOTO LOG – Site Cap Condition – April 2020

Photos of Site Cap

FORMER ORANGEBURG PIPE MANUFACTURING FACILITY – LOWE'S SITE

NYSDEC Site #: V-00579-3

NYSDEC Index #: W3-0930-02-07

PHOTO LOG – Site Cap Condition – April 2020

Photos of Site Cap

FORMER ORANGEBURG PIPE MANUFACTURING FACILITY – LOWE'S SITE

NYSDEC Site #: V-00579-3

NYSDEC Index #: W3-0930-02-07

PHOTO LOG – Site Cap Condition – April 2020

Photos of recent asphalt top-coat repairs

FORMER ORANGEBURG PIPE MANUFACTURING FACILITY – LOWE'S SITE

NYSDEC Site #: V-00579-3

NYSDEC Index #: W3-0930-02-07

PHOTO LOG – Site Cap Condition – April 2020

MW03-14S & -14D (July 2019 during sampling event).

MW03-14S & -14D (After well pad repairs – Photos taken April 2020).

Photos of parking lot monitoring well concrete pad repairs

FORMER ORANGEBURG PIPE MANUFACTURING FACILITY – LOWE'S SITE

NYSDEC Site #: V-00579-3

NYSDEC Index #: W3-0930-02-07

PHOTO LOG – Site Cap Condition – April 2020

MW03-27S & -27D (July 2019 during sampling event).

MW03-27S & -27D (After well pad repairs – Photos taken April 2020).

Photos of parking lot monitoring well concrete pad repairs