Interim Remedial Measure Work Plan for the Stormwater Drainage System, Liberty Street Site

RENSSELAER COUNTY, NEW YORK

Construction Completion Report

NYSDEC Site Number: 442048

Prepared for:

Saint-Gobain Performance Plastics Corporation

1 Liberty Street, Hoosick Falls, NY 12090

Prepared by:

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ORIGINALLY SUBMITTED - JUNE 2023

FINAL - JUNE 2025

CERTIFICATIONS

I, Charles R. Kortz, P.E., am currently a registered professional engineer licensed by the State of New York, I had primary direct responsibility for implementation of the subject construction program, and I certify that the Interim Remedial Measure Work Plan was implemented and that all construction activities were completed in substantial conformance with the DER-approved Interim Remedial Measure Work Plan.

I certify that documents generated in support of this report have been submitted in accordance with the DER's electronic submission protocols and have been accepted by the Department.

I certify that data generated in support of this report have been submitted in accordance with the Department's electronic data deliverable and have been accepted by the Department.

I certify that all information and statements in this certification form 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, Charles R. Kortz, P.E., of C.T. Male at 50 Century Hill Drive, Latham, NY, am certifying as Owner's Designated Site Representative for the site.

081516	06/24/25	Charles R. Kortz
NYS Professional Engineer #	Date	Signature

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Acronyms / Abbreviations

BEC	BEC Engineering and Geology, P.C.
CAMP	Community Air Monitoring Plan
CCR	Construction Completion Report
CMP	Corrugated Metal Pipe
C.T. Male	C.T. Male Associates Engineering, Surveying, Architecture, Landscape Architecture & Geology, D.P.C.
DER-10	NYSDEC DER-10, Technical Guidance for Site Investigation and Remediation
DIP	Saint-Gobain Performance Plastics Drainage Improvements
FSP	Field Sampling Plan
HASP	Health and Safety Plan
HDPE	High density polyethylene
Honeywell	Honeywell International Incorporated
IDW	Investigative derived waste
IRM	Interim Remedial Measure
IRM WP	Interim Remedial Measure Work Plan
NYSDEC	New York State Department of Environmental Conservation
PCA	Perchloroethane
PFAS	Per- and polyfluoroalkyl substances
PFOA	Perfluorooctanoic acid
PIM	Precision Industrial Maintenance
PVC	Polyvinyl chloride
RI/FS	Remedial investigation / feasibility study
Saint-Gobain	Saint-Gobain Performance Plastics, Corporation
SDS	Stormwater Drainage System
TCE	Trichloroethylene
UV	Ultraviolet Light
VOC	Volatile Organic Compounds

CONSTRUCTION COMPLETION REPORT

INTRODUCTION

This Construction Completion Report (CCR) has been prepared to document the implementation of the New York State Department of Environmental Conservation (NYSDEC) approved Interim Remedial Measure Work Plan (IRM WP) for the Stormwater Drainage System (SDS) servicing the Liberty Street Site located at 1 Liberty Street, Village of Hoosick Falls, New York (hereinafter referred to as the "Site"). The IRM WP, dated January 17, 2022 (C.T. Male and BEC, 2022), was approved by NYSDEC on February 11, 2022 (NYSDEC, 2022). A figure showing the location and boundaries of the Site is provided in Figure 1. The Site is currently classified as a NYSDEC State Superfund Program Site (Site No. 442048). Remedial Investigation/Feasibility Study (RI/FS) activities at the Site have been ongoing since 2016.

The CCR has been prepared by C.T. Male Associates Engineering, Surveying, Architecture, Landscape Architecture & Geology, D.P.C. (C.T. Male) and BEC Engineering and Geology, P.C. (BEC) on behalf of Saint-Gobain Performance Plastics, Corp. (Saint-Gobain) and Honeywell International Inc. (Honeywell), in accordance with NYSDEC Order on Consent and Settlement Agreement (Index No. CO 4-20160212-18), dated June 3, 2016.

The CCR has also been prepared in general accordance with the requirements of the NYSDEC DER-10, Technical Guidance for Site Investigation and Remediation (DER-10), dated May 2010 (NYSDEC, 2010), and the guidelines provided by NYSDEC.

The CCR and associated figures, tables, and appendices that are required to be submitted to NYSDEC shall be submitted electronically only in accordance with NYSDEC DER-10. This will be done using the NYSDEC File Transfer Site (or other method satisfactory to the NYSDEC).

1.0 BACKGROUND AND SITE DESCRIPTION

This section summarizes the Site background and physical setting, including geology and hydrogeology, as it relates to the IRM WP. The Site is located in the northwestern portion of the Village of Hoosick Falls as shown on Figure 1. It is approximately 11.4 acres with an approximate 86,000 square-foot manufacturing building with associated entranceways, accessways, courtyard spaces, parking lots, and loading areas. The manufacturing facility at the Site was originally constructed as a U-shaped building, but several significant expansions both within and around the "U" have been completed at the facility, most recently in 2015.

1.1 CURRENT AND FORMER SITE USES

The Site building was reportedly first developed in 1948 for the Nancy Shoe Company (B and M Shoe Company of New York City). The Site was leased to Transistor Electronics, Inc, from 1968-1972, and later acquired by Oak Material Group in 1972, AlliedSignal Laminate Systems, Inc. (through multiple name changes and mergers) in 1986, the Furon Company in 1996, and finally Saint-Gobain in 1999. Manufacturing activities at the Site have included the manufacture of shoes, electronic capacitors, extruded tape and films produced from a polytetrafluoroethylene or Teflon paste, various circuit board materials, and pressure-sensitive adhesive tape.

1.2 SURROUNDING LAND USES

Land use surrounding the Site consists of undeveloped land interspersed with residential dwellings to the north; a multi-family dwelling and residential dwellings to the south; residential dwellings and a private club pavilion to the east; and Hovey Avenue and residential dwellings to the west (Figure 1).

1.3 TOPOGRAPHY

Topography across the Site is variable. The topographic high point of the Site is a small ridge along the southern Site boundary. The developed portion of the Site with buildings, parking, and access roads is relatively flat, resulting from filling and rework during various Site development activities. The lands surrounding the Site building slopes gently-to-moderately downwards in each cardinal direction from the developed portion. An unnamed creek that originates off-site to the southeast flows from south to north, across the western side of the Site and through a wetland area. Several tributaries from the west and southwest join the unnamed creek on-site (Figure 2) with a majority of the flow in the unnamed creek originating from an area southwest of the creek. After exiting the Site, this creek continues to flow north and east before ultimately discharging to the Hoosic River (Figure 1).

1.4 SITE GEOLOGY

The uppermost geologic layer underlying the developed portion of the Site is mechanically reworked native soil and other fill materials, which sit above a lacustrine deposit of silt and clay more than 40 feet thick. The depth of the mechanically reworked native soil and other fill materials varies across the developed portion of the Site and has been encountered at depths of up to approximately 10 feet in some areas. Perched water is present within a few feet of the ground surface within the building foundation and is isolated above the water table in the natural shallow lacustrine materials located approximately 10-15 feet below ground surface beneath the developed portion of the Site.

1.5 STORMWATER DRAINAGE

The SDS within the Site captures and routes stormwater from the building areas, including foundation drains where present, to twelve catch basins (CB-01 through CB-

12) as shown on Figure 3. The stormwater is piped away from the facility and discharged to the ground surface via several outfalls on the hillside west of the facility, and an outfall in the southeast corner of the Site (Figure 3). Stormwater not captured within this system, along with discharges from the outfalls on the west side of the facility, flows overland through various swales to the wetland area and unnamed creek on the west side of the property. In the southeast corner of the Site, stormwater discharged from the outfall near the Site boundary flows through a swale and then a culvert located off-site, before discharging onto the ground surface in the southeast direction.

1.6 ENVIRONMENTAL SITE HISTORY

Investigations conducted to-date indicate perfluorooctanoic acid (PFOA) and the volatile organic compound (VOC) trichloroethylene (TCE) are the primary compounds of interest at the Site, and have been detected in soil, groundwater, surface water, and other media samples on and near the Site. The IRM WP (C.T. Male and BEC, 2022), provides a summary of the media sampling data.

Soil samples collected and analyzed as part of a 1996 Phase II ESA were documented to contain detections of chlorinated solvents, notably TCE. The soil samples were described as being collected from within the interior courtyard near the boiler room (in the vicinity of catch basins CB-06 and CB-07). Previous historical document review of the NYSDEC Spills Database identified a Site spill of #2 fuel oil and perchloroethane (PCA), which was opened in 1999 and closed in 2012. The sediment and water samples collected from within the catch basins in the same courtyard (CB-06 and CB-07) during the Site Characterization Phase of the remedial investigation identified detections of VOCs, notably TCE and cis-1,2-dichloroethylene. The IRM WP (C.T. Male and BEC, 2022) provides a summary of the sampling results.

2.0 SUMMARY OF SITE INTERIM REMEDIAL MEASURE (IRM)

2.1 IRM OBJECTIVES

The IRM WP was developed to address the Site's SDS. Remedial investigations conducted to-date have identified the accumulated solids within the SDS culvert and basins as containing per- and polyfluoroalkyl substances (PFAS) and select VOCs. The solids were considered to be a potential source of PFAS and VOCs to the environment.

The objectives of the IRM WP were to:

- Remove accumulated solids containing PFAS within the SDS through a combination of manual removal, jetting, or other industry-standard techniques.
- Inspect those sections of the culvert that previously could not be inspected due to solids buildup or damage/collapse and complete the culvert inspections.
- Restore performance of the SDS by assessing the condition of the culvert and conduct repairs and replacement as warranted.
- Reduce further sedimentation to the drainage system via additional guttering where feasible.

The guttering portion of the IRM WP was not included in the Saint-Gobain Performance Plastics Drainage Improvements (DIP). During design, it was determined that field conditions may necessitate movement of SDS components, creating potential issue for gutter and downspout placement. Therefore, guttering was to be assessed in the field during implementation of the DIP. Conversations with the facility staff and a preliminary review of sections of the facility's structure revealed that the structure of the roof was not able to support additional load. C.T. Male in conjunction with BEC are currently in the process of evaluating additional options in lieu of guttering if needed.

2.2 DESCRIPTION OF SELECTED INTERIM REMEDY

An IRM design plan was prepared in accordance with the IRM WP (C.T. Male and BEC, 2022) describing the plan to implement the remedial measures. The plan set was entitled Saint-Gobain Performance Plastics Drainage Improvements (DIP), prepared by C.T. Male, dated June 20, 2022, with a latest revision date of August 24, 2022, and is provided as Appendix A. The DIP was designed to be implemented in a three-phase approach with post-IRM activities as follows:

- Phase 1: Pre-cleaning video and visual inspection of stormwater catch basins and stormwater culverts followed by the removal of sediment from each on-site catch basin and stormwater culvert.
- Phase 2: The removal and replacement of catch basins in disrepair (CB-02, CB-03, CB-05, & CB-07) and section repairs of blocked culverts identified during the initial site investigations completed for preparation of the IRM WP. Completion of a full video and visual assessment of the system to identify other system areas/conditions requiring repairs or other corrective actions.
- Phase 3: Completion of a final video and visual inspection of the system to document cleaning and repair activities.
- Post-IRM Sampling and Inspections: One (1) stormwater sampling event and quarterly inspections of accessible catch basins and outlets are to be conducted. The sampling event consists of stormwater samples collected from existing stormwater outfall pipes observed to be active and flowing and the samples analyzed for PFAS and VOCs. The inspections consist of quarterly visual inspections (for one year) for newly deposited sediments at accessible catch basins and outlets. If sufficient volume of newly deposited sediments is discovered, confirmatory sediment sampling will take place with the samples being analyzed for PFAS and VOCs. The results of the post-IRM sampling and inspections will be documented in future reporting for the Site.

The observations and outcomes of the three Phases of activities are discussed in Section 3 and summarized in Tables 1 and 2, with Figure 3 identifying the locations of the individual catch basins and culverts.

Approvals required and granted prior to the start of work include: NYSDEC for the IRM WP and NYSDEC form "Request to Import / Reuse Fill or Soil, revised August 2014". Imported material was necessary for bedding and backfill material of the culverts and catch basins. These approval letters and forms are provided in Appendix B.

2.3 REMEDIAL CONTRACTS

The DIP was intended to be completed as a single project. Design activities began in June 2022, and construction started in October 2022. The work was substantially completed in early January 2023.

Precision Industrial Maintenance (PIM) served as the lead general contractor (Contractor). The DIP drawings and design specifications were prepared by C.T. Male. The contractors and consultants are listed in further detail in section 3.2.1.

NYSDEC was the regulatory agency conducting DIP implementation oversight. NYSDEC subcontracted AECOM and Envirospec to complete full-time oversight on behalf of the NYSDEC.

3.0 DESCRIPTION OF INTERIM REMEDIAL ACTIONS PERFORMED

3.1 GOVERNING DOCUMENTS

The DIP was designed in accordance with the IRM WP (C.T. Male and BEC, 2022). C.T. Male personnel followed C.T. Male's existing site-specific Health and Safety Plan (HASP), Quality Assurance Project Plan, Field Sampling Plan (FSP), and Citizen

Participation Plan that were developed for remedial investigation activities. The Contractor and its subcontractors followed the Contractor's HASP. In addition to their respective company's HASP, all personnel, including the NYSDEC and their subcontractors, were required to attend Saint-Gobain's site-specific health and safety training before performing work at the Site.

The IRM WP (C.T. Male and BEC, 2022), Final Draft Site Characterization Work Plan (SC WP; C.T. Male 2016), DER-10 (NYSDEC, 2010), and the DIP also describe the measures taken for Community Air Monitoring, handling of excess and imported soil and fill, and erosion and sediment control during the DIP construction.

3.2 REMEDIAL PROGRAM ELEMENTS

3.2.1 Contractors and Consultants

DIP drawings and specifications were prepared by C.T. Male. PIM served as the general contractor and retained the following subcontractors for the project:

1. Underground Utility Location – Blood Hound, LLC
2. Contaminated Soil Disposal - US Ecology of Michigan

C.T. Male designated personnel provided full-time observation during construction of the DIP. C.T. Male is the Engineer of Record and provided engineering review of Contractor submittals and field changes.

3.2.2 Mobilization and Site Preparation

A Pre-construction meeting with C.T. Male and PIM was held between contract award and Contractor mobilization and construction. The purpose of the meeting was to review the construction schedule, equipment status, site preparation, and health and safety requirements. Site preparation and mobilization of equipment occurred in October 2022.

3.2.3 General Site Controls

The following Site controls were implemented during DIP construction:

- Site security – site security, equipment staging, and parking plans, as outlined in the IRM WP, were followed.
- Site recordkeeping – daily construction observation reports were completed and maintained at the Site, along with construction photos (Appendix C).
- Environmental impacts mitigation – erosion and sedimentation controls, staging of materials, dust control, equipment decontamination, and equipment routing at the Site are outlined in the IRM WP.
- Complaint response management – C.T. Male, Saint-Gobain, and the Contractor internally coordinated management hierarchy to address concerns or complaints. No complaints were received and/or documented in the daily construction observation reports.

3.2.4 Community Air Monitoring Plan Results

The Community Air Monitoring Plan (CAMP) for the Remedial Investigation of the Site was implemented during the DIP construction. Monitoring in accordance with the CAMP was executed during activities that disturbed the subsurface, and no exceedance of action levels was observed. Electronic logs of the air monitoring data collected is provided in Appendix D. Copies of construction observation reports documenting CAMP monitoring are provided in electronic format in Appendix C.

3.2.5 Reporting

C.T. Male staff completed daily construction observation reports. These reports describe the daily activities at the Site, contractors present, weather conditions, among additional information. A daily photo log was also maintained. The daily construction observation

reports and photo logs are included in Appendix C.

3.3 Phase 1 Pre-construction Inspection & Sediment Removal

The DIP identified twelve (12) catch basins and twenty-eight (28) stormwater culverts within the Site. Sheet C-102 of Appendix A shows the catch basins, culverts, and stormwater drainage areas for the Site, with sheets C-103 and C-104 showing close ups of the interior drainage systems. These catch basins and stormwater culverts were designated with the abbreviations CB and CU, respectively, and numbered to provide easy reference. This nomenclature is utilized throughout the remainder of this document.

3.3.1 Preliminary Video and Visual Assessment

A preliminary video and visual assessment of each catch basin and stormwater culvert was completed prior to the implementation of the cleaning practices specified in the DIP. This inspection confirmed the prior findings of the IRM WP with the exception of four (4) stormwater culverts, which are detailed below. Tables summarizing the findings of each culvert and catch basin are provided as Table 1 and 2, respectively.

- CU-21 was a 4" polyvinyl chloride (PVC) schedule 40 pipe run above ground, along the exterior wall of the facility, and providing drainage from an existing roof gutter to CB-03. Therefore, CU-21 is considered a roof leader pipe and not a culvert.
- CU-24 is a metal roof leader pipe extended above ground from CB-06 and is not considered a culvert.
- CU-26 was a metal cap in the sidewall of CB-06. This metal cap was used to plug a previous drilled inlet and was installed at an unknown time. No culvert exists behind the cap.
- CU-27 was a metal cap in the sidewall of CB-06. This metal cap was used to plug a previous drilled inlet and was installed at an unknown time. No culvert exists

behind the cap.

These items were removed from the DIP scope of work as they did not require removal of sediment or repair.

3.3.2 Erosion and Sediment Controls

Temporary erosion and sediment controls were installed upon completion of the preliminary video and visual assessment of the catch basins and stormwater culverts. A compost filter sock was installed at the outfall of each stormwater culvert series in a U-shape and staked in the ground to capture the spread of sediment exiting the system during the jetting process and slow down the water velocity to reduce erosion potential.

3.3.3 Underground Utility Location

Base mapping of the Site prepared by C.T. Male included known underground utilities as compiled from available record drawings and site observations. Earthwork proposed within the DIP was performed at locations outside of the New York State Call Before You Dig clearance areas. As such, PIM was directed per the DIP to contract a private utility locator professional to identify underground utilities contained within the designated work areas as shown on Figure 4. Utility location and flagging was completed by Blood Hound, LLC prior to the initiation of earthwork.

3.3.4 Jetting and Vacuum Removal of Sediment

Upon completion of the preliminary video and visual assessment of the stormwater systems, the sediment deposition removal began. Sediment removal was completed with the use of a combination Vacuum/Jet truck and manual removal in accordance with industry standard techniques. Per the DIP, sediment removal was held to a performance standard defined as the removal of accumulated solids that impact the performance (i.e.,

flow constriction or stagnant water) of the drainage system.

A rear jetting head was sent up each stormwater culvert that required cleaning, beginning at either a catch basin or an outfall, then reeled back pushing the sediment towards the vacuum hose placed within the catch basin or outfall. The sediment from each culvert and catch basin was removed during this jetting and vacuum process and ultimately captured within the vacuum truck holding system. The sediment and water were separated within the holding system of the truck and containerized according to the IRM WP handling of investigative derived waste (IDW), which is further discussed in Section 3.7

Alternating multiple passes of jetting and video inspection were completed within each stormwater culvert to ensure that the performance standard was met.

Water for this scope of work was sourced from the Village of Hoosick Falls Department of Public Works water hydrant located on Water Works Road. A water recycling feature of the Vacuum/Jet truck was utilized to reduce overall water usage.

3.3.5 Post Cleaning Video and Visual Inspection

Following sediment removal from the catch basins and stormwater culverts, a post cleaning video and visual inspection was completed. Tables summarizing the findings of each culvert and catch basin are provided as Table 1 and 2, respectively. Upon review of these data, additional repairs beyond the original DIP scope of work were deemed necessary to meet the goals of the IRM WP. The following represents the additional list of components that required repair as part of Phase 2.

- CB-04 was allowing infiltration of water through substandard inlet/outlet connections and a core drill hole at the bottom of the structure.
- CB-06 was allowing infiltration of water through substandard inlet/outlet

connections and a core drill hole at the bottom of the structure.

- CB-09 was allowing infiltration of water through substandard inlet/outlet connections and a core drill hole at the bottom of the structure.
- CU-1 was a perforated 12″ high density polyethylene (HDPE) pipe allowing infiltration of water.
- CU-2 was a perforated 6″ HDPE pipe allowing infiltration of water and crushed in multiple locations.
- CU-4 had multiple sections of negative slope and was crushed in multiple locations allowing infiltration of water.
- CU-5 was comprised of a 12″ corrugated metal pipe (CMP) that transitioned poorly to a 16″ HDPE pipe section for the last 20-foot section. The bottom of the CMP section was significantly deteriorated allowing infiltration of water. The fill/gravel cover above the culvert was also determined to be inadequate at less than 6″ where the culvert crossed beneath the gravel parking area.
- CU-6 had a crushed outlet.
- CU-7 was a perforated 4″ schedule 40 PVC pipe allowing infiltration of water, crushed at the outlet point to CB-09, and had a negative slope.
- CU-8 was comprised of 12″ CMP that transitioned poorly to a 16″ HDPE pipe for the last 20-foot section. The fill/gravel cover above the culvert was also determined to be inadequate at less than 6″ where the culvert crossed beneath the gravel parking area.
- CU-13 had significant deterioration along the bottom allowing infiltration of water.
- CU-14 had been penetrated by a 6″ cast iron sewer pipe running perpendicular to the culvert and had significant deterioration along the bottom allowing infiltration of water.
- CU-16 was a perforated 4″ PVC pipe, had significant deterioration along the

bottom, and the inlet was cut flush at grade along the facility's exterior wall, not connected to a gutter downspout.

- CU-17 was crushed within 10' of its outlet to CB-02 allowing infiltration of water.
- CU-18 was crushed within 10' of its outlet to CB-02 allowing infiltration of water.
- CU-19 had multiple sections of negative grade.
- CU-23 contained a 20-foot section of pipe with a negative slope within the facility's southeast courtyard.

3.4 Phase 2 Construction

The primary objective of the DIP was the removal of sediment from the SDS to enable further investigation of the entirety of the system, which was not feasible during the RI and IRM WP evaluation stage. It was recognized during the development of the DIP that Phase 1 would likely identify required improvements beyond the initial scope of the DIP.

3.4.1 DIP Identified Repairs

The scope of repair and replacement work contained within the DIP included the replacement of four (4) catch basins (CB-02, CB-03, CB-05, & CB-07) and one (1) stormwater culvert CU-20. CB-02 was replaced in accordance with the DIP. For additional information on the repair and replacement of CB-03, CB-05, & CB-07 see Section 3.4.5 - DIP Phase 2 Deviations. Tables summarizing the repairs of each culvert and catch basin are provided as Table 1 and 2, respectively.

3.4.2 Repairs Completed in Addition to the DIP

Based on the findings of Phase 1, the scope of work was adjusted to include the following repairs.

- CB-04: A seamless monolithic waterproof membrane, OBIC 1000 Polyurea, was

applied to the catch basin.

- CB-06: A seamless monolithic waterproof membrane, OBIC 1000 Polyurea, was applied to the catch basin.
- CB-09: A seamless monolithic waterproof membrane, OBIC 1000 Polyurea, was applied to the catch basin.
- CU-1: The culvert was lined with a 12" fiberglass liner from Omega Liner Company and cured via ultraviolet light (UV).
- CU-2: A 30-foot section was replaced in the vicinity of monitoring wells MW03D and MW-4L. Upon completion of the repairs the perforated culvert was lined using a 6" felt liner from Inner Cure Technologies and cured via UV.
- CU-5: The 20-foot section of 16" HDPE was replaced with a 20-foot section of 12" HDPE to provide for an appropriate transition to the 12" CMP. The culvert was then lined with a 12" fiberglass liner from Omega Liner Company and cured via UV. Utilizing a previously approved imported fill material source, crushed stone was added to the parking area above the culvert. This in combination with the culvert diameter reduction provides an appropriate cover thickness to prevent culvert damage from live loads.
- CU-6: The damaged culvert outlet was replaced, and the outfall regraded to provide positive slope. A crushed stone pad was added to the outfall to limit the potential for soil erosion.
- CU-7: A 50-foot section from the outlet into CB-09 to the exterior wall of the facility was replaced with 4" schedule 40 PVC.
- CU-8: The 20-foot section of 16" HDPE was replaced with a 20-foot section of 12" HDPE to provide for an appropriate transition to the 12" CMP. Crushed stone was added to the parking area above the culvert. This in combination with the culvert diameter reduction provides an appropriate cover thickness to prevent culvert damage from live loads.
- CU-16: The stormwater culvert no longer provided a benefit to the SDS and was

therefore removed.

- CU-17: A 10-foot section was replaced beginning at the outlet to CB-02.
- CU-18: A 10-foot section was replaced beginning at the outlet to CB-02.
- CU-19: The flexible 6" HDPE pipe was replaced in its entirety utilizing a smooth interior solid wall 6" HDPE culvert with a positive slope from CB-02 to the outlet at CU-5.
- CU-23: A 20-foot section was replaced beginning at the outlet into CB-06 to achieve positive slope.

As stated above in section 3.3.5 Post Cleaning Video and Visual Inspection, CU-13 and CU-14 contained significant deficiencies including the intersection of a sewer line through the invert of CU-14; as such, CU-13, CU-14, CB-07, and CB-08 were replaced. CB-07 was replaced with a precast 36" catch basin and relocated 50' upstream. CB-08 was replaced with a precast 36" catch basin and relocated 10' upstream. Originally 12" CMP, CU-13 and CU-14 were replaced with two (2) 8" smooth interior HDPE culvert pipes set parallel to maintain positive pitch and create a vertical separation distance between the culverts and sewer line while still ensuring adequate flow during larger storm events. An 18" vertical separation distance was unachievable; therefore, a flowable fill was used to encapsulate the sewer line where the stormwater culverts crossed above.

3.4.3 EXCAVATION

Prior to excavation, underground utilities were located and flagged by Blood Hound LLC. Excavated materials used for backfilling above the pipe bedding and pipe backfill zones were stored on a minimum 20-millimeter poly liner and covered when not being used. Excavated native material was utilized as backfill to the extent practical in the same location it was removed from. Native material not utilized as backfill was placed in a lined roll-off container and handled as IDW, which is further discussed in Section 3.7.

3.4.4 Imported Fill Materials

Imported fill was limited to Number 2 clean crushed stone and utilized for pipe zone bedding, pipe zone backfill, concrete structure bedding, miscellaneous fill, and erosion and sediment control. The analysis of the imported stone indicated it was acceptable for use per the requirements of DER-10. C.T. Male completed NYSDEC form, "Request to Import / Reuse Fill or Soil, revised August 2014" and submitted the form, along with the gradation analysis, to the NYSDEC project manager for approval. The request form, including the gradation analysis, and approval from NYSDEC are provided as Appendix E.

3.4.5 DIP Phase 2 Deviations

The condition of CU-4 observed during Phase 1 was deemed unrepairable and a complete replacement is required from CB-03 to CU-4's connection with CU-5. The significant deficiencies (e.g., crushed sections and slope) of CU-4 were discovered to be located primarily under the facility's concrete floor footprint and would require Horizontal Direction Drilling techniques and processes beyond the capabilities of the selected DIP Contactor.

The DIP replacement design of CB-03, CB-05, and CU-20 was predicated on the functionality of CU-4. Therefore, the replacement of CB-03, CB-05, and CU-20 as proposed in the DIP and the replacement of CU-4 were removed from this scope of work. C.T. Male in conjunction with BEC are currently in the process of developing an engineering plan to replace this section of the SDS based upon these new design parameters. This plan will be designed and implemented in accordance with the IRM WP (C.T. Male and BEC, 2022).

3.5 Phase 3 Post Construction Video and Visual Inspection

Upon completion of the DIP scopes of work, video and visual inspections were completed to assess and document the post cleaning and as-built conditions of the SDS. Review of these data indicates that the work completed within the stormwater culverts and catch basins conforms to the IRM WP and DIP, additional work listed above, and industry standards. The post construction and post cleaning video logs of the stormwater system are provided in Appendix F.

3.6 Decontamination

A decontamination pad composed of a timber and plywood frame wrapped in a reinforced 20-millimeter (mil) poly liner was temporarily constructed on-site. In accordance with the IRM WP, equipment that came into contact with the Site solids and liquids was cleaned prior to demobilization. Cleaning was completed with shovels, brushes, and a high-pressure power washer. Through the combination of a low point and sump pump, generated liquids were captured in steel 55-gallon drums and transferred to the fractionization tanks located at the Saint-Gobain McCaffrey Street Site. Accumulated sediment, cleaning materials, plastic, timber, and drums were transferred to the solid waste roll-off containers on-site for subsequent disposal.

3.7 IRM Derived Waste Handling & Disposal

Investigative derived liquids consisting of water and trace sediment generated during the IRM were transferred to fractionization tanks located at the Saint-Gobain McCaffrey Street Site. Upon confirmation of the chemical analysis consistent with other generated IDW from the Site and approval from the NYSDEC, the liquids will be processed through the granular activated carbon treatment system located at McCaffrey Street Site and discharged to the ground surface in accordance with the McCaffrey Street IRM discharge-

equivalency permit.

Investigative derived solids consisting of soils, sediment, concrete, cleaning materials, plastic, timber, and drums generated during the IRM were containerized in six lined and covered roll-off containers located in the rear parking area of the Site. The roll-offs were staged at the Site in designated staging areas outlined in the DIP. Excess solids generated during excavation tasks were stockpiled and stored on a minimum 20-mil poly liner and later transferred to the roll-off containers. A minimum 20-mil poly liner was placed outside of the lined roll-offs and under the transferring equipment to contain any material spillage during the transfer process and then placed in the roll-offs and disposed of as IDW solids in accordance with the IRM WP.

As coordinated and performed by the Site Contractor, the material was sampled, analyzed, and profiled in accordance with State and Federal regulations, and transported to and disposed of at US Ecology of Michigan. See Appendix G for additional data, reports, and manifests pertaining to the material disposal.

3.8 Site Restoration

The Site was restored to pre-construction or improved conditions upon completion of construction activities. Disturbed areas were graded, seeded, and mulched. Erosion and sediment controls were removed, placed in the roll-offs, and disposed of as IDW solids in accordance with the IRM WP.

3.9 Record Plan Documentation

Survey work performed in conjunction with the IRM WP and DIP was completed by C.T. Male. Survey work included recording existing Site conditions for design and post construction drafting of Record Plan updates which include the revised horizontal and

vertical locations of the drainage system components and topographic mapping of four (4) courtyards. See Appendix H for Record Plan drawings.

4.0 REFERENCES

C.T. Male, 2016. Final Draft Site Characterization Work Plan, Saint-Gobain Performance Plastics Site, 1 Liberty Street, Village of Hoosick Falls, Rensselaer County, New York. C.T. Male Associates, April 6, 2016. Revised July 15, 2016.

C.T. Male and BEC, 2022. Interim Remedial Measure Work Plan for the Stormwater Drainage System. Saint-Gobain Performance Plastics Site, 1 Liberty Street, Village of Hoosick Falls, New York. Dated June 2021 (Revised January 2022).

New York State Department of Environmental Conservation (NYSDEC), 2010. DER-10/Technical Guidance for Site Investigation and Remediation. 226 p. Dated May 3, 2010.

New York State Department of Environmental Conservation (NYSDEC), 2021. Re: SGPP Liberty Street Interim Remedial Measure for the Stormwater Drainage System. Dated October 4, 2021.

New York State Department of Environmental Conservation (NYSDEC), 2022. Re: SGPP Liberty Street Interim Remedial Measure for the Stormwater Drainage System. Dated February 11, 2022.

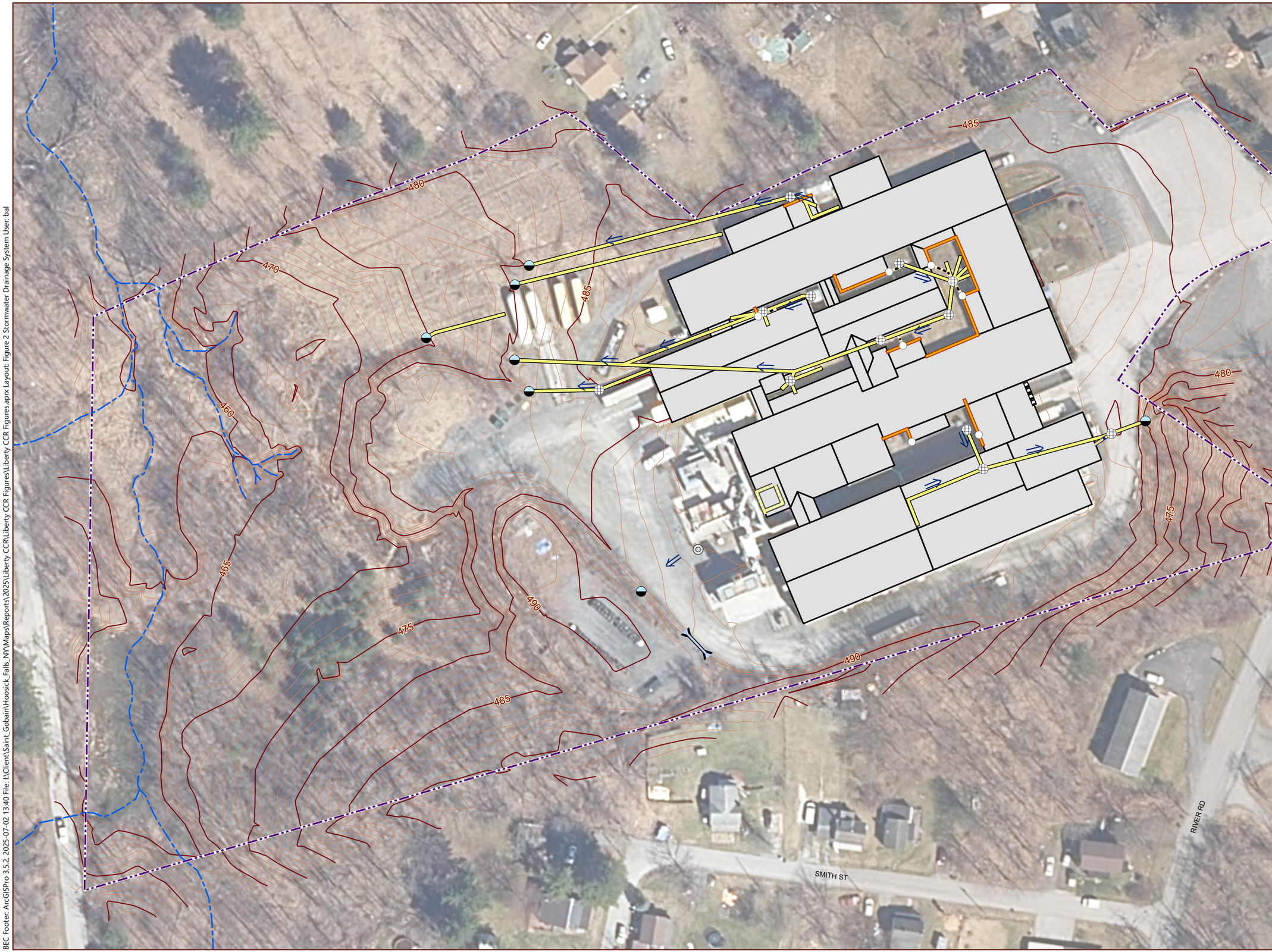
FIGURES

FIGURE 1

SITE LOCATION MAP

Liberty Street Site

Hoosick Falls, NY



Catch Basin
Downspout
Manhole
Outfall Location
Creek (Approximate)
Gutter
Downspout Extension
Storm Sewer Pipe
Storm Sewer Pipe (Presumed)
Trench Drain
Drain Trench (Above Grade)
Foundation Drain
Culvert
Storm Sewer Flow Direction
Building Outline
Approximate Saint Gobain Property Boundary
Index Elevation Contour
Intermediate Elevation Contour

Note - dashed lines show inferred features that have not been visually inspected.

Elevation Contours: CT Male Associates

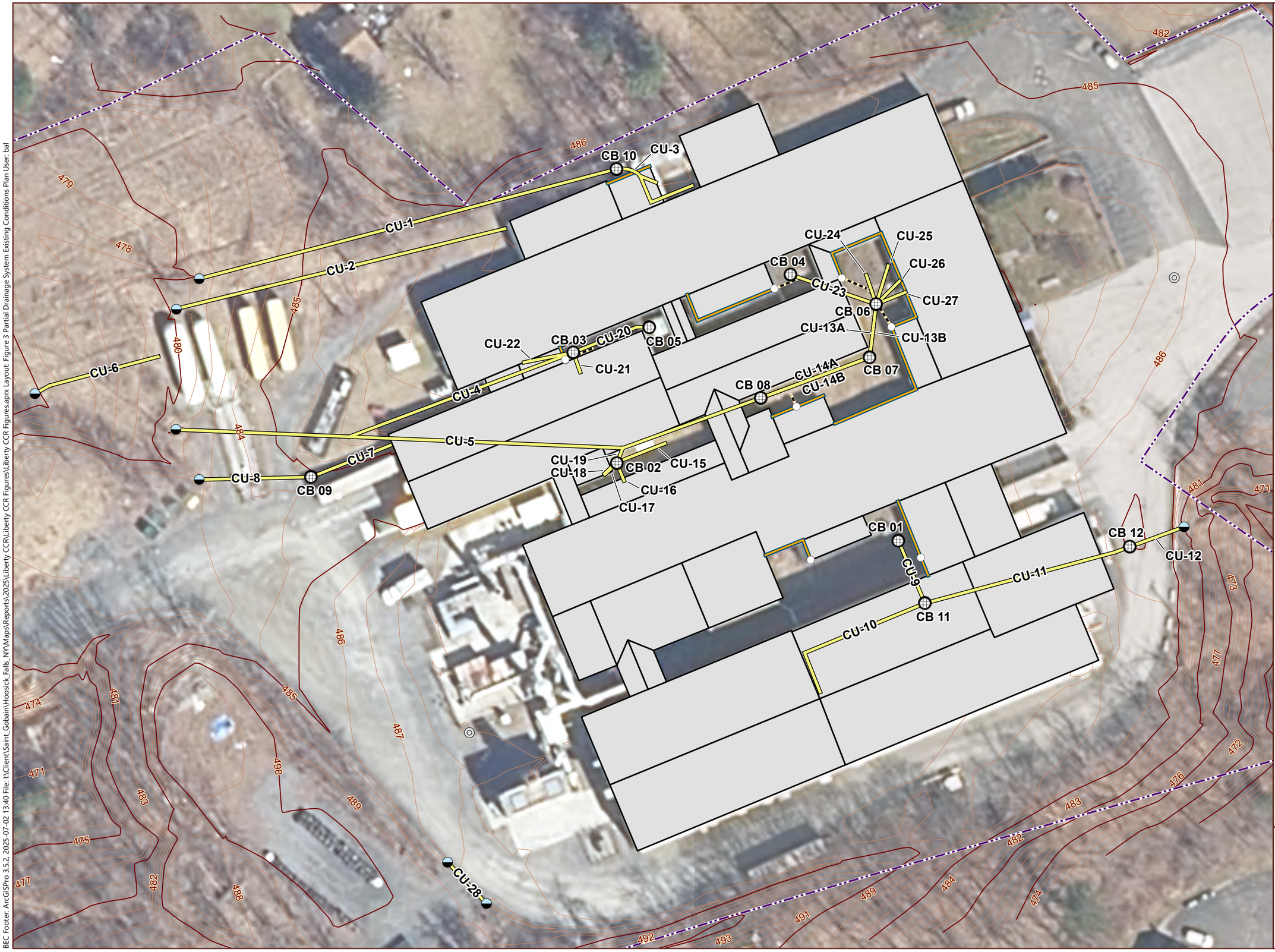
Aerial Imagery: State of New York 2021

0 40 80 120 160
Feet

FIGURE 2

STORMWATER DRAINAGE SYSTEM
Liberty Street Site
Hoosick Falls, NY

BEC Footer: ArcGISPro 3.5.2, 2025-07-02 13:40 File: I:\Client\Saint_Gobain\Hoosick_Falls_NY\Maps\Reports\2025\Liberty CCR\Liberty CCR Figures\Liberty CCR Figures.aprx Layout: Figure 2 Stormwater Drainage System User: bal



Catch Basin (CB)
Downspout
Manhole
Outfall Location
Storm Sewer Culvert (CU)
Gutter
Downspout Extension
Building Outline
Approximate Saint Gobain Property Boundary
Index Elevation Contour
Intermediate Elevation Contour

Elevation Contours: CT Male Associates

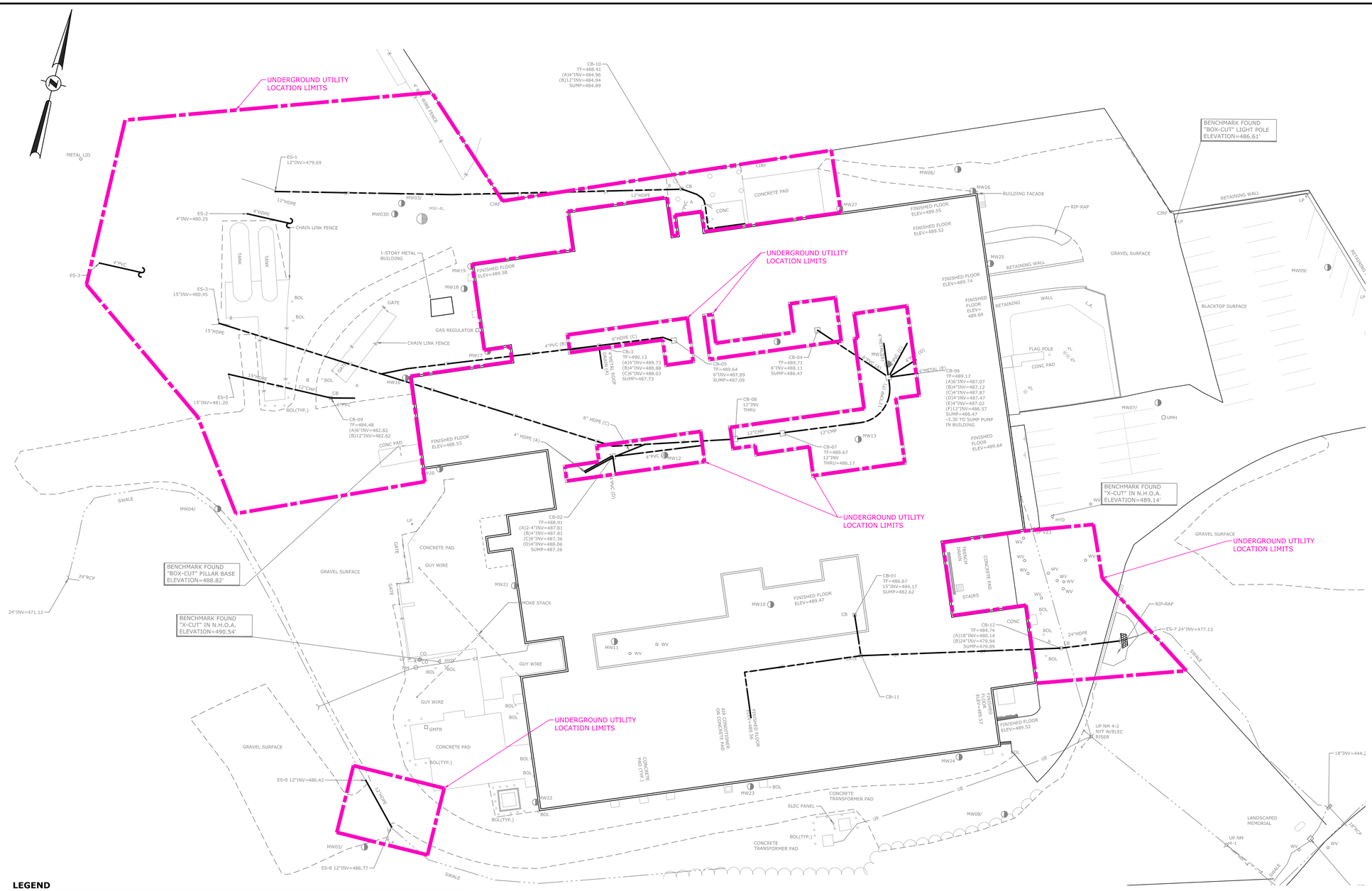
Aerial Imagery: State of New York 2021

0 25 50 75 100
Feet

FIGURE 3

PARTIAL DRAINAGE SYSTEM EXISTING CONDITIONS PLAN
Liberty Street Site
Hoosick Falls, NY

PROJECT NUMBER: 16.6132



LEGEND

EXISTING

BOL	BOLLARD
CIRF	CAPPED IRON ROD FOUND
CBS	CATCH BASIN
CO	CLEANOUT
GMTR	GAS METER
	GUY WIRE
HYD	HYDRANT
IRF	IRON ROD FOUND
LP	LIGHT POLE
UMH	UNKNOWN MANHOLE TYPE
UP	UTILITY POLE
UP	UTILITY POLE W/LIGHT
WV	WATER VALVE
HDPE	HIGH DENSITY POLYETHYLENE PIPE
PVC	POLYVINYL CHLORIDE PIPE
L.A.	LANDSCAPED AREA
	OVERHEAD WIRES
ST	STORM LINE
UE	UNDERGROUND ELECTRIC
MW03	LOCATION OF TEST BORING AND MONITORING WELL.
MW-4L	LOCATION OF MONITORING WELLS INSTALLED BY OTHERS IN 1996. WELLS TO BE USED TO OBTAIN WATER LEVELS ONLY. NO SAMPLING OF THESE WELLS (TYPICAL)

PROPOSED

	DRAINAGE AREA
	SUB-DRAINAGE AREA
ST	STORMWATER CULVERT
	CATCH BASIN
	EXISTING CULVERT TO BE INVESTIGATED, CLEANED, REPAIRED AND OR REPLACED
	UNDERGROUND UTILITY LOCATION WORK LIMITS

BAR SCALE
30 0 15 30 60
1 inch = 30 ft.

CAD DWG. FILE NAME: K:\Projects\166132\Civil\00_Drawings and Maps\01_Drainage Improvements\DIP CCR FIGURE 4.dwg

CHARLES R. KORTZ
P.E. NO. 081516

DATE		REVISIONS RECORD/DESCRIPTION	DRAFTER	CHECK	APPR.
	1				
	2				
	3				
	4				
	5				
	6				
	7				
	8				
	9				

DESIGNED: MLS
DRAFTED : MLS
CHECKED : CRK
PROJ. NO : 16.6132
SCALE : AS NOTED
DATE : MAY 1, 2023

FIGURE 4
UNDERGROUND UTILITY LOCATION LIMITS PLAN

SAINT-GOBAIN PERFORMANCE PLASTICS CONSTRUCTION COMPLETION REPORT

VILLAGE OF HOOSICK FALLS — RENSSELAER COUNTY, NEW YORK

C.T. MALE ASSOCIATES
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FIG-4
SHEET 01 OF 01
DWG. NO:

TABLES

TABLE 1
SUMMARY OF DRAINAGE IMPROVEMENT PLAN
PHASE 1 AND 2 ACTIONS - CULVERTS
LIBERTY STREET IRM CCR
HOOSICK FALLS, NEW YORK

DRAINAGE IMPROVEMENT PLAN (DIP)					
CULVERT	PHASE 1		PHASE 2	DEVIATION	RESULT
	OBSERVATIONS	EVALUATIONS/FINDINGS	REPAIR/REPLACEMENT		
CU-1	Perforated 12” HDPE pipe	Potential infiltration/exfiltration of water	12” diameter fiberglass liner, cured by ultraviolet light	N/A	Reduced water from leaking or entering culvert
CU-2	Perforated 6” HDPE pipe and crushed in multiple locations	Potential infiltration/exfiltration of water and obstruction of flow	Replaced 30-foot section and lined using a 6” felt liner and cured by ultraviolet light.	N/A	Reduced water from leaking or entering culvert and restored flow
CU-3	Functioning as Intended	No Further Action Required	N/A	N/A	N/A
CU-4	Multiple sections of negative slope and crushed in multiple locations	Potential infiltration/exfiltration of water and obstruction of flow	N/A	The significant insufficiencies (e.g., crushed sections and slope) were located primarily under the facility’s concrete floor footprint and potentially require horizontal direction drilling techniques and processes beyond the capabilities of the contactor.	Re-evaluate for potential future scope of work.
CU-5	12” CMP that transitioned poorly to 16” HDPE pipe section for the last 20-foot section. The bottom of the CMP section was significantly deteriorated. The fill/gravel cover above the culvert was also determined to be inadequate at less than 6” where the culvert crossed beneath the gravel parking area.	Potential infiltration/exfiltration of water and obstruction of flow	Replaced 16” HDPE with 12” HDPE; 12” fiberglass liner and cured by ultraviolet light; and added crushed stone to the parking area above the culvert.	N/A	Reduced water from leaking or entering culvert; restored flow; and restored proper cover
CU-6	Crushed outlet	Potential obstruction of flow	Replaced outlet; regraded the outfall; and aded crushed stone pad at the outfall	N/A	Restored postive slope and flow, and limited future erosion
CU-7	Perforated 4” schedule 40 PVC pipe; crushed at the outlet point to CB-09; and had a negative slope.	Potential infiltration/exfiltration of water and obstruction of flow	Replaced 50-foot section from the outlet into CB-09 to the exterior wall of the facility with 4” schedule 40 PVC.	N/A	Reduced water from leaking or entering culvert and restored postive slope and flow

TABLE 1
SUMMARY OF DRAINAGE IMPROVEMENT PLAN
PHASE 1 AND 2 ACTIONS - CULVERTS
LIBERTY STREET IRM CCR
HOOSICK FALLS, NEW YORK

DRAINAGE IMPROVEMENT PLAN (DIP)					
CULVERT	PHASE 1		PHASE 2	DEVIATION	RESULT
	OBSERVATIONS	EVALUATIONS/FINDINGS	REPAIR/REPLACEMENT		
CU-8	12” CMP that transitioned poorly to a 16” HDPE pipe for the last 20-foot section. The fill/gravel cover above the culvert was also determined to be inadequate at less than 6” where the culvert crossed beneath the gravel parking area.	Potential infiltration/exfiltration of water and obstruction of flow	Replaced 16” HDPE with 12” HDPE and added crushed stone to the parking area above the culvert.	N/A	Reduced water from leaking or entering culvert; restored flow; and restored proper cover
CU-9	Functioning as Intended	No Further Action Required	N/A	N/A	N/A
CU-10	Functioning as Intended	No Further Action Required	N/A	N/A	N/A
CU-11	Functioning as Intended	No Further Action Required	N/A	N/A	N/A
CU-12	Functioning as Intended	No Further Action Required	N/A	N/A	N/A
CU-13	Significant deterioration along the bottom of culvert.	Potential infiltration/exfiltration of water and obstruction of flow	Replaced with two (2) 8” smooth interior HDPE pipes	N/A	Reduced water from leaking or entering culvert and restored flow
CU-14	Penetrated by a 6” cast iron pipe running perpendicular to the culvert and significant deterioration along the bottom.	Potential infiltration/exfiltration of water and obstruction of flow	Replaced with two (2) 8” smooth interior HDPE pipes	N/A	Reduced water from leaking or entering culvert; restored flow; and restored proper separation from cast iron pipe
CU-15	Functioning as Intended. Installed in close proximity to CB-02 and CU-19.	Unintenially damage during replacement of CB-02 and CU-19.	Replaced 30-foot section	N/A	Replaced existing culvert.
CU-16	Perforated 4” PVC pipe with significant deterioration along the bottom. The inlet was cut flush at grade along the facility’s exterior wall, not connected to a gutter downspout.	Potential infiltration/exfiltration of water	Removed	N/A	Reduced water from leaking or entering culvert.
CU-17	Crushed in multiple locations	Potential infiltration/exfiltration of water and obstruction of flow	Replaced 10-foot section	N/A	Reduced water from leaking or entering culvert and restored flow
CU-18	Crushed in multiple locations	Potential infiltration/exfiltration of water and obstruction of flow	Replaced 10-foot section	N/A	Reduced water from leaking or entering culvert and restored flow

TABLE 1
SUMMARY OF DRAINAGE IMPROVEMENT PLAN
PHASE 1 AND 2 ACTIONS - CULVERTS
LIBERTY STREET IRM CCR
HOOSICK FALLS, NEW YORK

DRAINAGE IMPROVEMENT PLAN (DIP)					
CULVERT	PHASE 1		PHASE 2	DEVIATION	RESULT
	OBSERVATIONS	EVALUATIONS/FINDINGS	REPAIR/REPLACEMENT		
CU-19	Flexible 6” HDPE pipe, multiple sections of negative grade	Potential of obstruction of flow	Replaced with a smooth interior solid wall 6” HDPE pipe with a positive slope.	N/A	Restored postive slope and flow
CU-20	Full of sediment.	Potential of obstruction of flow	N/A	Removed from Scope of Work after Phase 1 assesment of CU-4.	Re-evaluate for potential future scope of work.
CU-21	4” PVC roof leader pipe extending above ground and is not considered a culvert.	No Further Action Required	N/A	N/A	N/A
CU-22	4" PVC pipe connected to a sealed floor drain within the facility's building footprint.	No Further Action Required	N/A	To be disconnected from CB-03, sealed, and capped during future repair work.	Re-evaluate for potential future scope of work.
CU-23	Contained a 20-foot section of pipe with a negative slope	Potential of obstruction of flow	Replaced 20-foot section	N/A	Restored postive slope and flow
CU-24	Metal roof leader pipe extending above ground and is not considered a culvert.	No Further Action Required	N/A	N/A	N/A
CU-25	4" schedule 40 PVC pipe connecting the buiding's footing drain to CB-06. Funtioning as Intended.	No Further Action Required	N/A	N/A	N/A
CU-26	Metal cap was mistaken as culvet in the sidewall of CB-06. No culvert exists behind the cap.	No Further Action Required	N/A	N/A	N/A
CU-27	Metal cap was mistaken as culvet in the sidewall of CB-06. No culvert exists behind the cap.	No Further Action Required	N/A	N/A	N/A
CU-28	Functioning as Intended	No Further Action Required	N/A	N/A	N/A

Notes:
DIP denotes Drainage Improvement Plan
CB denotes catch basin
CU denotes culvert
CMP denotes corrugated metal pipe
HDPE denotes high density polyethylene
PVC denotes polyvinyl chloride

TABLE 2
SUMMARY OF DRAINAGE IMPROVEMENT PLAN
PHASE 1 AND 2 ACTIONS - CATCH BASINS
LIBERTY STREET IRM CCR
HOOSICK FALLS, NEW YORK

DRAINAGE IMPROVEMENT PLAN (DIP)					
CATCH BASIN	PHASE 1		PHASE 2	DEVIATION	RESULT
	OBSERVATIONS	EVALUATIONS/FINDINGS	REPAIR/REPLACEMENT		
CB-01	Functioning as Intended	No Further Action Required	N/A	N/A	N/A
CB-02	Identified for Replacement in the DIP	Potential infiltration/exfiltration of water	Replaced	N/A	Reduced water from leaking or entering culvert.
CB-03	Identified for Replacement in the DIP, Structure Compromised	Potential infiltration/exfiltration of water	N/A	Removed from DIP construction scope after Phase 1 assessment of CU 4.	Re-evaluate for potential future scope of work.
CB-04	Substandard inlet/outlet connections and a core drill hole at the bottom of the structure.	Potential infiltration/exfiltration of water	A seamless monolithic waterproof membrane was applied to the structure.	N/A	Reduced water from leaking or entering culvert.
CB-05	Identified for Replacement in the DIP	Potential infiltration/exfiltration of water	N/A	Removed from DIP construction scope after Phase 1 assessment of CU 4.	Re-evaluate for potential future scope of work.
CB-06	Substandard inlet/outlet connections and a core drill hole at the bottom of the structure.	Potential infiltration/exfiltration of water	A seamless monolithic waterproof membrane was applied to the structure.	N/A	Reduced water from leaking or entering culvert.
CB-07	Identified for Replacement in the DIP, No Bottom	Potential infiltration/exfiltration of water	Replaced	Replaced in an alternative location to accommodate the replacement of CU-13 and CU-14.	Reduced water from leaking or entering culvert.
CB-08	Functioning as Intended	No Further Action Required	Replaced	Replaced in an alternative location to accommodate the replacement of CU-13 and CU-14.	Reduced water from leaking or entering culvert.
CB-09	Substandard inlet/outlet connections and a core drill hole at the bottom of the structure.	Potential infiltration/exfiltration of water	A seamless monolithic waterproof membrane was applied to the structure.	N/A	Reduced water from leaking or entering culvert.
CB-10	Functioning as Intended	No Further Action Required	N/A	N/A	N/A
CB-11	Functioning as Intended	No Further Action Required	N/A	N/A	N/A
CB-12	Functioning as Intended	No Further Action Required	N/A	N/A	N/A

Notes:
DIP denotes Drainage Improvement Plan
CB denotes catch basin
CU denotes culvert
N/A denotes not applicable

APPENDICES

Appendix A
Drainage Improvement Plan

Appendix B
NYSDEC Agency Approval Correspondence

Appendix C

Daily Construction Observation Report and Photos

Appendix D
CAMP Field Data

Appendix E
Summary of Imported Material Testing

Appendix F
Post-Cleaning and Construction Video Logs

Appendix G
IRM Derived Solid Waste Disposal Data

Appendix H
Record Plan Drawings