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January 19, 2017

Scott Foti, P.E.
Regional Engineer
New York State Department of Environmental Conservation-Region 8
6274 East Avon-Lima Road
Avon, New York 14414

Re: Lockwood Hills LLC Consent Order Case No. R8-20140710-47
Construction Report and Record Drawings
Leachate Flow Metering System and Stormwater Separation Construction

Dear Mr. Foti:

During the 2016 construction season, Lockwood Hills LLC and their contractor (City Hill Construction) substantially completed work identified in the Department approved Leachate Flow Metering Plan and Stormwater Separation Plan as detailed in the accompanying Construction Report and Record Drawings. As recognized in the Department's October 13, 2016 correspondence; the remaining work pertaining to the stormwater management system (construction of Sediment Basin 2 and west/northwest channels) will be completed no later than November 1, 2017. A complete list of the remaining tasks identified during construction observation is included in Section 5 of the Construction Report.

Please feel free to contact me at 716-773-6872 Ext. 205 or by email jim@jadenvegr.com if you have any further questions or comments.

Sincerely,

DAIGLER ENGINEERING, PC

James A. Daigler, P.E.
NYSPE License No. 061689

cc: Mark Domagola (NYSDEC)
Greg MacLean, P.E. (NYSDEC)
Yasmin Guevara (NYSDEC)
Dale Irwin (Lockwood Hills)

Attachments: (1) Construction Report and Record Drawings

CONSTRUCTION REPORT

Leachate Flow Metering System & Stormwater Separation Construction

LOCKWOOD ASH DISPOSAL SITE

Prepared on behalf of:

Lockwood Hills LLC
590 Plant Road
P.O. Box 187
Dresden, New York 14441

Prepared by:

DAIGLER ENGINEERING, P.C.
CIVIL & GEO-ENVIRONMENTAL ENGINEERING
2620 Grand Island Blvd.
Grand Island, New York 14072-2131

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CONSTRUCTION REPORT
Leachate Flow Metering System &
Stormwater Separation Construction

Lockwood Hills LLC

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1 INTRODUCTION

The Greenidge Generating Station (Station) is an electric generating plant located on the west shore of Seneca Lake near the Village of Dresden in the Town of Torrey, Yates County, New York. Coal combustion byproducts (CCBPs) produced by the plant during historic coal-fired operations including fly ash, bottom ash, water/wastewater sludge and mill rejects had been disposed at the Lockwood Ash Disposal Site (Landfill), located on Swarthout Road, across NYS Route 14 from the Station.

The Landfill is owned and managed by Lockwood Hills LLC (Lockwood Hills). The Station has been idle since the spring of 2011 and the Landfill has been placed in protective layup in general accordance with the Layup Plan prepared by Daigler Engineering, PC (DE) and submitted to the New York State Department of Environmental Conservation (NYSDEC or the Department) in May 2011. With the exception of a minor volume of waste disposed in 2015 associated with cleanup activity at the Station, the Landfill has been inactive and largely under intermediate cover.

2 BACKGROUND

Effective February 18, 2015, Lockwood Hills agreed to execute a Consent Order (Case No. R8-20140710-47) with the NYSDEC to, in part, segregate stormwater flows from leachate flows and to treat and dispose of the leachate onsite or at an appropriate offsite facility. An amendment of the schedule contained in the Lockwood Hills Consent Order was issued by the NYSDEC on February 24, 2016. The amendment postponed the design of the leachate management system to allow for the collection of leachate flow measurements, while moving forward with the design and construction of a separate stormwater management system.

On January 29, 2016, DE provided the NYSDEC with a plan to measure and record the volume and rate of leachate discharge to the Leachate Pond, referred to herein as the Leachate Flow Monitoring Plan. This plan was revised March 21, 2016 and received final approval after satisfying NYSDEC comments received March 31, 2016, April 7, 2016, and April 14, 2016. The modifications to the leachate sewer system, and installation of the leachate flow metering equipment and appurtenances was completed in June 2016. The flow meter began recording instantaneous and totalized flow measurements on July 1, 2016.

At the request of the Department, Stormwater Separation Plan construction drawings and design calculations were submitted March 15, 2016, and in the interest of addressing comments received March 31, 2016, the plan was revised and resubmitted June 16, 2016. Plan approval was received on August 16, 2016 after correspondence dated July 26, 2016 satisfied the Department's July 11, 2016 concerns in regards to the freezing of leachate flow and appropriate groundwater drain discharge invert elevations.

Furthermore, it was agreed by the Department in correspondence dated October 13, 2016 that a portion of the approved Stormwater Separation Plan construction may be deferred and completed no later than November 1, 2017. This deferred portion includes the planned work on the west side of the site including modifications to Sediment Basin 2 and associated drainage channels. In accordance with this agreement, work satisfying the primary purpose of the Consent Order; that is, to segregate stormwater from leachate by rerouting stormwater to Sediment Basin 1 rather than to the Leachate Pond, was completed on October 25, 2016, prior to the November 1, 2016

Consent Order deadline. The remaining work pertaining to the Stormwater Separation Plan including the installation of the outlet control structure, final grading, and stabilization of the site was completed on November 18, 2016.

The purpose of this report is to provide record information for the work done to date per the Leachate Flow Monitoring Plan and the Stormwater Separation Plan.

2.1 ORGANIZATION OF INVOLVED PARTIES

Construction work detailed in the Leachate Flow Monitoring and Stormwater Separation Plan was completed by City Hill Construction (City Hill) of Penn Yan, New York, with efforts supervised by Greenidge Generation LLC (Greenidge) of Dresden, New York. Daigler Engineering, P.C. (DE) of Grand Island, New York served as the design engineer and completed nine site visits during the course of project construction (two for the Leachate Flow Monitoring Plan and seven for the Stormwater Separation Plan) to conduct routine observations and obtain documentation of completed work. Greenidge retained Willson & Associates, P.C (Willson) of Penn Yan, New York to obtain record survey measurements of the completed work as reflected on the Record Drawings provided in Attachment 1. Leachate flow monitoring equipment was set-up and calibrated by RL Stone Company, Inc. of Penfield, New York.

Claims presented in this report are as observed and/or measured directly by DE staff, as reported by City Hill and/or Greenidge, or interpreted from record survey information obtained from Willson.

3 LEACHATE FLOW METERING SYSTEM

Leachate flow metering equipment capable of measuring and recording instantaneous leachate flowrates and accumulating totalized flow values has been installed at the Landfill. The supporting leachate sewer system was reconfigured by City Hill and two site visits were completed by DE to observe and document the work.

Installation of the Leachate Flow Monitoring System required modification to the Landfill's existing leachate sewer system. The modified system is detailed herein, and is shown on Record Drawing (RD)-1 in Attachment 1. Photographs documenting the work are provided in Attachment 2. Daily Construction Reports documenting visits by DE staff are provided in Attachment 3.

3.1 MODIFICATION TO LEACHATE SEWER SYSTEM

One Leachate Meter Pit (Meter Pit) and two manholes (MH COMMON-1 and MH OADS-3) manufactured by Kistner Concrete Products, Inc. of East Pembroke, New York, were installed to support the modifications to the leachate sewer system. The installation of the Meter Pit and MH COMMON-1 was completed prior to modifying the existing leachate sewer system piping. Excess earthen material excavated for the placement of manholes and pipes was stockpiled onsite for future backfilling and grading efforts. The project area was graded with the remaining excavated soil following the installation of all planned components such that the temporary stockpiles were removed. The site was stabilized by permanent seeding following backfilling efforts. Magnetically detectable tape reading "STORM DRAIN" was installed along all new eight-inch PVC pipe alignments.

Rubber boots were embedded by Kistner Concrete in the new manholes and Meter Pit to help ensure a watertight connection between the pipes and manhole walls. The existing 12-inch schedule 40 PVC leachate pipe inlet to MH OADS-3 is an exception. The elevation of this existing pipe was lower than indicated on the record survey used for design, requiring City Hill to abandon the manufactured inlet and rubber boot. Mortar was used to plug the pre-formed inlet, and provide a seal between the manhole and existing 12-inch pipe installed through the newly cut inlet.

MH COMMON-1 and MH OADS-3 are equipped with a standard iron frame and cover (EJ 3771Z frame and EJ 1203 cover). The Meter Pit is equipped with an EJ compression assembly including a ¼-inch wide neoprene gasket to provide a watertight seal. The shop drawings for manhole frames, covers, and the compression assembly are provided in Attachment 4.

3.1.1 Leachate Meter Pit

A six-foot diameter, 4.6-foot deep concrete meter pit with seven-inch thick walls was installed east of the Leachate Pond. A Virtual Polymer Compounds Large 60-Degree V Trapezoidal Flume (flume) was placed in the base of the Meter Pit and was secured with mortar. The Flume was determined level both perpendicular and parallel to leachate flow by City Hill. Leachate flow to the Meter Pit enters via an eight-inch diameter schedule 80 PVC pipe at invert elevation 556.84 from MH COMMON-1. Leachate is discharged through a 15-foot long, eight-inch diameter schedule 80 PVC pipe at a slope of 0.012 feet/feet from the Meter Pit at invert elevation 556.82 to the Leachate Pond at invert elevation 556.64 (Photo 14). The operation of the leachate flow metering system is summarized in Section 3.2.

As indicated above, City Hill installed the flume level. This results in a laminar flow profile as observed by DE personnel (Photo 16). The schedule 40 PVC outlet pipe stub invert is flush with the invert of the schedule 80 PVC pipe that discharges to the Leachate Pond.

3.1.2 Manhole MH COMMON-1

A four-foot diameter, 5.3-foot-deep concrete manhole, MH COMMON-1, with five-inch thick walls serves as a common collection point for leachate prior to discharging at elevation 556.99 to the Meter Pit through a 19-foot long, eight-inch diameter schedule 80 PVC pipe sloped at 0.008 feet/feet. This pipe was left partially exposed, crossing through an existing asphalt lined channel conveying stormwater from the Landfill to the Leachate Pond (Photo 13). The exposed condition was temporary as modification to the stormwater management system further detailed in Section 4, eliminated the need for this channel.

Leachate inflow to MH COMMON-1 originates from two locations; from the modified MH I/II/S-1 discharging into MH COMMON-1 from the east at invert elevation 557.17 and from MH OADS-3 discharging into MH COMMON-1 from the south at invert elevation 556.99. Flow

from both inlet locations is conveyed west by paved inverts formed into the base of the manhole using mortar (Photo 7).

3.1.3 Manhole MH OADS-3

A four-foot diameter, 5.8-foot deep concrete manhole, MH OADS-3, with five-inch thick walls was installed south of MH COMMON-1 to direct leachate from the Original Ash Disposal Site (OADS) to MH COMMON-1. The placement of this manhole required City Hill to modify the existing 12-inch diameter schedule 40 PVC leachate pipe from the OADS by cutting the pipe directly upgradient of an existing 90-degree elbow, thereby directing flow into MH OADS-3 at invert elevation 559.13. The pre-existing 12-inch diameter leachate sewer pipe downgradient of the existing elbow was removed. The base of the manhole was paved with mortar forming a sloped invert terminating three inches below the invert of the 12-inch inlet pipe, channeling leachate to the new eight-inch diameter schedule 80 PVC outlet pipe at invert elevation 557.84 (Photo 10). Flow between MH OADS-3 and MH COMMON-1 is afforded by an 81-foot long schedule 80 PVC pipe sloped at 0.010 feet/feet, with additional protection afforded by a 12-inch diameter schedule 80 PVC casing as shown on sheet RD-4.

The installation of the eight-inch diameter leachate pipe and 12-inch casing from MH OADS-3 required the removal of the pre-existing 36-inch diameter concrete culvert. This culvert formerly discharged stormwater from the square concrete manhole (former common collection point for stormwater conveyed from the east channel and downchute) to an open channel conveying stormwater to Sediment Basin 1. Consequently, the placement of this pipe temporarily prevented stormwater from freely flowing downstream to the sediment basin, forcing stormwater to collect in the concrete manhole until the depth reached approximately 12 inches. This condition was temporary and the invert of the channel at this pipe crossing was later elevated as detailed in Section 4.

The 12-inch PVC casing terminates approximately 46 feet downgradient of MH OADS-3. At this location, the temporarily exposed eight-inch diameter PVC pipe crossed through the existing stormwater drainage channel (Photo 11). Much like the eight-inch PVC crossing between MH COMMON-1 and the Meter Pit as described in Section 3.1.2, the exposed condition at the casing

termination was temporary as modification to the stormwater management system was completed (Section 4), eliminating the need for this channel.

Upon inspection on November 30, 2016, it was discovered that fill and mulch material was placed above the cover of MH OADS-3, concealing its location. It was agreed upon by City Hill and Greenidge that the manhole cover will be uncovered and washed free of obstructing material during the deferred construction phase of the Stormwater Separation Plan.

3.1.4 Manhole I/II/S-1

The existing manhole MH I/II/S-1, is located east of MH COMMON-1 and receives leachate from the geosynthetic lined Stage I and Stage II of the Landfill via a 21-inch diameter schedule 40 PVC pipe at invert elevation 558.51. This manhole also receives leachate from an underdrain beneath the inactive sludge storage basin via a six-inch diameter schedule 40 PVC pipe at invert elevation 558.57. The former system discharged leachate from this manhole through a 21-inch leachate sewer pipe to the Leachate Pond. The modified leachate pipe alignment to MH COMMON-1 required the removal of the initial ten feet of this 21-inch diameter sewer pipe for the installation of the new eight-inch diameter schedule 80 PVC pipe, placed in the former 21-inch pipe outlet location. The annular space between the eight-inch pipe and MH I/II/S-1 was sealed with mortar. Leachate now discharges from MH I/II/S-1 at invert elevation 558.53 to MH COMMON-1 via a 157-foot long schedule 80 PVC pipe sloped at 0.009 feet/feet. The remaining length of the former 21-inch diameter leachate discharge pipe was abandoned in place.

3.2 Flow Meter and Flume

The Greyline Instruments, Inc. Open Channel Flow (OCF) Monitoring System is comprised of an ultrasonic level sensor (OCF Sensor) and display monitor (OCF Monitor). The Meter Pit houses the OCF Sensor positioned on a stainless-steel bracket above the flume approach as shown in Photo 16.

In summary, the OCF Sensor directly measures distance between the bottom of the sensor and leachate fluid surface (range) and subtracts the value from a user input max range (distance from the bottom of the sensor to the floor of the flume approach set as 20.0 inches by RL Stone during initial calibration) to calculate a flow depth. The OCF Monitor then uses the depth of flow to

calculate a flowrate in gallons per minute. A staff gauge is built into the side of the flume (seen in Photo 2) to assist in the manual verification of the OCF sensor's range during calibration efforts. Technical specifications for the OCF Monitor and Flume are provided in Attachment 5.

3.3 SOLAR POWER SYSTEM

A cable from the OCF Sensor (power and signal) is routed through the meter pit wall and underground through ¾-inch diameter schedule 40 PVC conduit and fittings. This conduit daylights 4.5 feet south of the meter pit where it is directed through the bottom of a lockable NEMA 3R Ameresco BBA-3 Battery Box (Battery Box). The cable is then wired to the OCF Monitor, housed separately in a NEMA4X enclosure within the Battery Box (Photo 15).

The solar power system (installed by City Hill) was sized by Ameresco, Inc. (Ameresco) of Baltimore, Maryland. This system consists of two SCP 121100 rechargeable lead acid batteries charged by two 140J Ameresco 140 Watt solar power panels (Photo 18) fitted with a Morningstar ProStar charge controller, Eaton FAZ-C6/1-NA-SP miniature circuit breaker, and Copper Bussman BPHA24D24LV surge protector. The solar power system has the capacity to support five days of runtime with no sun[1].

[1] As reported by representatives from Ameresco.

4 STORMWATER SEPARATION

Per the Consent Order, modifications to the Landfill's stormwater management system were required to reroute stormwater formerly discharged to the Leachate Pond. This included increasing the size of Sediment Basin 1, constructing Forebay 1, and widening the North Channel (Reach 12) to accommodate the additional diverted flow. The Junction Area northeast of the Landfill (Reach 10 and 11) was modified to divert stormwater to Sediment Basin 1. Temporary and permanent erosion and sediment controls were installed to control the offsite migration of sediment during runoff events. The modified stormwater management system is illustrated on the Record Drawings in Attachment 1. Photographs depicting the work are provided in Attachment 2 and Daily Construction Reports documenting observations conducted during visits by DE staff are provided in Attachment 3.

4.1 EROSION AND SEDIMENT CONTROLS

The integrity of erosion and sediment controls were observed during DE site visits. Deficiencies (e.g., broken posts, insufficient post embedment, accumulated sediment) and/or installation inconsistent with specifications provided on CD-8 were brought to the attention of City Hill contractors. In general, City Hill utilized a silt fence with a 3.5-foot high post and a 2.9-foot high geotextile fence. As determined by observations and measurements made throughout the project, the geotextile fence, as installed, measured between 2.2 and 2.4 feet with a corresponding post height between 2.3 and 2.5 feet. The geotextile fence embedment depth was determined between 0.5 and 0.7 feet and a post embedment depth between 1.0 and 1.2 feet, providing sufficient resistance to pullout. Silt fence was installed with posts spaced five to seven feet apart.

There were two areas of the project site where silt fence was installed. The first area includes the ridge to the north of Sediment Basin 1 (Photo 19-20), preventing sediment migration into the Leachate Pond discharge channel (State Pollutant Discharge Elimination System (SPDES) Outfall 001). Following the construction of Sediment Trap 1 (Photo 21-24), this silt fence became redundant as Sediment Trap 1 was sized and constructed appropriately to intersect potentially migrating sediment from areas tributary to the silt fence.

The second area is located directly east of the Leachate Pond. Silt fence was installed in lieu of constructing Sediment Trap 2 as indicated on CD-2 and CD-5 of the Stormwater Separation Plan Construction Drawings. The soil stockpile area was relocated south of the planned location and silt fence was installed generally following the elevation 560 contour (Photo 25). This was determined an effective alternative, as constructing Sediment Trap 2 would further increase construction efforts and the extent of disturbed area requiring stabilization following project completion.

Sediment Trap 1 was observed throughout the project duration and was constructed in general accordance with specifications detailed on CD-8 of the Stormwater Separation Plan drawings. A record survey of the trap is provided on RD-2[2]. Based on measurements taken by DE staff, the trap outlet includes a one-foot deep weir with a bottom width of 5.1 feet. The sides of the weir consist of an approximate 1.3:1 (horizontal:vertical) slope extending to the top width of the weir opening measuring 7.6 feet wide. Both the weir and 10-foot long apron was lined with stone fill (detailed in Section 4.2).

4.2 STONE FILL

Per the Stormwater Separation Plan Construction Drawings, stone fill specified on CD-9 as NYSDOT 620-2.02 Light Stone Filling Type II (light stone fill) and Medium Stone Filling Type III (medium stone fill) was obtained from Hansen Pit located on Hansen Point Road in Penn Yan, New York, owned and operated by City Hill Aggregates LLC of Penn Yan, New York. Each stone type was delivered to the site and stockpiled (Photo 27-30) separately. The stockpiles were observed and approved by DE personnel prior to placement.

Upon final inspection, stone placed in the Junction Area, Forebay 1, and downchute appeared of a smaller gradation than initially observed during stockpiling, falling below the minimum

[2] As noted on RD-2, the record ground surface of the sediment trap was obtained on December 1, 2016. At that time, Sediment Trap 1 contained stormwater from a recent runoff event that resulted in completely full wet storage volume, preventing access to the floor of the sediment trap for record survey. The record survey at the location of the trap is assumed to be representative of the surface corresponding to the wet storage volume. The depth of the trap presented on RD-2 is based on field measurements by Daigler Engineering personnel. This sediment trap is temporary and will be removed following the deferred construction phase of the Stormwater Separation Plan. The regraded ground surface in the area of Sediment Trap 1 will be appropriately surveyed for record purposes once Sediment Trap 1 is removed.

specified size. Stone sizing calculations used in the design were modified with the record sizes and slopes, including a conservatively selected D_{50} stone size based on observations. In the downchute, the maximum allowable velocity for a stone D_{50} of eight inches is 15% less than the anticipated 100-year storm event velocity, but is of a sufficient size to handle anticipated stormwater velocities from a 25-year storm event as required by Part 360 regulations. Additional details for the downchute are provided in Section 4.6.2.

In the locations where light stone fill was specified (Forebay 1 and Junction Area), the anticipated 100-year storm event velocity in these areas was calculated to be less than the maximum permissible velocity for a stone D_{50} of four inches. Stone placed in the emergency spillway was observed consistent with the approved stone.

4.3 SEDIMENT BASIN 1

The record dimensions and grading for Sediment Basin 1 (SB1), as well as the dimensions of the inlet and emergency spillway are provided on RD-2. Photographs 31-35 document the construction.

The basin's emergency spillway was constructed with a bottom width of 22.1 feet and an invert elevation of 554.61 (Photo 43-44). The spillway slopes at 0.0015 feet/feet from the inside of the basin to the outside embankment, transitioning to 0.271 feet/feet along the outside basin embankment. Stone fill was placed along this course and terminates downgradient of the riser structure discharge pipe. The invert of the emergency spillway results in a maximum Sediment Basin 1 containment volume of 71,897 cubic feet, 594 cubic feet (0.8%) less and 0.04 feet lower than required to contain the 100-year storm event. However, the basin includes 1.64 feet of freeboard at this elevation with a corresponding basin top of bank elevation of 556.25. It was determined that Sediment Basin 1 will adequately detain and convey the design storm events.

The record condition of the emergency spillway was determined sufficient to discharge flowrates associated with the 100-year storm event when anticipated flowrates through the outlet control structure and discharge pipe are considered.

The aquatic bench was seeded with a Northeast Wetland Hummock Mix and interplanted with bare root transplants consistent with the plant schedule on CD-9 of the Stormwater Separation Plan Construction Drawings (Photo 36). The Northeast Wetland Hummock Mix is detailed on RD-2. The applied seed appeared relatively sparse upon final inspection of the aquatic bench. Therefore, it was agreed upon by City Hill and Greenidge that seeding along the aquatic bench will be reapplied on an as needed basis during the deferred construction phase of the Stormwater Separation Plan.

4.3.1 Outlet Control Structure

The outlet control structure (riser structure), installed in the northwest corner of the basin, was manufactured by Zeiser Wilbert Vault Inc. of Elmira, New York (Photo 37-40). The six-inch thick concrete walls of the riser structure include apertures at various elevations to control the discharge of stormwater. The sizes and elevations of the openings were determined by the design procedure provided in the January 2015 NYS Stormwater Management Design Manual. Field measurements indicate a Qp10 weir width of 2.8 feet and a three-inch diameter CPv orifice. The record survey indicates the CPv orifice and Qp10 weir discharges into the riser structure at invert elevations 550.11 and 552.05, respectively, sufficiently consistent with the design detailed in the construction drawings. The Qf100 weir is a vertical extension of the side walls of the 2.8-foot long Qp10 weir. An Agri Drain® Bar Guard is installed at the inlet end of the CPv orifice pipe to help prevent clogging.

The riser structure discharges to Sediment Trap 1 at elevation 547.20 via a 54-foot long, 30-inch diameter smooth inner walled corrugated HDPE pipe sloping at 0.006 feet/feet. Stone fill extends beyond the outlet end of the discharge pipe (Photo 23 & 41-42).

4.4 FOREBAY 1

The record dimensions and grading for Forebay 1 (FB1) is provided on RD-2 (Photo 45-46). The inside of FB1 and outlet to SB1 is lined with stone fill.

4.5 NORTH CHANNEL

The record dimensions and grading for the north channel, Reach 12, is provided on RD-3 (Photo 45 & 47-48). RD-3 indicates the channel width ranges between 12.5 and 13.6 feet with a

channel depth between 1.57 and 1.86 feet, constructed with a general slope of 0.007 feet/feet towards FB1. The record size of the channel, albeit slightly narrower and shallower than indicated on the construction drawings, was determined adequate to convey 100-year stormwater flows to FB1 with a freeboard of 0.2 feet and is of sufficient size to handle anticipated stormwater velocities from a 25-year storm event as required by Part 360 regulations with 0.6 feet of freeboard.

4.5.1 Groundwater Drain 01

Groundwater Drain 01 (GD-01) was installed as illustrated on RD-3 (Photo 49-52). GD-01 consists of a 33-foot long schedule 80 PCV pipe sloped at 0.005 feet/feet with a four-foot long perforated section and perforated end cap. Approximately two linear feet of the existing 2.5 square foot stone groundwater drain was removed as a result of excavation efforts. The four-foot long perforated section of the pipe was inserted into the resulting void and backfilled approximately two feet past the perforations with stone to a minimum of six inches above the top of the pipe. Prior to placement, five inches of the in-situ soil below the invert of the stone trench was excavated to key in the sand-bentonite plug. A sand bentonite plug approximately 2.3-foot thick was formed downgradient and over the top of the stone drain/pipe combination as generally illustrated on RD-3.

The sand-bentonite mixture was produced by combining 12, 50-pound bags of granular bentonite[3] with approximately five tons of coarse grained sand resulting in a material 6% bentonite by weight, consistent with the specifications. The sand and bentonite were combined in the rear of a CAT 725 articulated dump truck and mixed with the bucket of a CAT 320DL excavator for no less than 30 minutes (Photo 53-54). Visual observation by DE personnel was conducted to verify the mixture was adequately mixed to produce a homogeneous sand-bentonite material. Following plug placement and compaction, GD-01 was backfilled with native soil to grades illustrated on RD-3. GD-01 discharges to the north channel at invert elevation 557.49. The elevation of the north channel berm in this location is 557.27. Stone was placed at the outlet below the discharge end of GD-01 and was determined sufficient to prevent erosion of the channel invert considering the relatively low anticipated discharge rates from GD-01. GD-01

[3]Halliburton Casing Seal consisting of granular Wyoming sodium bentonite.

was observed to be discharging groundwater to the North Channel during final inspection efforts on November 30, 2016.

4.5.2 Groundwater Monitoring Well MW-7842

The protective casing of groundwater well MW-7842 along the North Channel was observed to be significantly loose upon final site inspection on November 30, 2016. It appears that construction efforts pertaining to the North Channel reduced the ground surface in the vicinity of the well resulting in a nearly fully exposed concrete seal (Photo 64).

It was agreed upon by City Hill and Greenidge that MW-7842 will be repaired prior to the first quarter environmental sampling event (January-March) of 2017. In effect, the protective casing will be removed and replaced at a lower elevation and the vertical extent of the well riser will be modified appropriately. The concrete seal will be reconstructed to a sufficient depth below ground surface to improve the stability of the protective casing. The seal at the ground surface will be beveled to shed water away from the casing. A survey of the final elevation will be completed and memorialized for future environmental monitoring reports.

4.6 JUNCTION AREA

Record grading and dimensions for the Junction Area, Reaches 10 and 11, are provided on RD-4 (Photo 55-56). The transition channel (Photo 57), Reach 9, transitions from the existing channel on the east side of the Landfill to the Junction Area.

4.6.1 Leachate Pipe Crossing

Constructing the Junction Area required backfilling and placement of an eight-foot long concrete channel lining over the leachate pipe crossing. Prior to concrete placement, stone backfill was placed to a height of seven inches above the top of the 12-inch casing as observed and measured by DE personnel and supported by record survey information. Following placement of the concrete pad, measurements by DE staff confirmed a four-inch thick, eight-foot long concrete lined portion of the Junction Area with the invert flush with the adjacent stone fill placed in the channel (Photo 60-61).

4.6.2 Downchute

The downchute that formerly conveyed stormwater to the square concrete manhole was removed and reconstructed to reroute stormwater to the Junction Area and around the newly installed MH OADS-3 (Photo 56). The reconstructed downchute consists of a parabolic cross section and is approximately 1.5 feet deep and 10.0 feet wide. Stone fill delivered to the site was used to supplement the reuse of recovered stone from the former downchute. Large stones greater than 12 inches in diameter were selectively placed at the toe of the downchute to facilitate slope stability.

As discussed in Section 4.2, the stone intended to supplement the existing stone was determined slightly undersized. Therefore, it was agreed upon by City Hill and Greenidge that stone in the downchute area will be replaced to maintain its integrity, as needed.

4.6.3 Corrugated HDPE Pipe Downchute

An existing 30-inch diameter corrugated HDPE pipe that formerly discharged stormwater near the square concrete manhole prior to being conveyed to the Leachate Pond, now discharges to the improved Junction Area and onto the North Channel. The invert of this existing 30-inch culvert discharge was recorded at elevation 559.58 (Photo 56). No modifications to the alignment were required.

4.7 Finish Grading and Stabilization

The ground east of the Leachate Pond was graded with excess native soil to the contours shown on RD-4. Grading efforts included backfilling the asphalt lined channel and the two temporarily exposed leachate pipes (Section 3.1) east of the Leachate Pond.

Modifications to groundwater well MW-8407 (Photo 62) were required to achieve the proposed surface grades shown on the record drawings. As reported by City Hill, the protective casing was fitted with a coupling and extended vertically. The riser of the well was fitted with a two-inch diameter schedule 40 PVC coupling and extended, terminating six inches below the modified top of protective casing. The well cap resides at elevation 566.25 with a corresponding ground surface elevation of 563.20. Bentonite was used to fill the space between the protective

casing and surrounding native soil fill. The infill between the well riser and protective casing consists of sand.

Upon final inspection on November 30, 2016, it was determined that the applied general seed mixture (specified on RD-2 and RD-3) was insufficient to produce desired stabilization in several areas of the site. It was agreed upon by City Hill and Greenidge that seeding throughout the site will be reapplied on an as needed basis to achieve sufficient coverage in the event that insufficient stabilization is observed in the project area during the deferred construction phase of the Stormwater Separation Plan. Additional planting efforts following the final inspection was deemed impractical based on the imminent winter weather.

5 SUMMARY CONCLUSION

As demonstrated by the preceding discussions, as well as the Record Drawings and information included in the Attachments, work pertaining to the Stormwater Separation Plan has been substantially completed in accordance with the Department approved drawings and revised schedule contained in the October 13, 2016 Department letter (Section 2). To this end, the objective of stormwater separation detailed in the Lockwood Hills Consent Order (Case No. R8-20140710-47) has been accomplished.

As of December 2016, the following work remains to be performed as indicated on the Stormwater Separation Plan Construction Drawings, to be completed no later than November 1, 2017:

- Deferred construction of Sediment Basin 2 and associated drainage channels;
- Removal of Sediment Trap 1 for the placement of Reach 8 and post-construction Sediment Basin 1 outlet protection;
- Stabilization of groundwater well MW-7842 (Section 4.5.2)[4];
- Additional seeding and stabilization on the aquatic bench (Section 4.3) and throughout the project area, as needed (Section 4.7); and,
- Removal of mulch and fill material placed above the cover of MH-OADS-3 (Section 3.1.3).

[4] To be completed prior to the first quarter environmental sampling event.

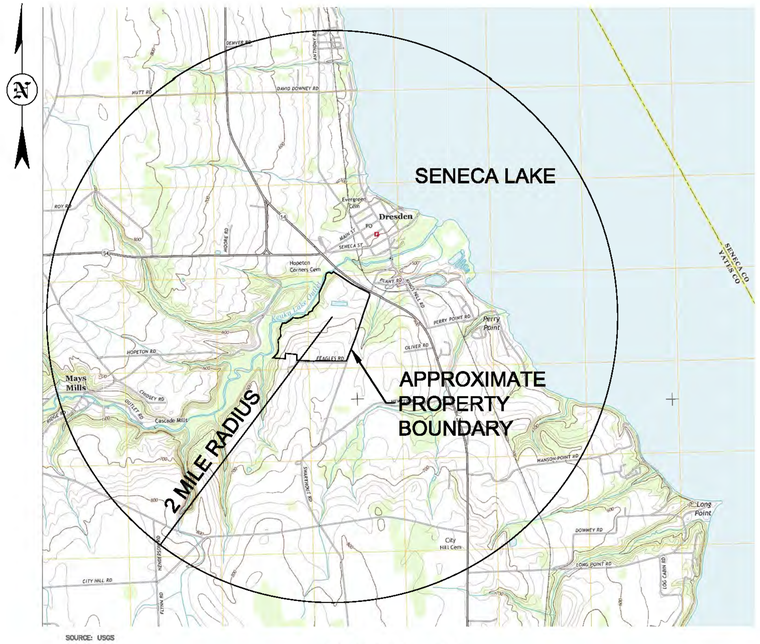
ATTACHMENT 1

Record Drawings

LOCKWOOD HILLS LLC

LOCKWOOD ASH DISPOSAL SITE
STORMWATER & LEACHATE SEPARATION RECORD DRAWINGS

TOWN OF TORREY, YATES COUNTY, NEW YORK
JANUARY 2017

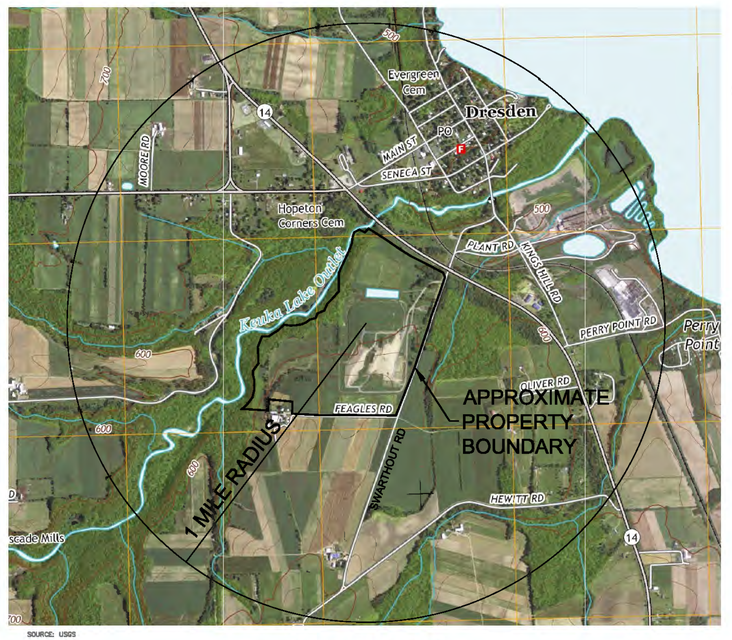


SOURCE: USGS

VICINITY MAP
NOT TO SCALE

INDEX OF DRAWINGS

SHEET NO.	TITLE
RD-1	SITE PLAN AND LEACHATE FLOW METERING SYSTEM
RD-2	SEDIMENT BASIN AND FOREBAY 1
RD-3	NORTH CHANNEL AND GROUNDWATER DRAIN 01
RD-4	JUNCTION AREA



SOURCE: USGS

LOCATION MAP
NOT TO SCALE

PREPARED BY:

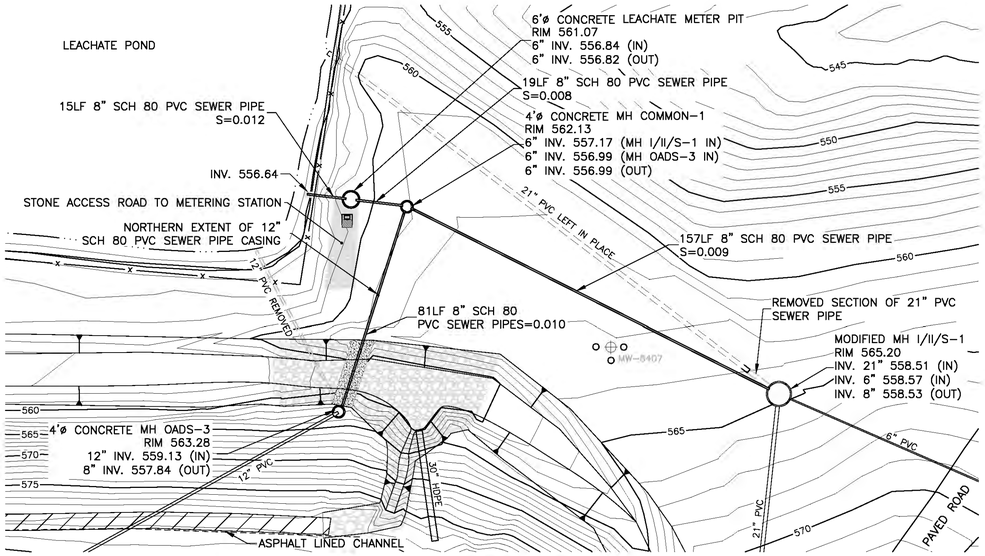
DAIGLER ENGINEERING, P.C.
CIVIL & GEO-ENVIRONMENTAL ENGINEERING

2620 GRAND ISLAND BLVD. (716) 773-6872
GRAND ISLAND, NEW YORK 14072 (716) 773-6873 FAX

PREPARED FOR:

LOCKWOOD HILLS LLC
590 PLANT ROAD
P.O. BOX 187
DRESDEN, NEW YORK 14441

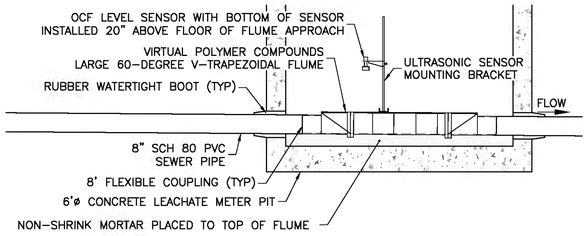
DATE:	DWG:	CHECKED BY:	PROJ. NO.:	SHEET:
DECEMBER 2016	TITLE SHEET.DWG		31-0818-03	1 OF 5



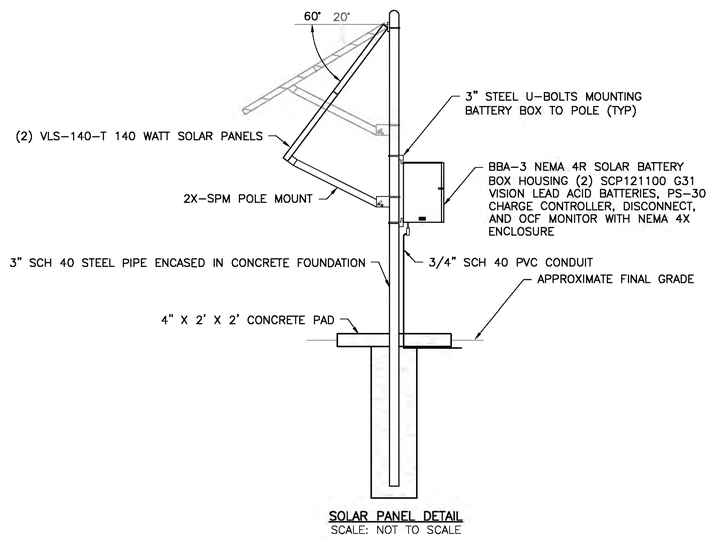
LEACHATE SYSTEM PLAN
SCALE: 1"=30'

LEGEND:

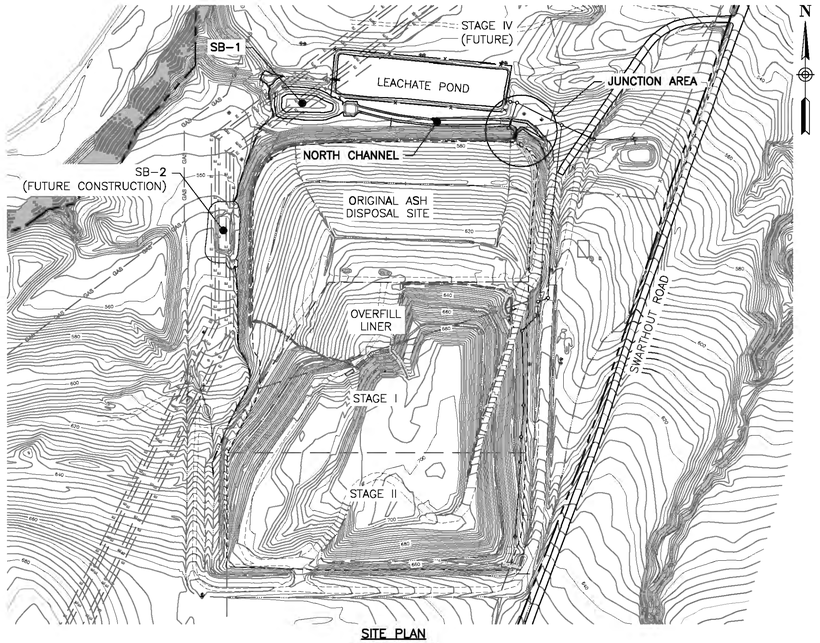
- RECORD GROUND SURFACE 5' CONTOUR
- RECORD GROUND SURFACE 1' CONTOUR
- FENCE
- NATIVE SOIL
- EXTENT OF PLACED STONE
- TOPSOIL
- MONITORING WELL
- BOLLARD



LEACHATE FLOW SENSOR AND FLUME
SCALE: NOT TO SCALE



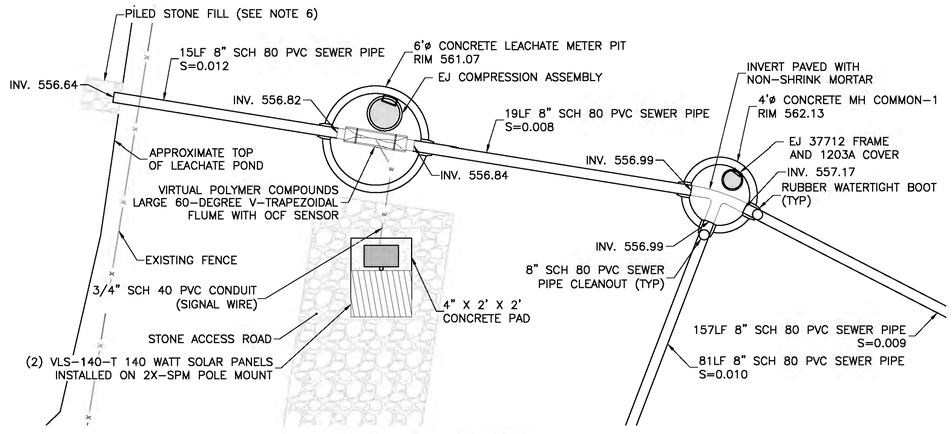
SOLAR PANEL DETAIL
SCALE: NOT TO SCALE



SITE PLAN
SCALE: 1"=250'

LEGEND:

- GROUND SURFACE 10' CONTOUR
- GROUND SURFACE 2' CONTOUR
- PAVED ROAD
- UNPAVED ROAD
- FENCE
- LIMIT OF EXISTING WASTE
- PERMITTED LIMIT OF WASTE
- PROPERTY BOUNDARY
- MONITORING WELL
- OVERHEAD POWER LINES
- LEACHATE SEWER AND MANHOLE
- GAS LINE
- EXISTING CHANNEL
- FUTURE CHANNEL



FLOW METERING STATION
NOT TO SCALE

NOTES:

1. TOPOGRAPHY AND PLANIMETRICS SHOWN ON THIS DRAWING HAVE BEEN COMPILED BY KUCERA INTERNATIONAL, INC. USING PHOTOGRAMMETRIC METHODS FROM AERIAL PHOTOGRAPHY DATED FEBRUARY 4 2010. TOPOGRAPHY WAS SUPPLEMENTED WITH WILLSON ASSOCIATES ON DECEMBER 1, 2016. ELEVATIONS AND HORIZONTAL LOCATIONS OF PIPE INVERTS AND MANHOLE RIMS PERTAINING TO THE LEACHATE SEWER WERE OBTAINED ON JULY 5, 2016 AND JULY 29, 2016 BY WILLSON ASSOCIATES.
2. VERTICAL CONTROL IS THE GREENIDGE STATION PLANT DATUM. HORIZONTAL CONTROL IS REFERENCED TO THE NEW YORK STATE GRID NAD 83.
3. GREYLINE OPEN CHANNEL FLOW MONITOR (OCF) LEVEL SENSOR IS MODEL OCF 5.0 B1A1D1A2, INSTALLED ON SENSOR BRACKET SUPPLIED BY VIRTUAL POLYMER COMPOUNDS INC.
4. SOLAR PANEL TILT WILL BE 20° BETWEEN APRIL 1 AND AUGUST 31, AND 60° BETWEEN SEPTEMBER 1 AND MARCH 31.
5. IT IS NOTED THAT THE METALLIC LOCATOR TAPE READS "STORM DRAIN" NOT "LEACHATE" OR "WASTE WATER" PIPE.
6. MH COMMON-1 AND MH OADS-3 CONTAIN PAVED INVERTS FORMED WITH NON-SHRINK MORTAR, ABSENT IN MH I/II/S-1.
7. DETAILS PERTAINING TO THE STORMWATER MANAGEMENT SYSTEM PROXIMATE THE LEACHATE SEWER SYSTEM WAS OMITTED FROM THIS SHEET FOR CLARITY. REFER TO RD-4.

NO.	REVISION	BY	DATE

DAIGLER ENGINEERING, P.C.
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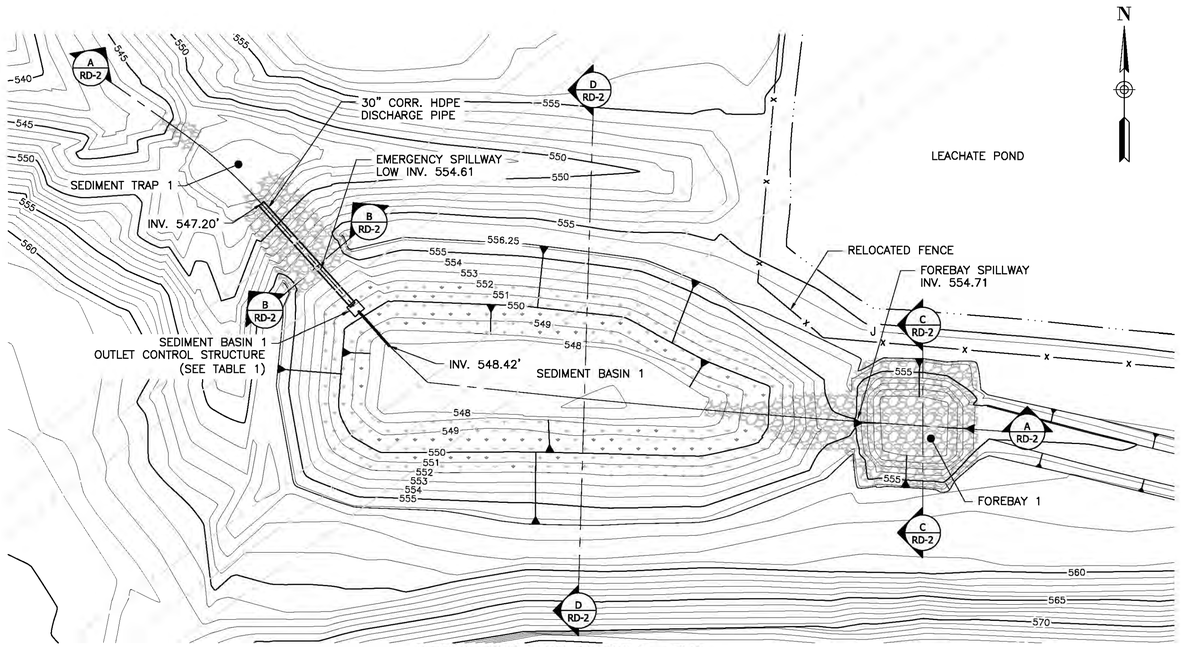
JAMES A. DAIGLER, P.E.
NYSPE NO. 061689

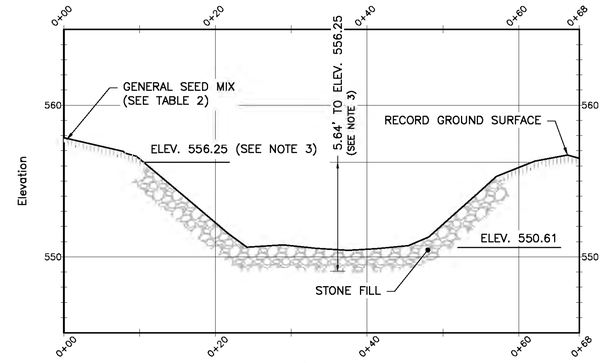
DATE: January 2017

SCALE: NOTED

PREPARED FOR: LOCKWOOD HILLS LLC			SITE PLAN LEACHATE FLOW METERING SYSTEM	SHEET RD-1
DES. BY:	DRW. BY:	CHK. BY:	LOCKWOOD ASH DISPOSAL SITE STORMWATER & LEACHATE SEPARATION RECORD DRAWINGS	
DWG. RD-1 LEACHATE METERING SYSTEM rev0.dwg			TOWN OF TORREY	YATES COUNTY	STATE OF NEW YORK



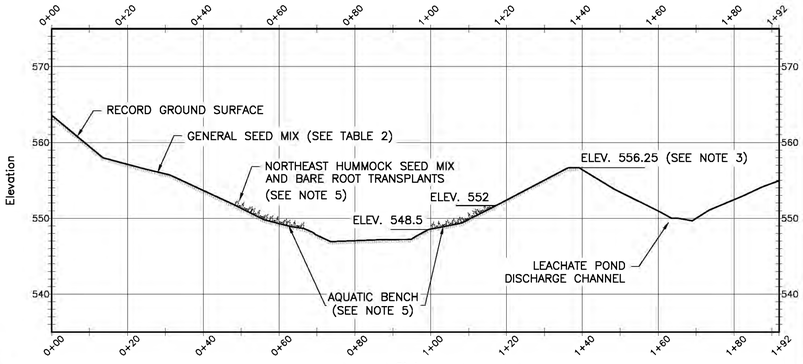
SEDIMENT BASIN 1 AND FOREBAY 1 – PLAN
SCALE: 1"=30'



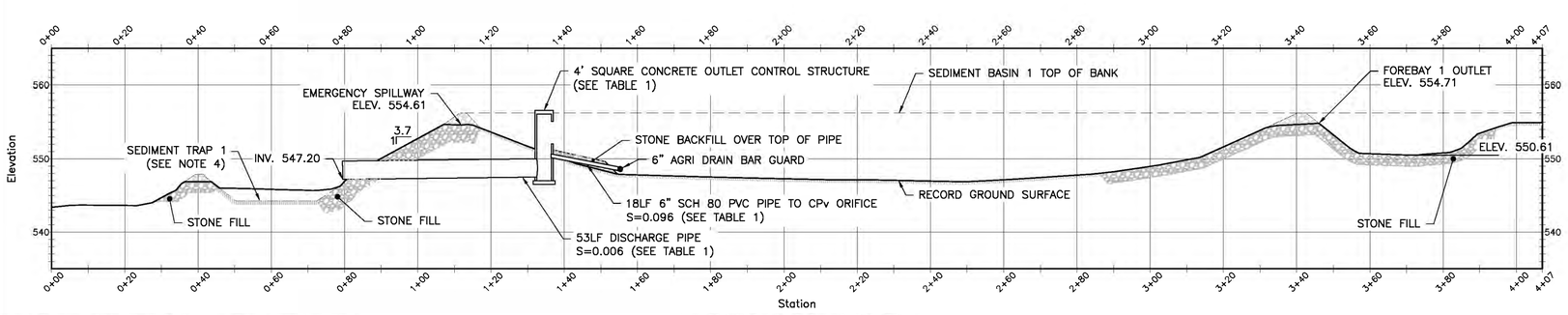
FOREBAY 1 – VIEW C–C
SCALE: 1"=10' HORIZONTAL
1"=5' VERTICAL

LEGEND:

- RECORD GROUND SURFACE 5' CONTOUR
- RECORD GROUND SURFACE 1' CONTOUR
- FENCE
- OVERHEAD WIRES
- NATIVE SOIL
- SURVEYED EXTENT OF PLACED STONE
- TOPSOIL
- APPROXIMATE OBSERVED PLAN EXTENT OF AQUATIC BENCH PLANTINGS
- MONITORING WELL



SEDIMENT BASIN 1 – VIEW D–D
SCALE: 1"=20' HORIZONTAL
1"=10' VERTICAL



SEDIMENT BASIN 1 – VIEW A–A
SCALE: 1"=20' HORIZONTAL
1"=10' VERTICAL

TABLE 2 – SEDIMENT BASIN 1 AREA SEED MIXES

GENERAL SEED MIX

SEED	PERCENT OF MIX (%)
ANNUAL RYEGRASS	42.16
PERENNIAL RYEGRASS	41.18
CREEPING RED FESCUE	10.13
WHITE CLOVER	3.87
SMOOTH BROME	1.01
INERT	1.65

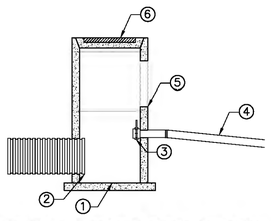
*INCLUDED IN BARE ROOT TRANSPLANTS

NORTHEAST HUMMOCK SEED MIX

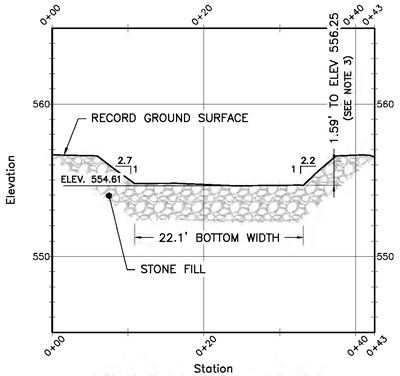
SEED
GREEN BULRUSH*
FOX SEDGE*
SOFT RUSH*
RICE CUT GRASS
BRISTLY SEDGE
FRINGED SEDGE
SHALLOW SEDGE
HOP SEDGE

TABLE 1 – SEDIMENT BASIN 1 OUTLET CONTROL STRUCTURE DETAILS

ITEM	DESCRIPTION	MATERIAL	SIZE	ELEVATION
1	INSIDE BASE	CONCRETE	4'X4'	547.03
2	DISCHARGE PIPE	CORRUGATED HDPE	30" DIA	INLET INV. 547.52
3	CPv ORIFICE	STEEL	3" DIA	INV. 550.11
4	PIPE TO CPv ORIFICE	SCH 80 PVC	6" DIA	INLET INV. 548.42
5	Qp10 & Qf100 WEIR	CONCRETE	2.8' WIDE	552.05
6	TOP GRATE	STEEL	2.2'X2.2'	556.61



OUTLET CONTROL STRUCTURE SCHEMATIC DETAIL
SCALE: NOT TO SCALE



EMERGENCY SPILLWAY – VIEW B–B
SCALE: 1"=10' HORIZONTAL
1"=5' VERTICAL

NOTES:

1. TOPOGRAPHY AND PLANIMETRICS SHOWN ON THIS DRAWING HAVE BEEN COMPILED BY KUCERA INTERNATIONAL, INC. USING PHOTOGRAMMETRIC METHODS FROM AERIAL PHOTOGRAPHY DATED FEBRUARY 4 2010, AND SUPPLEMENTED WITH RECORD SURVEY COMPLETED BY WILLSON ASSOCIATES ON DECEMBER 1, 2016.
2. VERTICAL CONTROL IS THE GREENIDGE STATION PLANT DATUM. HORIZONTAL CONTROL IS REFERENCED TO THE NEW YORK STATE GRID NAD 83
3. ELEVATION 556.25 IS THE SEDIMENT BASIN 1 AND FOREBAY 1 TOP OF BANK ELEVATION. MAXIMUM CONTAINMENT IS ACHIEVED AT THE EMERGENCY SPILLWAY INVERT ELEVATION (554.61).
4. THE BASE OF SEDIMENT TRAP 1 AS SHOWN WAS ESTIMATED BY FIELD MEASUREMENTS PERFORMED BY DAIGLER ENGINEERING P.C. THE GROUND SURFACE OBTAINED FROM THE RECORD SURVEY DECEMBER 1 2016 IS REPRESENTATIVE OF THE WATER SURFACE AT TIME OF MEASUREMENT. SEDIMENT TRAP 1 WAS OBSERVED TO HAVE A TOTAL DEPTH OF 3.8 FEET AS MEASURED FROM THE NORTHWEST TOP OF BERM. THE SPILLWAY IS AN APPROXIMATE ONE FOOT DEEP TRAPEZOIDAL OPENING WITH 5.1' BOTTOM WIDTH AND 7.6' TOP WIDTH.
5. FURTHER SPECIFIED ON TABLE 2, THE AQUATIC BENCH UP TO ELEVATION 552 WAS SEEDED WITH A NORTHEAST HUMMOCK MIX AND INTERPLANTED WITH BARE ROOT TRANSPLANTS SPACED 3' ON CENTER. THE APPROXIMATE HORIZONTAL EXTENT OF THE PLANTINGS SHOWN ON THE PLAN ARE BASED OFF VISUAL OBSERVATIONS BY DAIGLER ENGINEERING P.C.

NO.	REVISION	BY	DATE

DAIGLER ENGINEERING, P.C.
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JAMES A. DAIGLER, P.E.
NYSPE NO. 061689

DATE: January 2017

SCALE: NOTED

PREPARED FOR: LOCKWOOD HILLS LLC

DES. BY: | DRW. BY: | CHK. BY:

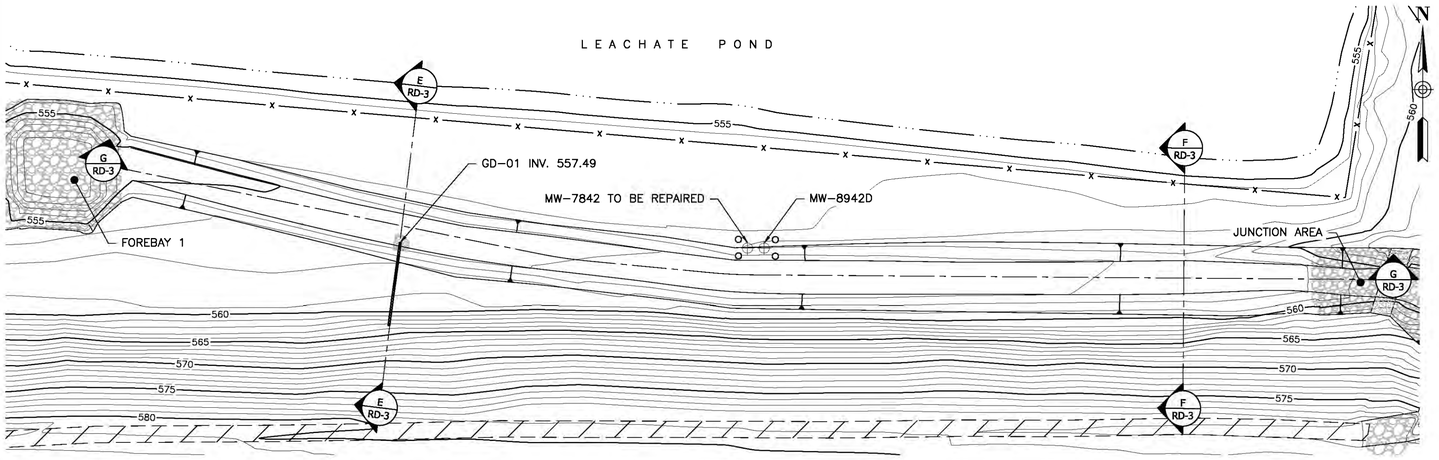
DWG: RD-2 THROUGH RD-4 STORMWATER SEPARATION _1229.dwg

SEDIMENT BASIN AND FOREBAY 1

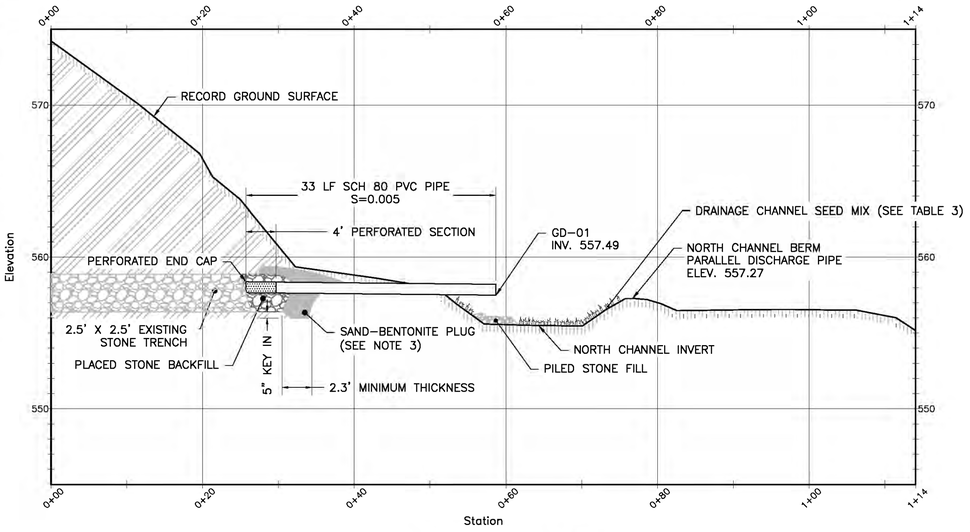
LOCKWOOD ASH DISPOSAL SITE STORMWATER & LEACHATE SEPARATION RECORD DRAWINGS

TOWN OF TORREY | YATES COUNTY | STATE OF NEW YORK

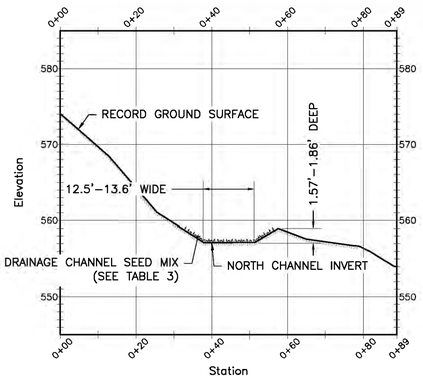
SHEET RD-2



NORTH CHANNEL – PLAN
SCALE: 1"=30'



GROUNDWATER DRAIN 01 – VIEW E–E
SCALE: 1"=10' HORIZONTAL
1"=5' VERTICAL



NORTH CHANNEL (REACH 12) – VIEW F–F
SCALE: 1"=20' HORIZONTAL
1"=10' VERTICAL

TABLE 3 – NORTH CHANNEL AREA SEED MIXES

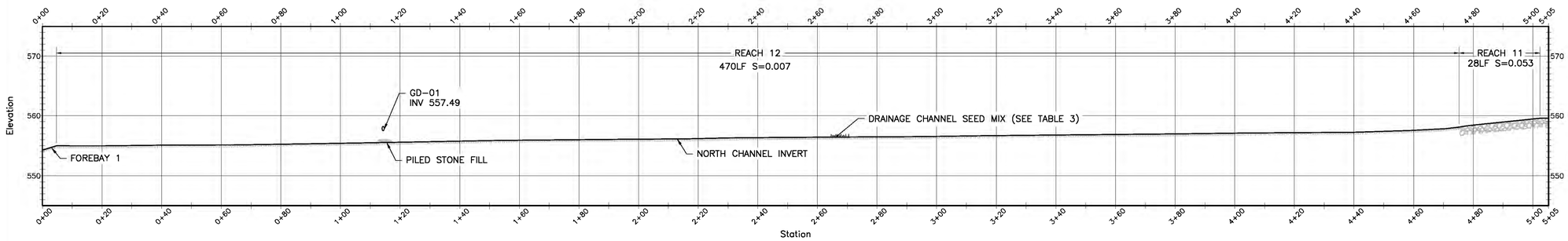
GENERAL SEED MIX

SEED	PERCENT OF MIX (%)
ANNUAL RYEGRASS	42.16
PERENNIAL RYEGRASS	41.18
CREEPING RED FESCUE	10.13
WHITE CLOVER	3.87
SMOOTH BROME	1.01
INERT	1.65

DRAINAGE CHANNEL SEED MIX

SEED	PERCENT OF MIX (%)
ANNUAL RYEGRASS	42.32
PERENNIAL RYEGRASS	41.33
TALL FESCUE	9.95
WHITE CLOVER	3.90
REDTOP	1.04
INERT	1.46

NOTES:
1. TOPOGRAPHY AND PLANIMETRICS SHOWN ON THIS DRAWING HAVE BEEN COMPILED BY KUCERA INTERNATIONAL, INC. USING PHOTOGRAMMETRIC METHODS FROM AERIAL PHOTOGRAPHY DATED FEBRUARY 4 2010, AND SUPPLEMENTED WITH RECORD SURVEY COMPLETED BY WILLSON ASSOCIATES ON DECEMBER 1, 2016.
2. VERTICAL CONTROL IS THE GREENIDGE STATION PLANT DATUM. HORIZONTAL CONTROL IS REFERENCED TO THE NEW YORK STATE GRID NAD 83
3. SAND–BENTONITE PLUG MATERIAL CONSISTS OF APPROXIMATELY 6% BENTONITE AND 94% COARSE SAND BY WEIGHT.



NORTH CHANNEL (REACH 12) – VIEW G–G
SCALE: 1"=20' HORIZONTAL
1"=10' VERTICAL

LEGEND:

- 550 — RECORD GROUND SURFACE 5' CONTOUR
- RECORD GROUND SURFACE 1' CONTOUR
- x — FENCE
- OVERHEAD WIRES
- NATIVE SOIL
- SURVEYED EXTENT OF PLACED STONE
- TOPSOIL
- APPROXIMATE OBSERVED PLAN EXTENT OF AQUATIC BENCH PLANTINGS
- MONITORING WELL
- BOLLARD

NO.	REVISION	BY	DATE

DAIGLER ENGINEERING, P.C.
CIVIL & GEO-ENVIRONMENTAL ENGINEERING
2620 GRAND ISLAND BLVD. GRAND ISLAND, NEW YORK 14072
(716) 773-6872 (716) 773-6873 FAX

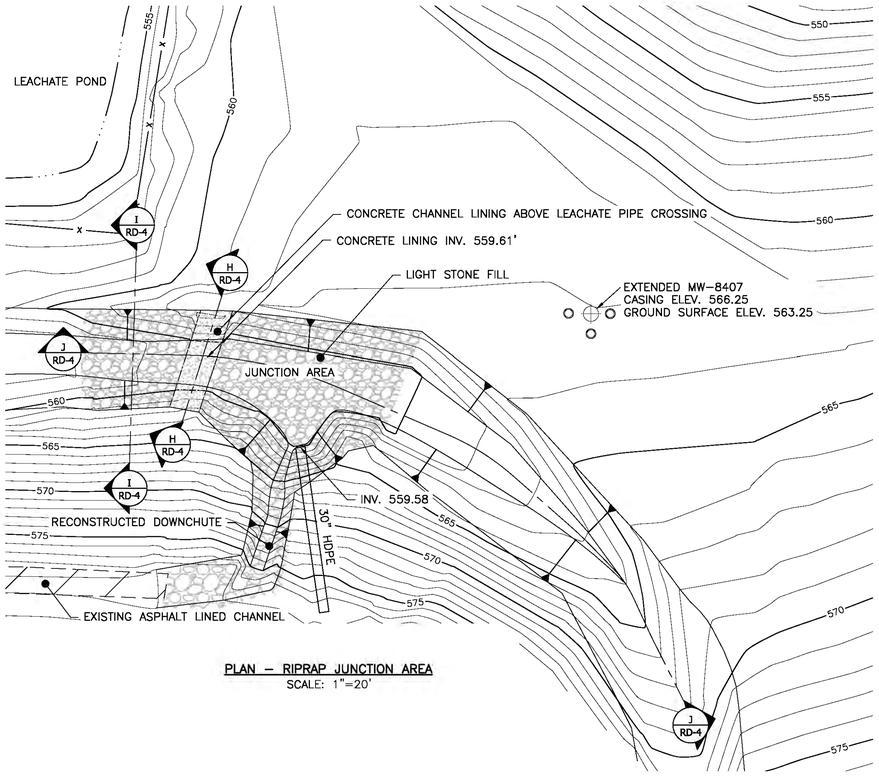
JAMES A. DAIGLER, P.E.
NYSPE NO. 081689

DATE: January 2017

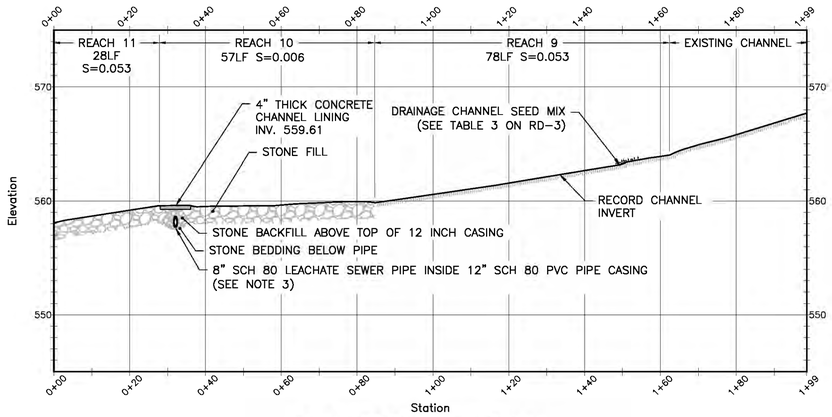
SCALE: NOTED

PREPARED FOR: LOCKWOOD HILLS LLC			NORTH CHANNEL AND GROUNDWATER DRAIN 01
DES. BY:	DRW. BY:	CHK. BY:	LOCKWOOD ASH DISPOSAL SITE STORMWATER & LEACHATE SEPARATION RECORD DRAWINGS
DWG.RD-2 THROUGH RD-4 STORMWATER SEPARATION _1229.dwg	TOWN OF TORREY	YATES COUNTY	STATE OF NEW YORK

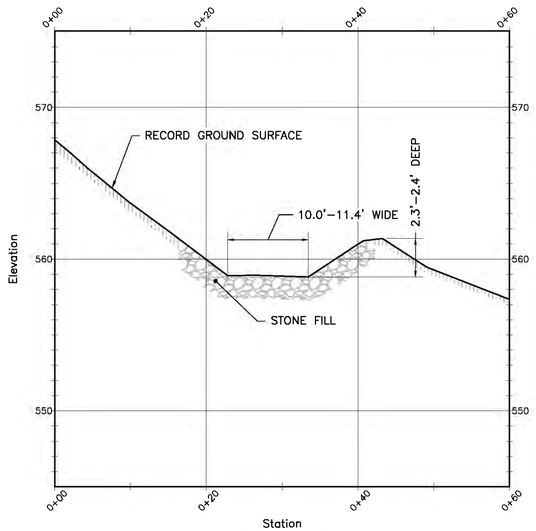
SHEET RD-3



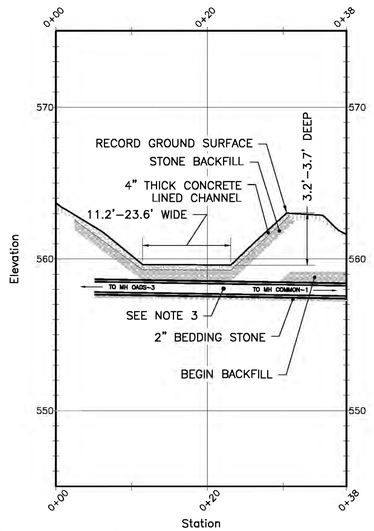
PLAN – RIPRAP JUNCTION AREA
SCALE: 1"=20'



RIPRAP JUNCTION AREA – VIEW J–J
SCALE: 1"=20' HORIZONTAL
1"~6.7' VERTICAL (3X HORIZONTAL)



REACH 11 VIEW I–I
SCALE: 1"=10' HORIZONTAL
1"=5' VERTICAL



REACH 10 AT LEACHATE PIPE CROSSING – VIEW H–H
SCALE: 1"=10' HORIZONTAL
1"=5' VERTICAL

NOTES:
1. TOPOGRAPHY AND PLANIMETRICS SHOWN ON THIS DRAWING HAVE BEEN COMPILED BY KUCERA INTERNATIONAL, INC. USING PHOTOGRAMMETRIC METHODS FROM AERIAL PHOTOGRAPHY DATED FEBRUARY 4 2010, AND SUPPLEMENTED WITH RECORD SURVEY COMPLETED BY WILLSON ASSOCIATES ON DECEMBER 1, 2016.
2. VERTICAL CONTROL IS THE GREENIDGE STATION PLANT DATUM. HORIZONTAL CONTROL IS REFERENCED TO THE NEW YORK STATE GRID NAD 83
3. SEE SHEET RD–1 FOR RECORD INFORMATION PERTAINING TO THE LEACHATE SEWER SYSTEM.

LEGEND:

- 550 — RECORD GROUND SURFACE 5' CONTOUR
- RECORD GROUND SURFACE 1' CONTOUR
- x — FENCE
- OVERHEAD WIRES
- NATIVE SOIL
- SURVEYED EXTENT OF PLACED STONE
- TOPSOIL
- APPROXIMATE OBSERVED PLAN EXTENT OF AQUATIC BENCH PLANTINGS
- MONITORING WELL
- BOLLARD

NO.	REVISION	BY	DATE

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CIVIL & GEO-ENVIRONMENTAL ENGINEERING
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JAMES A. DAIGLER, P.E.
NYSPE NO. 061689

DATE: January 2017

SCALE: NOTED

PREPARED FOR: LOCKWOOD HILLS LLC			JUNCTION AREA
DES. BY:	DRW. BY:	CHK. BY:	LOCKWOOD ASH DISPOSAL SITE STORMWATER & LEACHATE SEPARATION RECORD DRAWINGS
DWG RD-2 THROUGH RD-4 STORMWATER SEPARATION _1229.dwg	TOWN OF TORREY	YATES COUNTY	STATE OF NEW YORK

SHEET RD-4

ATTACHMENT 2

Project Photographs

Photo 1 - Manholes prior to installation (6/16/16)

Photo 2 - Flume prior to installation (6/16/16)

Lockwood Hills LLC Consent Order Certification Report Leachate Flow Metering System & Stormwater Separation	Photograph Page
	1

Photo 3 - Installation of Leachate Meter Pit and MH COMMON-1 (6/16/16)

Photo 4 - Installation of pipe between Leachate Meter Pit and MH COMMON-1 (6/16/16)

Lockwood Hills LLC **Consent Order Certification Report** **Leachate Flow Metering System & Stormwater Separation**	**Photograph Page**
	2

Photo 5 - Installation of pipe and cleanout between MH COMMON-1 and MH I/II/S-1 (6/16/16)

Lockwood Hills LLC Consent Order Certification Report Leachate Flow Metering System & Stormwater Separation	Photograph Page
	3

Photo 6 - MH COMMON-1 and eight-inch cleanouts (6/30/16)

Lockwood Hills LLC Consent Order Certification Report Leachate Flow Metering System & Stormwater Separation	Photograph Page
	4

Photo 7 - Paved invert in MH COMMON-1 (6/30/16)

Lockwood Hills LLC Consent Order Certification Report Leachate Flow Metering System & Stormwater Separation	Photograph Page
	5

Photo 8 - Modified MH I/II/S-1 (6/30/16)

Lockwood Hills LLC Consent Order Certification Report Leachate Flow Metering System & Stormwater Separation	Photograph Page
	6

Photo 9 - Final location of MH OADS-3 (6/30/16)

Lockwood Hills LLC Consent Order Certification Report Leachate Flow Metering System & Stormwater Separation	Photograph Page
	7

Photo 10 - Paved invert in MH OADS-3 (6/30/16)

Lockwood Hills LLC Consent Order Certification Report Leachate Flow Metering System & Stormwater Separation	Photograph Page
	8

Photo 11 - Eight-inch pipe crossing and termination of 12-inch casing (6/30/16)

Photo 12 - Interim grading of site (prior to Stormwater Separation Plan) (6/30/16)

Photo 13 - View of MH COMMON-1 and Leachate Meter Pit (6/30/16)

Lockwood Hills LLC Consent Order Certification Report Leachate Flow Metering System & Stormwater Separation	Photograph Page
	10

Photo 14 - Eight-inch discharge to Leachate Pond (6/30/16)

Lockwood Hills LLC Consent Order Certification Report Leachate Flow Metering System & Stormwater Separation	Photograph Page
	11

Photo 15: Inside Battery Box (6/30/16)

Photo 16: VPC Large 60-degree V Trapezoidal Flume in Meter Pit, with sensor installed (6/30/16)

Photo 17: Solar Power System and Battery Box (6/30/16)

Lockwood Hills LLC Consent Order Certification Report Leachate Flow Metering System & Stormwater Separation	Photograph Page
	13

Photo 18 - Solar panels and Leachate Meter Pit (6/30/16)

Lockwood Hills LLC Consent Order Certification Report Leachate Flow Metering System & Stormwater Separation	Photograph Page
	14

Photo 19: Silt fence installed north of Sediment Basin 1, looking west (9/26/16)

Photo 20: Silt fence installed north of Sediment Basin 1, looking east (9/26/16)

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Photo 21: Sediment Trap, looking west (11/8/16)

Photo 22: Sediment Trap 1 outlet, looking north (11/8/16)

Photo 23: Sediment Trap 1, looking east (11/8/16)

Photo 24: Sediment Trap 1 outlet, looking east (11/8/16)

Photo 25: Silt fence installed east of Leachate Pond, looking east (9/26/16)

Photo 26: Silt fence installed east of Leachate Pond, looking west (10/25/16)

Photo 27: Light Stone Fill stockpile (10/3/16)

Photo 28: Light Stone Fill stockpile (10/3/16)

Photo 29: Medium Stone Fill stockpile (10/25/16)

Photo 30: Medium Stone Fill to be reused from downchute (10/25/16)

Photo 31: Sediment Basin 1, looking west (9/26/16)

Photo 32: Sediment Basin 1, looking west (10/19/16)

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Photo 33: Sediment Basin 1, looking west (10/25/16)

Photo 34: Sediment Basin 1, looking west (10/28/16)

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Photo 35: Sediment Basin 1, looking west (11/30/16)

Photo 36: Bare root transplants (light brown tufts in picture) (11/30/16)

Photo 37: Placing and leveling Riser Structure on bedding, looking southwest (11/8/16)

Photo 38: Installed Riser Structure, looking west (11/8/16)

Photo 39: Riser Structure orifice pipe and Agri Drain Bar Guard, looking east (11/8/16)

Photo 40: Inside Riser Structure (11/30/16)

Photo 41: Installing 30" Corrugated HDPE Discharge Pipe (11/8/16)

Photo 42: Outlet of 30" Corrugated HDPE Discharge Pipe (11/8/16)

Photo 43: Sediment Basin 1 Emergency Spillway, looking south (11/8/16)

Photo 44: Sediment Basin I Emergency Spillway, looking west (11/8/16)

Photo 45: Sediment Basin 1 and Forebay 1, looking northwest (11/8/16)

Photo 46: Forebay 1 outlet, looking southeast (11/30/16)

Photo 47:North Channel, looking east (11/30/16)

Photo 48: North Channel, looking west (11/30/16)

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Photo 49: GD-01 installation (11/8/16)

Photo 50: Backfilling GD-01 (11/8/16)

Photo 51: GD-01, looking north (11/30/16)

Photo 52: GD-01, looking east (11/30/16)

Lockwood Hills LLC Consent Order Certification Report Leachate Flow Metering System & Stormwater Separation	Photograph Page
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Photo 53: Bentonite (11/8/16)

Photo 54: Preparing sand-bentonite mixture (11/8/16)

Photo 55: Junction Area, looking west (11/30/16)

Photo 56: Junction Area, looking north (11/30/16)

Photo 57: Transition channel east of Junction Area (11/30/16)

Photo 58: NYSDOT 304-2.01 Type 2 Stone Backfill (10/25/16)

Photo 59: NYSDOT 304-2.01 Type 2 Stone Backfill and adjacent NYSDOT 620-2.02 Light Stone Fill (10/25/16)

Photo 60: Concrete lined channel, looking southwest (10/28/16)

Photo 61: Concrete lined channel, looking northwest (10/28/16)

Photo 62: Finished grading north of Junction Area, looking north (11/30/16)

Photo 63: Backfilled concrete lined channel, looking southwest (11/30/16)

Photo 64: Groundwater well MW-7842 (11/30/16)

ATTACHMENT 3

Daily Construction Inspection Reports

DAIGLER ENGINEERING, P.C.
CIVIL & GEO-ENVIRONMENTAL ENGINEERING
2620 Grand Island Blvd. Grand Island NY 14072 Ph (716) 773-6872/ Fax (716)773-6873 www.daiglerengineering.com

DAILY CONSTRUCTION INSPECTION REPORT

PROJECT: LEACHATE FLOW MONITORING PLAN	DATE: 6/16/16
OWNER: *LOCKWOOD HILLS LLC.*	

ARRIVE TIME: 9:15AM	DEPART TIME: 2:00pm
WEATHER CONDITIONS: Dry, Sunny/Clear, Calm wind	
TEMPERATURE: 78°F AM	82°F PM
SITE CONDITIONS: Crews onsite installing Manholes	

PERSONNEL AND EQUIPMENT:
City Hill Construction – Harry (Foreman/Supervisor)
– 3 Laborers
– tracked excavator
Mark Johnson – Surveyer from Wilson Associates + 1 crew member
Harold Sexton – Site visit around 1:30PM (Greenidge Generation)

INSPECTIONS/TESTS/SAMPLES/MATERIALS RECEIVED:
Inspected bedding + Backfill Stone + invert elevations/Slope of pipe.

CONSTRUCTION ACTIVITIES:
City Hill → Placing PVC pipe and manholes, grading bedding Stone, digging trenches for Leachate pipe
Mark Johnson – Surveying inverts of manholes

OBSERVER:	SIGNATURE:	DATE:
Joe Randel		6/16/16

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2620 Grand Island Blvd. Grand Island NY 14072 Ph (716) 773-6872/ Fax (716)773-6873 www.daiglerengineering.com

DAILY CONSTRUCTION INSPECTION REPORT (SUPPLEMENTAL SHEET)

PROJECT: LEACHTE FLOW MONITORING PLAN	DATE: 6/16/16

9:15-Arrived Onsite, City Hill placing flume in Leachate meter Pit. Mark Johnson + Crew Surveying invert Elevations.

9:30 - Harry from City hill makes it known that invert elevations of Meter Pit and common MH are 6" higher than plan. Determined that the raised invert elevations will not provide sufficient drop from OMDS-3 when installed at elevation as specified on the plans, City Hill agrees to re-install manhole common-1 and Leachate Meter pit 6" lower to plan specification

9:45- City Hill begins re-installing manholes (removing backfill and regrading bedding Stone)

10:30 - City hill laborer makes it known that as a result of the flume pipe Stubs being SCH 40 PVC and Leachate pipe being SCH 80 PVC, there will be a 0.18" drop from incoming leachate into flume and a 0.18" ~~jump leaving~~ Step leaving flume. Determined that bottom of flume will be grouted in a way that pushes the flume up 0.18", eliminating Step/drop.

10:45 - City hill finisher placing Meter pit

11:15- City hill finishes placing common MH

11:30 - ~~[illegible]~~ City hill begins digging ~~[illegible]~~ trench for Pipe between MH common-1 and MH I/I/S-1

11:45 - City hill takes lunch, walked site and took pictures of Construction and SW separation plan project constraints

12:15- City hill returns and begins installing pipe between Meter Pit and common manhole (17LF) cutting Concrete lined Channel

1:00 - City hill finished Placing 17 LF of pipe and 14 LF outfall. Walk site with Harold sexton of Greenidge Generation. 2:00 Left Site.

OBSERVER:	SIGNATURE:	DATE:
Joe Randel		6/16/16

BY JPR DATE 7/1/16

CHKD. BY ___ DATE ___

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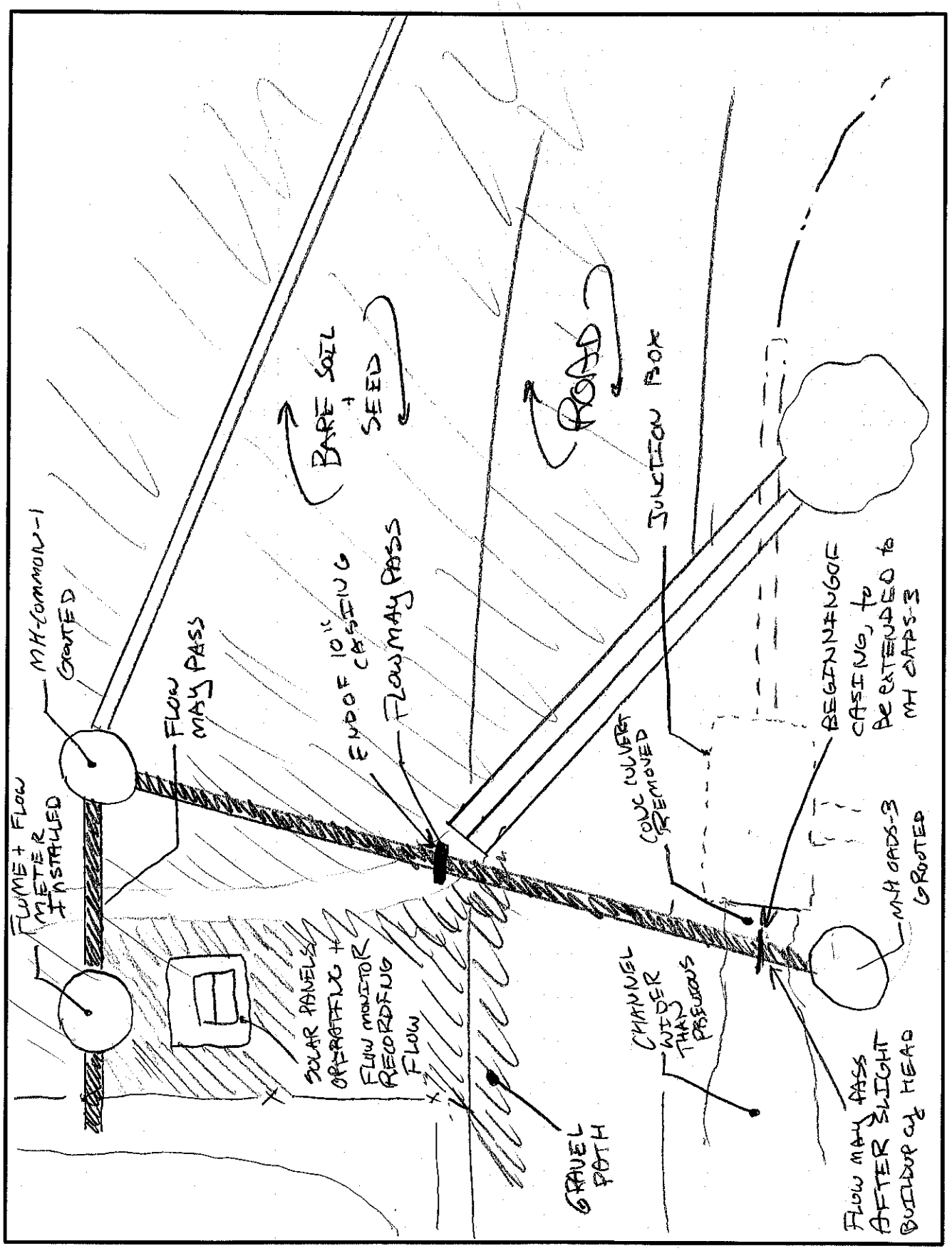
JOB NO. ___

SHEET NO. ___ OF ___

SUBJECT ___



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DAILY CONSTRUCTION INSPECTION REPORT

PROJECT: LEACHATE FLOW MONITORING PLAN	**DATE:** 6/30/16
OWNER: *LOCKWOOD HILLS LLC.*	

ARRIVE TIME: 8:30Am		**DEPART TIME:** 10:15Am	
WEATHER CONDITIONS:			
TEMPERATURE:	≈78°F	**AM**	**PM**
SITE CONDITIONS: Dry, warm			

PERSONNEL AND EQUIPMENT:
Harold Sexton - Greenidge Generation Maintenance Manager
John Blanchard and Staff member - Instrumentation Manager
Representative from RL Stone
Joe Rundel - DE Staff engineer.

INSPECTIONS/TESTS/SAMPLES/MATERIALS RECEIVED:
- Flow meter set-up and calibration
- Tour of Project Site and completed activities

CONSTRUCTION ACTIVITIES:
None

OBSERVER:	**SIGNATURE:**	**DATE:**
Joe Rundel		6/30/16

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DAILY CONSTRUCTION INSPECTION REPORT (SUPPLEMENTAL SHEET)

PROJECT: LEACHTE FLOW MONITORING PLAN	DATE: 6/30/16

8:30Am – Arrive onsite, Project Site Vacant of personnel, all pipes backfilled and manholes in place.
8:45Am – Harold Sexton, John Blanchard, Greenidge operation staff member, and rep from RL Stone arrive onsite.
- RL Stone begins setting up Flow meter and calibrating System
- Greenidge Generation and DE Staff Q and A with RL Stone about operation of Flow meter.

9:45 – RL Stone finishes Setup
- DE walk site with Harold Sexton, inspecting manholes and layout of manholes
- Discovered that 10" casing does not extend all the way to MH CMDS-3, Harold agrees to have City hill cut a 10" casing in half and wrap around 8" Pipe, then fuse together as one.

10:15 – Left site.

OBSERVER:	SIGNATURE:	DATE:
Joe Randel	Joseph P. Randel	6/30/16

BY JPR DATE 6/16/16

CHKD. BY ___ DATE ___

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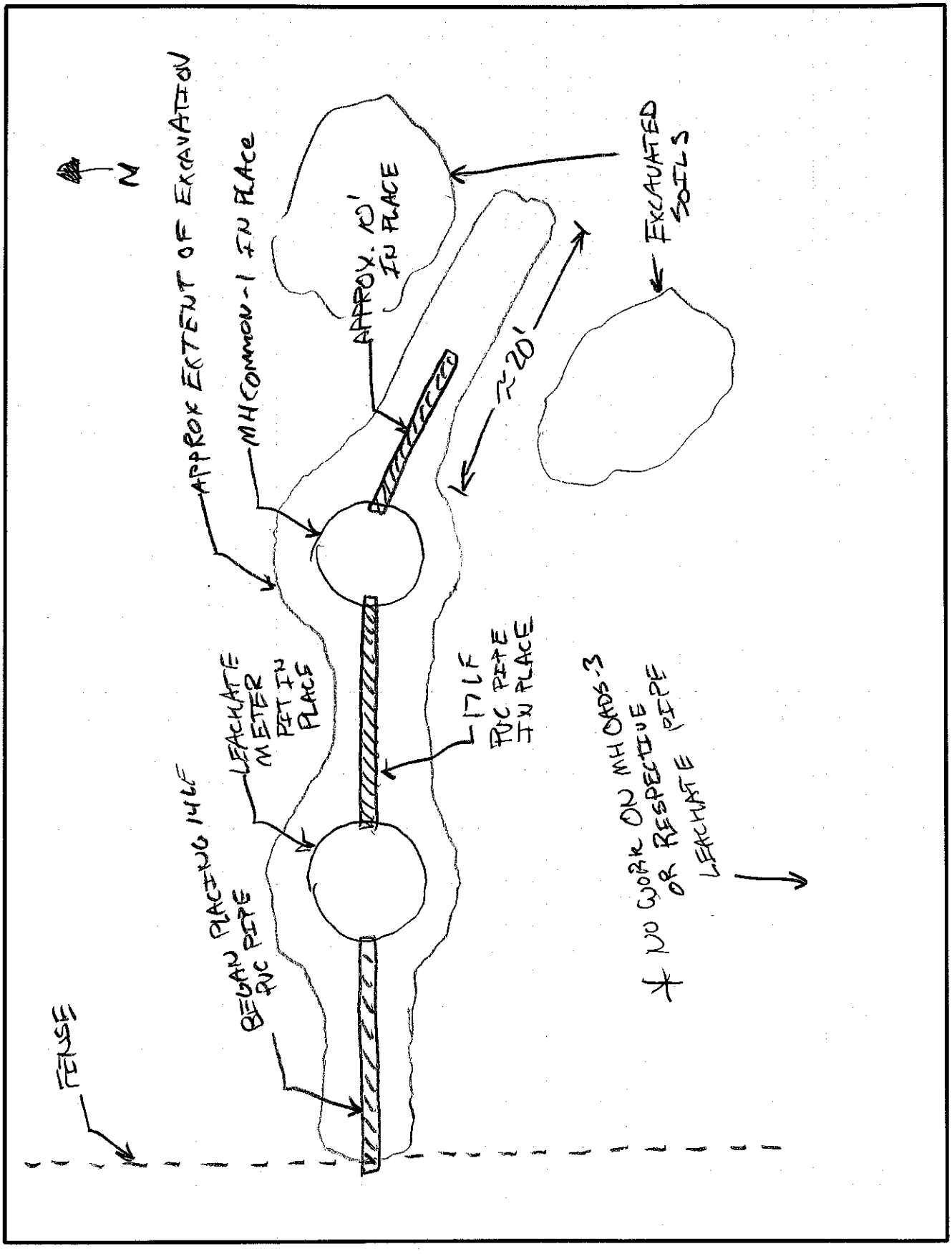
JOB NO. ___

SHEET NO. 1 OF 1

SUBJECT SITE VISIT ON 6/16/16 - APPROXIMATE EXTENT OF WORK



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DAILY CONSTRUCTION INSPECTION REPORT

PROJECT: STORMWATER SEPARATION PLAN	**DATE:** 9/26/16
OWNER: *LOCKWOOD HILLS LLC.*	

ARRIVE TIME: 8:55 Am		**DEPART TIME:** 12:15 PM	
WEATHER CONDITIONS: Dry, Cloudy, Slight wind			
TEMPERATURE:	~60°F **AM**	~	**PM**
SITE CONDITIONS: Dry, little earthwork, Several Soil Stockpiles			

PERSONNEL AND EQUIPMENT:
City Hill Construction - Shawn (Laborer) CAT D5G Bulldozer
- Ryan (Supervisor)
Wilson Associates - Mark
Greenidge Generation - Harold Sexton
NYSDEC - Yasmin
Daigler Engineering - Joe Randel

INSPECTIONS/TESTS/SAMPLES/MATERIALS RECEIVED:
Erosion + Sediment Control - Silt fence observation +
integrity check

CONSTRUCTION ACTIVITIES:
- Rough grading SB1
- Setting up control points

OBSERVER: Joe Randel	**SIGNATURE:** Joseph P. Randel	**DATE:** 9/26/16

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DAILY CONSTRUCTION INSPECTION REPORT (SUPPLEMENTAL SHEET)

PROJECT: LEACHTE FLOW MONITORING PLAN	DATE: 9/26/16

8:55AM - Arrive onsite, Wilson Associates arrives to begin setting up control points for City Hill. City Hill currently rough grading bulk excavation of SB1 and forebay. Begin Observing Site condition and progress. Observe gap (≈1"S in 10" casing from GP5-3

9:15AM - Met Shawn from City hill and he explains progress so far

9:30AM - Ryan (Supervisor) arrives onsite, Explain issue with 10" casing and agree that a fitting or grout will be used to seal it.
- Ryan mentions discovery of ≈4ft of fly ash in former SB1 roughly 20-25 truck loads (15cy each) taken to landfill
- talk about sedtrap 1 not being installed and using Silt fences in the interim

10:00AM - Walk/Observe remainder of project Site w/Ryan. extent of progress includes silt fence placement, topsoil Stockpiling, fly ash/soil excavation and rough grading of SB1.

10:30AM - Yasmin (DEC) and Harold (Greenidge) arrive. Discuss Scheduling for remainder of week and scheduling scheme to adopt for remainder of project. Status updates from Ryan every other day)
- Walk site with Harold and Yasmin

11:00Am - Yasmin and Harold leave
- Observe Soil/fly ash Stockpile with Ryan and take measurements

12:15pm - Left site.

OBSERVER:	SIGNATURE:	DATE:
Joe Randel	Joseph T. Randel	9/26/16

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2620 Grand Island Blvd. Grand Island, New York 14072 ph (716) 773-6872 /fax (716) 773-6873 www.daiglerengineering.com

Memorandum

Date: September 21, 2016

To: File

From: Joe Randel, EIT, Daigler Engineering, P.C.

RE: Lockwood Hills Stormwater Separation Plan
Sediment Basin 1 and North Channel Construction
Key Components for Observation and Certification

Erosion and Sediment Control

- **Sediment Traps**
  - Measure
    - N/A Embankment height (4 feet outside maximum, 5.5 inside maximum)
    - N/A Weir depth (1 foot minimum)
    - N/A Weir bottom width (4.6 feet ST1, 2.7 feet ST2)
    - N/A Stone filling size and depth (4 feet outside maximum, 5.5 inside maximum, Light Type II)
    - N/A Stone apron length (minimum 10 feet)
  - Observe
    - N/A Sediment Accumulation (maximum 50% of design depth)
    - N/A Compact 90% maximum dry density (visual verification)
- **Earth Dike**
  - Measure
    - N/A Dike height (maximum 18 inches)
    - N/A Embankment width (24 inches)
    - N/A Flow channel depth (8 inches)
    - N/A Flow channel width (48 inches)
  - Observe
    - N/A Compact 90% maximum dry density (visual verification)
    - N/A Dike stabilized within 2 days of completion
- **Silt Fence**
  - Measure
    - [illegible] Fence embedment depth (minimum 8 inches into ground, observe integrity)
    - [illegible] Fence height (minimum 16 inches above ground)
    - [illegible] Post height (18 inches above ground)
    - 6-8 Post spacing (6 feet) OK

0.5'-0.6' 2.4'-2.5' 2.5' 2.4' 2.7' [illegible]

Fence height = 3.8'
Post height = 3.5'

- Observe
  - yes Post integrity (sufficient embedment/resistance against pullout)
  - None Sediment accumulation
  - yes Position/location in accordance with plans and where needed
- **Sediment Basin 1 Pipe Outlet Protection**
  - Measure
    - N/A Apron length (28 feet)
    - N/A Vertical Extent of riprap up channel bank
    - N/A Thickness of riprap (29 inches)
    - N/A Size of riprap (Type III)

→ Intend to install metal Basin 1 as sed trap 1 is not installed.

- Stabilization and Site Restoration
  - Observe
    - N/A Topsoil thickness (minimum 4 inches)
    - N/A Mulch thickness (one inch loose over 100% of seeded area)
  - Observe
    - ✓ Topsoil Material (good quality) → Stockpiled
    - N/A Mulch material (dry oat or wheat straw)
    - Not Checked Within 48 hours of reaching final grade, permanent or temporary seeding (depending on date) shall be placed
    - N/A Mulch and temporary seeding slap be placed in areas that will be exposed for more than 14 days (areas that have not reached final grade)
    - N/A Prior to October 15, mulch and temporary seeding in completed areas (see CD-7 for list)
    - N/A Following October 15, mulch and permanent seeding in completed areas (See CD-7 for list)
    - N/A Seeding rate shall be in accordance with Construction Drawings (type and respective rate on CD-7)
- **Observation of potential locations for offsite sediment migration**
  - In channel leaving site
  - Offsite if possible

Design Measurements to be Taken

- **Channel bottom width**
  - N/A Reach 9 (East transition channel to junction area)
  - N/A Reach 10 (Junction area)
  - N/A Reach 11 (Junction area)
  - N/A Reach 12 (North channel)
- **Channel depth**
  - N/A Reach 9 (East transition channel to junction area)
  - N/A Reach 10 (Junction area)
  - N/A Reach 11 (Junction area)
  - N/A Reach 12 (North channel)
- **Riprap** (Reach 10 and 11)
  - N/A Thickness (minimum 18 inches)
  - N/A Approximate size of stone delivered onsite and placed (See Construction Drawings)
  - N/A Resulting in a minimum void ratio (specifically for downchute into Reach 10)

- **Junction Area** (Reach 10 and 11)

N/A Height of Embankment (3.5 feet)
N/A Top width of embankment (4 feet)

- **Bedding and backfill at 10 inch casing (8 inch pipe) crossing (see direct observation below)**

N/A Bedding Type 1 (minimum 2 inches)
N/A Backfill Type 2 (minimum 8 inches)

- **Concrete lined channel**

N/A Length (minimum 8 feet)
N/A Thickness (minimum 4 inches)
N/A Bottom width (channel width, 11 feet)

- **Riser Structure openings** – may be completed during or after construction with wood rule or measuring tape. Includes:

N/A CPv orifice (3 inches)
N/A Pipe to orifice (6 inches)
N/A Weir (2.8 feet)
N/A Outlet culvert (30 inches)

- **Aquatic bench**

N/A Width (minimum 15 feet)
N/A Northeast Wetland Hummock emergent planting rate (according to manufacturer specification)
N/A Bare root transplant spacing (3 feet on center)

- **Sediment Basin 1 emergency spillway**

N/A Depth (minimum 1.75 feet)
N/A Bottom width (minimum 23 feet)

- **Inlet to Sediment Basin 1**

N/A Depth (minimum 1.75 feet)
N/A Bottom Width (minimum 15 feet)

Direct Observation of Installation (Critical Aspects of Project to be Present for)

- Riprap Placement: May occur following placement with sample area representative of installation throughout area left exposed. Placement process shall include:
  - Placement by hand
  - Resulting in a minimum void ratio (specifically for downchute into Reach 10)
- Installation of Groundwater Drain 01 including excavation of existing condition, placement of perforated pipe, sand bentonite plug, and backfill
- Installation of riser structure and components (culvert, inverted pipe, orifice plate)
- Bedding stone placement
  - Bedding (2 inches), backfill (8 inches over top of pipe), and riprap placement (18 inches) at 10-inch pipe crossing in junction area
  - For riser structure (6 inches minimum)

Items to be Surveyed upon Completion (Horizontal and Vertical Alignment)

- Channel initiation and termination points (on each reach, survey at every change in slope). Includes:
  - Reach 9 invert

    - Reach 10 invert and embankment elevation on north side of channel
    - Reach 11 invert and embankment elevation on north side of channel
    - Reach 12 invert and embankment elevation on north side of channel
    - Downchute into Reach 10 from existing asphalt channel, including east and west embankments
- Inlet to forebay (invert)
- Forebay
    - Four bottom corners as indicated on Construction Drawings
    - Changes in slope at 10 foot intervals around forebay perimeter and at every corner
        - Forebay bottom at toe of 2:1 slope
        - Embankment top of 2:1 slope
- Inlet to Sediment Basin 1 (from forebay)
- Basin
    - Four bottom corners as indicated on Construction Drawings
    - Changes in slope at 15 foot intervals around basin perimeter and through centroid of every horizontal curve (corners)
        - Basin bottom at toe of 2:1 slope
        - Aquatic Bench top and toe of 10:1 slope
        - Embankment top of 4:1 slope
    - Riser structure outlet elevations. Includes:
        - Top of structure (all four corners)
        - CPv Orifice and PVC pipe inlet
        - Weir
        - Corrugated HDPE pipe outlet
- Sediment Basin 1 emergency spillway
- Pipe outlet inverts
    - Into Reach 10 (Junction Area)
    - Riser structure discharge pipe
- Groundwater drain 01 outlet invert to north channel, affected southern sideslope (if any), and channel embankment height directly north of outlet
- Relocated alignment of leachate pond fence

Notes and Additional Information

- Request bill of lading for material used onsite or proof of product/material use for certification purposes. Includes but not limited to:
    - Stone fill used for riprap
    - Bedding and backfill stone
    - General seed mix, drainage channel seed mix, and straw mulch
    - Aquatic bench plantings and seed mix
    - Riser Structure shop drawing
    - Steel grate specifications
    - AGRIDrain Bar Guard literature
    - Orifice plate assembly

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DAILY CONSTRUCTION INSPECTION REPORT

PROJECT: STORMWATER SEPARATION PLAN	DATE: 10 9/3/16
OWNER: *LOCKWOOD HILLS LLC.*	

ARRIVE TIME: 8:30AM	DEPART TIME: ~~11:05 AM~~ 11:20AM
WEATHER CONDITIONS: Cloudy, Sprinkling	
TEMPERATURE: ~65°F AM	PM
SITE CONDITIONS: Wet and saturated	

PERSONNEL AND EQUIPMENT:
Ryan Stell - City Hill Construction
Joe Randel - Daigler Engineering
Nate - City Hill Construction
Jared Miller - City hill construction
Tim - NYSEG
Harold sexton and Paul Lucas - Greenidge generation

INSPECTIONS/TESTS/SAMPLES/MATERIALS RECEIVED:
Silt Fence observation - Check for sediment Buildup + Integrity
Construction observation - Check progress to date
Sediment Trap Observation - 4" sediment/loose material in bottom

CONSTRUCTION ACTIVITIES:
- Removing Fence Southwest of leachate Pond
- Sealing 10" curing gap @ Pipe crossing North channel.
- Removing Concrete Junction box + Related Culverts

OBSERVER:	SIGNATURE:	DATE:
Joe Randel	Joseph P. Randel	10 9/3/16

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DAILY CONSTRUCTION INSPECTION REPORT (SUPPLEMENTAL SHEET)

PROJECT: LEACHTE FLOW MONITORING PLAN	DATE: 9/13/16

8:30 - Arrive onsite, City Hill Removing Junction box
- Meet City Hill laborer and he explains plan of work being done prior to meeting @ 10AM w/NYSEG

8:45 - Observed Sediment trap construction west of SB1 and took measurements

9:00 - Observed Silt Fence installed north of SB1, took measurements
- observed Progress on SB1, laborer indicated that they plan to overexcavate 1' and backfill with topsoil for vegetation growth.
- Observed piles of excavated material of till nature piled east of proposed location of Forebay 1.

9:30 - observe soil stockpile (topsoil) east of Leachate Pond and Silt Fence installed north of pile
- observed sediment build up and took measurements
- City Hill cutting corner of fence @ South west corner of Pond.

9:45 - Observed Stone filling Stockpile west of leachate pond, took measurements.

10:00 - meeting w/ Greenidge, City Hill, and NYSEG. to discuss construction under electrical lines

10:30 - Meeting over. Finish observing stone filling → Got approximate size list
- Inform City Hill of missing apron downstream of Sediment trap.

11:05 - ~~Left site~~. Observed Stone filling stockpile east of access road to site (Sludge basin)

11:20 - left site

OBSERVER:	SIGNATURE:	DATE:
Joe Randell	Joseph P Randell	9/13/16

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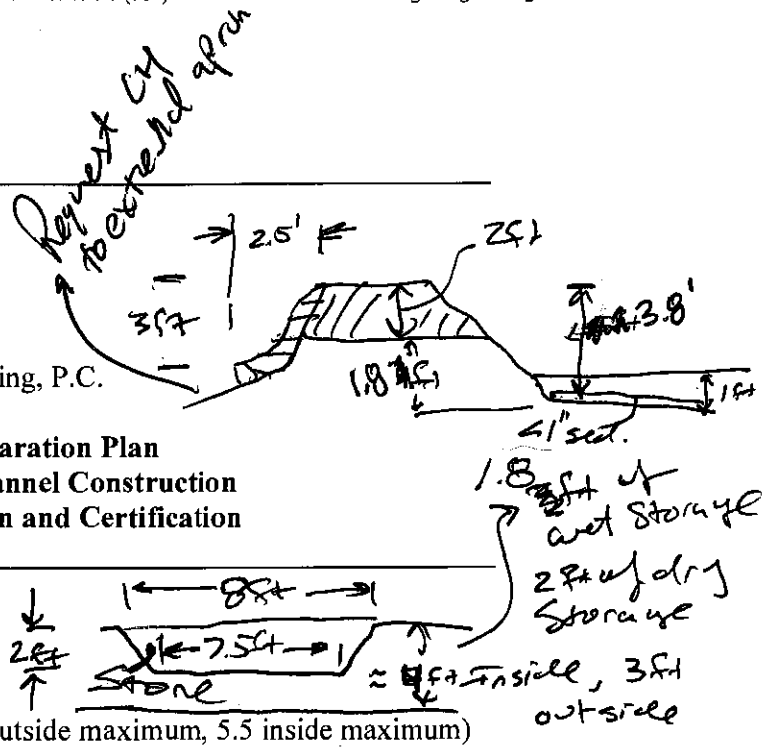
Memorandum

Date: September 21, 2016

To: File

From: Joe Randel, EIT, Daigler Engineering, P.C.

RE: Lockwood Hills Stormwater Separation Plan
Sediment Basin 1 and North Channel Construction
Key Components for Observation and Certification



Erosion and Sediment Control

- **Sediment Traps**
  - Measure
    - ____ Embankment height (4 feet outside maximum, 5.5 inside maximum)
    - 2Ft Weir depth (1 foot minimum)
    - 7.5Ft Weir bottom width (4.6 feet ST1, 2.7 feet ST2)
    - 2Ft Stone filling size and depth (4 feet outside maximum, 5.5 inside maximum, Light Type (II) → majority 4-5 inches, 0< 1/2" 10% >6"
    - 2.5Ft Stone apron length (minimum 10 feet)
  - Observe
    - 1" Sediment Accumulation (maximum 50% of design depth)
    - Appears compact Compact 90% maximum dry density (visual verification)
- **Silt Fence** → minor erosion of berm
  - Measure
    - ____ Fence embedment depth (minimum 8 inches into ground, observe integrity)
    - ____ Fence height (minimum 16 inches above ground)
    - ____ Post height (18 inches above ground)
    - 6'-7' Post spacing (6 feet)
  - Observe
    - ✓ Post integrity (sufficient embedment/resistance against pullout)
    - None Sediment accumulation
    - ✓ Position/location in accordance with plans and where needed
- **Sediment Basin 1 Pipe Outlet Protection**
  - Measure
    - N/A Apron length (28 feet)
    - N/A Vertical Extent of riprap up channel bank
    - N/A Thickness of riprap (29 inches)

N/A Size of riprap (Type III)

- Stabilization and Site Restoration → Sediment Basin 1 seeded
  - Observe

N/A Topsoil thickness (minimum 4 inches)

N/A Mulch thickness (one inch loose over 100% of seeded area)

  - Observe

N/A Topsoil Material (good quality)

N/A Mulch material (dry oat or wheat straw)

N/A Within 48 hours of reaching final grade, permanent or temporary seeding (depending on date) shall be placed

N/A Mulch and temporary seeding slap be placed in areas that will be exposed for more than 14 days (areas that have not reached final grade)

N/A Prior to October 15, mulch and temporary seeding in completed areas (see CD-7 for list)

N/A Following October 15, mulch and permanent seeding in completed areas (See CD-7 for list)

N/A Seeding rate shall be in accordance with Construction Drawings (type and respective rate on CD-7)

- **Observation of potential locations for offsite sediment migration**
  - In channel leaving site → Sediment trap in Place- No sediment build up adjacent to outlet weir.
  - Offsite if possible

Design Measurements to be Taken

- **Channel bottom width**

N/A Reach 9 (East transition channel to junction area)

N/A Reach 10 (Junction area)

N/A Reach 11 (Junction area)

N/A Reach 12 (North channel)

- **Channel depth**

N/A Reach 9 (East transition channel to junction area)

N/A Reach 10 (Junction area)

N/A Reach 11 (Junction area)

N/A Reach 12 (North channel)

- **Riprap** (Reach 10 and 11)

_____ Thickness (minimum 18 inches)

_____ Approximate size of stone delivered onsite and placed (See Construction Drawings)

_____ Resulting in a minimum void ratio (specifically for downchute into Reach 10)

- **Junction Area** (Reach 10 and 11)

N/A Height of Embankment (3.5 feet)

N/A Top width of embankment (4 feet)

- **Bedding and backfill at 10 inch casing (8 inch pipe) crossing (see direct observation below)**

N/A Bedding Type 1 (minimum 2 inches)

N/A Backfill Type 2 (minimum 8 inches)

- **Concrete lined channel**

N/A Length (minimum 8 feet)

_____ Thickness (minimum 4 inches)
_____ Bottom width (channel width, 11 feet)

- **Riser Structure openings** – may be completed during or after construction with wood rule or measuring tape. Includes:

N/A CPv orifice (3 inches)
N/A Pipe to orifice (6 inches)
N/A Weir (2.8 feet)
N/A Outlet culvert (30 inches)

- **Aquatic bench**

N/A Width (minimum 15 feet)
N/A Northeast Wetland Hummock emergent planting rate (according to manufacturer specification)
N/A Bare root transplant spacing (3 feet on center)

- **Sediment Basin 1 emergency spillway**

N/A Depth (minimum 1.75 feet)
N/A Bottom width (minimum 23 feet)

- **Inlet to Sediment Basin 1**

N/A Depth (minimum 1.75 feet)
N/A Bottom Width (minimum 15 feet)

Direct Observation of Installation (Critical Aspects of Project to be Present for)

- Riprap Placement: May occur following placement with sample area representative of installation throughout area left exposed. Placement process shall include:
  - Placement by hand
  - Resulting in a minimum void ratio (specifically for downchute into Reach 10)
- Installation of Groundwater Drain 01 including excavation of existing condition, placement of perforated pipe, sand bentonite plug, and backfill
- Installation of riser structure and components (culvert, inverted pipe, orifice plate)
- Bedding stone placement
  - Bedding (2 inches), backfill (8 inches over top of pipe), and riprap placement (18 inches) at 10-inch pipe crossing in junction area
  - For riser structure (6 inches minimum)

Items to be Surveyed upon Completion (Horizontal and Vertical Alignment)

- Channel initiation and termination points (on each reach, survey at every change in slope). Includes:
  - Reach 9 invert
  - Reach 10 invert and embankment elevation on north side of channel
  - Reach 11 invert and embankment elevation on north side of channel
  - Reach 12 invert and embankment elevation on north side of channel
  - Downchute into Reach 10 from existing asphalt channel, including east and west embankments
- Inlet to forebay (invert)
- Forebay
  - Four bottom corners as indicated on Construction Drawings
  - Changes in slope at 10 foot intervals around forebay perimeter and at every corner

        - Forebay bottom at toe of 2:1 slope
        - Embankment top of 2:1 slope
- Inlet to Sediment Basin 1 (from forebay)
- Basin
    - Four bottom corners as indicated on Construction Drawings
    - Changes in slope at 15 foot intervals around basin perimeter and through centroid of every horizontal curve (corners)
        - Basin bottom at toe of 2:1 slope
        - Aquatic Bench top and toe of 10:1 slope
        - Embankment top of 4:1 slope
    - Riser structure outlet elevations. Includes:
        - Top of structure (all four corners)
        - CPv Orifice and PVC pipe inlet
        - Weir
        - Corrugated HDPE pipe outlet
- Sediment Basin 1 emergency spillway
- Pipe outlet inverts
    - Into Reach 10 (Junction Area)
    - Riser structure discharge pipe
- Groundwater drain 01 outlet invert to north channel, affected southern sideslope (if any), and channel embankment height directly north of outlet
- Relocated alignment of leachate pond fence

Notes and Additional Information

- Request bill of lading for material used onsite or proof of product/material use for certification purposes. Includes but not limited to:
    - Stone fill used for riprap
    - Bedding and backfill stone
    - General seed mix, drainage channel seed mix, and straw mulch
    - Aquatic bench plantings and seed mix
    - Riser Structure shop drawing
    - Steel grate specifications
    - AGRIDrain Bar Guard literature
    - Orifice plate assembly

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DAILY CONSTRUCTION INSPECTION REPORT

PROJECT: STORMWATER SEPARATION PLAN	**DATE:** 10/19/16
OWNER: *LOCKWOOD HILLS LLC.*	

ARRIVE TIME: 8:40AM		**DEPART TIME:**	
WEATHER CONDITIONS: Sunny turning cloudy			
TEMPERATURE:	≈60°F **AM**	≈70°F	**PM**
SITE CONDITIONS: Wet			

PERSONNEL AND EQUIPMENT:
Joe Raedel – Daigler Engineering
Ryan Stell – City Hill construction + 3 Laborers
- CAT R390 Dump Truck
- CAT 315C Excavator
Harold Sexton – Greenidge Generation

INSPECTIONS/TESTS/SAMPLES/MATERIALS RECEIVED:
- Observation of Groundwater drain Installation
- Inspected erosion + Sediment Controls (Silt fence, Sediment trap)
- Measurements of Completed portion of North channel, Sediment Basin, Forebay, and Sediment trap

CONSTRUCTION ACTIVITIES:
- Installation of Groundwater drain 01
- Bedding of leachate pipe crossing

OBSERVER:	**SIGNATURE:**	**DATE:**
Joe Raedel	Joseph P. Raedel	10/19/16

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DAILY CONSTRUCTION INSPECTION REPORT (SUPPLEMENTAL SHEET)

PROJECT: LEACHTE FLOW MONITORING PLAN	DATE: 10/19/16

8:45AM- Arrived onsite
- City hill has groundwater drain excavated to Stone trench
- placing fill to level pipe per plans.
- 9:00AM- meet Ryan and discuss progress and plan for this week.
- observe channel, forebay, and basin progress.
- 9:15AM- observe apron length extension for sediment trap, weir not yet in place
- 9:30 AM- Harold arrives onsite, discussion of progress.
- City hill places 3-4" of bedding Stone below ~~groundwater drain~~ leachate pipe crossing
- 9:50 AM - Harold leaves
- City hill begins placing sand betonite plug. Material is very fine grained and contains plastic clumps of clay. Becomes more plastic upon wetting. Minor Sized sized particles
10:00AM- City hill places 32' long 8" sch 80 PVC with 1/2" perforations on 4' of pipe segment in 1' deep Stone cavity. Backfilled with Stone (approx 5' stone lengthwise of pipe)
10:40AM. City hill backfills + compacts plug followed by native fill
10:50 AM Begin taking measurements of completed north channel, Basin, forebay, position of berth, and seed trap.
12:50 - Measured invert of groundwater drain OL, determined invert too low, informed City hill, they will raise invert Tuesday
1:38 - Left site

OBSERVER:	SIGNATURE:	DATE:
Joe Randel	Joseph P. Randel	10/19/16

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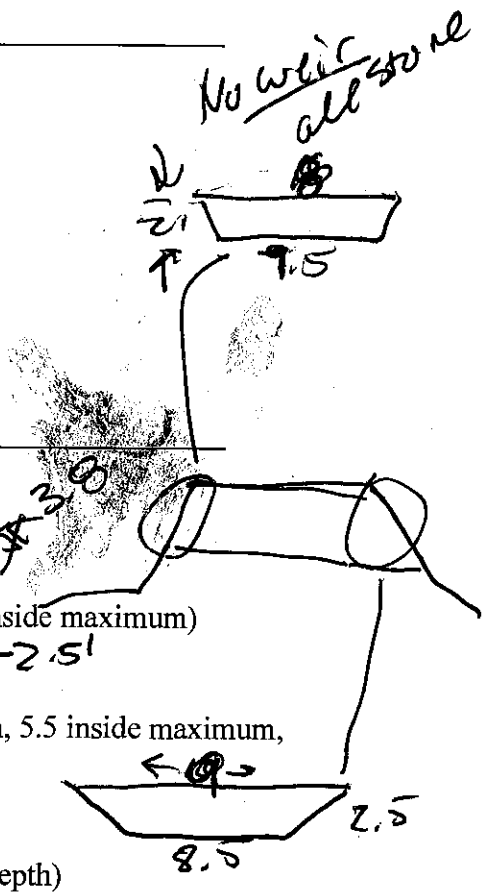
Memorandum

Date: September 21, 2016

To: File

From: Joe Randel, EIT, Daigler Engineering, P.C.

RE: Lockwood Hills Stormwater Separation Plan
Sediment Basin 1 and North Channel Construction
Key Components for Observation and Certification



Erosion and Sediment Control

- **Sediment Traps**
  - Measure
    - 3 - 3.5 Embankment height (4 feet outside maximum, 5.5 inside maximum)
    - — Weir depth (1 foot minimum) Stone depth 2-2.5'
    - — Weir bottom width (4.6 feet ST1, 2.7 feet ST2)
    - ok Stone filling size and depth (4 feet outside maximum, 5.5 inside maximum, Light Type II)
    - 18' Stone apron length (minimum 10 feet)
  - Observe
    - 2" Sediment Accumulation (maximum 50% of design depth)
    - Compact Compact 90% maximum dry density (visual verification)
- **Silt Fence**
  - Measure
    - 7"-8" Fence embedment depth (minimum 8 inches into ground, observe integrity)
    - 2.2-2.3' Fence height (minimum 16 inches above ground)
    - 2.3-2.4' Post height (18 inches above ground)
    - 6'-7' Post spacing (6 feet)
  - Observe
    - okay Post integrity (sufficient embedment/resistance against pullout)
    - Minor Sediment accumulation - Soil Stockpile pushed up against portions
    - Yes Position/location in accordance with plans and where needed
- **Sediment Basin 1 Pipe Outlet Protection**
  - Measure
    - N/A Apron length (28 feet)
    - N/A Vertical Extent of riprap up channel bank
    - N/A Thickness of riprap (29 inches)

Post height: 3.6' appears .6'-.7'

Silt Fence east of leachate pad Slightly damaged and ground thus undercut fence in some locations

Post damage does not severely hinder sediment capture

N/A Size of riprap (Type III)

- Stabilization and Site Restoration
  - Observe

yes Topsoil thickness (minimum 4 inches) → City will "approximate"

N/A Mulch thickness (one inch loose over 100% of seeded area)

  - Observe

yes Topsoil Material (good quality)

— Mulch material (dry oat or wheat straw) - hydro seed / hydro mulch

yes Within 48 hours of reaching final grade, permanent or temporary seeding (depending on date) shall be placed

N/A Mulch and temporary seeding slap be placed in areas that will be exposed for more than 14 days (areas that have not reached final grade)

N/A Prior to October 15, mulch and temporary seeding in completed areas (see CD-7 for list)

yes Following October 15, mulch and permanent seeding in completed areas (See CD-7 for list) - Basin, banks of basin + Seal trap

N/A Seeding rate shall be in accordance with Construction Drawings (type and respective rate on CD-7) - hydro seeding / hydro mulch

- **Observation of potential locations for offsite sediment migration**
  - In channel leaving site
  - Offsite if possible

Design Measurements to be Taken

- **Channel bottom width**

N/A Reach 9 (East transition channel to junction area)

N/A Reach 10 (Junction area)

N/A Reach 11 (Junction area)

_____ Reach 12 (North channel) - west side of NW wells (Finished) ≈ ~~12~~ 14.1'
- east side of NW wells (Rough grade) ≈ 12-2'

- **Channel depth**

N/A Reach 9 (East transition channel to junction area)

N/A Reach 10 (Junction area)

N/A Reach 11 (Junction area)

— Reach 12 (North channel) - west side of NW wells (Finished) - 1.8' - 2' (west is less than east)
- East side of NW wells (Rough grade) ≈ 2'

- **Riprap** (Reach 10 and 11)

N/A Thickness (minimum 18 inches)

N/A Approximate size of stone delivered onsite and placed (See Construction Drawings)

N/A Resulting in a minimum void ratio (specifically for downchute into Reach 10)

- **Junction Area** (Reach 10 and 11)

N/A Height of Embankment (3.5 feet)

N/A Top width of embankment (4 feet)

- **Bedding and backfill at 10 inch casing (8 inch pipe) crossing (see direct observation below)**

2"-3" Bedding Type 1 (minimum 2 inches)

N/A Backfill Type 2 (minimum 8 inches)

- **Concrete lined channel**

N/A Length (minimum 8 feet)

N/A Thickness (minimum 4 inches)
N/A Bottom width (channel width, 11 feet)

- **Riser Structure openings** – may be completed during or after construction with wood rule or measuring tape. Includes:

N/A CPv orifice (3 inches)
N/A Pipe to orifice (6 inches)
N/A Weir (2.8 feet)
N/A Outlet culvert (30 inches)

- **Aquatic bench**

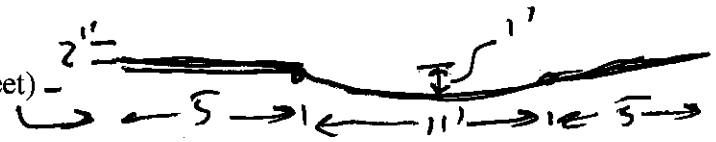
13-15' Width (minimum 15 feet)
N/A Northeast Wetland Hummock emergent planting rate (according to manufacturer specification)
N/A Bare root transplant spacing (3 feet on center)

- **Sediment Basin 1 emergency spillway**

N/A Depth (minimum 1.75 feet)
N/A Bottom width (minimum 23 feet)

- **Inlet to Sediment Basin 1**

1' Depth (minimum 1.75 feet)
— Bottom Width (minimum 15 feet) –



Direct Observation of Installation (Critical Aspects of Project to be Present for)

- Riprap Placement: May occur following placement with sample area representative of installation throughout area left exposed. Placement process shall include:
  - Placement by hand
  - Resulting in a minimum void ratio (specifically for downchute into Reach 10)
- Installation of Groundwater Drain 01 including excavation of existing condition, placement of perforated pipe, sand bentonite plug, and backfill
- Installation of riser structure and components (culvert, inverted pipe, orifice plate)
- Bedding stone placement
  - Bedding (2 inches), backfill (8 inches over top of pipe), and riprap placement (18 inches) at 10-inch pipe crossing in junction area
  - For riser structure (6 inches minimum)

Items to be Surveyed upon Completion (Horizontal and Vertical Alignment)

- Channel initiation and termination points (on each reach, survey at every change in slope). Includes:
  - Reach 9 invert
  - Reach 10 invert and embankment elevation on north side of channel
  - Reach 11 invert and embankment elevation on north side of channel
  - Reach 12 invert and embankment elevation on north side of channel
  - Downchute into Reach 10 from existing asphalt channel, including east and west embankments
- Inlet to forebay (invert)
- Forebay
  - Four bottom corners as indicated on Construction Drawings
  - Changes in slope at 10 foot intervals around forebay perimeter and at every corner

        - Forebay bottom at toe of 2:1 slope
        - Embankment top of 2:1 slope
- Inlet to Sediment Basin 1 (from forebay)
- Basin
    - Four bottom corners as indicated on Construction Drawings
    - Changes in slope at 15 foot intervals around basin perimeter and through centroid of every horizontal curve (corners)
        - Basin bottom at toe of 2:1 slope
        - Aquatic Bench top and toe of 10:1 slope
        - Embankment top of 4:1 slope
    - Riser structure outlet elevations. Includes:
        - Top of structure (all four corners)
        - CPv Orifice and PVC pipe inlet
        - Weir
        - Corrugated HDPE pipe outlet
- Sediment Basin 1 emergency spillway
- Pipe outlet inverts
    - Into Reach 10 (Junction Area)
    - Riser structure discharge pipe
- Groundwater drain 01 outlet invert to north channel, affected southern sideslope (if any), and channel embankment height directly north of outlet
- Relocated alignment of leachate pond fence

Notes and Additional Information

- Request bill of lading for material used onsite or proof of product/material use for certification purposes. Includes but not limited to:
    - Stone fill used for riprap
    - Bedding and backfill stone
    - General seed mix, drainage channel seed mix, and straw mulch
    - Aquatic bench plantings and seed mix
    - Riser Structure shop drawing
    - Steel grate specifications
    - AGRIDrain Bar Guard literature
    - Orifice plate assembly

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DAILY CONSTRUCTION INSPECTION REPORT

PROJECT: STORMWATER SEPARATION PLAN	**DATE:** 10/25/16
OWNER: *LOCKWOOD HILLS LLC.*	

ARRIVE TIME: 8:40 AM		**DEPART TIME:** 2:55PM	
WEATHER CONDITIONS: Cloudy, cold, Slight breeze			
TEMPERATURE:	≈45°F **AM**	≈50°F	**PM**
SITE CONDITIONS: Wet			

PERSONNEL AND EQUIPMENT:

Joe Raudel - Daigler Engineering
Ryan Stell - City hill construction + 2 laborers

INSPECTIONS/TESTS/SAMPLES/MATERIALS RECEIVED:

- North Channel measurements (bottom width + depths - abandoned 1/2 way through
- Backfill Stone depth measurements (leachate pipe)
- Type II Stone fill depth
- Asphalt lined channel → Stone (type III) downchute transition
- Type II and III Stone fill inspection

CONSTRUCTION ACTIVITIES:

- City hill cutting in Junction area
- Backfill stone placement
- Type II and III Stone placement

OBSERVER:	**SIGNATURE:**	**DATE:**
Joe Raudel		10/25/16

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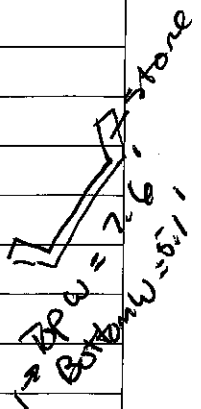
DAILY CONSTRUCTION INSPECTION REPORT (SUPPLEMENTAL SHEET)

PROJECT: LEACHTE FLOW MONITORING PLAN	DATE: 10/25/16

8:40AM- Arrive onsite
- City hill laborers + Ryan Stell Staking out junction area + Preparing GPS.
- Discussion with Ryan about planned work for the day + Rock to grass lined channel transition

9:00AM- Inspect rock to be used for downchute from former downchute + from imported ~~fill~~ Stockpile.

9:15AM- Observe forebay and basin (full of water)
- City hill pumping out basin to Sediment trap
- Observe sed trap outflow and notice Slight Cloudyness in discharge, Suggest to City hill moving pump discharge to reduce mixing from bottom of trap. Apron measures ≈ 10.8' (Revised apron)



9:40AM- City hill begins cutting in additional Junction area & widen, continuing work from previous day.
- City hill also sorting Stones from reused Stone Fill.
- Discussion w/ laborer about Selective placement.

10:00AM- Begin measuring width of north Channel. Stop ≈ halfway from junction area, Call Ryan Stell.

11:05AM- Observe changes to Basin pump discharge to leachate pond drainage Channel, walked reuka outlet to observe possible Sediment laden water
- Minor Cloudyness observed downstream.

12:00Pm- Return to downchute area. City hill continues cutting in Junction area, additional large Stone fill placed at toe of downchute.

OBSERVER:	SIGNATURE:	DATE:
Joe Rudel	Joseph P. Rudel	10/25/16

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DAILY CONSTRUCTION INSPECTION REPORT (SUPPLEMENTAL SHEET)

PROJECT: LEACHTE FLOW MONITORING PLAN	DATE: 10/25/16

12:45PM - City hill placing Type 2 Stone above leachate pipe crossing.
12:30PM - Take measurements for asphalt lined channel transition to downchute, (Channel depth, bottom and top width.)
1:00PM - Take measurements of backfill Stone above leachate pipe crossing.
1:15PM - Call office (DE) and update Bethany w/progress
1:30PM - Check Sed trap discharge (3rd time), further decrease in Cloudyness observed.
2:15PM - Observe Type II Stone fill placement adjacent to backfill Stone, measured 14 inches directly adjacent to backfill Stone, additional placement upstream resulted in 18" thickness.
2:55PM - Left site for home

Silt Fense:
Post Spacing = 6'-7'
Fence height = 2.3-2.4' } 0.5-0.6 Fence embedment
Post height = 2.4-2.6'

OBSERVER:	SIGNATURE:	DATE:
Joe Rondel	Joseph P. Rondel	10/25/16

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DAILY CONSTRUCTION INSPECTION REPORT

PROJECT: STORMWATER SEPARATION PLAN	**DATE:** 10/28/16
OWNER: *LOCKWOOD HILLS LLC.*	

ARRIVE TIME: 12:45 pm		**DEPART TIME:** 6:15 PM	
WEATHER CONDITIONS: Sunny, Calm Breeze			
TEMPERATURE:	**AM** ———	≈45°F	**PM**
SITE CONDITIONS: Wet, ponding in low areas			

PERSONNEL AND EQUIPMENT:
Joe Randel - Daigler Engineering
Ryan Steffl - City Hill Construction + 3 laborers
CAT 750B25 Dump truck
CAT 320 D Excavator

INSPECTIONS/TESTS/SAMPLES/MATERIALS RECEIVED:
- Junction area width measurements
- Junction area Stone thickness measurements
- ~~Junction~~ Concrete lined channel measurements.
- RSB Structure ~~Rockout~~ measurements.

CONSTRUCTION ACTIVITIES:
- City Hill - Excavating trench in SB1 ~~normal~~ ~~channel~~ embankment for pipe / Bedding Stone
- City hill - placement of Bedding Stone in pipe trench
- City Hill RSB Structure ~~footer~~ bedding Stone Placement + Base Placement.

OBSERVER:	**SIGNATURE:**	**DATE:**
Joe Randel	Joseph P. Randel	10/28/16

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DAILY CONSTRUCTION INSPECTION REPORT (SUPPLEMENTAL SHEET)

PROJECT: LEACHTE FLOW MONITORING PLAN	DATE: 10/28/16

12:45Pm- Arrived onsite, Discussion w/City Hill laborers about Site conditions delaying morning's work
1:10Pm- measured Concrete lined channel
1:20Pm -measured junction area width (finished portion)
1:30Pm - measured depth of junction area Stone
1:45Pm - Observed Sediment trap outlet and progressing Erosion of Southern embankment of outlet. Stone absent in this location. Advised City Hill to place additional Stone in this area and extend apron further.
2:00Pm City hill begins excavating SB1 embankment for ~~pipe~~ placement of bedding Stone.
2:15Pm Ryan Arrives, Discussion of items that need rectification and revised Schedule sent to Dec
2:20Pm City hill done excavating trench for discharge pipe, begins excavating for placement of Structure (Riser) ~~and begins placing bedding~~
2:40Pm City hill begins placing bedding Stone, continues excavating for riser Structure
3:03Pm - City hill re-evaluates bedding stone slope, determines that it is incorrect after Consulting plans.
3:45Pm - City Hill Begins placing outlet pipe sections 28ft at a time.
5:08Pm - City hill finished 40' of pipe, placing bedding Stone for riser.
5:15Pm - City hill ~~Begins~~ Begins placing riser Structure base.
5:45Pm - Riser structure base placed, City Hill checking inverts
6:10Pm - Left Site

Silt Fence: Fence height - 2.3-2.4
Post height 2.4-2.6

OBSERVER:	SIGNATURE:	DATE:
Joe Randel		10/28/16

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DAILY CONSTRUCTION INSPECTION REPORT

PROJECT: STORMWATER SEPARATION PLAN	**DATE:** 11/8/16
OWNER: *LOCKWOOD HILLS LLC.*	

ARRIVE TIME: 8:05AM		**DEPART TIME:** 4:20Pm	
WEATHER CONDITIONS: Sunny			
TEMPERATURE:	± 50°F **AM**	± 60°F	**PM**
SITE CONDITIONS: Ponding and wet in low areas			

PERSONNEL AND EQUIPMENT:

Joe Randel - Daigler Engineering
Ryan Stell - City Hill Construction + 3 Laborers
- CAT 308C excavator, CAT 320D excavator, CAT 725 Dump truck, Bobcat Skid Steer.
Yasmin - NYSDEC

INSPECTIONS/TESTS/SAMPLES/MATERIALS RECEIVED:

- Construction observation of GWP01 re-installation
- Inspection of completed work.

CONSTRUCTION ACTIVITIES:

- Hauling fill to area north of Junction and 4
- Grading north Channel South bank
- re-placing GWP01

OBSERVER: Joe Randel	**SIGNATURE:** Joseph P. Randel	**DATE:** 11/8/16

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DAILY CONSTRUCTION INSPECTION REPORT (SUPPLEMENTAL SHEET)

PROJECT: LEACHTE FLOW MONITORING PLAN	DATE: 11/8/16

8:05AM - Arrived onsite, Met Crew new GWD01 and discussed work that is planned for today
8:15AM - Discussion w/Ryan about downchute Shape and grading near MW-8407
~~Phone call w/Bethany to verify City hill can raise MW-8407~~
8:35AM - Phone call w/Bethany to verify City Hill can raise Monitoring well, informed Ryan.
8:50AM - City Hill begins grading north channel south bank east of Sorebay
- observe completed Sorebay, SB1 (with Riser) and re-worked Sediment trap outfall.
9:00Am - measurements of re-worked Sed trap outfall
9:10AM - measurements of SB1 Spillway
9:40AM - measurements of Riser structure opening/dimensions
10:00AM - measurements of aquatic bench widths
10:40AM - measurements of FB1 spillway
- City Hill continues grading north channel South bank east of FB1 (halfway to GWD01)
11:10AM - Yasmin arrives for construction inspection. Discuss progress and seeding landfill cap where disturbed
- City hill seeding north area of SB1
11:40AM - Yasmin leaves, City hill begins seeding west portion of SB1
12:00Pm - City hill takes lunch, begin taking measurements on downchute top of slope and leachate System
12:45 Pm - City hill returns from lunch begins excavating GWD01

OBSERVER:	SIGNATURE:	DATE:
Joseph Rundell	Joseph P. Rundell	11/8/16

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Ph (716) 773-6872/ Fax (716)773-6873 www.daiglerengineering.com

DAILY CONSTRUCTION INSPECTION REPORT (SUPPLEMENTAL SHEET)

PROJECT: LEACHTE FLOW MONITORING PLAN	DATE: 11/8/16

GD-01

1:00Pm - City hill reaches ~~trench drain~~ w/excavation, begins placing bedding soil to level pipe
1:30Pm - City hill begins mixing bentonite w/sand
2:00Pm - City hill finished leveling pipe, begins backfilling, leaving area for plug and stone open
2:20 Pm City hill finished mixing, begins placing mix in lifts, compacting w/each placement.
2:55Pm - City hill finished placing first batch of mix, one crew leaves to get more while a laborer begins placing stone proximate perforated portion of pipe
3:10Pm - Finished placing stone, begins backfilling north of plug w/native soil.
3:20 Pm - crew returns, City hill begins mixing bentonite.
3:50Pm - City hill begins placing second batch of ~~mix~~ sand-bentonite + compacting w/each lift
4:10 Pm - City hill finises placing plug (measured minimum 2.6' thick)
4:20 Pm - left site

Silt Fence:
Post Spacing 6-7'
Fence height = 2.2-2.3') 0.6-0.7' embedment
Post height = 2.3-2.4')

OBSERVER: Joe Randel	SIGNATURE: Joseph P. Randel	DATE: 11/8/16

DAIGLER ENGINEERING, P.C.
CIVIL & GEO-ENVIRONMENTAL ENGINEERING
2620 Grand Island Blvd. Grand Island NY 14072 Ph (716) 773-6872/ Fax (716)773-6873 www.daiglerengineering.com

DAILY CONSTRUCTION INSPECTION REPORT

PROJECT: STORMWATER SEPARATION PLAN	**DATE:** 11/30/16
OWNER: *LOCKWOOD HILLS LLC.*	

ARRIVE TIME: 9:30Am		**DEPART TIME:** 11:30Am	
WEATHER CONDITIONS: Windy, Cloudy			
TEMPERATURE:	≈ 50°F **AM**		**PM**
SITE CONDITIONS: Wet			

PERSONNEL AND EQUIPMENT:
Daigler Engineering - Joe Randel
Jim Daigler

INSPECTIONS/TESTS/SAMPLES/MATERIALS RECEIVED:
Final Site inspection

CONSTRUCTION ACTIVITIES:

OBSERVER: Joe Randel	**SIGNATURE:** Joseph P. Randel	**DATE:** 11/30/16

DAIGLER ENGINEERING, P.C.
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2620 Grand Island Blvd. Grand Island NY 14072
Ph (716) 773-6872/ Fax (716)773-6873 www.daiglerengineering.com

DAILY CONSTRUCTION INSPECTION REPORT (SUPPLEMENTAL SHEET)

PROJECT: LEACHTE FLOW MONITORING PLAN	DATE: 11/30/16

9:30AM - Arrived onsite
- Observed junction area and Stone downchute
- inspected rock size

9:45AM - Measured north channel at various locations and at well locations

10:00AM - Observed plantings (bare root transplants) and hummock mix seeding on aquatic bench, → seed appeared ~~scarce~~ thinly applied

10:20AM - Observed final basin grading, forebay, and sediment trap.

11:30AM - Left site

OBSERVER:	SIGNATURE:	DATE:
Joe Randel		11/30/16

ATTACHMENT 4

Kistner Concrete and Zeister Wilbert Vault Shop Drawings EJ Compression Assembly, Frame, and Cover Specification Sheet

Zeiser
Wilbert
VAULT, INC.
CONCRETE PRODUCTS

750 Howard Street
Elmira, NY 14904

Office # (607)733-0568
Fax # (607)737-0291
800-472-4335

CATCH BASIN DATA SHEET

Contractor City Hill Construction
Job Name Lockwood Ash Disposal
Job Location Torrey, NY
Engineer
Approval

C.B. # Basin "1
STA. #

CASTING Frame # #9 Rectangular
Cover ○
Grate ⊗

INSIDE DIM.
4' x 4'

RIM 556.75
INV. 550.00
INV. 547.50
INV. 9.25 - III
INV. - 3
SUMP 108
- 8
100
+ 6
106
- 60
46

COATING
CS-55 ○
EPOXY ○
IN ○
OUT ○
IN & OUT ○
NONE ⊗

WEIGHT

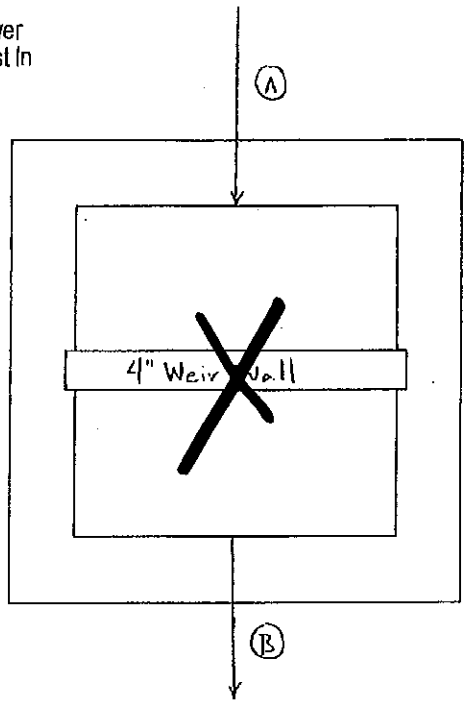
3" Allowed for Casting & Shim

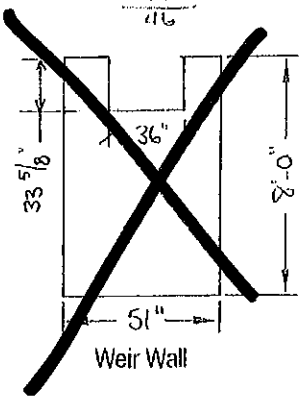
8" Thick Reducing Cover
w/ #9 Rectangular Cast In

46"

60"

6" Extended
Base Slab





Pipe Opening Table

	PIPE SIZE	COREOUT SIZE	K.O. SIZE	OFF BASE DIM.	BOOT MODEL #
A	6" PVC	10"	—	34"	—
B	30" HDPE	"12"	—	0"	—
C					
D					
E					
F					
G					
H					
I					
J					

BASE	
WALLS	
RISER	
READY	

Kistner Concrete Products, Inc.	Project:	Lockwood Leachate Flow Monitoring	
8713 Read Road East Pembroke, NY 14056	Location:	Dresden, NY	
Ph:585-762-8216 Fax:585-762-8315	Cust # & Name:	300	Lockwood Hills LLC

Size: 72"
Type: Mh-24dia-flt
Bid Item ID: N/A
Rim: 561.02'
Invert: 556.77'
Rim to Invert: 4.25'
F&C & adjustment:0.497'
Catch: 0.33'
Floor (Top): 556.44'
Floor (Bot): 555.773'

Str#: **LEACHATE METER PIT rev#1**

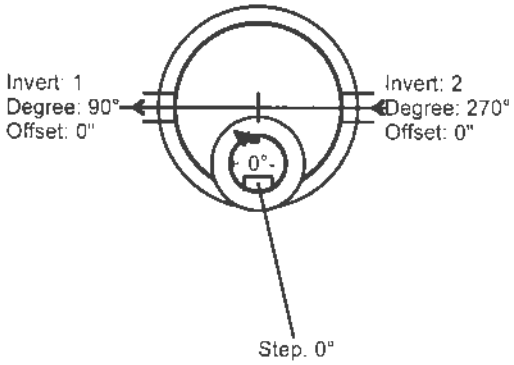
Shop Drawing Approval

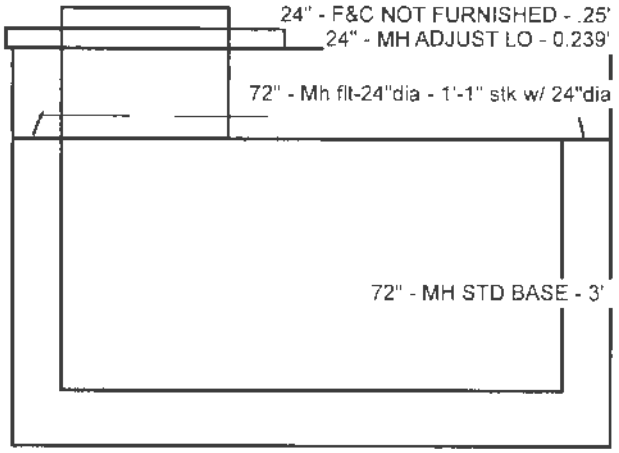
Contr initial.		Date:	
Engineer initial:		Date:	

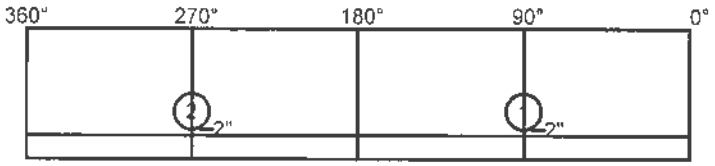
	24" - F&C NOT FURNISHED - .25'	0 lb
	24" - MH ADJUST LO - 0.239'	0 lb
	72" - Mh flt-24"dia - 1'-1" stk w/ 24"dia	4000 lb
	72" - MH STD BASE - 3'	9209 lb
1)	1" - 1misc - ADMIN*	0 lb
1)	72" - MH GASKET - 6'ø GASKET & LUBE	0 lb
2)	8" - MH Boot-st - PSX12-08DD(8-8.63)	0 lb
3)	POLY STEP - MA IND.	0 lb
4.08 VtFt)	NONE REQ'D [INT]	0 lb
4.75 VtFt)	NONE REQ'D [EXT]	0 lb
	Structure Total:	13209 lb

Total Precast Height:	4.75'

Planview - Upright Position







Outside Wall Dimensions

Position	Elev	Angle	Offset	Pipe	Pipe OD	Connector	UP (_)
Rim	561.02'						
Reducer							
Invert 1	556.77'	90°	0"	8" Pvc-sch80	8.625"	8" MH Boot-st PSX12-08DD(8-8.63)	2"
Invert 2	556.77'	270°	0"	8" Pvc-sch80	8.625"	8" MH Boot-st PSX12-08DD(8-8.63)	2"
Invert 3							
Invert 4							
Invert 5							
Invert 6							
Invert 7							
Invert 8							

Elevations are calculated based on pipes centered in openings

4/19/2016 8:01:23 AM Quote ID. 2016030113

Kistner Concrete Products, Inc.	Project:	Lockwood Leachate Flow Monitoring	
8713 Read Road East Pembroke, NY 14056	Location:	Dresden, NY	
Ph:585-762-8216 Fax:585-762-8315	Cust # & Name:	300	Lockwood Hills LLC

Size: 48"
Type: Mh-24dia-flt
Bid Item ID: N/A
Rim: 561.91'
Invert: 556.91'
Rim to Invert: 5'
F&C & adjustment:0.33'
Catch: 0.33'
Floor (Top): 556.58'
Floor (Bot): 555.913'

Str#: **MH Common 1 rev#1**

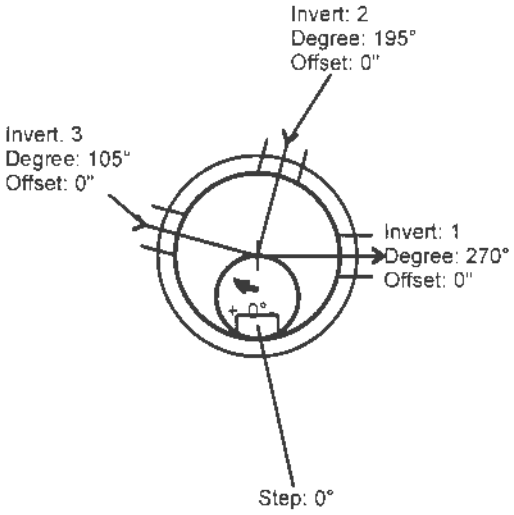
Shop Drawing Approval

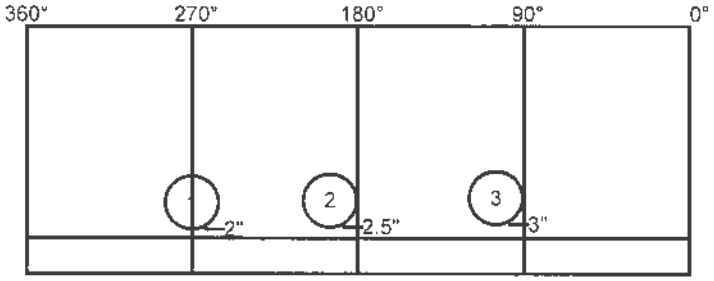
Contr initial:		Date:	
Engineer initial:		Date:	

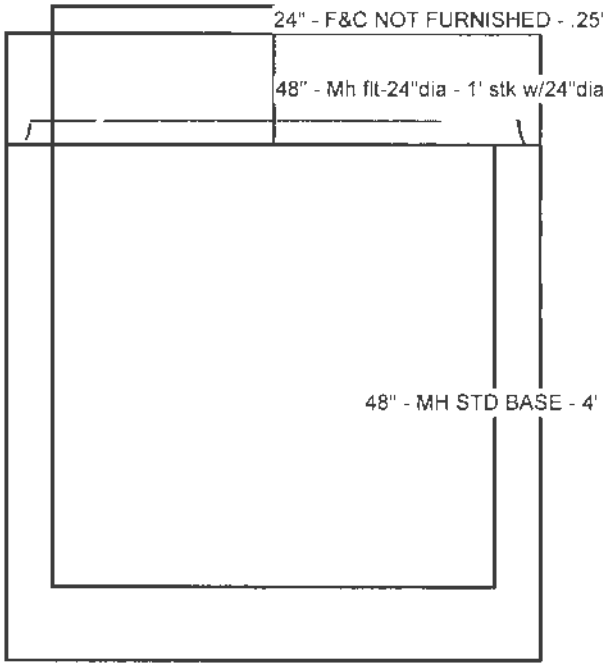
	24" - F&C NOT FURNISHED - .25'	0 lb
	48" - Mh flt-24"dia - 1' stk w/24"dia	2281 lb
	48" - MH STD BASE - 4'	5091 lb
1)	48" - MH GASKET - 4'ø GASKET	0 lb
3)	8" - MH Boot-st - PSX12-08DD(8-8.63)	0 lb
5)	POLY STEP - MA IND.	0 lb
5.	VtFt) NONE REQ'D [INT]	0 lb
5.67	VtFt) NONE REQ'D [EXT]	0 lb
	Structure Total:	7372 lb

Total Precast Height: 5.667'

Planview - Upright Position







Outside Wall Dimensions

Position	Elev	Angle	Offset	Pipe	Pipe OD	Connector	UP (_)
Rim	561.91'						
Reducer							
Invert 1	556.91'	270°	0"	8" Pvc-sch80	8.625"	8" MH Boot-st PSX12-08DD(8-8.63)	2"
Invert 2	556.95'	195°	0"	8" Pvc-sch80	8.625"	8" MH Boot-st PSX12-08DD(8-8.63)	2.5"
Invert 3	557'	105°	0"	8" Pvc-sch80	8.625"	8" MH Boot-st PSX12-08DD(8-8.63)	3"
Invert 4							
Invert 5							
Invert 6							
Invert 7							
Invert 8							

Elevations are calculated based on pipes centered in openings

4/19/2016 7:55:19 AM Quote ID. 2016030113

Kistner Concrete Products, Inc.	Project:	Lockwood Leachate Flow Monitoring	
8713 Read Road East Pembroke, NY 14056	Location:	Dresden, NY	
Ph:585-762-8216 Fax:585-762-8315	Cust # & Name:	300	Lockwood Hills LLC

Size: 48"
Type: Mh-24dia-flt
Bid Item ID: N/A
Rim: 563.02'
Invert: 557.52'
Rim to Invert: 5.5'
F&C & adjustment:0.33'
Catch: 0.33'
Floor (Top): 557.19'
Floor (Bot): 556.523'

Str#: **MH OADS 3 rev#1**

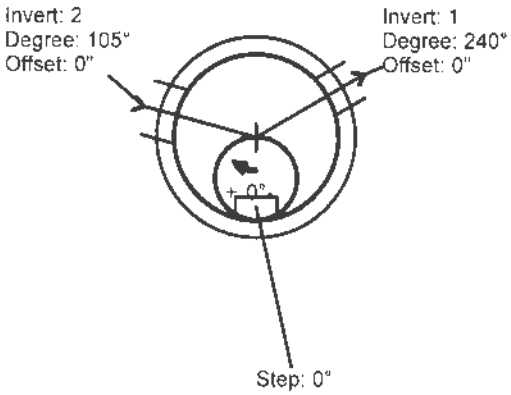
Shop Drawing Approval

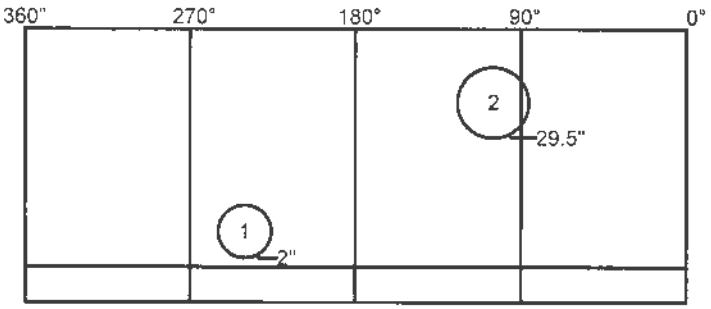
Contr initial:		Date:	
Engineer initial:		Date:	

Total Precast Height: 6.167'

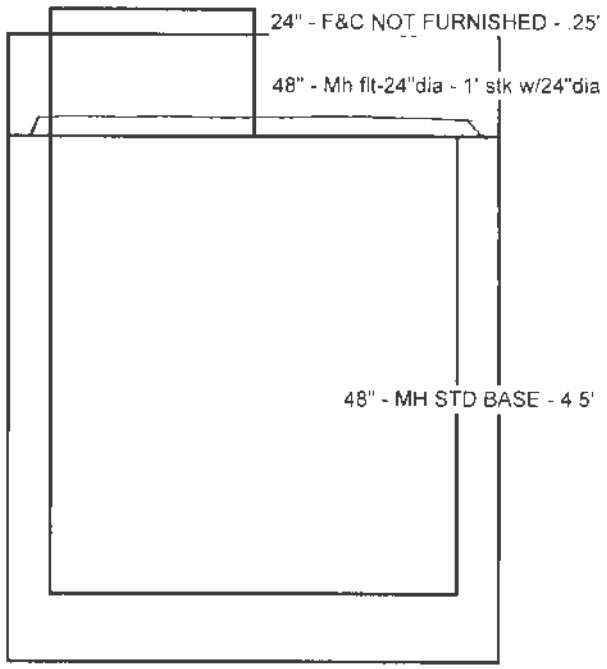
Planview - Upright Position

	24" - F&C NOT FURNISHED - .25'	0 lb
	48" - Mh flt-24"dia - 1' stk w/24"dia	2281 lb
	48" - MH STD BASE - 4.5'	5530 lb
1)	48" - MH GASKET - 4'ø GASKET	0 lb
1)	8" - MH Boot-st - PSX12-08DD(8-8.63)	0 lb
1)	12" - MH Boot-st - PSX16M-DD(12.05-13.3)	0 lb
5)	POLY STEP - MA IND	0 lb
5.5	VtFt) NONE REQ'D [INT]	0 lb
6.17	VtFt) NONE REQ'D [EXT]	0 lb
	Structure Total	7810 lb





Outside Wall Dimensions

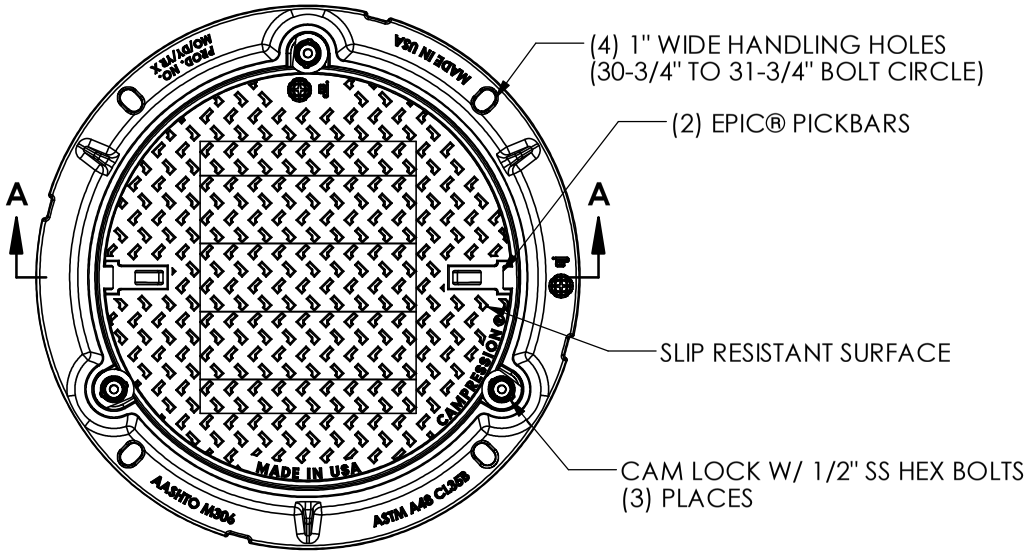


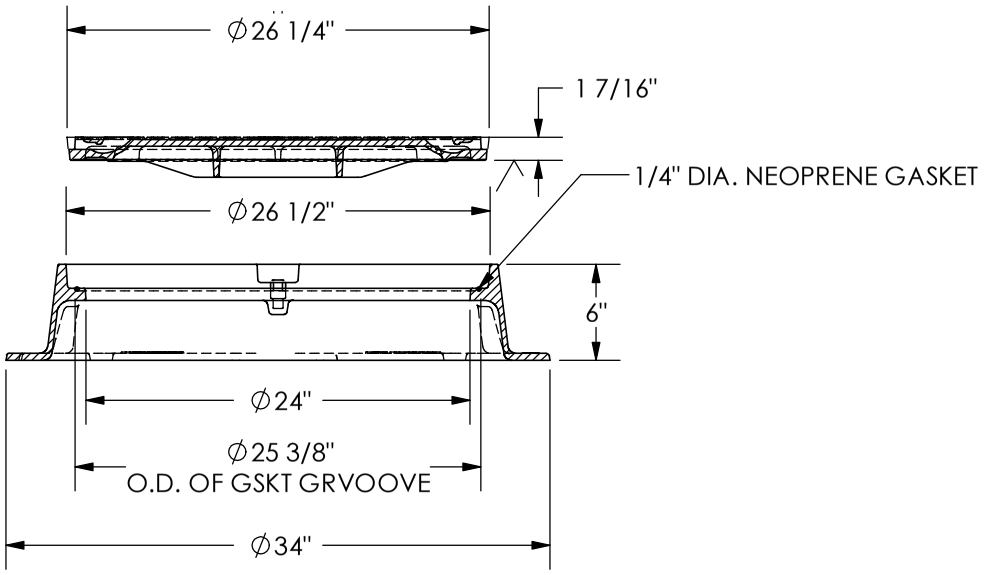
Position	Elev	Angle	Offset	Pipe	Pipe OD	Connector	UP (_)
Rim	563.02'						
Reducer							
Invert 1	557.52'	240°	0"	8" Pvc-sch80	8.625"	8" MH Boot-st PSX12-08DD(8-8.63)	2"
Invert 2	559.8'	105°	0"	12" Pvc-sch40	12.75"	12" MH Boot-st PSX16M-DD(12.05-13.3)	29.5"
Invert 3							
Invert 4							
Invert 5							
Invert 6							
Invert 7							
Invert 8							

Elevations are calculated based on pipes centered in openings

4/19/2016 10:00:11 AM Quote ID: 2016030113

CAMPRESSION Assembly





SECTION A-A

Product Number
42339058W01

Design Features
-Materials
  Frame
    Gray Iron (CL35B)
  Cover
    Ductile Iron (70-50-05)

-Design Load
  Heavy Duty
-Open Area
  n/a
-Coating
  Undipped
-√ Designates Machined Surface
-Weight
  231 Lbs

Certification
-ASTM A48
-ASTM A536
-
-Country of Origin: USA

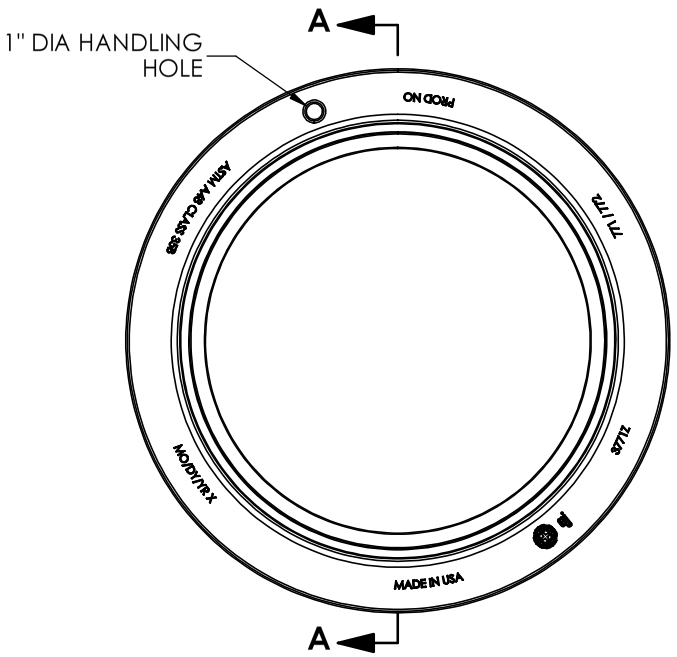
Major Components
WT42339011
WT42339058

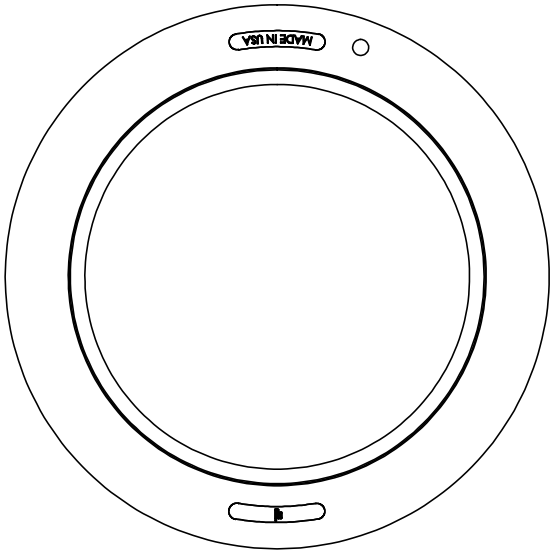
Drawing Revision
2/1/2016 Designer: DAE
Revised By:

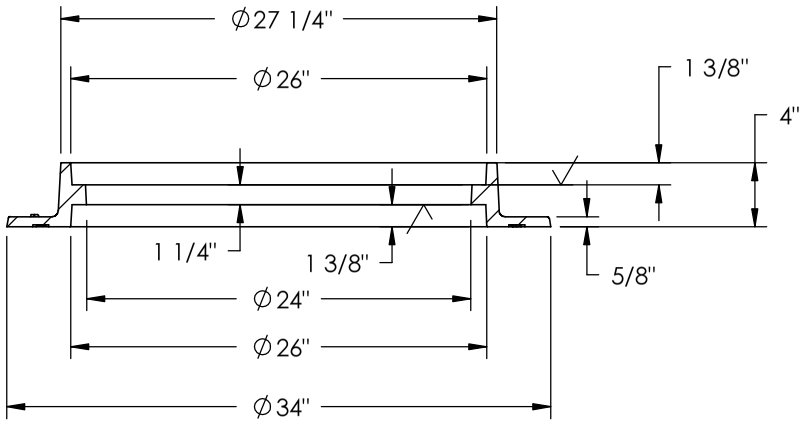
Disclaimer
Weights (lbs/kg), dimensions (inches/mm) and drawings provided for your guidance. We reserve the right to modify specifications without prior notice.

Contact
800.626.4653
ejco.com

3771Z Frame







SECTION A-A

NOTE: FRAME IS REVERSIBLE.

Product Number

00377119

Design Features

-Materials
  Gray Iron (CL35B)
-Design Load
  Heavy Duty
-Open Area
  n/a
-Coating
  Undipped
-√ Designates Machined Surface

Certification

-ASTM A48
-
-
-Country of Origin: USA

Drawing Revision

1/29/2008 Designer: DEW
9/2/2014 Revised By: DAE

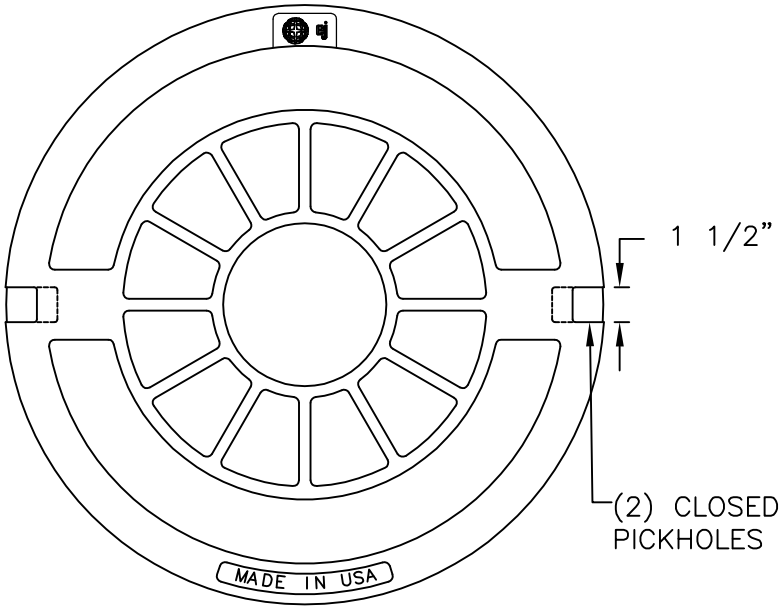
Disclaimer

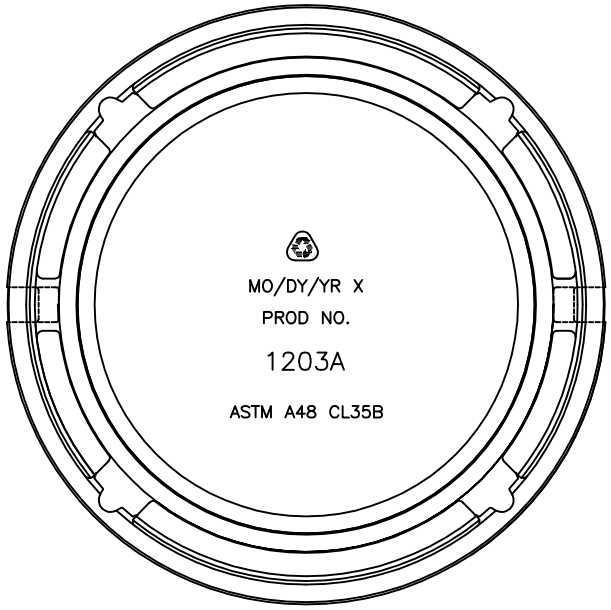
Weights (lbs/kg), dimensions (inches/mm) and drawings provided for your guidance. We reserve the right to modify specifications without prior notice.

Contact

800 626 4653
ejco.com

1203A Cover





Product Number

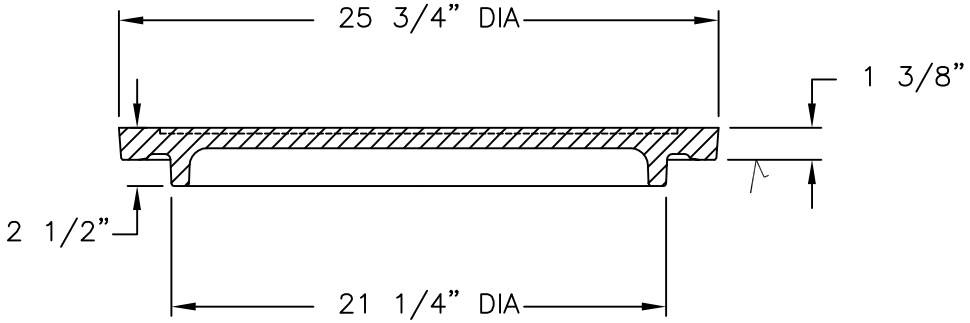
00120325

Design Features

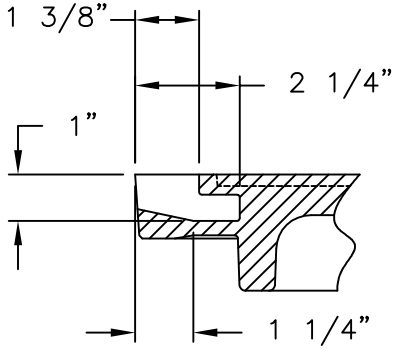
-Materials
Gray Iron (CL35B)
-Design Load
Heavy Duty
-Open Area
n/a
-Coating
Undipped
-√ Designates Machined Surface

Certification

- ASTM A48
- HS25
-
-Country of Origin: USA



COVER SECTION



Drawing Revision

03/28/2003 Designer: SBB
4/20/2015 Revised By: DAE

Disclaimer

Weights (lbs./kg) dimensions (inches/mm) and drawings provided for your guidance. We reserve the right to modify specifications without prior notice.

Contact

800 626 4653
ejco.com

ATTACHMENT 5

Greyline Instruments Inc. Open Channel Flow Meter and Virtual Polymer Compounds Large 60-Degree V Trapezoidal Flume Specifications/Shop Drawing

Open Channel Flow Monitor

Non-Contacting – Accurately Measures Flow Through Flumes and Weirs

New!

Open Channel Flow Monitor

Model OCF 5.0

Displays, Transmits
Totalizes and Data Logs

Simple 5-key Calibration
Password Protected
2 million point Data Logger
On-screen Flow Reports
USB Output to Flash Drives
4-20mA/0-5V Output

Easy to Install and Calibrate
Simple, Accurate and Reliable

Non-Contacting Sensor

The OCF 5.0 uses a non-contacting ultrasonic sensor mounted over a flume or weir to measure flow. It is accurate, reliable and verifiable. The separate, watertight electronics/display enclosure can be mounted within 500 ft (150 m) of the sensor. The OCF 5.0 continuously displays, totalizes, transmits and data logs open channel flow.

Keypad Operating System

Use the built-in keypad for fast, easy calibration with menu selection of flume or weir and measurement units (e.g. gallons, liters etc.) Calibration values and data logs are password-protected and retained during power interruptions. The OCF 5.0 will display on-screen flow reports with daily total, minimum, maximum and average flow and will transfer data logs to a USB flash drive. PC software is included.

GREYLINE instruments inc.

RELIABLE MEASUREMENT AND CONTROL

Built-in Data Logger Creates Flow Reports

Save time and labour — flow information is stored automatically

2-Million Point Data Logger

The OCF 5.0 stores time and date-stamped flow values at programmable intervals of 10 seconds to 60 minutes. Daily flow reports are automatically created and can be viewed right on the instrument's LCD display including total, minimum, maximum and average flow rates.

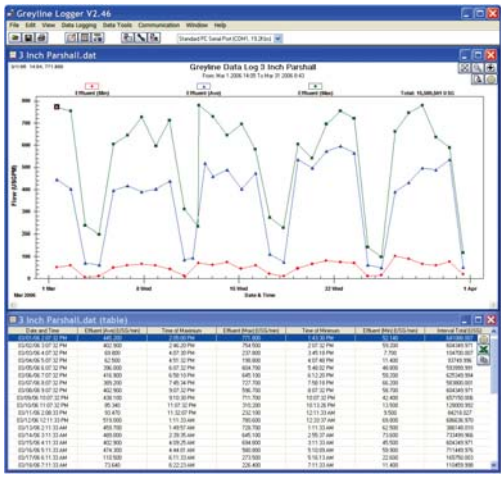
Easy Data Logger Downloads

You don't need a laptop to retrieve log files! Plug any USB Flash Drive into the OCF 5.0 USB output to download data log files automatically. Downloaded files are sequentially named by the flowmeter so log files from the same or multiple instruments can be stored on one flash drive.

Greyline Logger software for Windows

Greyline Logger is included with each OCF 5.0. This powerful software displays data in both graph and table formats. You can view flow data on-screen, generate flow reports and save files to disk. Graphs can be exported as images and data tables can be exported as delimited text files, or directly to Microsoft Excel.

- *Display, analyze and export log files in graph and table formats*
- *Generate flow reports including totalizer, minimum, maximum and average flow rates*
- *Convert measurement units*
- *One-click export to Microsoft Excel*



PZ15 Ultrasonic Sensor

Non-Contacting Ultrasonic Sensor

Each OCF 5.0 includes a non-contacting PZ15 sensor designed for the special requirements of open channel flow measurement. The sensor can be installed 8" (203 mm) or more above the highest water level. The ultrasonic sensor beam is narrow enough to work on very small flumes and powerful enough for really large applications. The OCF 5.0 automatically tunes to extended cable lengths up to 500 ft (150 m) lengths.

OCF 5.0 Outputs Included

Connect the OCF 5.0's isolated 4-20mA output to external displays, chart recorders or controllers and use the built-in relays for flow/level alarms and flow proportionate pulse to samplers, chlorinators or external totalizers.

Retains Memory during Power Interruptions

Date, time, calibration data and user settings are stored and retained in back-up battery protected memory. Data log files are in stored Secure Digital (SD) non-volatile memory.

Security

Access to the OCF 5.0 calibration menu and settings are password-protected when enabled.

OCF 5.0 Specifications

General Specifications

Greyline OCF 5.0 Open Channel Flow Monitor

Electronics Enclosure:	Watertight and dust tight NEMA4X (IP 66) polycarbonate with clear, shatterproof cover
Accuracy:	±0.25% of Range or 2 mm (0.08") whichever is greater, Repeatability and Linearity: ±0.1%
Display:	White, backlit matrix - displays flow rate, totalizer, relay status, operating mode and calibration menu
Programming:	built-in 5-key calibrator with English, French or Spanish language selection
Power Input:	100-240VAC 50-60Hz (see Options), 4.0 Watts maximum (with standard features)
Output:	Isolated 4-20mA/0-5V, 1000 ohm load maximum, programmable offset
Control Relays:	2 Relays, form 'C' dry contacts rated 5 amp SPDT; programmable level alarm, pump control, pump alternation, failsafe/echo-loss, air temperature alarm
Electrical Surge Protection:	Sensor, 4-20mA and AC power input
Operating Temp. (electronics):	-5° to 140°F (-20° to 60°C)
Approximate Shipping Weight:	10 lbs. (4.5 kg)

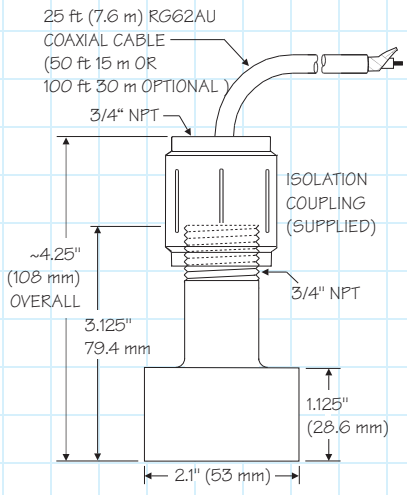
Sensor Specifications

Maximum Range:	15 ft (4.57 m) with standard PZ15 sensor
Deadband (Blanking):	Programmable, Minimum 8 in (203.2 mm)
Beam Angle:	8°
Operating Frequency:	92 KHz
Exposed Materials:	PVC
Operating Temperature:	-40° to 150°F (-40° to 65°C) with automatic temperature compensation
Submersion Rating:	Protected for accidental submersion to 10 ft (3 m) maximum
Sensor Cable:	RG62AU coaxial, 25 ft (7.6 m) standard length (See Options)

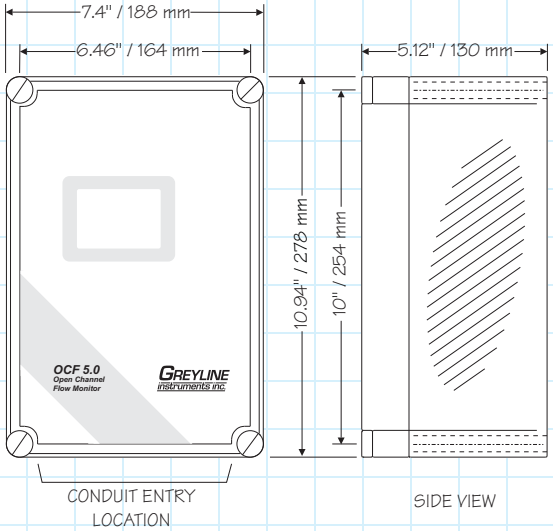
Popular Options

Sensor Cable:	50 ft. (15 m) continuous or 100 ft. (30 m) continuous RG62AU coaxial from Sensor, or splice up to 500 ft (150 m) with Junction Box
Intrinsic Safety Barriers:	For Sensor mounting in Class I,II,III, Div. I,II, Groups C,D,E,F,G hazardous locations
Power Input:	9-32 VDC
Control Relays:	4 additional (6 total), rated 5 amp SPDT
Enclosure Heater:	Thermostatically controlled - recommended for temperatures below 32°F (0°C)
Sunscreens:	Sensor sunscreen and enclosure sunscreen for outdoor installations
Sensor Mounting Stand:	Adjustable, includes galvanized steel pipe, flanges, fittings and hardware

Dimensions



PZ15 SENSOR



ENCLOSURE

Non-Contacting Ultrasonic
OCF 5.0 Open Channel Flow Monitor

- **Works with any Flume or Weir**
- **Built-in Totalizer**
- **Password protected**

Programmable for any Flume or Weir

The OCF 5.0 includes a built-in 5-button keypad for fast, easy calibration. Select your choice of engineering units (gallons, liters, cubic meters, etc.) and choose your flume or weir type from the menu. The flowmeter also supports entry of flow formulae for non-standard flumes and weirs. 'Find K&n' software (included) can be used to calculate non-standard calibration constants for entry into the OCF 5.0 calibration menu.

Built-in control relays can be programmed for flow alarms or a flow proportionate pulse for remote totalizers, samplers or chlorinators. The isolated 4-20mA (or 0-5V) output can be connected to chart recorders, remote displays and controllers.

Non-Contacting Sensor

Designed specifically for open channel flow applications, the new Greyline PZ15 ultrasonic sensor can be mounted just 8" (20.3 cm) above the maximum water level. It is ideal for confined space and small flumes. The PZ15 sensor is rated for measurement distances up to 15 ft (4.576 m).

The PZ15 sensor mounts above the flowing liquid so there is no fouling. No maintenance is required. The sensor will not be damaged by accidental submersion and it self-tunes to extended cable lengths up to 500 ft (152 m).

Smart Operating System

The OCF 5.0 tracks flow continuously through a flume or weir. False echoes from turbulence, splashing rain or snowfall are automatically rejected. Temperature compensation is automatic for high accuracy. Flow rate and totalizer are shown on the large backlit LCD display.

How to Order

Contact a Greyline sales representative in your area or phone one of our sales engineers. Describe your requirements and receive our prompt quotation.

Applications Support

Take advantage of Greyline's applications experience. Phone toll free 1-888-473-9546 for advice or information on applications, installation or service for Greyline products.

No Risk Appraisal

The Greyline OCF 5.0 Level & Flow Monitor must meet your requirements. Discuss your application with a Greyline representative to arrange a 30-day trial.

The Greyline Guarantee

Quality of Materials and Workmanship - Each instrument manufactured by Greyline is warranted against defects in materials and workmanship for a period of one year from date of purchase. Refer to our limited warranty included with each product.

GREYLINE instruments inc.

Canada: 16456 Sixsmith Dr., Long Sault, Ont. K0C 1P0
Tel: 613-938-8956 / 888-473-9546 Fax: 613-938-4857
USA: 105 Water Street, Massena NY 13662
Tel: 315-788-9500 / 888-473-9546 Fax: 315-764-0419
Internet: www.greyline.com E-mail: info@greyline.com

RELIABLE MEASUREMENT AND CONTROL

VIRTUAL POLYMER
COMPOUNDS, LLC

10478 Ridge Road • Medina, New York 14103
Phone: 585-735-9668 • Toll Free: 888-290-9522
Fax: 585-735-9965 • www.virtualpolymercompounds.com

Administrative Office: One John James Audubon Pkwy • Amherst, NY 14228

Fiberglass Trapezoidal Flume Installation Recommendations and General Notes

1. Remove flume from shipping crate and carefully examine flume to insure that it has not been damaged in transit. If damage is noted report to freight company and Virtual Polymer Compounds, LLC at once.

2. Installation of this flume requires a level base of concrete or suitable building material. Consult local project Civil Engineer for specifications and directions on base construction. Best results have been experienced with a structural base of reinforced concrete that has been poured, allowing for a minimum of 6" clearance between the lowest portion of the flume and the structural base.

3. Prior to installation the flume should be internally braced using standard plywood and spreaders. Actual size, spacing and number of plywood sheets and spreaders will vary depending on the flume size. Adequate bracing is required to support flume from the external load of concrete or grout used to place the flume. Flumes can be ordered with internal bracing in place for a nominal additional cost. If bracing is installed in the field, care must be taken to avoid damage to the interior surfaces of the flume. Should damage occur, contact Virtual Polymer Compounds, LLC for further instructions.

Note: *Until such time as the space between the flume floor and the base is completely grouted or filled with concrete, the flume will not support a load. Do not stand on the interior floor of the flume.*

4. Each flume is supplied with clip anchors that are used to tie the flume to the concrete reinforcing or special anchors. These ties should be made with PVC coated number 8 tie wire. All ties should be made before the floor of the flume is grouted.

5. The space between the flume floor and the concrete base should be completely filled. For best results use a high strength, zero shrink grout. This grout must be mixed to a flowable state.

6. Grout should be allowed to cure to a strength that will support additional load and maintain its bond to the base. Consult the project Civil Engineer for specifications on the type, placement and cure time of the grout. If the area to be filled is too large to fill with grout, then a base fill of concrete can be considered. Contact

Virtual Polymer Compounds, LLC for further information regarding this application.

7. The floor grouting should be poured only to the depth of the highest elevation of the floor plus 1/2". Do not try to grout the floor and wall void at one time.

8. Once the floor void grout is cured the interior floor of the flume can be counter weighted to avoid hydraulic rise while grouting the flume wall.

9. The flume walls are to be grouted in the same manner. Depending on the depth of the flume, the wall may require multiple lifts. Consult project Civil Engineer for hydraulic lift and grouting instructions.

10. Finish exposed grout surface to desired texture.

Disclaimer: Virtual Polymer Compounds, LLC provides these procedures as a guideline for installation. Each project has its own special requirements. Services of a Civil Engineer are required for complete engineering of the project installation. Installation of the equipment and failure relating to installation are not the responsibility of Virtual Polymer Compounds, LLC.

GENERAL NOTES

A. The coating on the interior surface of the flume is known as the "gel-coat". It is important that this coating remain intact to protect the unit from UV exposure and water damage over a period of time. This coating should become damaged, protect the flume from the weather and contact Virtual Polymer Compounds, LLC for repair procedures.

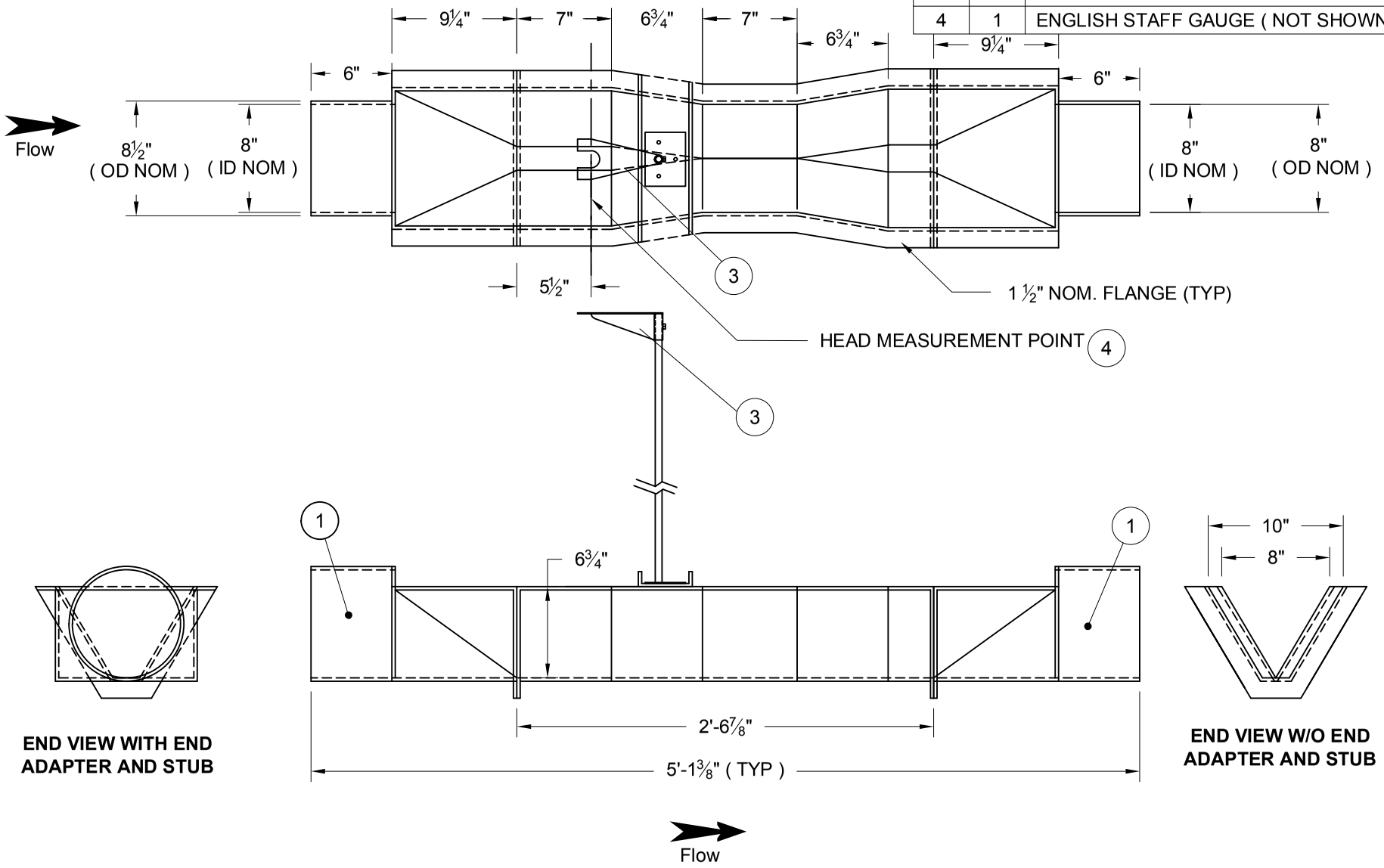
B. Most flumes are self-scouring by design, the smooth fiberglass surface aids in this cleaning. Cleaning of the flume can be accomplished with standard household cleaner and a brush.

C. Flumes should be stored in their shipping crate until installation. This will protect the flume and help it hold its shape until it is in a fixed and supported location. Do not stack flumes or equipment on the flume.

D. For the flume to function correctly the project Civil Engineer's elevation must be observed.

E. Care should be taken during installation to insure that the flume walls are not distorted due to grouting. Pouring concrete or grout with too great a drop and over vibration are two common causes of wall distortion.

ITEM	QTY	DESCRIPTION
1	2	8 INCH ID FRP PIPE STUB
2	2	RUBBER PIPE COUPLERS (NOT SHOWN)
3	1	SS ULTRASONIC TRANSDUCER BRACKET
4	1	ENGLISH STAFF GAUGE (NOT SHOWN)



IMPORTANT NOTICE

VIRTUAL POLYMER COMPOUNDS, LLC
WILL NOT PROCEED WITH FABRICATION UNTIL A SIGNED APPROVAL OF THIS DRAWING IS RECEIVED
APPROVAL OR APPROVED AS NOTED (CIRCLE ONE)

BY: _____ DATE: _____

Rev.	DESCRIPTION	By	Date
A	CHANGED PIPE STUB DIA. FROM 6" to 8"	LVR	4/20/16
-	ORIGINAL RELEASE	LVR	3/16/16

VIRTUAL POLYMER COMPOUNDS, LLC
10478 RIDGE ROAD, MEDINA, NEW YORK 14103
TOLL FREE: 888-290-9522 PHONE: 585-735-9668 FAX: 585-735-9965

TITLE: PLARGE TRAPEZOIDAL FLUME W/ 8IN PIPE STUBS

PROJECT: DAIGLER ENGINEERING

SCALE: NONE | DATE: 3/16/16 | PROJECT NO.: 41618