



Norlite, LLC



Tradebe Environmental Services, LLC

BEST MANAGEMENT PRACTICES PLAN

Prepared for:

Norlite, LLC

A Division of Tradebe Environmental Services, LLC

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1.0 Introduction

The Norlite, LLC property, which comprises approximately 238 acres of manufacturing area, open quarry excavation and vegetated lands, is situated on New York State Route 32 (Saratoga Street) and Elm Street, located in the Town of Colonie and City of Cohoes, Albany County, New York. Sheet 1 shows the location of the facility and its relationship to the surrounding area. The site is bound by NYS Route 32 (Saratoga Street) to the east, NYS Alternate Route 7 and Elm Street to the south, and privately held lands to the north and west.

The history of material processing and mining at this site by Norlite (formerly Northern Lightweight Company) dates back to 1956, and has been continuous since that time. Norlite has gone through several changes of ownership since 1956. It was purchased by Certified Industries, a subsidiary of United States Steel Corporation, in 1961. In 1974, the company was sold to P.J. Keeting Company. Ownership transferred to American NuKEM Corp. in 1991, and then to United Oil Recovery, Inc. in 1995. In 2011, Norlite became a wholly-owned subsidiary of Tradebe Environmental Services, LLC, and is now referred to as Norlite, LLC (Norlite).

1.1 BMP Plan

Norlite, LLC (Norlite) is required to develop, maintain, and implement a Best Management Practices (BMP) Plan for the Cohoes facility (the facility) per Special Condition #1 of the State Pollution Discharge Elimination System (SPDES) Discharge Permit No. NY 000 4880 (included herein as Appendix A).

The 1972 amendments to the Federal Water Pollution Control Act (1948), generally known as the Clean Water Act, established the National Pollutant Discharge Elimination System (NPDES) permit program to control discharges of pollutants from point sources. The NPDES regulations are included in Section 402 of the CWA. Article 17 of the Environmental Conservation Law (ECL) entitled "Water Pollution Control" was enacted to protect and maintain New York's surface waters. Article 17 authorized creation of the State Pollutant Discharge Elimination System (SPDES) program to maintain New York's waters with reasonable standards of purity. New York has EPA-delegated authority to issue permits under the SPDES permit program. It is under the authority of the state SPDES program that Norlite is required to develop, maintain, and implement a Best Management Practices Plan. To summarize, the following are the controlling regulations:

- Section 402 of the Federal Clean Water Act
- Article 17 of New York Environmental Conservation Law
- 6 NYCRR Part 705

In 1992, at the request of the New York State Department of Environmental Conservation (NYSDEC), Norlite commissioned the drafting of BMP Plan Rev. 0. Three years later, in 1995, Norlite updated the BMP Plan again, upon request of the NYSDEC, and to keep the plan current.

This BMP Plan contains activity-specific BMPs in addition to the thirteen (13) minimum BMPs as identified in Special Condition #4A of the facility's current SPDES Permit, excerpted herein:

“Whenever the potential for a release of pollutants to State waters is determined to be present, the permittee shall identify BMPs that have been established to prevent or minimize such potential releases. Where BMPs are inadequate or absent, appropriate BMPs shall be established. In selecting appropriate BMPs, the permittee shall consider good industry practices and, where appropriate, structural measures such as secondary containment and erosion/sediment control devices and practices. USEPA guidance for development of storm water elements of the BMP is available in the September 1992 manual *Storm Water Management for Industrial Activities*, EPA 832-R-92-006 (available from NTIS, 703-487-4650, order # PB 92235969). As a minimum, the plan shall include the following BMPs:

1. BMP Pollution Prevention Team
2. Reporting of BMP Incidents
3. Risk Identification & Assessment
4. Employee Training
5. Inspections and Records
6. Security
7. Preventive Maintenance
8. Good Housekeeping
9. Materials/Waste Handling, Storage, & Compatibility
10. Spill Prevention & Response
11. Erosion & Sediment Control
12. Management of Runoff
13. Street Sweeping”

For reference within this BMP Plan, the identification number for each of the thirteen minimum BMPs is in parentheses after the BMP title, and then continues to include facility-specific BMPs.

BMPs are defined by the EPA as “measures used to prevent or mitigate pollution from any type of activity.” Stormwater BMPs are techniques, measures or structural controls used to manage the quantity and improve the quality of stormwater runoff. The goal is to reduce or eliminate the contaminants collected by stormwater as it moves into streams and rivers.

New York State regulations, 6 NYCRR Part 750-1.2 defines BMPs as,

“means schedules of activities, prohibitions of practices, maintenance procedures, and other management practices to prevent or reduce the pollution of waters of the state. BMPs also include treatment requirements (if determined necessary by the permittee), operating procedures, and practices to control plant site runoff, spillage and leaks, sludge or waste disposal, or drainage from raw material storage”

The intent of this BMP Plan is to provide structural and nonstructural practices to minimize, if not prevent, the contamination of stormwater and process water discharges from the facility. Specifically, the BMPs are focused on preventing liquids from the Low Grade Fuel (LGF) handling operation, petroleum and chemical products from operation and maintenance of facility vehicles, equipment and machinery, chemicals from the Wastewater Treatment Plant, and fines and aggregate from the quarry and lightweight aggregate production from entering stormwater discharges.

In addition to the typical role of a BMP Plan, this Plan includes information specifically requested by the NYSDEC, Region 4. The majority of the requested documentation appears in the Appendices as this information is generally static and does not warrant inclusion within the body of the BMP Plan, which undergoes periodic updates. A list of acronyms and a glossary of terms is found in Appendix R.

The Norlite facility purchases virgin petroleum products to use in facility vehicles and bulk chemicals for use at the Wastewater Treatment Plant. Norlite receives Low Grade Fuel (LGF) and used oil to use as fuel for the kilns. Throughout this BMP Plan, the terms “petroleum bulk products” and “petroleum products” refer to the virgin petroleum products purchased for vehicle fuel. Used oil is discussed in the context of, and typically handled in the same manner as, LGF.

1.2 Topography

The general topography of the Norlite, LLC property changes from flat to rolling on the eastern portion of the property, to steep, with significant relief on the southern and western portions of the site. The topography of the site is shown on Sheet 1. Generally, the surface elevations of the unmined areas are slightly higher in the west and south than in the north. In the unexcavated western and southern portions of the property, steep overburden slopes rise to a gentle sloping plateau, 100 to 150 feet above the eastern portion of the property. Elevations in the south and west range from 200 to 250 feet above mean sea level (amsl), while elevations on the eastern portion of the site range from 30 to 100 feet amsl. This area is primarily used for aggregate processing and storage. The central portion of the site contains most of the facility buildings and the operational areas. Elevations in this area range from 50 to 75 feet amsl. Topographic changes within the active quarry excavation and southern overburden storage area are highly variable, see Sheet 1 for details. Stormwater flow, and potential pollutant pathways, are controlled by these topographic changes and are the basis for recent stormwater work conducted across the site and resultant BMPs.

1.3 Adjacent Land-Use Features

Land use in the immediate vicinity of Norlite has changed since the inception of mining and manufacturing at the site, particularly to the north and east. The adjacent land uses are residential properties and forested land to the north and northwest; a combination of residential and commercial properties to the east; to the south properties are a mixture of residential, commercial and intrastate highway; and to the west, adjacent properties are predominately

forested land. Sheet 1 shows the facility, the associated quarry and the location of surrounding residential and commercial structures. Niagara Mohawk maintains a bank of electrical lines that run in a northwest-southeast direction along the southern and western perimeter of the site. To the west of the electrical lines is a 12-acre parcel of land owned by Norlite and maintained as a visual and acoustic vegetated buffer. The orientation and location of the Niagara Mohawk electrical lines and the gas-line right-of-way are shown on Sheet 1.

1.4 Water Resources

The Norlite facility has both natural and man-made water features on-site, located on and adjacent to the facility, including the Salt Kill, former portions of the Erie Canal, a quarry pond, and a series of stormwater detention structures.

A quarry pond, totaling approximately six acres, exists in the southeastern portion of the active excavation area. The pond occupies the lowest excavated lift on the quarry floor and is bound on all sides by steep, excavated sidewalls. Stormwater runoff (direct and pumped), direct precipitation and groundwater are collected in the quarry pond. The quarry pond is shown on Sheet 1.

Water from the quarry pond is used to support manufacturing processes and supply water for dust suppression. The pond area also serves as a settling area for stormwater runoff from the active excavation area and portions of the facility. The elevation of the surface water in the quarry pond is allowed to fluctuate with precipitation and runoff events, but when water begins to encroach on the main part of the quarry floor, in accordance with Special Condition Number 8 of the current Mining Permit, water is discharged from the quarry pond to the Salt Kill under the authority of the individual SPDES permit (NY 000 4880) (Outfall 003).

The Salt Kill runs through the northwest corner of the facility to the Saratoga Street entrance, exits the site to the east and continues south at Interstate 787 before joining the Hudson River approximately five miles to the south. Through the western and central portions of the facility the Salt Kill is 10 to 20 feet wide with a substrate comprised of boulders, cobbles, gravel, and medium to coarse sand. The stream is enclosed in an arch culvert at the former Erie Canal location and in a double concrete pipe culvert (48-inch diameter) where it travels through the plant's finish process area. The watershed of the Salt Kill has a drainage area of 2.61 square miles (FEMA, 2012).

Immediately south of the site, adjacent to the railroad tracks, is a pond with a surface area of approximately 6.4 acres. The pond is not associated with any activity at the facility and receives runoff from the adjacent railroad tracks. The pond is not hydraulically connected to the Salt Kill.

Two intermittent drainage courses currently enter the active excavation area from the west and southwest. The water that enters the active excavation area from the intermittent drainage courses either infiltrates back into the bedrock and rejoins the groundwater regime or flows into

the quarry pond described above. Water that enters the quarry pond from the drainage areas is retained in the quarry pond until it is discharged to the Salt Kill during discharge events.

1.5 Surface Water Drainage Areas

The facility is segregated into nine (9) drainage areas. Delineation of these drainage areas is based on a combination of topography and storm water management features. For example, water from multiple drainage areas is pumped to the quarry for detention prior to discharge or use on-site. Drainage area boundaries are shown on Figure 1.

In late 2013 to early 2014, the facility was re-graded in specific areas to direct runoff into newly constructed stormwater detention structures. The drainage areas, as described in the following sections and shown on Figure 1, are coincident with the current grading. Drainage areas described here are a function of topography, and are not based on materials used or stored, or on the potential for a release of pollutants to stormwater discharges. This distinction should be kept in mind as one reads Section 4.0 of this BMP Plan as areas described in that section define work and process areas and represent activity-specific areas.

The following descriptions of drainage areas and structural BMPs are taken from Site Stormwater Improvement Stormwater Pollution Prevention Plan (Malcolm Pirnie Arcadis, August 2012 Revision). See Figures 2, 3, and 4 and Appendix B for drainage areas and BMP structures.

Drainage Area #1 – Office Complex and Main Parking Lot

Drainage Area #1 consists of the main roofs from the office complex (Buildings 7, 13, and 51) and the associated parking lot to the east. This area is 3.04 acres in size and consists of 0.18 acres of impervious roof, 0.26 acres of gravel parking, and 2.6 acres of grassed area. Runoff from the Office roofs and parking lot sheet flows across the grass area to the east and enters a drainage channel, from which it flows east into the grassed swale of Rain Garden #1. As the grassed swale fills, the runoff filters through a stone check dam at the south end and then flows into the rain garden. The underdrain for the rain garden discharges to the catch basin that discharges into the Salt Kill near Outfall 007 (see Figure 6). The catch basin contains an oil-absorbent boom that is capable of absorbing floating hydrocarbons from flow in both directions.

Drainage Area #2 – Building 18 and Area West

Drainage Area #2 consists of the western-most portion of the roof from the Tanker Unloading Building and the Low Grade Fuel (LGF) Storage Building (Buildings 4 and 5), and the parking lot area to the west and south. This area is 0.88 acres in size and consists of 0.1 acres of impervious roof area, 0.4 acres of gravel parking lot area, and 0.38 acres of grassed area. Runoff from the roof leaders and the parking lot area west of Buildings 4 and 5 flows south and then west into Rain Garden #2 adjacent to the Salt Kill. The rain garden has a pre-treatment grassed

swale and filter strip, as well as an oil absorbent boom in the outlet channel, which is staked to the channel banks.

Drainage Area #3 – East Portion of Building 18 and Areas South

Drainage Area #3 consists of the eastern half of the roof from the Tanker Unloading Building and the LGF Storage Building (Buildings 3, 4, and 5), areas to the south, and the office complex area south of Building 7 (Buildings 5, 6, 7, 19, and 51). This area is 1.14 acres in size and consists of 0.2 acres of impervious roof area, 0.13 acres of gravel parking lot area, and 0.81 acres of grassed area. Runoff from the roof leaders and the gravel areas south of Building 18 flows south into Rain Garden #3. An oil-absorbent boom is installed in the outlet channel, prior to discharge to the Salt Kill. The discharge point is located between the old canal aqueduct and the two 48-inch reinforced concrete pipes.

Drainage Area #4 – Primary Crusher Area

Drainage Area #4 is bordered by the primary crusher (Building 35) and canal locks on the eastern side and the quarry on the west. This drainage area is 3.55 acres in size and is predominantly an impervious and gravel surface area. A portion of the stormwater that collects in this area flows into a localized low area just south of Building 35, drains, and is then conveyed north via a pump to the quarry. The remaining stormwater flows into channels that direct surface runoff into the quarry.

Drainage Area #5 – Southern Finished Product Area

Drainage Area #5 consists of the southern-most material storage area and the areas west of the canal locks. The drainage area is 5.94 acres, consisting of 0.97 acres of gravel/dirt area, 3.01 acres of stockpiles, 1.93 acres of miscellaneous grassed areas, and 0.03 acres of impervious roof surface. Runoff from the southern two-thirds of this drainage area flows to the north directly into the Upper Stormwater Pond. Runoff from the portion of the drainage area north of the pond is intercepted by a swale and is also routed into the Upper Stormwater Pond. The only outlet from this pond is a pump that discharges directly to the north of the quarry. Storm events with flows in excess of the pumping system capacity will overflow and travel eastward to Outfall 007.

Drainage Area #6 – Main Finished Product Area

Drainage Area #6 consists of the general area east of the Wastewater Treatment (WWT) Plant and western end of the kilns to the eastern side of the site. The drainage area is 10.79 acres, including 8.6 acres of gravel/dirt area, 1.5 acres of stockpiles, and 0.64 acres of impervious roof surface. Runoff from this area is intercepted by graded swales and routed to the Lower Stormwater Basin at the southeastern corner of the site. The basin collects the runoff and temporarily detains it before pumping it to the quarry. The basin overflow is an 8-12" thick top

course of asphalt with a depth of one foot, at the north end of the basin, connected to the Salt Kill at Outfall 007.

Drainage Area #7 – Southern Overburden Storage Area

Drainage Area #7 consists of the Southern Overburden Storage Area. The overall drainage area is approximately 34 acres, with five to eight acres of exposed overburden material at any one time. Overburden soils are comprised of clay, till, and shale, and are shaped into berms and re-vegetated slopes. Runoff from the Southern Overburden Storage area is directed, by a series of swales and spillways, into the quarry. A 1.7-acre area drains south and east towards Kirkner Lane. Until construction is complete, the water is treated in a rock outlet sediment trap prior to discharge. After construction is complete, this small area will drain to the east, off vegetated slopes. See Figure 1.

Drainage Area #8 – Island Area

Drainage Area #8 consists of the Island and the area east of the Upper Stormwater Pond. This drainage area encompasses approximately two acres. Runoff from the Island area drains radially to the west, south, and east. Runoff from the eastern part of Drainage Area #8 drains to the east and then south. Drainage from this area passes through a gravel filter strip and then vegetation before draining to the east. Drainage from this area is not controlled or part of the recent stormwater improvements. See Figure 1.

Drainage Area #9 - Quarry

Drainage Area #9 consists of the quarry and all areas that drain via gravity and topography into the quarry. The drainage area of the active excavation exceeds 100 acres, with unexcavated, upland areas extending from the open excavation to the property line. The quarry retains runoff, and infiltrated groundwater and runoff from other drainage areas that are pumped to it. Water is discharged from the quarry by a pump to Outfall 003. See Figure 1.

2.0 BMP Pollution Prevention Team (BMP #1)

The Pollution Prevention Team (the Team) is responsible for implementing and maintaining the Best Management Practices (BMP) Plan (the Plan); ensuring implementation of best management practices at the facility; and identifying and properly maintaining hazardous materials, petroleum products, and other materials (aggregate) handled at the facility. The Team's responsibility and authority are assigned by Norlite's management for carrying out policy and achieving BMP Program objectives.

The Team is responsible for retaining a copy of the BMP Plan on-site and keeping the BMP Plan up-to-date. Facility changes may be noted by hand in the BMP Plan as long as all facility copies are similarly annotated. The Plan will be reviewed annually as part of the Annual Facility Review and Site Inspection Report (see Section 6.0) and whenever potential pollution sources change. During the annual review, hand-annotated changes will be converted to the electronic document and map updates drafted. A full Plan review may be conducted at any time if significant facility changes are made and/or if deemed necessary by a member of the Team.

Plan implementation and compliance is monitored by formal facility inspections and informal observations made by facility personnel. Members of the Team or a designated employee spot check inspection records to ensure that inspections are being conducted and that noted deficiencies are resolved in a timely manner. Improvements requiring request(s) for capital funds and significant engineering design may take place over a longer period of time with temporary measures implemented in the interim. Temporary measures may or may not be part of a formal BMP Plan, given the nature and scope of the improvements.

The members of the Pollution Prevention Team are listed below in Table 1. The positions identified in the table will always be contacted for spills and related incidents, regardless of personnel changes. Non-Team members will be consulted for technical input as needed.

Table 1. Pollution Prevention Team	
Title/Position	Contact Number
Plant Manager Plant Engineer	518.235.0401 x4014 518.857.9164
Environmental Manager	518.235.0401 x4038 518.365.2443
Health and Safety Manager Training Director	518.235.0401 x4005 518.857.7385
Kiln Supervisors	518.235.0401 x4073 518.857.5737
Lab Manager	518.235.0401 x4049 518.857.2969
Aggregate Production Manager	518.235.0401 x4021 518.376.8634
Production Manager	518.235.0401 x4018 518.242.0741
Fuel Farm Manager	518.235.0401 x4041 518.857.0406

3.0 Reporting of BMP Incidents (BMP #2)

A BMP incident is defined as a situation which presents a potential or actual discharge that, if it was to occur, would result in the release of pollutants to waters of the State. A potential or actual discharge of any of the following materials constitutes a BMP incident: petroleum products; hazardous materials; chemicals; product fines; sediment; aggregate; and any other materials with the potential for a release of pollutants to waters of the State.

BMP incidents may or may not be emergencies. Norlite follows a Spill Notification Plan that is the governing document for releases that Norlite personnel can handle and has been supplied to the NYSDEC. The Spill Notification Plan is a guideline for reporting spills. The following documents also provide spill response procedures:

- The Integrated Contingency Plan addresses releases of hazardous waste and hazardous waste constituents and details response guidance and procedures (Annex 2 Notification, Annex 3 Response, Annex 4 Incident Documentation);
- The Spill Prevention Control and Countermeasures (SPCC) Plan addresses releases of petroleum products;
- The Spill Prevention Report (SPR, included herein as Appendix C) addresses releases of chemicals;
- The Stormwater Pollution Prevention Plan (SWPPP) for the Southern Overburden Storage Area addresses the release of sediment from erosion and dust within the Southern Overburden Storage Area; and
- The Operations and Maintenance Manual (included herein as Appendix D) details operations of the Upper Stormwater Pond and Lower Stormwater Basin from routine through flooding conditions.

The Integrated Contingency Plan, June 2014, details when the plan will be activated and the documentation to be made during and after an incident (See Section 2.4 Termination Actions). These steps are summarized as follows:

- Ensure situation is under control;
- Inspect all utilized safety equipment to be sure it is cleaned and in a ready state;
- Investigate and document the incident;
- Ensure health monitoring of response personnel, if appropriate;
- Notify proper authorities that activities have been completed;
- Determine when an “all-clear” can be given to resume normal activities; and
- File report within 15 days of the emergency action.

The Weekly Environmental (RCRA) Inspection Report form (included in Appendix E) details the status of pump pads; ground cover; security; unloading areas; container storage areas; staging areas; LGF storage building, tunnel, and tanks; kilns and the associated baghouse, scrubber

building, burner floor, extruder room, and equalization tanks; tunnel fire and air quality monitors and control system; wastewater treatment area; and the dust storage silos. This form includes space for describing the current status and the corrective action, if needed.

A general incident report is completed for all BMP incidents that have occurred at this facility (Appendix F), including but not limited to, soil erosion/sedimentation, virgin petroleum spills, chemical spills, LGF and used oil spills, processes-related incidents, suspicious activity, medical incidents, property damage, vehicle/equipment accidents, fire incidents, environmental releases, and structural BMP damage. The form specifies date, materials, cause, corrective action(s), and plans for preventing reoccurrence, and must be filled out by the supervisor within 48 hours of the incident. This form is also to be filled out for incidents that are not included in other permit programs (PBS, CBS, and Part 373). The Monthly BMP Inspection (Appendix J of this BMP Plan) form includes the Upper Stormwater Pond and Lower Stormwater Basin, engineered swales, catch basins and manholes for sediment accumulation, presence of sheen and erosion, where appropriate; pumps and piping, and pump electrical and instrumentation for corrosion. See Figure 7 for tank locations.

The documents listed above detail internal notification, documentation, agency notification, clean-up, reporting, and appropriate response procedures for the specific type of release. These documents are incorporated herein for reference to prevent inconsistencies. However, the information described within the above-referenced plans is not included in this BMP Plan in their entirety.

There is a standard chain of reporting that occurs for any release or potential release. The first person to notice the release or potential release verbally reports it to his/her Manager. A visitor who notices a release must report the release to his/her escort or site contact. Visitors are informed of this protocol when they meet with the site contact. Notification may be made in person, by cell phone, by radio, or by using Norlite's internal land-line telephone system. Voicemails, emails, written notes, and text messages are not acceptable forms of notification. The Manager then reports to either the Plant Manager, or the Environmental Manager, or the Incident Commander. When appropriate, the Plant Manager or Environmental Manager reports the release to outside agencies and contacts clean-up contractors as needed. Internal response to incidents and potential incidents will also be coordinated by the Plant Manager or Environmental Manager. All incidents, regardless of size, are reported internally; any outside reporting is handled accordingly. See Section 6.0, BMP #5: Inspections and Records, for procedures and requirements regarding record-keeping.

3.1 Reporting Petroleum Discharge Incidents

In case of a discharge, spill, or leak of petroleum products at this facility, the person who discovers the discharge must immediately report the spill to one of the SPCC Coordinators. Their contact information is provided below:

SPCC Coordinator: Plant Manager
Office: (518) 235-0401
Cell: (518) 857-9164

Backup Coordinator: Environmental Manager
Office: (518) 235-0401
Cell: (518) 365-2443

The SPCC Coordinator, Backup Coordinator, or other designated person(s) will determine if the spill is reportable or not by following the Spill Notification Plan. Typically, any petroleum spill must be reported to the NYSDEC within two hours of discovery and as described in 6 NYCRR Part 613.8. Section 3.9 of the SPCC Plan includes a list of the information to be provided when reporting a petroleum discharge. The incident report form for petroleum spills (Tradebe Supervisor's Incident Report) is included in Appendix F of this Plan.

If a release into or upon navigable waters equals or exceeds 1,000 gallons, Norlite must submit a written report of the spill to the United States Environmental Protection Agency (USEPA) and the NYSDEC.

3.2 Reporting Purchased Chemical Discharge Incidents

In case of a discharge, spill, or leak of purchased chemicals used at the WWT Plant, such as, Hydrochloric acid, Sodium hydroxide, Methanol, and Ethylene glycol, the person who discovers the discharge must immediately report the spill to his/her Supervisor. The Supervisor will notify the Environmental Manager, Plant Manager, or designated person. Section 6 of the Spill Prevention Report (Appendix C of this Plan) details the specific spill response procedures for Norlite. The incident report form for chemical spills (Tradebe Supervisor's Incident Report) is included in Appendix F of this Plan.

The Environmental Manager, Plant Manager, or designated person will report the release to DEC Spill Hotline by following the Spill Notification Plan.

3.3 Reporting LGF Discharge Incidents

The majority of LGF discharges are captured and reported under the Spill Notification Plan. The Integrated Contingency Plan describes and details response personnel, procedures, and reporting for releases of hazardous waste or hazardous waste constituents and describes when that Plan will be activated. When the Plan is activated, the NYSDEC, NYS Department of Health, and Albany County Department of Health are contacted when there is an incident, in addition to local emergency response agencies (fire, police, ambulance, local hospitals), as detailed in Annex 2 Notification of the Integrated Contingency Plan.

3.4 Reporting Stormwater and BMP Incidents

Stormwater-related incidents include, but are not limited to, off-site discharge of turbid or colored waters; off-site discharge of water containing general household wastes; erosion by runoff; flooding in areas that should not pond during low precipitation events; and accumulation of water within the Upper Stormwater Pond or Lower Stormwater Basin with a sheen. General household waste incidents including overflowing, uncovered, and leaking dumpsters and uncontained general household wastes, including items blowing around the site, need to be reported and cleaned up. Other BMP incidents include any situation which presents a potential or actual discharge that, if it were to occur, would result in the release of pollutants to waters of the State and is not specifically listed in Section 3.0 of this Plan.

Employee responsibilities include identifying BMP incidents as they occur and reporting the incidents to a Manager; all Managers are members of the BMP Pollution Prevention Team. The Manager will fill out the BMP incident reporting form (Tradebe Supervisor's Incident Report, Appendix F). Incidents that require maintenance work will be entered into the facility's maintenance tracking software and a work order will be generated. Emergency situations will be mitigated quickly with long term solutions being implemented in a timely manner. Projects requiring engineering and/or capital expenditures may have longer lead times with temporary solutions implemented until the permanent solution has been designed and funded. Emergency contact numbers are found in Appendix G, and are prominently posted at the facility.

4.0 Risk Identification and Assessment (BMP #3)

The purpose of conducting risk identification and assessment is to create a description of potential pollutant sources which may be expected to contribute measurable concentrations of pollutants to stormwater and process water discharges. An assessment of the Norlite facility has identified areas, operations and processes, and materials with the potential to release contaminate discharges to the environment.

The purpose of this section is only to identify the pollutant potential. Sections 9.0 through 16.0 identify BMPs to minimize pollution. On-site materials with the potential to pollute include petroleum products, hazardous chemicals, hazardous waste, general household waste, aggregate, and fines from aggregate production. The potential for pollution discussion is broken down by facility area; areas with similar pollutants are grouped together for the purposes of this assessment.

The effluent stream from the Wastewater Treatment Plant represents a unique potential for discharge of pollutants as does the potential from flooding of the Salt Kill. Both of these potential sources have a dedicated site-specific BMP; the flood response for the Salt Kill and the Wastewater Treatment Plant are addressed in Sections 15.13 and 15.16, respectively. The areas discussed below are shown on Sheet 2, Activity and Process Areas Map. Facility Flow Diagrams, included herein as Appendix I, detail the processes discussed below.

4.1 Vehicles and Mobile Equipment

Vehicles and mobile equipment traverse the entire facility on a typical day. The potential for drips and minor leaks from vehicles and equipment exists, as does the potential for a spill to occur from a breakline or hydraulic hose failure, or similar event. Because of this potential, vehicle and equipment maintenance is addressed in Section 8.0 and Section 15.2 of this Plan. Vehicles and mobile equipment also have the potential to increase dust generation; facility speed limits are in place to minimize dust generation.

Potential pollutants from vehicles and mobile equipment include petroleum products, antifreeze and dust.

4.2 Quarry

The quarry consists of a 132-acre affected area (NYSDEC Mine ID 40002; Permit No. 4-0103-00016/00019) within a 238-acre property. Raw shale is mined using drilling, blasting and mobile equipment (front end loaders and haul/dump trucks). Operations within the excavation area include overburden stripping in advance of mining (using a bulldozer); blasting; loading raw material into haul trucks; loading overburden material into haul trucks; hauling rock out of the quarry; hauling overburden out of the quarry; and impoundment of stormwater runoff.

Groundwater infiltrates into the quarry. Runoff from two intermittent drainage courses enters the excavation from the west and southwest; runoff from the Southern Overburden Storage Area

enters from the south. In addition, stormwater runoff from other areas of the property is pumped from the Upper Stormwater Pond and Lower Stormwater Basin into the quarry pond. Impounded water is used throughout the facility for watering roads; dust suppression for stockpiles, crushers, crusher decks, and conveyors; and other manufacturing processes. Stormwater and groundwater control in the quarry is managed by controlled pumping to the Salt Kill via a SPDES permitted Outfall 003.

Potential pollutants within the quarry include shale fines, sediment, and fluid droplets from mobile equipment.

4.3 Northern Overburden Storage Area

The Northern Overburden Storage Area has historically been used to store excess overburden in the northern quarry excavation. The area is currently not in use with the exception of an access road.

The potential pollutant from the Northern Overburden Storage Area is sediment in runoff, which is directed into the quarry sump.

4.4 Southern Overburden Storage Area

The Southern Overburden Storage Area has been designated for placement of clay-rich overburden from areas stripped in advance of mining from the on-site quarry. The overburden removed from the Quarry Area is moved to this area under Norlite's Mine Permit. The Southern Overburden Storage Area is 34 acres and consists of graded overburden. It is located to the west of the Block Mix Processing Area. The active work area is normally between five and eight acres. A swale on the western side of the active construction area eliminates runoff from the uphill area to the west. Spillways and diversion swales to control runoff, erosion, and sedimentation are in place and expanded as construction progresses. A sediment trap, located east of the first berm, captures, treats, and discharges runoff from a relatively very small part of the proposed project area. When complete, the graded area will have a series of six berms, with fill placed behind each berm, resembling a terraced hill slope. Berms are vegetated when overburden placement is complete.

Details of the construction, including temporary and permanent stormwater controls, for the Southern Overburden Storage Area are contained within the Stormwater Pollution Prevention Plan (SWPPP) for Stormwater Discharges from Construction Activity Revision 2 March 2009 and the February 2010 Addendum to said Plan. Timing of berm construction and filling behind the berms is governed by the General Condition #8 of the Mined Land Use Permit. The Town of Colonie is a Municipal Separate Storm Sewer System (MS4) and has review and approval authority for changes to the SWPPP and review of the weekly inspection reports.

Stormwater runoff from the area is directed via swales and spillways into the quarry and is discharged via Outfall 003. Runoff from a small portion of the lowest berm will continue to flow

to the east and is treated in a sediment trap prior to discharge. Runoff from the Southern Overburden Storage Area is similar in composition to site runoff from other portions of the facility. Potential pollutant sources from this area are fines and fluid droplets from mobile equipment, and sediment runoff.

4.5 Fuel Farm (LGF Storage Area)

The Fuel Farm consists of the Used Oil Management Tanks (#1 on Figure 2) and containment; utilities building (#2); LGF Tank Storage Building (#3); Container Storage Building (#4); Waste Transfer Building (#5); exterior LGF Tank location (#8); Exterior Tank Lower Pump Pad (#6); and the Tanker Staging Area. These structures are located within a gated chain link fence that is locked during off-hours to prevent illicit access and tampering. The Tanker Staging Area is addressed in Section 4.6 of this Plan; the grounds and break room do not contain potential pollutant sources and are not addressed in this plan. In the Fuel Farm, tank wagons, tankers, drums, and totes are sampled and staged prior to acceptance; accepted drums, totes and loads are unloaded; empty drums and totes are cleaned and stored for disposal; and LGF and used oil are stored prior to incineration in the kilns.

Bulk used oil is delivered in trucks, tank wagons, and tankers. Used oil drums and totes are delivered by box trucks and are treated as hazardous. LGF is delivered to the facility by truck, tank wagons, and tanker trucks. Drums and totes are moved to the Container Storage Building where they are suction-pumped to storage tanks and cleaned; non-hazardous used oil is treated as hazardous waste. Tank wagons and tankers are directed to the sampling station where the load is sampled. After sampling has been performed, trucks are parked in the Tanker Staging Area until waste characterization has been completed and offloading has been approved by the laboratory manager or his/her designee or the load has been rejected. The trucks are then directed to the offloading pad at the Waste Transfer Building and the contents of the tanker are transferred into the appropriate storage tanks.

The offloading pads at the Waste Transfer Building provide containment for the trucks, drums, and totes during off-loading. The pads are concrete with a chemical-resistant coating with a roof and three walls; trucks enter through the open side. The pads have a lip at the upper edge and are sloped downwards in an east to west fashion. There are no drains in the floor. The unloading pads are power washed routinely; the wash water is removed by a vacuum truck or directed to a vacuum tank. Wash waters from the LGF pad and building are incinerated on-site. Non-contact stormwater is collected by a vacuum truck and trucked off-site for biological treatment at an appropriately licensed facility.

The Used Oil Management Tanks hold used oil (spec, off-spec, Waste A, Waste B, or other permitted used oil) prior to the oil being used to fire the kilns. The secondary containment for the tanks is a painted, coated concrete structure

The LGF Storage Building houses six vertical LGF tanks and associated piping, pumps, and valves. The structure has a depressed concrete floor that is lower than the surrounding ground surface elevation. The floor has a trench with a sump. The sump is manually emptied by vacuum truck or vacuum tank (200A); there is no drain in either the trench or the sump. Collected material is incinerated on-site.

The Container Storage Building stores drums and totes. Full drums and totes are stored after waste characterization is completed and prior to being processed. Metal drums and totes are cleaned, crushed, and placed in a roll-off for disposal at an appropriately licensed facility. Plastic drums and totes are cleaned, shredded, drummed, and sent to a licensed facility for disposal. Empty drums and totes may be stored prior to being shipped off-site for disposal.

The Lower Exterior Tank Pump Pad Building has a concrete floor with a chemically-inert coating concrete lip all of the way around the pad. There is no drain. The building houses four pumps that are associated with covered aboveground tanks (300, 400, 500, and 600) in the Lower Pad. The Lower Pad houses associated pumps, circulators, pipes, valves, fittings, and containment for associated tanks and equipment.

Potential pollutant sources at the Fuel Farm are flammable and combustible hazardous materials, petroleum products, drips from trucks, potentially-impacted precipitation that accumulates within containment, and sediment from the internal road.

4.6 Tanker Staging Area

The Tanker Staging Area is where trucks containing LGF and used oil are parked while awaiting laboratory results prior to being unloaded. The Staging Area has been graded, sloped, and lined to maintain secondary containment for the contents of at least 13 fully loaded LGF tankers (161,568 gallons) (Appendix H) and is fenced for security (shown on Figure 5). The secondary containment consists of a sloped base of 12-18-inch compacted clay covered with a 40 mil HDPE liner. The HDPE liner is covered with a layer of aggregate to protect the liner from truck and vehicle traffic. The containment is graded and sloped towards the northeast corner to provide for collection and removal of stormwater. Precipitation that collects within this containment area is collected by vacuum truck and either burned on-site or hauled off-site to be disposed of at an appropriately licensed facility.

Potential pollutant sources in this area are flammable and combustible hazardous materials, petroleum products, drips from trucks, potentially-impacted precipitation that accumulates within containment, and sediment.

4.7 Shale Fines Landfill

The Shale Fines Landfill, post-closed 200, contains shale fines taken from a closed scrubber water impoundment. The non-hazardous solid waste landfill is capped and vegetated and has a leachate drainage system. Discharge from the leachate system and runoff from the surface of the

landfill are captured in the pond south of the landfill. Water collects in the pond only after precipitation events. Discharge from the pond is monitored per the requirements of SPDES Permit NY 000 4880, Outfall 004. Discharge from the leachate pond is a discreet, manually controlled, event. Discharge waters are sampled every time a discharge is conducted.

Potential pollutant sources includes leachate from the landfill and sediment. This potential pollutant source is specifically covered and monitored as part of the facility site-specific SPDES permit NY 000 4880 (Appendix A).

4.8 Office, Labs, and Parking Area

The Office complex consists of the office, labs (function as satellite storage), safety trailer, and employee and visitor parking. No industrial processes are conducted in this area; lab activities (sampling, analysis, and storage of samples) are conducted inside the lab and are not exposed to stormwater.

Potential pollutant sources include sediment from the parking lot and drips from vehicles.

4.9 Primary Crusher and Shale Stockpiles

The primary crusher processes mined shale into raw crushed material to feed the kilns. Shale from the quarry is transported to crusher hoppers where the raw material is crushed to uniform particles, screened, and moved by covered conveyors. The raw shale that is processed in the primary jaw crusher is sorted onto either the shale fines pile or the kiln feed. A shale stockpile is maintained to feed the crusher at times when material is not being trucked from the quarry. A fines stockpile is located south of the crusher and consists of material too small to put through the kilns. The shale crushing operation is located west of the kiln feed pile. The shale crushing operation does not involve hazardous materials handling operations.

Potential pollutants include aggregate from the mined shale, fines from the crushing operation and the stockpiles, and drips of petroleum products from the crusher and mobile equipment. Potential pollutants also include flammable and combustible hazardous materials as tankers and tank wagons drive on the road west of the primary crusher to get to the LGF Building and Tanker Staging Area.

4.10 Kiln Feed

The kiln is fed from a covered raw shale feed stockpile with an underground drop point via a series of conveyors. Shale is taken from the stockpile and placed on the #4 conveyor via the front end loader. Crushed raw shale from the Canal pile can also be added to the kiln feed process by loading the material that drops onto the #4 belt directly into the feed hole. The #4 conveyor drops material onto the #5 conveyor, which then drops onto the kiln feed storage pile. Typically, the conveyors are covered and transfer points between conveyors have a low drop point. The drop onto the kiln feed storage pile is enclosed by a metal chute. The kiln feed storage pile is partially enclosed by a wind wall and metal overhang. The majority of the wind

wall is located to the north of the pile and small lengths of it wrap around towards the east and west sides. The metal overhang angles up from north to south and an enclosed material chute transfers material from the #5 conveyor, through the overhang, and onto the pile. A drop point exists underneath the kiln feed storage pile, giving the pile a concave shape that keeps pile height to a minimum.

There is a series of three conveyors that feed Kiln 1 and a series of four conveyors that feed shale to Kiln 2. These series start from below ground and transfer material that has dropped from the kiln feed storage pile above to the kiln. These conveyors are all covered with low drop points in between for material transfer, and feed shale into the back end of the kilns.

Potential pollutants include sediment from the stockpile, material transfer points, the kiln feed storage pile, conveyors, and occasionally from loading material onto the #4 conveyor with a front end loader.

4.11 Kilns

The facility has two kilns that are used to heat shale to produce light weight aggregate. The kilns receive crushed raw shale material; the shale enters the kilns at approximately 1,000 °F and will exit the kiln at a temperature close to 2,100 °F. The kilns are fired with used oil, natural gas, and LGF. Both kilns have identical emission control systems with wet and dry emission control devices for the collection of particulate matter, hydrogen chloride (HCl), and other gaseous species. Optical flow sensors are installed and operational on both Kiln 1 and Kiln 2; they are there to measure stack gas flow rates.

These kilns each have double seal rim seal systems and clinker coolers to cool the material after baking. The back of the kilns (shale feed end) are set up with a double seal system with an annular spaced which is kept at a 0.12 inch w.c. pressure via an automated PLC controlled valve system. After going through the calcination process, the hot aggregate drops into the clinker cooler for cooling. Dust coming from the back of the kiln falls into the annular space and down to a hopper where it is removed once a day.

A single conveyor discharges finish material from each kiln. The conveyors are typically covered. Conveyors drop material onto storage piles. Loaders shape the piles and move material to the feed piles for the conveyors that go into the Finish Plant.

Potential pollutants from the kilns are the sediments discharged from conveyor belts, material transfer points, loaders, and maintenance work, including cleaning out the rim seals and the use of vacuum trucks to clean out baghouse plugs. Potential pollutants also include flammable and combustible hazardous materials, which are pumped via the tunnels to the burner floors as fuel.

4.12 Finish Plant

The Finish Plant is where the lightweight aggregate is crushed into final sizes that are stockpiled and sold to customers. Aggregate is transferred from the Kiln 1 and Kiln 2 clinker piles to the #1

conveyor, which deposits the material onto a grizzly. The grizzly sorts out material that is considered to be too large (material that is greater than 3 or 4 inches in diameter) and accumulates on the grizzly pile for later reincorporation into the product stream. The material that passes through the grizzly is then transported via the #2 conveyor to the triple deck screens building for screening by product size. From here, material is deposited onto various conveyors depending on material size. Material that passes through the screens building ends up in one of the following categories and is sorted onto its corresponding conveyor: 3/4 inch aggregate, 3/8 inch aggregate, oversized material, or fines. All material transfers onto conveyors within the triple deck screen building are considered enclosed drop points. The 3/4 inch and 3/8 inch aggregate materials are deposited onto short term storage piles and are then moved to long term storage piles by front end loader. There are spray heads on the conveyors that drop onto the short term storage piles. The material that is sorted onto the fines conveyor is transported to the enclosed fines storage structure for future addition into block mix. The oversized material is passed through the El Jay crusher and then returned to the grizzly located between the #1 and #2 conveyors via the #2 return conveyor. From there, it passes through the screens building again and is once again sorted by product size.

Fines from the screen building are transferred via the fines to silo conveyor and are dropped into the partially enclosed fines storage pile. The partially enclosed fines storage pile is located where a fines silo previously existed. This structure consists of a square base of concrete blocks roughly eight feet high and 30 feet long. There are two tiers of metal bracing above this base that are covered by fabric tarps. A guarded material chute drops in from above, through the roof, and down into the fines enclosure. Material is removed from this structure from the north end, where the material spills out onto the ground to form the open fines pile. Material can be removed from under the pile, via a tunnel, for use in the block mix runs. A wind screen is in place to the west of the open fines pile to protect the pile from wind erosion. Material is removed from the open fines pile by front end loaders and either transferred to long term storage piles or loaded onto trucks.

Material from the two baghouse dust silos (baghouse dust silo 1 and baghouse dust silo 2) are dropped onto a conveyor in the underground shipping tunnel (shipping belt) and are then deposited onto short term block mix piles by way of the stationary conveyor belt and radial stacker. From these short term stockpiles, material is loaded onto trucks, and moved to the long term stockpiles near the Scale. There is also a 3/4 inch long term storage pile in the Finish Plant Area.

The Finish Plant operates two 8-hour shifts every weekday and one 8-10 hour shift on Saturdays. This schedule can be adjusted slightly to accommodate customer demand as needed.

Potential pollutant sources include sediment from conveyors, material transfer points, screens, crushers, stockpiles, from material handling by front end loaders, and fluid drips from mobile equipment.

4.13 Island Storage Area

The Island typically contains long-term stockpiles of various sizes of final sorted aggregate before customer shipping; fines are generally not stored in this location. Materials are moved to and transported from the Island using front end loaders and haul or dump trucks. Loaders are also used to shape the stockpiles. See Appendix U for proper loading procedures. As of December 2013, when a stockpile inventory was performed, the following storage piles were present in the Island Area:

- 3/4 inch aggregate long term storage pile(s)
- 3/8 inch aggregate long term storage pile(s)
- block mix storage pile(s)

Block mix is not typically stored in the Island Area. The size of the piles in this area fluctuates based on customer product demand and the output rate of the kilns.

Potential pollutants from this area include sediment and drips from mobile equipment.

4.14 Garage and Maintenance Area

The Garage and Maintenance Area is where maintenance is conducted on facility vehicles and equipment. Equipment is power washed in front of the garage prior to maintenance work being conducted. Large pieces of equipment are worked on inside the Large Equipment Garage. Maintenance that does not involve fluids, such as changing light bulbs and back-up alarms, is conducted outside. Maintenance that involves a crane will be conducted outside. When the Garage is full and equipment needs immediate maintenance in order to be put back in service, maintenance is conducted outside.

Potential pollutants include sediment from unpaved areas, oil and grease from washing and maintenance, and other fluids, such as petroleum products and antifreeze from equipment maintenance.

4.15 Bone Yard

The Bone Yard is located east of the Southern Overburden Storage Area and is where mobile equipment and materials for the Southern Overburden Storage Area project are stored. Materials stored include PVC piping and fittings, geotextile, aggregate, and mobile equipment parts. The Bone Yard Area is located north of the Block Mix Processing Area and contains two shale piles. These piles consist of raw shale fines that are produced in the Primary Area and will eventually be taken to the Southern Overburden Storage area.

Potential pollutants include fluid drips from mobile equipment and sediment from aggregate and raw shale fines storage piles.

4.16 Shale Fines

Shale fines are stored long term in the Bone Yard; small piles may exist in other locations, the Southern Overburden Storage Area and the muck pile, and will eventually be moved to the Bone Yard. Shale fines are stored at the primary crusher where they are generated. From the stockpile at the primary, fines are transferred to the stockpile at the Bone Yard.

The potential pollutant from shale fines stockpiles is sediment.

4.17 Scale and Stockpiles

The scale and long-term product storage piles are located at the southern extent of the site and north of the Elm Street entrance gate. Product is transported to the long-term stockpiles by haul or dump trucks for loading into customer vehicles. Customer vehicles enter the site at the Scale House, are weighed, receive product, are weighed again, a weight ticket is generated, and exit the facility. Customer vehicles are filled by front end loaders.

The scale entrance also services bulk petroleum and chemical deliveries, LGF wagons, tanker trucks, and trucks with drums and/or totes. Vehicles transporting LGF and used oil are weighed before and after delivery at the scale. They are not staged in this location.

Potential pollutants include chemicals, petroleum, sediment, LGF and used oil, and drips from mobile equipment and customer vehicles.

4.18 Wastewater Treatment Plant

The Wastewater Treatment (WWT) Plant receives scrubber blowdown from the two kiln flue gas scrubbing systems, treats the water through a series of processes to remove dissolved metals and suspended solids, adjusts pH, reduces temperature; and discharges the water to the Mohawk River via Outfall 006 (Figure 8). The discharge is pumped from the WWT Plant and conveyed via underground piping to the outfall. This process is permitted under the facility's individual SPDES Permit NY 000 4880.

Deliveries of acid, caustic, methanol and antifreeze will be received in the WWT Plant material transfer area located on the north side of the WWT building. The material transfer area consists of an 18-foot wide concrete pad with a 25-foot long sloping surface towards the acid tank containment wall. This material transfer area is coated with a chemically resistant material. It is curbed along the sloped portion of the pad and has an approximate 1300-gallon containment capacity. The fill line connection for Caustic receipt is located on the WWT building north wall. The fill line connection for Acid receipt is located within the Acid secondary containment area. The fill line connections for the Ethylene Glycol and Methanol receipt is located on the west side of the material transfer area. These connections are clearly labeled for the chemical designated for filling. An alarm is located near these connections to notify the receiving operator and the tanker driver to prevent tank overflowing.

The facility has a Spill Prevention Report (SPR, included herein as Appendix C) that details secondary containment, inspections, spill response and reporting, procedures in place to prevent mixing of incompatible substances, modifications to the SPR, and lists of repairs. The SPR is being incorporated herein by reference. The WWT Plant is located inside of a building with a concrete floor and lips on the exits to provide containment with a chemical resistant coating.

Potential pollutant sources include ethylene glycol, methanol, caustic soda (sodium hydroxide), muriatic (hydrochloric) acid, concentrated bleach, iron sulfate (liquid), polymer, and wastewater that does not meet the discharge requirements.

4.19 Upper Stormwater Pond and Lower Stormwater Basin

The facility has two stormwater runoff collection and detention structures – the Upper Stormwater Pond and the Lower Stormwater Basin. These structures receive stormwater runoff by gravity drainage and discharge by pumping. The Upper Stormwater Pond receives water from the areas south of the main manufacturing area and the Lower Stormwater Basin receives water from the eastern half of the manufacturing area. Water from both structures is pumped back into the quarry for detention, use within the facility, and discharge via Outfall 003.

Potential pollutants include petroleum, chemicals, LGF, sediment, oil and grease, and mobile equipment fluids.

4.20 Rain Gardens

There are three rain gardens at the facility. The purpose of the rain gardens is to provide pretreatment for runoff to remove sediment and oil and grease prior to discharge to the Salt Kill. Rain gardens are operated and maintained as detailed in Section 15.12.

Potential pollutants in runoff that drains to the rain gardens include sediments and oil and grease. There is the potential for Rain Garden 3 to receive LGF.

Table 2. BMPs for Potential Pollutant Sources		
Section	Potential Pollutant Source	BMP and/or Section
4.1	vehicles & mobile equipment - drips & leaks - dust	Maintenance: 8.0 & 15.2 Speed limit: 4.1, 7.0, 14.0 & 15.21
4.2	Quarry - shale fines - sediment - fluids from mobile equipment	Quarry: 13.1 Quarry: 13.1 8.0 & 15.2
4.3	North Overburden Storage - sediment runoff	Handled by quarry: 13.1
4.4	South Overburden Storage Area - fluids from mobile equipment - sediment-laden runoff	8.0 & 15.2 13.1

Table 2. BMPs for Potential Pollutant Sources		
Section	Potential Pollutant Source	BMP and/or Section
4.5	Fuel Farm <ul style="list-style-type: none"> - LGF - petroleum products - fluids from vehicles - potentially contaminated precipitation within containment - sediment 	Secondary containment: 10.3 Secondary containment: 10.3 8.0 & 15.2 10.3 13
4.6	Tanker Staging Area <ul style="list-style-type: none"> - LGF - petroleum products - fluids from vehicles - potentially contaminated precipitation within containment - sediment 	Containment: 13.3 Containment: 13.3 8.0 & 15.2 10.3 13
4.7	Shale Fines Landfill <ul style="list-style-type: none"> - leachate - sediment-laden runoff 	15.22 15.22
4.8	Office, Labs, Parking Area <ul style="list-style-type: none"> - sediment-laden runoff - employee vehicles - Norlite vehicles 	Rain garden: 15.12 8.2 8.2
4.9	Primary Crusher & Shale Stockpiles <ul style="list-style-type: none"> - aggregate - fines - fluids from mobile equipment - fluids from crusher - LGF leaks from trucks - Chemicals leaks from trucks - Petroleum leaks from trucks 	Stockpile shaping: 9.2 Stockpile shaping: 9.2 8.0 & 15.2 Pre-shift inspection: 8.1 & Spill Notification Plan – 11.3 8.1 & Spill Notification Plan – 11.3 8.1 & Spill Notification Plan – 11.3
4.10	Kiln Feed <ul style="list-style-type: none"> - sediment from stockpile, material transfer points, kiln feed storage pile, conveyors & front end loader material 	Stockpile shaping: 9.2
4.11	Kilns <ul style="list-style-type: none"> - sediment from stockpile, material transfer points, kiln feed storage pile, conveyors & front end loader material 	Stockpile shaping: 9.2
4.12	Finish Plant <ul style="list-style-type: none"> - sediment from various sources - fluids from mobile equipment 	12.3, 13.3, 14.0 & 15.21 8.0 & 15.2

Table 2. BMPs for Potential Pollutant Sources

Section	Potential Pollutant Source	BMP and/or Section
4.13	Island Storage Area <ul style="list-style-type: none"> - sediment - fluids from mobile equipment 	Stockpile shaping; stockpile setbacks from water: 9.2 8.0 & 15.2
4.14	Garage & Maintenance Area <ul style="list-style-type: none"> - sediment from unpaved areas - oil & grease from vehicle washing - fluids from vehicle & equipment maintenance 	Swale into Lower Stormwater Basin (LSWB): 14.0 & 15.21 Oil-absorbent boom in swale into LSWB; observation of water in LSWB prior to pumping to quarry sump: 15.11 Oil-absorbent boom in swale into LSWB; observation of water in LSWB prior to pumping to quarry sump: 15.11
4.15	Bone Yard <ul style="list-style-type: none"> - fluids from mobile equipment & vehicles - sediment from stockpiles 	8.0 & 15.2 Stockpile Shaping: 9.2 Upper Stormwater Pond: 15.11
4.16	Shale Fines (Kiln Feed, Bone Yard, Southern Overburden Storage, muck pile) <ul style="list-style-type: none"> - sediment-laden runoff 	Stockpile shaping; grading; swales; new stormwater management features: 9.2, 14.0 & 15.11
4.17	Scale & Stockpiles <ul style="list-style-type: none"> - LGF leaks from trucks - Chemicals leaks from trucks - petroleum leaks from trucks - fluids from mobile equipment & vehicles - sediment from stockpiles 	8.1 & Spill Notification Plan – 11.3 8.1 & Spill Notification Plan – 11.3 8.1 & Spill Notification Plan – 11.38.0 & 15.2 8.0 & 15.2 Stockpile shaping: 9.2, 13
4.18	WWT Plant <ul style="list-style-type: none"> - chemicals in outdoor containment - chemicals in indoor containment - wastewater prior to discharge 	9.2, 9.3, 15.16 9.2, 9.3, 15.16 15.16
4.19	Upper Stormwater Pond and LSWB <ul style="list-style-type: none"> - petroleum - chemicals - LGF - sediment - oil & grease - mobile equipment fluids 	15.11 15.11 15.11 15.11 15.11 15.11
4.20	Rain Gardens <ul style="list-style-type: none"> - sediment - petroleum products 	15.12 15.12

5.0 Employee Training (BMP #4)

Employee training at Norlite is designed to meet the requirements of the facility, its permits, its activities, state and federal regulations, and to protect the safety of its employees, the community, the facility, and the environment. In addition, training meets the requirements of the parent company, Tradebe Environmental Services, LLC. Employee training is conducted by three parties: Tradebe's Corporate Training Manager, Norlite's in-house Environmental Manager and Training Director, and outside contractors, including online programs. Personnel responsible for providing and ensuring training programs are administered are:

Norlite, LCC Health and Safety Manager:

Health and Safety Manager
Office: (518) 235-0401 x4005
Cell: (518) 857-7385

Tradebe Corporate Training Manager:

James Lovitz
Corporate Training Manager
Tradebe Environmental Services, LLC
4343 Kennedy Avenue, East Chicago, IN 46312 United States
Office: (219) 354-2470

It is the goal of the Employee Training Program at Norlite to inform personnel at all levels of responsibility of the components and goals of this BMP Plan as well as the SPCC Plan, SPR, Part 373 documentation, and Construction SWPPP, and other governing documents. Employee training is essential to proper and effective implementation of the BMP Plan. When properly trained, implementing and maintaining BMPs, personnel are capable of preventing spills and discharges, responding safely and effectively to BMP incidents, recognizing potential BMP incidents, and appropriately documenting spills, incidents, and potential incidents.

Training tools for Norlite employees include the written plans listed in the previous paragraph, the employee handbook, Norlite's Orientation, the Annual RCRA/MACT/Mining/SPDES/Spill/Waste Handling Refresher Training, Part 373 Personnel Training Plan (June 2014), and routine employee meetings. Training is described in detail in the Part 373 Personnel Training Plan (June 2014), Annex 5: Training and Exercise Drills (Integrated Contingency Plan, June 2014), and Section 3.15 of the SPCC Plan.

The BMP-specific training module includes spill prevention and response; good housekeeping practices; material management practices; recognition of potential BMP incidents; and chain of command for incident reporting of both potential and actual incidents. Training explains components and goals of activity-specific BMPs; trains personnel to be aware of potential illicit

discharges; and educates employees on the particular features of the facility and its operations, which are designed to minimize discharges. Topics included in the training are the stormwater detention and conveyance systems, their proper operation, and potential problems to be aware of with these structures.

Training is conducted for the following disciplines for employees based on job-specificity:

- OSHA 40-Hour HAZWOPER
- RCRA, Part 373 , Hazardous Materials
- DOT and HM232 Security Plan
- Pollution Prevention – SPCC Plan, SPR, SWPPP and BMP Plan
- MSHA
- General training on Standard Operating Procedures
- Confined space training
- Forklift and mobile equipment
- Respirator
- First aid and CPR
- Smoke school

Norlite conducts and maintains personnel training in accordance with 6 NYCRR 373-2.2 (h) (1)-(5), including the NYSDEC-approved Personnel Training Program Plan, which is incorporated by reference herein. Employees receive initial, specialized, and annual training, depending upon their job positions. Annex 5 of the Integrated Contingency Plan (June 2014) specifies training compliance with the USEPA and NYSDEC, exercise/drills, training curriculum, and job titles and duties. The following are excerpts from the Personnel Training Plan and Annex 5: Training and Exercise Drills (Integrated Contingency Plan, June 2014) and are specific to the requirements of 6 NYCRR 373-2.2 (h) (1)- (5).

Training Content, Frequency and Techniques

The facility's training programs consist of introductory and continuing education training programs for personnel relevant to their job title/position. The training programs consist of a combination of classroom instruction and on-the-job training including instruction on hazardous waste management procedures to enable employees to responsibly perform their job-specific duties. In addition, the training programs are designed to ensure that facility personnel are familiar with the implementation of the facility's Integrated Contingency Plan and are able to respond effectively to emergencies.

Facility personnel successfully complete the training required for their job-specific position within six months after the date of their employment or assignment to the facility. Employees are not allowed to work in unsupervised position until they have completed the training required

for their position. Facility personnel take part in an annual review of the initial training relevant to their position.

The facility has a training log and files to monitor and retain each employee's training record. Records that training has been completed will be maintained on file in the training records for at least three years after termination of the employee. This system is used to maintain the name of each employee assigned to an area along with his/her job title and the types of training received. Upon completion of each training course, the employee receives a certification of training indicating the course name and date of completion. Copies of these course completion forms are maintained on-site in the training files. Retention of these records will be maintained until the facility is closed or for three years following termination of the employee's service.

Current Training Curriculum

All employees working within the plant will undergo initial, specialized, specific and annual training programs, depending upon their job positions. This will be accomplished via classroom, hands-on, and specific on-the-job training, to ensure compliance with 373-2.2 (h) (1) (i), as it is relevant to their positions. Supervisors and managers will attend training sessions on proper handling and management of hazardous waste materials. A qualified instructor, as per 373 2.2 (h) (1) (ii), will conduct all training programs. Training sessions are designed to cover safety, compliance and health procedures related to activities and procedures at this facility, and follow the requirements of 29 CFR, 30 CFR, 40 CFR, 49 CFR, and 373-2.2 (h) (1) (iii), as they apply to the Norlite facility.

Responsibilities of specific roles are detailed in Annex 3: Response Management Plan and Annex 5: Training and Exercise Drills (Integrated Contingency Plan, June 2014). General training includes the Safety Orientation and in-depth coverage of the topics discussed during the Annual Refresher. Job-specific training includes information on the hazards, regulatory programs, operations, inspections, and paperwork pertinent to the position. If an employee's responsibilities change, additional training is provided, as needed.

Except for on-the-job training, the training occurs off-site in a classroom setting to avoid distraction. Description of training is as follows:

Orientation: A 20-minute video overview of basic plant operations and safety regulations. Completed during the first day of employment. A requirement for all individuals working at the facility.

24-Hour Initial: Classroom and practical training covering safety and regulatory requirements for working within a mining and a TSD/RCRA facility. This is conducted prior to working without direct supervision and is conducted only upon initial employment.

Initial Supervisory: Classroom and practical training to be given after 24-hour initial training. It is designed for supervisory personnel to ensure compliance with RCRA regulations, including compliance, emergency response, and review of the contingency plan. Also includes MSHA supervisor training consistent with the MSHA competent person rule.

Emergency Response: Classroom and practical training designed to prepare individuals to properly report and handle releases of hazardous materials. A refresher is completed annually.

Standard Operating Procedures: Classroom and practical training covering standard operating procedures (SOP's) relevant to the job titles and duties. This is conducted during initial training and will be updated as needed.

CPR/First-Aid: Classroom and practical training covering CPR and first aid for personnel responding to a medical emergency. Refresher training is conducted every two years or as required.

8-Hour Refresher: 8-hour classroom and practical training serving as a "refresher" to 24-hour initial training. Basic safety procedures are reviewed in addition to covering any new regulations or procedures. This is completed annually.

DOT: Classroom training covering proper labeling, handling, shipping, and transportation of hazardous materials. Refresher training is given annually.

All personnel are trained for petroleum spills. At least 24 plant employees have 40-HR HAZWOPER and are trained in response to LGF spills and chemical spills at the WWT Plant in order to mitigate groundwater contamination. These individuals will only respond after training is completed. Each will be trained at the appropriate level of response and will participate in refresher training.

Norlite follows the National Integrity Incident Management System (NIIMS) Incident Command System (ICS). Norlite has 24 individuals whom have received the specific training to an Incident Commander. Personnel trained for incident response have had 40-Hour HAZWOPER training and MSHA 24-Hour training at a minimum.

Training at Norlite is conducted annually for current employees. New employees must receive the 20-minute Orientation and 24-hour Initial Training and then job-specific training. The Annual Refresher covers RCRA, MACT, mining, SPDES, spills, and waste handling, and all facility plans including this BMP Plan, the SPCC Plan, the SPR, and Part 373 documentation (see Appendix S for Norlite's safety training program). Annual training also includes facility changes over the past year and anticipated changes in the coming year. If facility changes mid-year are significant, Norlite will update employees on the changes in a formal training or using a

less formal method, such as a toolbox talk. Attendee sign-in sheets are completed for all training sessions. Sign-in sheets for toolbox talks are completed on an as-needed basis.

6.0 Inspections and Records (BMP #5)

Norlite has a stringent formal inspection program in place that is part of standard operating procedures and is administered under several permit programs. Inspections of specific areas are conducted daily, at a minimum. In addition, all facility personnel have been trained to conduct regular informal visual inspections, throughout their shifts, for spills, leaks, and situations which indicate the potential for a release. Inspections include the areas identified in Section 4.0 Risk Identification and Assessment (BMP #3) of this BMP Plan and is detailed in Table 3 below. Inspection forms and reports listed below in Table 3 can be found in Appendix E. The BMP incident reporting form can be found in Appendix F (Tradebe Supervisor’s Incident Report). The Monthly BMP Inspection Form can be found in Appendix J. The Annual Facility Review form can be found in Appendix K. The BMP Plan Review Sheet can be found in Appendix L.

A BMP Inspection is conducted monthly to review structural BMPs and to look at all areas of the facility for erosion, sediment accumulation, sheen in standing water, integrity of structures, and spills and leaks. The inspection includes visual inspections to check that structural and nonstructural BMPs are properly implemented; record and document BMP activities; and document spills and leaks. The inspection should be conducted on a week day so that operations in facility areas are observed. A portion of the inspection form needs to be filled out during or recently after a rain event so that observations of how BMPs function can be made. The inspection will include material storage areas; in-plant transfer, process, and material handling areas; loading and unloading operations; stormwater, erosion, and sediment control measures; process emergency systems, and sludge waste disposal areas.

Records of inspections (completed, signed forms) are maintained in the Office Area. Records are maintained onsite for three years and at an offsite storage location for the life of the facility. Inspection and maintenance activities will be recorded and such records will be kept on-site, in addition to a description of any incidents or spills. Information regarding the quantity and quality of stormwater and process water discharges is contained in the Monthly Discharge Monitoring Reports.

Program	Inspection Frequency	Inspection	Form	Regulatory Agency
Title V Air	Daily	Title V Compliance Certification Daily Visible Emissions	Daily Visible Emissions	NYSDEC

Table 3. Inspections, Frequency and Forms

Chemical Bulk Storage	Daily	Informal visual inspection of tanks, valves, and containment		Norlite Internal
	Annual	Tank inspection report	Report	NYSDEC
	Five year	Tank inspection report	Report	NYSDEC
Petroleum Bulk Storage	Monthly	Aboveground Petroleum Storage Tank Inspection	Aboveground Petroleum Storage Tank Inspection Form	NYSDEC
SPDES Construction GP	Weekly Twice weekly when disturbed area is >5 acres	Inspection Report – Southern Overburden Storage Area	Construction Inspection Form	Town of Colonie NYSDEC
	Monthly	Full Inspection (Construction Duration Inspections) – Stormwater Management Structures	Full Inspection	NYSDEC
SPDES Construction GP	Daily	Informal Maintenance Inspection – Southern Overburden Area	Informal visual inspection, no record kept	Norlite Contractor

Table 3. Inspections, Frequency and Forms

SPDES Industrial	Annual		Facility Review Form	NYSDEC
	Monthly	BMP Inspection	Monthly BMP Inspection form	NYSDEC
Part 373 Permit	Daily	Fuel Farm Operators Pre-Shift & Daily Inspection Report	Fuel Farm Operators Pre-Shift & Daily Inspection Report	NYSDEC
	Daily	Pre-Shift Inspection Fuel Farm Garage Kiln Areas	Pre-Shift Inspection Fuel Farm Garage	NYSDEC
	Weekly	Weekly Environmental (RCRA) Inspection	Weekly Environmental (RCRA) Inspection Report	NYSDEC
	Per Shift	Kiln Field Operators Shift Report	Kiln Field Operators Shift Report	NYSDEC
	Per Shift	Kiln Shift Safety Inspection	Kiln Shift Safety Inspection	NYSDEC
	Per Shift	Burner Shift Safety Inspection	Burner Shift Safety Inspection	NYSDEC
	Per Shift	Burner Operators Log	Burner Operators Log	NYSDEC
	Per Shift	Fuel Farm Shift Report	Fuel Farm Shift Report	NYSDEC
Other	Per Shift	Kiln Supervisors Baghouse Pulse Log	Kiln Supervisors Baghouse Pulse Log	Norlite internal
	Per Shift	Supervisor Daily Kiln Inspection	Supervisor Daily Kiln Inspection	Norlite internal

	Per Shift	Kiln Dust Level Inspection Log	Kiln Dust Level Inspection Log	Norlite internal
	Per Shift	Wastewater Treatment Shift Report	Wastewater Treatment Shift Report	Norlite internal
	Per Shift	Primary Pre-Shift & Daily Report	Primary Pre-Shift & Daily Report	Norlite internal
	Per Shift	Portable Screen Weekly Report	Portable Screen Weekly Report	Norlite internal
	Per Shift	Portable Crusher Weekly Report	Portable Crusher Weekly Report	Norlite internal

Completed inspection forms are maintained in the Office for three years. Completed forms are reviewed by the Aggregate Production Manager and the Production Manager for safety and maintenance items and by the Environmental Manager for compliance with Federal, State, and Local permits and regulations. After three years, the forms are moved to an offsite storage location where they will be stored for the life of the facility.

6.1 Facility Review

Special Condition #3 of Individual SPDES Permit NY 000 4880 states,

“The permittee shall review all facility components or systems (including but not limited to material storage areas; in-plant transfer, process and material handling areas; loading and unloading operations; stormwater, erosion, and sediment control measures; process emergency control systems; and sludge and waste disposal areas) where material or pollutants are used, manufactured, stored or handled to evaluate the potential for the release of pollutants to the water of the State. In performing such an evaluation, the permittee shall consider such factors as the probability of equipment failure or improper operation, cross-contamination of stormwater by process materials, settlement of facility air emissions, the effects of natural phenomena such as freezing temperatures and precipitation, fires, and the facility’s history of spills and leaks. The relative toxicity of the pollutant shall be considered in determining the significance of potential releases.”

The requirement for a Facility Review is fulfilled by completing the annual Facility Review Form (Appendix K). This Form incorporates the results of the following forms and/or inspections, found in Appendix E, unless otherwise noted:

- Monthly BMP Inspection (Appendix J of this Plan);
- Weekly inspections for projects with coverage under the SPDES Construction General Permit;
- Monthly inspections of aboveground storage tanks (from Appendix E of the SPCC Plan)
- Annual CBS inspection of tank systems (not included in the Appendices of this Plan); and
- Weekly Environmental (RCRA) Inspection Report.

The annual review of the BMP Plan (Appendix L) occurs after the annual Facility Review Form has been completed.

The Annual Facility Review & Site Inspection Report evaluates the effectiveness of the BMP Plan and documents the results of site inspections and reporting. The forms listed in Table 2 were reviewed as part of the Annual Facility Review with special attention given to spill reporting; the effectiveness of BMP Plan implementation; and correction of environmental infractions (if applicable or necessary).

6.2 Plan Modifications

Plans must be kept current in order for them to continue to be effective in preventing pollutants from entering stormwater discharges. Modifications will be made to the SPCC Plan, SPR, and BMP Plan whenever the annual review finds one or more of the following: (a) changes at the facility materially increase the potential for releases of pollutants; or (b) actual releases indicate the plan is inadequate. All BMP Plan revisions must be submitted to the Regional Water Engineer, NYSDEC Region 4, within 30 days of the annual review.

7.0 Security (BMP #6)

Security at industrial sites is an important part in preventing the accidental or intentional release of materials to stormwater and industrial discharges as a result of vandalism, theft, or other improper uses of facility property. Facility security is comprised of fences, staff patrols, lighting, restricted material receipt and sale hours, and industry-standard materials controls.

Cases of unauthorized site access, including the intent of that access, will be analyzed on a case-by-case basis to determine if security needs to be altered or enhanced. In addition, the Weekly Environmental (RCRA) Inspection Report (included in Appendix E) includes observation of fencing, both perimeter and around the fuel farm specifically.

Fenced portions of the property are generally located near residential areas. The eastern facility boundary is fenced the entire north-south length of the property boundary on the western side of the railroad tracks; there is an opening in the fence for the rail spur. In addition to the fence on the eastern side, there are operating railroad tracks, a vegetated buffer, and facility buildings that provide physical barriers. Fenced portions are also located at the southern facility boundary extending from the western edge of the island, to south of the scale, west to the Southern Overburden Storage Area, then back north to just south of the quarry. The Fuel Farm is completely fenced; this fence is locked outside of typical fuel receipt hours with exceptions for maintenance and mechanical work.

Gates are located at the three facility entrances. Gate 1 is located at the southern facility entrance off of Elm Street. Gate 2 is located off of Saratoga Street and west of the railroad tracks. A third gate is located on the access road off of Central Avenue north of the Fuel Farm (see Figure 5). Gate 1 is open only when staffed by a Scale House employee, usually the Weigh Master, who provides coverage Monday through Friday from 6 AM to 10 PM; the gate is locked outside of these times. Gate 1 is closed and locked Sundays and holidays. Access at Gate 2 is controlled by a key card activated security gate; guests may use the call box and the gate is opened remotely by the receptionist. There is a surveillance camera at Gate 2 so that the receptionist may see the guests at the call box. Guests must then proceed directly to the office to sign in. Gate 2 is also opened remotely by the receptionist for guest departure. Gate 2 is closed (locked chain link gate) from 5 PM to 8 AM Monday through Friday and all day Saturday, Sunday, and holidays. The gate on the access road off of Central Avenue is typically locked; this access point is mainly for emergency vehicles.

Vehicular controls, in the form of signs, are present at Gate 1 and Gate 2. Gate 1 has an unauthorized access sign, and the signs near Gate 2 are:

- “SLOW – PROCEED WITH CAUTION”
- “EVACUATION ASSEMBLY AREA”
- “CAUTION – HEAVY EQUIPMENT HAS RIGHT OF WAY”
- “PLANT SPEED LIMIT – 10 MPH”

- “NOTICE – PLEASE RING BELL FOR SERVICE”
- “VISITORS MUST REGISTER AT THE MAIN OFFICE – PRIVATE PROPERTY – NO TRESPASSING – PREMISES UNDER VIDEO SURVEILLANCE”
- “STOP – RAILROAD CROSS”
- “WARNING – NO TRESPASSING”

Entrance through Gate 2 is controlled by an electronic barrier device. Access through this gate is authorized by personnel in the Main Office.

In addition, there are signs on interior roads and haulways:

- “CAUTION – HEAVY EQUIPMENT HAS RIGHT OF WAY”
- “PLANT SPEED LIMIT – 10 MPH”
- “DO NOT ENTER ACTIVE MINE AREA”

“NO SMOKING” signs are posted at the Fuel Farm or where flammables are stored.

“EVACUATION ASSEMBLY AREA” signs are posted at Gate 1 and Gate 2.

The facility is lighted from dusk to dawn, with the exception of the quarry and the southern overburden storage area, which typically do not operate at night. Lights are controlled by sensors and instrumentation, and electrical personnel conduct routine inspections for burned out bulbs. Burned out bulbs are replaced in a timely fashion. The lighting is directed downward and allows for visual inspections of tanks and equipment as well as identification of the presence of unauthorized individuals. Lighting for the entire facility is consistent with MSHA standards.

Security of materials on-site is maintained by strictly controlled hours of acceptance, fencing, restricted access areas, patrols, and valves, closed connections, and other process controls. LGF is received at Gate 1 from 7:00 AM to 3:30 PM Monday through Friday; off-hour deliveries can be accommodated with prior special approval (e.g. emergency purpose). Chemical and petroleum deliveries are also received at Gate 1 during normal operating hours. Loads of lightweight aggregate and other aggregate and fines products are sold during normal operating hours with the ability for expanded hours under special circumstances. The material is weighed at the scales and customer vehicles enter and exit at Gate 1.

Petroleum and chemical product tanks are secured, in addition to restricted facility access, by valves that are securely locked in a closed position when not in use; starter controls on all oil pumps are located in areas accessible only to authorized personnel; and loading/unloading connections of oil pipelines being securely capped or back-flanged when not in service.

Facility management provides continuous site supervision throughout the plant. The perimeter roads are traversed at regular intervals throughout the work day by plant personnel. Norlite personnel monitor the active portion of the facility and its operating conditions 24-hours per day,

365-days per year. On nights, weekends and holidays, a minimum of five to eight employees are on duty, depending on production needs. Norlite employees conduct periodic informal inspections of the active portions of the facility. As part of their daily routine, personnel patrol the facility in vehicles and on foot.

Internal communications systems at the facility consist of cell phones for managers and supervisors; a paging system, and an internal phone system. In addition, personnel in mobile equipment have two-way radios.

The Tradebe Corporate Security Plan, incorporated by reference herein, describes basic internal security procedures and standards with respect to hazardous materials and site security. The plan details training, reporting, and standard company-wide procedures. Employees have been trained to be aware of and to report suspicious activity by personnel or by unidentified persons both inside and outside the property and the presence of occupied and unoccupied, unfamiliar vehicles parked outside a facility entrance for a long period of time. Specific training can be found in the Tradebe Corporate Security Plan. The incident report form for suspicious activity (Tradebe Supervisor's Incident Report) can be found in Appendix F.

8.0 Preventive Maintenance (BMP #7)

A preventive maintenance program works to prevent incidents before they occur. Preventive maintenance at the facility includes regular inspection and maintenance of areas which could contribute to pollutants entering stormwater. Norlite currently has an active Preventative Maintenance program that includes the implementation of this BMP Plan, the SPCC Plan (2009 Recertification), the SPR (2012); the Part 373 Permit documents (Draft June 2014), pre-shift inspections; and a preventive maintenance program for all Norlite vehicles, equipment, machinery, tanks, secondary containment, and associated appurtenances. Preventive maintenance checks and inspections are conducted daily. There is no down-time or off-season for preventive maintenance at the Norlite facility as the facility is in operation 24 hours per day, year-round. Details of the preventive maintenance program are given below.

8.1 Identification of Items to Inspect

The following equipment and structures are inspected regularly, typically at the start of every shift, as part of the Preventive Maintenance program at Norlite:

- Crushers, conveyors, loaders, blast-hole drills, quarry haul trucks, water trucks, and Norlite-owned tractor-trailers
- Kilns, APC systems, ancillary equipment, and WWT Plant
- Petroleum bulk storage tanks, piping, dispensing equipment, valves, gauges, and containment
- Chemical bulk storage tanks, piping, dispensing equipment, valves, gauges, and containment
- LGF tanks, piping, pumps, valves, gauges, and containment
- Stormwater detention structures, pumps, and associated equipment, and rain gardens

The Production Manager and Aggregate Production Manager review completed inspection forms for safety and maintenance items. Identified maintenance items are handled as detailed in Sections 8.2 and 8.3.

The Weigh Master inspects delivery trucks while they are on the scale. After the trucks drive off the scale, the Weigh Master inspects the ground under where the truck was parked.

8.2 Scheduled Routine Preventive Maintenance Inspections

Routine preventive maintenance inspections are performed on a regular basis to identify and correct conditions that could contribute pollutants to stormwater discharges. Inspection forms and checklists are provided in Appendix E, unless otherwise noted. Spills, leaks, and weeps are handled as detailed in the Spill Notification Plan.

Maintenance and work items fall into one of three categories: 1) minor items that can be accomplished during the shift in which they were noted by the personnel working the shift; 2) larger and more important items that can be done during the shift in which they were noted by

the personnel working the shift, but that need to be recorded for a specific reason; and 3) items that cannot be completed during the shift in which they were noted. Maintenance items in the first category are completed and are typically not included in the shift report. The second category of maintenance items may include changing out equipment that must be noted for purposes of a permit. The third category of maintenance are items that may require subcontractors, parts to be ordered, specific expertise, and in some cases engineering design. Maintenance items in the second two categories are noted on the shift inspection report in which they were first discovered and may be noted in subsequent shifts until the item has been satisfactorily fixed. Shift reports are reviewed by the Supervisor. The Managers enter required maintenance items into the maintenance tracking database (see Section 8.4) and follow up to make sure that the work gets done. The maintenance tracking database is reserved for tasks that cannot be accomplished during the shift in which they were discovered.

Machinery operation is checked at the start of every shift. The Primary Crusher is checked at the beginning of every shift and the report includes a daily summary (Primary Pre-Shift & Daily Report). The portable screen and portable crusher, which are typically used at the Block Mix Screening Area near the Scalehouse, are checked daily and information provided on the Portable Screen Weekly Report and Portable Crusher Weekly Report. These forms are found in Appendix E. Mobile equipment and vehicles are visually inspected at the start of every shift.

Inspection and maintenance of personal vehicles are the responsibility of the vehicle owner. Privately owned vehicles found to be leaking fluids will be asked to leave the site until the leak has been repaired.

The kilns and baghouses are inspected two times per shift. Parameters observed and noted during these inspections provide the respective Operators, Managers, and Supervisors with information as to how the systems are functioning and if adjustments or maintenance is necessary. The kilns are inspected by the Kiln Supervisor twice per shift and information recorded on the Supervisor Daily Kiln Inspection form. The kilns are also inspected by the Kiln Field Operator every shift and information recorded on the Kiln Field Operators Shift Report. The baghouses are monitored twice per shift and information recorded on the Kiln Supervisor Baghouse Pulse Log. Inspections include operational parameters and safety items. These forms are found in Appendix E.

The Fuel Farm, including LGF and used oil tanks, is inspected at the beginning of each shift and includes activities conducted during the shift. Information is recorded on the Fuel Farm Operator's Pre-Shift & Daily Inspection Report (included in Appendix E). This inspection includes pumps; tank circulators; tank pressure; pipes, valves, and fittings; fire extinguishers and safety equipment; housekeeping; the grounds and break-room; and the Tanker Staging Area. Items such as spills are cleaned up immediately. Other identified items are addressed as described earlier in this section.

Stormwater management features (rain gardens, Upper Stormwater Pond, and Lower Stormwater Basin) are inspected weekly (Weekly Environmental (RCRA) Inspection Report, Appendix E) and monthly (Monthly BMP Inspection Form, Appendix J) in addition to informal daily visual inspections. Features are also inspected after rainfall events.

The Wastewater Treatment Plant is inspected every shift and continually staffed. This inspection includes Kiln #1 and Kiln #2 Blowdown, Equalization Tank, Flocculation Tank, Clarifier, Overflow Collection Tank, Filter operation data, effluent data, quarry water system, quarry water, and the filter press. Iron sulfate additions are tracked, chemicals inventoried, and flows to effluent and overflow collection tanks are monitored.

In addition to the checks and inspections detailed above, the Weekly Environmental (RCRA) Inspection Report includes the status and visual observation of LGF tanks and pumps; fencing, signs, and locks; the two Tanker Unloading Areas and Tanker Staging Area; roll-off containers; LGF Storage Building, and tunnel; used oil storage tank area and tanks; the kilns, baghouses, scrubber building, burner floor area, extruder room, the equalization tanks and area; the tunnel fire and environmental monitor and control system; Kiln #1 Gas Room; dust storage containment; and the Wastewater Treatment area.

Instrumentation and Electrical (I&E) staff conduct nightly (Sunday through Friday) routine inspections of outdoor lighting and Exit signs. Burned out bulbs found during inspections are replaced immediately. In addition, bulbs are replaced proactively prior to being burned out. In addition to routine work, I&E staff are on-call for emergencies.

Petroleum bulk storage tanks (virgin, purchased petroleum products) are informally checked as part of the area-specific pre-shift inspection. The tanks, piping, containment, and pumps are checked for leaking, weeping, and spills. Tanks, gauges, valves, and other equipment for spill prevention are inspected monthly, in accordance with the SPCC Plan, Appendix E Aboveground Petroleum Storage Tank Monthly Inspection. Tanks are tested for integrity in accordance with the manufacturer's recommendations.

Chemical (hazardous substances) bulk storage tanks are inspected daily, annually, and every five years. Each inspection has different criteria as described and detailed in 6 NYCRR Part 598.7 and included herein. Daily informal visually inspections are conducted at the start of every shift for spills and leaks, to check that valves are closed if not in use, and to ensure that there are no unpermitted discharges of contaminated water or hazardous substances. The aboveground storage tank system must be inspected annually, in accordance with the SPR (Appendix C) and per 6 NYCRR Part 598.7(c). The annual inspection is contracted out. This inspection includes the following:

- Visually inspecting for cracks, areas of wear, corrosion, poor maintenance and operating practices, excessive settlement of structures, separation or swelling of tank insulation, malfunctioning equipment, safety interlocks, safety trips, automatic shutoffs, leak

detection, and monitoring, warning or gauging equipment which may not be operating properly;

- Visually inspecting dikes and other secondary containment systems for erosion, cracks, evidence of releases, excessive settlement and structural weaknesses;
- Checking on the adequacy of exterior coatings, corrosion protection systems, exterior welds and rivets, foundations, spill control equipment, emergency response equipment and fire extinguishing equipment;
- Visual checking of equipment, structures and foundations for excessive wear or damage; and
- Reviewing compliance with 6 NYCRR Part 598 and Part 599.

The aboveground storage tank and tank system is inspected every five years, in accordance with the SPR and per 6 NYCRR Part 598.7 (d). This inspection includes aboveground piping systems and all aboveground tanks. For aboveground piping systems and ancillary equipment, the inspection consists of the following:

- Examination of exposed piping, joints, welds and connections for misalignment and tightness. Insulated piping systems must have the covering removed if there is evidence of a leak such as damage or discoloration of the insulating material or the presence of free liquid. Representative flanged connections must be examined for gasket deterioration and misalignment;
- Structural inspection of representative sections of pipes for thinning, galvanic corrosion, intergranular corrosion, stress corrosion cracking, crevice corrosion, pitting, and for evidence of coating failure and material incompatibility. Galvanic cells, such as may be created by the joining of dissimilar metals, and other sources of corrosion must be identified;
- A tightness test of any connecting underground pipes;
- Inspection and assessment of all ancillary equipment such as gauges, pressure/vacuum safety valves, safety interlocks, flow valves and pumps for adequacy, operability, leakage, fouling, corrosion, scaling and wear. Relief valves must be tested for capacity or opening and reseating pressure and inspected to see if corrosion, fouling or scaling has occurred; and
- An identification of system deficiencies which may result in a leak due to vibration, expansion, contraction, frost, settlement, shock or other causes.

The five year inspection of Tanks 4640 and 4650, because they are aboveground tanks with a capacity of ten thousand (10,000) gallons or more, must be conducted under the direction of a qualified engineer. The engineer must certify that the tank is structurally sound and is not subject to external or internal corrosion that may result in a release before the next inspection and recertification. Where necessary, the inspection must be made of all accessible tank surfaces and include the following:

- Cleaning the tank and difficult to reach areas within the tank in accordance with a consensus code, standard or practice developed by a nationally recognized association or independent testing laboratory;
- Removal, transportation and disposal of solid precipitates or accumulated sludge in compliance with all applicable state, federal and local laws;
- Inspecting the tank, both internally and externally, for structural soundness and testing of the welds and seams on the tank bottom for porosity and tightness. The inspector may use one or more of the following non-destructive testing methods: hydrostatic or vacuum test; dye penetrant test; ultrasonic test; radiographic or X-ray test; magnetic particle inspection; or any other equivalent test which determines whether the tank is structurally sound. This must include measurements of erosion and corrosion wear and assessments of galvanic corrosion, intergranular corrosion, stress corrosion cracking, device corrosion, pitting, cellular corrosion and inspection for material incompatibility;
- Visual inspection of the internal surfaces of the tank and difficult to reach areas for corrosion or failure; and
- Inspection of internal and external liners, cladding and coatings for any signs of failure such as cracks, bubbles, blisters, peeling, curling or separation.

8.3 Scheduled Maintenance

Equipment receives regular maintenance work based on the hours of operation. Hours of operations for each piece of equipment are tracked weekly. Oil changes are done regularly.

8.4 Equipment Repair or Replacement

Equipment is repaired or replaced on an as-needed basis as identified during the preventive maintenance inspections. Leaking vehicles and equipment are tagged out until repaired. Norlite is committed to prompt repair of defective equipment. Notations of repair and/or replacement are made on the forms and reports included in Appendix E.

Instrumentation and Electrical staff routinely replace light bulbs with special attention to outdoor nighttime lighting and Emergency Exit signs.

8.5 Records of Preventive Maintenance

Records of routine preventive maintenance are maintained at the Office. Records of maintenance may also be noted on the forms included in Appendix E.

Norlite has an electronic maintenance tracking database. A Supervisor creates a work request and a Manager forwards the request to the Compliance Coordinator. The Compliance Coordinator enters the work orders into the database. Work orders are assigned a unique identification number. The work orders are distributed, in a combination of paper and electronic copies, to the relevant personnel, including the person who will be conducting the work and his/her supervisor. The person who completes the items signs off on it being done on the hard copy of the work order. In addition, sometimes the Supervisor will sign off. A weekly work

order list is circulated to keep Managers aware of what remains to be done and to keep personnel on top of getting the work completed.

9.0 Good Housekeeping (BMP #8)

Good housekeeping requires maintaining areas, which may contribute pollutants to stormwater discharges, in a clean, orderly manner; utilizing proper materials storage and inventory practices; and training employees to conduct good housekeeping practices. Good housekeeping consists of maintaining a safe, orderly, and clean work environment, as well as controls for reducing or eliminating the discharge of pollutants from roads, parking lots, maintenance and storage yards, maintenance shops with outdoor storage areas, and material transfer locations. Good housekeeping is practiced daily at Norlite.

9.1 Operation and Maintenance

Good housekeeping practices that maintain safe, orderly, and clean work environments have been implemented throughout the facility. Specifically, facility roads and work areas are kept clear of obstructions and debris to the greatest extent practicable. Dormant equipment is stored in appropriate locations. Haul roads are maintained in good condition to minimize erosion, and dust control is accomplished by using road watering trucks as necessary (BMP #11 details road watering activities). Other dust controls include conveyor covers and water suppression systems. Vehicles, equipment, and machinery undergo regular, scheduled maintenance. Machinery is checked at the start of each shift. Preventive maintenance is detailed in BMP #9.

Minor maintenance is conducted outside of the garages. Large mobile equipment is repaired in the Large Equipment Garage.

Stormwater runoff from the maintenance area gravity flows into the Lower Stormwater Basin. Runoff from the western portion of the facility gravity drains to the Upper Stormwater Pond. Water from the Upper and Lower detention structures is pumped to the quarry excavation. Runoff from the Southern Overburden storage area is directed back into the quarry via swales. Runoff from the quarry drains internally to the quarry sump.

Stormwater management structural features are visually inspected monthly (Monthly BMP Inspection, Appendix J), and necessary maintenance or repairs required to keep them working properly are to be completed within 14 days. Catch basins located at the facility are visually inspected at least monthly and cleaned out as often as necessary to avoid failures that could result in discharges of pollutants to surface waters. Oil absorbent booms are placed in select catch basins; booms are replaced as needed, but annually at minimum.

9.2 Material Storage Practices

Stockpile management procedures and practices are designed to reduce or eliminate air and stormwater pollution from stockpiles of raw shale, shale fines, and lightweight aggregate. Aggregate, raw shale, and fines stockpiles are located throughout the facility. BMPs for stockpile management are front-end loader procedures, shaping, appropriate location, protection from runoff, and wind erosion control practices. The Bucket Loader Operator Procedures is provided as Appendix U and details how loaders handle and deposit material on to stockpiles and

into customer vehicles. Piles are shaped by loaders to prevent trailing edges. Stockpiles are located a minimum of 50 feet away from drainage courses, drain inlets, water bodies, and concentrated flows of stormwater,. Stockpiles are protected from stormwater runoff using a temporary sediment barrier such as berms, dikes, fiber rolls, silt fences, sandbags, or gravel bags. Wind erosion control practices are implemented as needed on stockpile material. Stormwater runoff from stockpiles is directed, via topography, into stormwater detention structures (Lower Stormwater Basin and Upper Stormwater Pond) then pumped into the quarry settling basin. Stockpiles in the various facility areas (Section 4 of this BMP Plan) are inspected as part of the Monthly BMP Inspection.

Petroleum bulk storage tanks, chemical bulk storage tanks, used oil tanks, and LGF tanks are visually inspected at the beginning of each shift. Drums and totes of LGF and waste sludge are stored under cover or inside the Container Storage or Waste Transfer Building. Drums of engine oil, antifreeze, gear lubricant, and drive train fluid are stored in the Oil Room in the Maintenance Area. Drums and totes are stored inside appropriate containment.

Chemical containers and drums are labeled with the appropriate information. Containers are sealed when not in use. Chemical and petroleum bulk storage tanks are labeled in accordance with State and Federal regulations.

9.3 Material Inventory Procedures

Purchased virgin petroleum products, chemicals used at the WWT Plant, LGF, used oil, and natural gas are inventoried based on how the material is used. The specific procedures are detailed below.

Petroleum bulk storage tanks (purchased virgin product used to fuel facility vehicles) are filled by vendors on a regular schedule or automatic fill program. This Supervisor directs the delivery person to the specific tanks to be filled and type of fuel to be delivered. PBS tanks have a tank level indicator and high level alarms (visual and/or audible). Norlite vehicles and mobile equipment have a vehicle-specific fuel card. To be able to fuel a vehicle, the employee swipes a card and enters an access code to activate the fuel pump. Fuel use is tracked based on hours of operation for each piece of equipment. Fuels Master is used for inventory reconciliation.

Deliveries to the chemical bulk storage tanks are regularly scheduled. Hydrochloric acid and sodium hydroxide are used at a fairly consistent rate directly from the tanks via piping with appropriate valves and metered pumps. Usage of hydrochloric acid and sodium hydroxide are monitored, controlled, and adjusted by the WWT Plant Operator. Methanol and ethylene glycol are dispensed by a third party company into their tanker trucks with a Norlite employee in the area.

Table 4. Chemical Bulk Storage Tank Gauging		
Tank No.	Contents	Gauge type
4609	Sodium hydroxide	Pressure transmitter with alarm
4620	Hydrochloric acid	Level float switch with alarm (audible and visual) Tank side-mounted sight level gauge
4630	Ethylene glycol	Level float switch with alarm (audible and visual)
4640	Methanol	Level float switch with alarm (audible and visual)
4650	Methanol	Level float switch with alarm (audible and visual)

LGF and used oil are received into gauged tanks. There is a gauge readout inside the Fuel Farm for tanks 100A, 100B, 100C, 200A, 200B, and 200C. Tanks F1, F2, F4, M1, M2, R1, R2, 9, 300, 400, 500, and 600 have digital readouts in the Fuel Farm Operators control room. Table 4 below details the tanks with automatic shutoff for the pumps that feed the tanks. Tank inventory is continuously being monitored at the Fuel Farm and at the kilns. Tank volume is recorded at the beginning and end of the Fuel Farm shift. Tank volumes are recorded on the Tanks Sheet by Fuel Farm and Laboratory personnel. At night, kiln fuel tanks not in use are locked; Kiln Operators record tank level every three hours for all tanks.

Table 5. LGF Tank Gauging	
Tank	Gauge and Alarm
100A	Ultrasonic/radar level indicator with digital readout High level alarm switch with automatic pump shutdown

Table 5. LGF Tank Gauging	
100B	Ultrasonic/radar level indicator with digital readout High level alarm switch with automatic pump shutdown
100C	Ultrasonic/radar level indicator with digital readout High level alarm switch with automatic pump shutdown
200A	Ultrasonic/radar level indicator with digital readout High level alarm switch with automatic pump shutdown
200B	Ultrasonic/radar level indicator with digital readout High level alarm with automatic pump shutdown
200C	Ultrasonic/radar level indicator with digital readout High level alarm with automatic pump shutdown
300	Ultrasonic/radar level indicator with digital readout
400	Ultrasonic/radar level indicator with digital readout
500	Ultrasonic/radar level indicator with digital readout
600	Ultrasonic/radar level indicator with digital readout

Natural gas is delivered to the facility by pressurized pipeline. Gas usage is metered onsite at the natural gas house. Use is also monitored by the Kiln Operators via flow monitors with totalizers.

Drums containing tank waste sludge and filter cleaning wastes are staged in the drum room prior to offsite disposal at an appropriately licensed facility.

9.4 Employee Participation

Employees are responsible for carrying out good housekeeping practices during their daily work activities. They are trained and instructed to report to their supervisor any situations which require implementation of good housekeeping practices or improvements to existing BMPs.

10.0 Materials and Waste Handling, Storage, and Compatibility (BMP #9)

10.1 Inventory and Labeling

Material inventory is a constant process at Norlite. Section 9.3 of this Plan describes material inventory procedures. Petroleum bulk storage (purchased virgin product) inventory is reconciled monthly. Chemical bulk storage inventory is regularly reconciled and LGF and used oil are inventoried daily. Maintenance garage materials are replaced as needed. Lightweight aggregate product is inventoried using stockpile survey; the survey is typically done quarterly.

Waste container labeling is constantly being checked as it is an integral component of operating a RCRA Part 373 permitted facility. As part of their area shift inspections, Norlite personnel will verify that containers are accurately and appropriately labeled. Special attention is given to drums and totes. Containers are labeled for hazardous and non-hazardous material. Hazardous drums and totes are labeled with generation date, waste codes, EPA ID#, and description of waste. Non-hazardous containers have a basic description; an example is “wastewater.” Additional information including health hazards, suggestions for handling, and first aid information can be found on the item’s Safety Data Sheet (SDS), formerly called Material Safety Data Sheet (MSDS). Annually, the Health & Safety Manager will verify that the SDSs maintained on-site at the Office are up-to-date and current according to the material inventory.

10.2 Handling

Handling procedures and precautions for petroleum (purchased virgin product) and chemical bulk storage and LGF and used oil are detailed in other written plans. This information is incorporated by reference herein. Section 3.4 of the SPCC Plan describes purchased petroleum material handling procedures. Section 8 of the SPR (SPR included herein as Appendix C) describes chemical bulk storage handling procedures. Sections 2.5 and 2.6 of the Operations Plan (June 2014) detail handling of LGF and used oil.

Shale, aggregate, and fines material stockpiles are created at the end of conveyors and drop chutes. Piles are moved and shaped using loaders and dump trucks. Customer vehicles are loaded by front-end loaders.

Solid waste at Norlite, aside from routine household garbage, is categorized into hazardous and non-hazardous. Routine household garbage and household recycling is routinely picked up by the hauler. Non-hazardous solid waste is drummed and sent to Norlite’s sister company facility for disposal. Hazardous solid waste is drummed and sent to sister facility for disposal. Non-hazardous petroleum contaminated soils are stored in a dumpster and hauled off once a year. The facility has a dumpster for scrap metal from the plant and a second dumpster for crushed drums.

10.3 Storage

Raw shale, shale fines, and lightweight aggregate are generally stored in stockpiles and block mix is stored in a concrete structure – the aggregate fines storage tent.

Virgin petroleum products are stored on-site in tanks and drums. Drummed material is typically products used in vehicle and equipment maintenance (engine oil, antifreeze, gear lubricant, and drive train fluid), which are stored in the Maintenance Garage. Tanks are located inside appropriately sized secondary containment; some of the secondary containments are covered. Drums are stored on secondary containment pallets or within an appropriately sized secondary containment dike/structure inside the Oil Pump Room located at the Maintenance Garage.

Chemical bulk storage tanks are located at the Wastewater Treatment Plant in appropriately sized, material-compatible, secondary containment.

LGF and used oil is stored in tanks, drums and totes at the Fuel Farm. The material is temporarily stored in the drums and totes before being transferred into the tanks. Tanks, drums and totes are stored inside appropriately sized, material compatible, secondary containment.

10.4 Compatibility

A material must be compatibility with the container in which it is stored; the secondary containment in which it is stored and/or the coating on the secondary containment; and the other materials stored within a shared secondary containment.

Shale, aggregate, and fines material are stored primarily in open stockpiles directly on the ground, or in concrete bins, or under the aggregate fines storage tent. Select products are stored in covered structures, specifically kiln feed shale, lightweight fines, and 8x0 mix. The shale, aggregate, and fines are compatible with each other and compatible with compacted earth, concrete, and the cover materials.

Petroleum products stored on-site are in containers compatible with petroleum products. Secondary containment for petroleum product containers is made of materials compatible with petroleum products. Secondary containment structures for petroleum products will have only petroleum products stored in them. Tank fill ports are color-coded per the American Petroleum Institute prescribed color scheme to help prevent filling of a tank with the incorrect product.

Procedures for maintaining material compatibility of bulk chemicals are detailed in the SPR, Section 8 “Written Procedures for the Prevention of Mixing of Incompatible Substances – Procedures for Receiving and Unloading Acid, Caustic, Ethylene Glycol and Methanol Solutions”. These procedures are incorporated by reference herein.

Precautions and procedures to prevent reaction of incompatible wastes (LGF) are detailed in Section 2.5 and 2.6 of the Operations Plan (June 2014) and the Waste Analysis Plan (June 2014). The relevant information in these plans is incorporated by reference herein.

11.0 Spill Prevention & Response (BMP #10)

This section of the BMP Plan identifies areas where spills can occur and the potential discharge points; specifies material handling procedures, storage requirements, and appropriate use of equipment; identifies spill and leak cleanup procedures and employee training on such procedures; and lists the type of spill cleanup materials maintained onsite.

Spills at Norlite may consist of petroleum products, liquid chemicals, and low grade fuel (both solid and liquid). Spill prevention procedures are similar for chemical and petroleum products and LGF.

Norlite is subject to several programs that cover and dictate response to spill including:

- SPCC Plan Sections 3.4 Discharge Prevention Measures, 3.5 Discharge/Drainage Controls, and 3.12 Containment/Diversionary Structures detail spill prevention structures and procedures. SPCC Plan Sections 3.6 Discharge Countermeasures, 3.8 Contact List, and 3.10 Spill Response Procedures detail spill response procedures for petroleum products.
- Section 6 of the SPR details response to chemical bulk storage spills. Section 8, Written Procedures for the Prevention of Mixing of Incompatible Substances details spill prevention procedures.
- The Operations Plan, Section 2.5 Preventive Procedures, Structures and Equipment and 4.0 Management of Wastes detail how spills of LGF are prevented. The Integrated Contingency Plan, Section II details spill response guidance and procedures.

All of these plans are incorporated herein by reference and discussed in the following sections. The SPR is included herein as Appendix C.

11.1 Potential Spill Areas

Potential spill areas are locations where materials are handled, transferred, and stored. Additionally, areas in which mobile equipment and vehicles park may be potential spill areas. Petroleum bulk storage tanks are located throughout the facility and are potential spill areas; specifically, there are tanks at the Truck Scale, Building 4 – Oil Room, Primary Crusher, and north of the LGF Storage Building. Section 3.11 of the SPCC Plan includes descriptions of potential spill areas for each petroleum tank. Chemical bulk storage tanks are located at the Wastewater Treatment Plant; this is a potential spill area. LGF tanks are located at the Tanker Unloading and LGF Storage Building and tankers and tank wagons are staged in the Containment Area; these are potential spill areas. See Figure 7 for tank locations.

11.2 Material Handling Procedures and Storage Requirements

Petroleum Bulk Storage

The following information describes procedures for purchased, virgin petroleum products that are used for vehicle fueling and vehicle maintenance. Section 3.4 of the SPCC Plan specifies the handling procedures and storage for petroleum products. Portions of this discussion are excerpted from Section 3.4 of the SPCC Plan.

The storage tanks at this facility handle, store, and distribute petroleum products in the form of motor oil (virgin), diesel, gasoline, and No. 2 Fuel for use by on-site equipment and fleet vehicles. Some drums (containers) at this facility are used for transferring, storing, and distributing virgin petroleum products for use in vehicle maintenance. The maintenance department distributes, stores, and handles petroleum products in the form of engine oil, antifreeze, gear lubricant and drive train fluid.

“Product loading is performed under the direction of a Norlite employee who is trained in emergency spill response. Loading is performed manually via a tanker truck for storage tanks, empty drums are switched out with full drums via a box truck. The loading operation is not complete until the delivery driver checks the tank for leakage and ensured no product has been released as an action of the loading event. A detailed description of delivery procedures are provided in the SPCC Plan, Appendix G, Fuel Delivery Procedures.

All materials stored in the registered PBS tanks listed on the registration certificate are compatible with the tank material. Spill prevention will be accomplished by implementing the following procedures for delivery and storage.

Deliveries

Deliveries will follow the standard practices of the supplier or transporter. Appendix G of the SPCC Plan provides Norlite-specific fuel delivery procedures in addition to those detailed below. The items that are the responsibility of the supplier/transporter include:

- Establishing all hose and fitting connections between the delivery truck and fill port flange;
- Proper operation of the delivery equipment;
- Observing the tank level indicator and high level alarms (visual and audible); and
- Delivery truck brakes will be set and wheels chocked.

All deliveries are supervised by a Norlite employee trained in accordance with Section 3.10 of the SPCC Plan. Before transfer of product to a PBS tank begins, the following actions will be performed:

- The transporter and the Norlite employee will verify delivery is to the correct PBS tank by checking the labels on the PBS tank.
- The transporter and the Norlite employee will verify that there is sufficient capacity in the PBS tank to receive delivery by observing the tank level gauge.
- The transporter and the Norlite employee will verify all valves are in the proper position to accept delivery.

Storage

The tank, maintenance shop drum storage area and mobile tank will be inspected daily for evidence of a spill.

Product loading is performed under the direction of a Norlite employee who is trained in emergency spill response. Loading is performed manually via a tanker truck for storage tanks and where drums/containers are present, empty drums are switched out with full drums/containers via a box truck. The loading operation is not complete until the delivery driver and Norlite Corporation employee have completed all paper work, inspected each tank or drum/container for leakage, and ensured no product has been released as an action of the loading event. In the event a tank: requires unloading of product, a pump truck will be utilized to remove the liquid or for drums and/or containers, a box truck will be utilized to remove the drum and/or container. The tank/container or drum, and transport vehicle will be inspected for release and made secure to prevent releases.

All product loading is performed under the strict observation of a Norlite employee who is trained in emergency spill response. Loading is performed manually via a tanker truck for storage tanks and where drums/containers are present, empty drums are switched out with full drums/containers via a box truck. The loading operation is not complete until the delivery driver and/or Norlite employee have completed all paper work, inspected each tank or drum/container for leakage, and ensured no product has been released as an action of the loading event. In the event a tank requires unloading of product, a pump truck will be utilized to remove the liquid or for drums and/or containers, a box truck will be utilized to remove the drum and/or container. The tank/container or drum, and transport vehicle will be inspected for release and made secure to prevent releases.

The locations of petroleum bulk storage tanks are illustrated on Figure 7. Tanks are within secondary containment, as detailed in SPCC Plan, Section 3.12 Containment/Diversionary Structures.

Chemical Bulk Storage

Section 8 of the SPR, Written Procedures for the Prevention of Mixing of Incompatible, includes storage and handling of acid or caustic for use in the Wastewater Treatment (WWT) Plant,

including instructions for handling methanol and ethylene glycol. The following text is excerpted from the SPR (2012 version), Section 8:

“Deliveries of acid, caustic, methanol and antifreeze will be received in the WWT Plant material transfer area located on the north side of the WWT building. The material transfer area consists of an 18-foot wide concrete pad with a 25-foot long sloping surface towards the acid tank containment wall. This material transfer area is coated with a chemically resistant material. It is curbed along the sloped portion of the pad and has an approximate 1300-gallon containment capacity. The fill line connection for Caustic receipt is located on the WWT building north wall. The fill line connection for Acid receipt is located within the Acid secondary containment area. The fill line connections for the Ethylene Glycol and Methanol receipt is located on the west side of the material transfer area. These connections are clearly labeled for the chemical designated for filling. An alarm is located near these connections to notify the receiving operator and the tanker driver to prevent tank overfilling.”

Chemical bulk storage tanks are constructed of material compatible with the chemicals in the tank. TK-4620, the acid tank, is made of fiberglass reinforced plastic (FRP) and constructed in accordance with ASTM 3299-88 (1988 Edition). The tank material has an inner corrosion-resistant lining and is impregnated with a fire retardant. TK-4609, the caustic tank is an API 650 tank constructed of carbon steel. Tanks 4640 and 4650, the methanol tanks, are constructed of carbon steel. Tank 4630, the ethylene glycol tank, is constructed of carbon steel.

The chemical bulk storage tanks are located in secondary containment made of, or coated with, material compatible with the chemicals being stored. TK-4620, the acid tank, is located outdoors near the northwest corner of the WWT building. It is seated on a raised, coated steel base set on the concrete pad foundation. The tank is set within a concrete containment. TK-4609, the caustic tank is located inside the WWT building. It is seated on a raised, coated steel base set on the concrete pad foundation. The WWT building has a concrete lip on the doors and provides secondary containment for the tanks inside. TK-4630, TK-4640, and TK-4650 are located north of the WWT Plant in a concrete containment area. All of the tank containments are made of concrete and coated with a chemical resistant epoxy coating.

Section 4.0 of the SPR details unloading as follows:

4.1 The unloading/receipt of caustic and hydrochloric acid must be supervised at all times by a trained, qualified WWT operator. The unloading/receipt of ethylene glycol and methanol must be supervised at all times by a trained, qualified Fuel Farm technician. It will be the WWT operator's or the Fuel Farm technician's responsibility to ensure that a load is safely and correctly received.

4.2 Upon arrival of the chemical shipment at the plant security gate, the guard will log in the driver and announce over the radio that the shipment has arrived. The delivery vehicle will be weighed and the entry weight recorded.

4.3 All normal access ways to the unloading area shall be posted with safety signage prior to unloading the shipment to prevent unauthorized personnel entry to the unloading area.

4.4 The WWT operator or Fuel Farm technician shall ensure the driver is outfitted with the proper PPE prior to offloading. ”

The Raw Material Receipt Report can be found in the Spill Prevention Report (Appendix C).

Sections 4.4 through 4.26 of the SPR detail unloading instructions for each chemical. Section 5.0, as follows, details the procedure for chemical bulk storage tanks when unloading is complete:

“5.1 Upon completion of the unloading of the tanker, remove the safety barrier from the area and notify the Kiln Supervisor that the unloading is complete. Remove the chocks from the truck’s wheels.

5.2 The security guard will again weigh the vehicle and record the exit weight.

Low Grade Fuel

As detailed in the Draft Part 373 Operations Plan (June 2014), Section 4.3, Tanks 100A, 100B, 100C, 200A, 200B, and 200C are above ground tanks that are housed in a concrete containment system. The floors are sealed with Phenoline 300 sealant. Tanks 101A, 101B, 201A, and 201B are above ground tanks that are also housed within a concrete containment system. The floors are sealed with Phenoline 300 sealant.

Tanks 300, 400, 500 and 600 are imbedded in two feet of compacted coarse sand. Beneath the sand is an impermeable liner consisting of one 40 mil HDPE geo-membrane, one layer consisting of 6-12 inch compacted clay and sand, one 40 mil HDPE geo-membrane, and one layer consisting of 12 inches of clay installed in two 6 inch lifts compacted to 1×10^{-7} cm/sec. The bottom of the excavation as well as the clay liner and HDPE geo-membranes are sloped towards the pump containment slab; the slab is coated with an impermeable coating (Phenoline 300).

Section 2.5.1 of the Operations Plan (June 2014) details unloading procedures for LGF and used oil and is incorporated herein by reference.

11.3 Spill Response Procedures and Equipment

11.3.1 Spill Response Procedures

Norlite personnel are trained to recognize spills of petroleum products, chemicals, and LGF and to respond appropriately. This section provides specific spill response information for petroleum and chemical bulk storage and refers the reader to the appropriate plan for response to an LGF spill. Please note that references to “Norlite Corporation” are part of a direct quote from a source document and have not been changed herein.

Petroleum Bulk Storage

Section 3.10 of the SPCC Plan states that, “Prompt response to a spill is the best means of minimizing any impact to the environment and in particular, preventing a discharge from reaching the waters of the United States. In the event of a spill of a petroleum product, the employee first becoming aware of the spill will assume the role of temporary spill coordinator until he/she can notify the Facility Plant Manager who is the primary spill coordinator. If the temporary spill coordinator is unable to notify either the primary spill coordinator or any of the spill coordinator backups, as identified in Section 1.0 of this report, then he/she will assume the responsibility of implementing the emergency spill response procedures that follow, provided that he/she has been trained in the appropriate health and safety procedures and in the implementation of this SPCC Plan.

The following spill response procedures are to be followed at Norlite Corporation:

Assessment of Hazard

1. Upon notification of a petroleum-related spill, the spill coordinator will determine the hazard potential of a spill response by determining at least the following factors:
 - a. The substance spilled and its hazard potential;
 - b. The amount of the spill and the extent of spreading; and
 - c. The source of the leakage/spill.
2. Where appropriate, the spill coordinator shall consult with the facility Safety Manager to determine the potential hazard to employees and to the surrounding public from the substance spilled.
3. If a spill is determined to be of such a magnitude that it cannot be safely and effectively controlled by facility personnel, then the coordinator shall promptly notify outside emergency response agencies to implement control and clean-up.

Secure Spill Response and Personal Protective Equipment

1. Upon determining the hazard potential for the planned response action, the spill coordinator shall direct those who will respond to the spill to obtain the appropriate response equipment and personal protective equipment. A list of the spill response and personal protective equipment available at this facility is provided in Appendix C.
2. Employees will not be issued spill response equipment or personal protective equipment (PPE) without having been trained on its proper use and limitations.

Containment and Eliminating Spill Source

1. Upon obtaining the proper spill response tools and PPE, the spill responder(s) shall first attempt to contain the spill so as to prevent its entry into a storm sewer, a ditch or any conveyance that eventually discharges to the waters of the United States. Examples of equipment and media that can be used to contain spills include sand, cat litter, straw bales, and sorbent pillows.

2. At the same time as containment is being performed or as soon as possible after containment, the spill responder(s) shall attempt to seal or otherwise stop the source of the spill. Common methods of eliminating a spill source include closing valves, leak-stopping compound for pinhole leaks, drum overpacks, deactivating pumps, and diverting flow to another pathway. As long as this pathway does not allow the spill to enter navigable waters of the United States or adjoining shorelines.

Spill Clean-Up and Mitigation of Environmental Impacts

1. Once the spill is contained and the source eliminated, the spill responders shall collect the spilled material by the appropriate manner and place the material into secure containers.

2. The area or surface in contact with the spilled material shall be decontaminated by an appropriate method that is permissible under local, state, and federal laws. The specific method used will depend upon the substance, the availability of permitted sewer discharge to a POTW, regulatory standards applicable to hazardous and toxic wastes, and other factors. The SPCC Spill Coordinator will select the appropriate decontamination method after determining the applicable facts and by conferring either with the regulators or an expert in the subject of spill response.

3. All spill material and debris will be managed in a manner that fully complies with applicable local, state, and federal laws regarding recycling or disposal of wastes. The preferred method is to recycle or reclaim materials from spills in an effort to minimize waste generation. Where this is not feasible or allowed, then disposal in accordance with applicable local, state, or federal rules will be done.”

Chemical Bulk Storage

For chemical spills both inside and outside of secondary containment, the spill is to be remediated immediately as described in Section Spill Response Plan of the SPR. At any time before or during the spill response, the Incident Commander can implement the Contingency Plan based upon his/her judgment of the situation and training.

Low Grade Fuel

For spills of LGF that remain within containment, the spills are cleaned up. In the unlikely event of an emergency arising from a tank spill or tank leakage, the procedures found in the Integrated Contingency Plan, Section II (June 2014) will be followed.

11.3.2 Spill Response Equipment

Spill response equipment includes fire extinguishers, fire hydrants, absorbent pads and booms, absorbents (kitty litter, speedi-dry, portable pump, front end loaders, shovels, first aid supplies, wind socks, and PPE including Level B suits and air purifying cartridges, gloves, full face shield, Tyvek coveralls, and over boots. Spill kits are located at the Fuel Farm, Gate 1, off-road diesel tank, on-road diesel tank, and gasoline tank. Spill kit locations are identified on Figure 7. Appendix C of the SPCC Plan (2009 Recertification) has a list of response equipment, including fire detection and suppression systems.

For response to chemical spills at the Wastewater Treatment Plant, Norlite has a HCl, NaOH, Ethylene Glycol and Methanol Spill Kit, and 1000 lbs. Bicarbonate at the Wastewater Treatment Building.

12.0 Erosion and Sediment Control (BMP #11)

Erosion and sediment control is a necessary BMP at any facility where soils are disturbed and disturbed soils and stockpiles are exposed to wind, water, or ice. The nature of operations at Norlite is such that there are high activity areas that cannot be vegetated or paved (e.g. the quarry, haul roads, stockpiles areas); material stockpiles that are exposed to wind and water; and construction areas where soil is disturbed, denuded, and subject to erosion. Structural, vegetative, and non-structural measures are used at Norlite to prevent soil erosion and sediment control. The Fugitive Dust Plan (August 2014), incorporated herein by reference, describes controls for potential fugitive dust emissions.

12.1 Quarry

To date, mining activities at Norlite have taken place within an inwardly graded and internally drained excavation. It is standard mining practice to grade new areas to be mined such that they drain into the existing excavation during all phases of the quarrying process, including tree clearing and grubbing, stripping of topsoil and overburden (earth moving), and excavation of mineral resources. Typically, vegetation is stripped in advance of mining only for the acreage that can be mined in the next calendar year. Stormwater runoff and groundwater seepage collected at the base of the excavation are discharged, via pumping, to the Salt Kill (Outfall 003, SPDES Permit NY 000 4880).

For future mining and/or construction activities with the potential for off-site discharge, the following BMPs involving structural control measures and devices (see Table 5) will be implemented as needed and as determined by the Environmental Manager or his/her designee. All structural measures and devices will be installed and maintained as specified in “*New York Standards and Specifications for Erosion and Sediment Control, August 2005 Edition*” or most recent edition. Standard details for the measures and devices in Table 5 are included in Appendix M. All controls will be appropriately engineered for the specific work that will be conducted.

During tree clearing and grubbing in areas with the potential for off-site discharge, silt fence with hay bales will be used down-slope of the area to be cleared to limit sediment laden stormwater from leaving the property. Temporary swales will be used to decrease the amount of run-on to disturbed areas and/or direct runoff from disturbed areas to a sediment trap or into the quarry excavation. Check dams will be installed in swales if degradation of the swale has occurred or at the direction of the Plant Manager or Environmental Manager. Either a grass outlet sediment trap or a riprap outlet sediment trap will be used at the termination of a swale if and where needed. The traps will be appropriately sized as directed by the Plant Manager or Environmental Manager or his/her designee according to a ratio of 3,600 cubic feet of storage volume per acre drained. A grass outlet sediment trap will be used when the area draining to the trap is less than or equal to five (5) acres. A riprap outlet sediment trap will be used when the area draining to the trap is greater than five (5) acres and less than or equal to 15 acres.

For earth moving (stripping and stockpiling) activities, the same structural controls described above (tree clearing and grubbing) will be implemented as needed. In addition, a silt fence and hay bales will be installed around stockpiles and/or along berms where runoff has the potential to leave the site or enter waters of the State. Long term stockpiles of overburden material, in the form of berms, will be vegetated upon completion of construction if needed.

Table 6. Activity-Specific BMPs

Activity	BMP
<ul style="list-style-type: none"> ➤ Clearing and grubbing 	<ul style="list-style-type: none"> • Grading to Quarry • Silt fence • Hay bales • Temporary swales • Sediment trap(s): grass or riprap outlet • Check dams
<ul style="list-style-type: none"> ➤ Overburden stripping 	<ul style="list-style-type: none"> • Grading to Quarry • Silt fence • Hay bales • Temporary swales • Sediment trap(s): grass or riprap outlet • Check dams
<ul style="list-style-type: none"> ➤ Overburden stockpiling, including berm construction 	<ul style="list-style-type: none"> • Grading to Quarry • Silt fence • Hay bales • Temporary swales • Vegetation of berms

12.2 Southern Overburden Storage Area

The Southern Overburden Storage Area is where clay-rich overburden from the quarry is permanently stockpiled within and behind a series of engineered berms. This work is conducted

under the SPDES General Permit for Stormwater Discharges from Construction. The Stormwater Pollution Prevention Plan for Stormwater Discharges from Construction Activity, March 2009 and the Addendum to Norlite Corp. Southern Overburden Storage Area Construction SWPPP, 2010 detail the erosion and sediment controls, both temporary and permanent, for the Southern Overburden Storage Area, and are being incorporated by reference herein.

12.3 Operations

Erosion at Norlite is controlled by grading and maintaining short flow paths. Swales at the facility direct runoff to a rain garden, a detention structure (Upper Stormwater Pond and Lower Stormwater Basin), or into the quarry. Sediment is filtered out in the rain gardens prior to stormwater discharge. The Upper Stormwater Pond and Lower Stormwater Basin and quarry provide detention during which sediment settles out prior to discharge. The Operations and Maintenance Manual is included as Appendix D.

12.4 Grading, Construction, and Clearing Outside of the Quarry

Land disturbance outside of the quarry depression and outside of the Southern Overburden Storage Area may need temporary and/or permanent erosion and sediment controls. Disturbance that exceeds one (1) acre will need to be covered by the SPDES Construction General Permit and an Erosion and Sediment Control Plan. If the disturbance includes creation of new impervious surfaces, new treatment structures may be needed; this need will be evaluated during initial project planning.

Creation of new treatment structures and/or the need for additional SPDES outfall(s) will require a modification to the facility's SPDES Permit (NY 000 4880). Similarly, new outfalls and new permanent stormwater structures will be added to this BMP Plan and the Operations and Maintenance Manual, if and when installed.

13.0 Management of Runoff (BMP #12)

13.1 Quarry

Runoff within the quarry excavation drains into the quarry. Accumulated water is pumped to Outfall 003 for discharge to the Salt Kill, thereby managed by the pump rate.

13.2 Southern Overburden Storage Area

Runoff from the majority of the Southern Overburden Storage area is directed back into the quarry via diversions and swales. Discharge of the runoff from the quarry is managed by pumped discharge via Outfall 003. Runoff from a small portion (1.7 acres) of the completed and vegetated berm portion drains off-site to the east after being treated and discharged from a sediment trap/retention pond. The discharge from this structure is a controlled overflow discharge.

13.3 Facility

In response to a Consent Order (R4-2009-0610-101), Norlite hired an engineering firm (Malcolm Pirnie, the Water Division of ARCADIS) to design permanent stormwater controls to reduce sedimentation from the facility to the Salt Kill (see Appendix B for NYSDEC-approved Design Drawings). From 2012 to 2014, Norlite constructed engineered controls, including swales and drainage channels, three rain gardens, an Upper Stormwater Pond, and a Lower Stormwater Basin. These structures were designed to provide treatment for Drainage Areas 1 through 6 delineated by ARCADIS and as shown on Figures 2 and 3.

Runoff from Drainage Areas 1, 2, and 3 is directed via a swale into a rain garden; each drainage area has a dedicated rain garden. All three rain gardens discharge into the Salt Kill, either directly or via an intermediate structure. Typically, treatment consists of the following components:

- Drainage channel – initial filtering
- Grassed swale – sediment collection
- Stone check dam – filter
- Rain garden with underdrain – filter and discharge
- Riprap channel – discharge
- Oil absorbent boom at/near discharge point or before the grass filter strips – removal of petroleum products

Rain garden maintenance is detailed in Section 15.12.

Stormwater runoff from Drainage Area 4 flows to the south where it is intercepted by a swale and conveyed to the quarry and discharged via Outfall 003. Stormwater runoff from Drainage Area 5 is captured in the Upper Stormwater Pond. Overland flow from the west and south enter

the pond directly. Flow from the north is intercepted by a swale and conveyed to the Upper Stormwater Pond. Water is pumped from the Pond to the quarry and discharged via Outfall 003. Flows in excess of the pumping system capacity will overflow the pond, flow to the east, and discharge at Outfall 007.

Stormwater runoff from Drainage Area 6 flows overland to the south where it is intersected by a drainage channel that conveys the runoff into the Lower Stormwater Basin. Water is pumped from the Basin to the quarry and discharged via Outfall 003. In overflow conditions, water in the Basin backs up into the drainage channel, and discharges at the north end to Outfall 007.

Stormwater runoff in the Containment Area/Tanker Staging Area is contained, removed by a vacuum truck, and disposed of off-site.

14.0 Street Sweeping (BMP #13)

Street sweeping is not conducted at the facility because sweeping of unpaved roads can potentially generate fugitive dust. The majority of internal roads are unpaved; the entrances at Gate 1 and Gate2 are paved. The goal of sweeping is to reduce the amount of sediment, debris, trash, and trace metals that can be entrained in stormwater runoff and carried off-site by vehicles. Norlite reduces this potential through other best management practices. Internal roads and work areas are watered by a water truck to prevent dust generation. Water truck activity is greater during the summer months when the potential for dust creation is greater. Typically, there is one water truck running all day, with a second truck added during hot and/or dry weather. On a typical 10-hour work day, a water truck will generally use 10 to 12 loads of water while watering the roadways, and the shot rock pile and clinker piles as needed. The piles in the Fines Screening Area are also watered as necessary. Although the water truck(s) normally run on a schedule, there are times when the trucks run more frequently in response to dusty conditions. In addition to watering, roads are power washed on a generally routine basis. Debris and trash are removed by employees during their normal facility travels. A 10-mph speed limit is posted facility-wide (Section 15.21 of this BMP Plan) to reduce dust generation.

Norlite employs an anemometer installed approximately ten feet above the top of the Finish Plant Screening Building in order to monitor wind speeds in the Finish Plant Area. This reduces the potential for fugitive dust on facility roads. Meteorological readouts were installed in the finish plant control room with alarms set at 10 mph, 15 mph, and 20 mph and a wind logsheet (see Appendix E) for recording meteorological parameters and alarm occurrences was established.

15.0 Activity-Specific BMPs

This section details BMPs for activities that are specific to Norlite and industry-standard BMPs for industry-typical activities that are conducted on-site.

15.1 Vehicle and Equipment Fueling

Vehicles and most equipment are fueled from stationary pumps; other equipment is fueled from a mobile tank. Absorbent materials are available in the fueling areas in case of spills; the mobile tank carries absorbent materials. To fuel vehicles and equipment on-site, trained Norlite employees:

- Chock the wheels of the vehicle or equipment to be fueled;
- Turn off the engine;
- Note current fuel fill level of vehicle or equipment before fueling;
- Ensure the fuel nozzle is properly inserted into the fuel tank opening before releasing fuel into the tank;
- Monitor fuel level in the vehicle or equipment during fueling to avoid overfilling and subsequent spilling; the nozzles are also equipped to stop when the fuel reaches it, like a regular gas station pump nozzle would stop.;
- Turn the fuel off after filling vehicle or equipment to desired level of fuel before removing fuel nozzle;
- Remove fuel nozzle from vehicle and equipment and replace it in its proper storage position;
- Check for any spills from fueling or any leaks coming from vehicle or equipment;
- Each filling station is equipped with a strobe light that activates once the fill station pump is turned on. There is also a timer that starts once the fill station pump is turned on. The timer is set to shut off the filling pump after 10 minutes of use. If the operator still needs additional fuel, the fill pump switch must be turned off and then turned back on to reset the timer. The strobe light is to alert anyone in the area that the fill pump is running and to shut it off if there is no one present at the pump. The timer was installed so that if the fill pump was accidentally left running and no one was in the area that the pump would stop without human intervention; and
- Follow the procedures outlined in Section 11.0 Spill Prevention & Response if leaks are found.

15.2 Vehicle and Equipment Maintenance

See Section 8.0 Preventative Maintenance in this BMP Plan.

15.3 Vehicle and Equipment Washing

Vehicles and equipment are pressure washed outside of the Garage and Large Equipment Garage prior to maintenance. Pressure washing occurs on a blacktopped surface. Prior to pressure washing, the mechanics will remove any accumulations of grease, oil stains, or other petroleum

product accumulations from the equipment to help prevent these items from entering the stormwater swale. Wash waters flow to the swale and are conveyed into the Lower Stormwater Basin. The inlet to the Lower Basin is equipped with an oil absorbent boom to control hydrocarbon flow.

15.4 Building Cleaning and Maintenance

Buildings are maintained and repaired as needed (e.g. new roof, painting). Lighting is maintained as described in Section 8.0 Preventive Maintenance.

At the Fuel Farm, building interiors, offloading pads, and the drum room are washed daily. The wash waters are collected and directed to the on-site hazardous waste system.

15.5 Petroleum and Chemical Bulk Storage Handling

Petroleum bulk storage at the facility must comply with USEPA 40 CFR Part 112 and with the NYSDEC regulations as set forth in 6 NYCRR Parts 612-614. The facility's petroleum bulk storage tanks are registered with the NYSDEC under the Petroleum Storage Registration Certification (Petroleum Bulk Storage Registration No. 4-052574). Detailed information regarding the petroleum storage on-site can be found in the facility's Spill Prevention, Control and Countermeasure (SPCC) Plan. The Petroleum Bulk Storage Certificate is posted in the Office and is visually accessible at all times, and is included in Appendix N of this Plan.

Chemical bulk storage at the facility is in compliance with NYSDEC regulations as set forth in 6 NYCRR Part 595-599. The facility's chemical bulk storage tanks are registered with the NYSDEC under Chemical Storage Registration Certificate No. 4-000198. Detailed information regarding the chemical bulk storage on-site can be found in the facility's Spill Prevention Report (SPR). The Chemical Storage Registration Certificate is posted in the Office and is visually accessible at all times, and is included in Appendix N of this Plan.

LGF handling is detailed in the Operations Plan (June 2014), Section 2.5, and incorporated by reference herein. Employees who handle petroleum materials are trained on labeling, storage, loading, material transfer, inspection, reporting, spill identification, and spill reporting protocols upon hire.

Product Labeling and Storage

Norlite personnel maintain legible labels on containers and tanks. Petroleum tanks have symbols and colors that are consistent with the American Petroleum Institute Standards, tank number, total capacity, and working capacity. Chemical bulk storage tanks are labeled with tank number, contents, total capacity, and working capacity. When a new petroleum or chemical product is stored on-site, a trained Norlite employee will correctly label and store each new product and add it to the current inventory list. Bulk petroleum and chemical products are stored in secondary containment tanks. New petroleum or chemical products are not brought onto the facility until

the Environmental Manager has properly updated the PBS or CBS registrations and ensured there is proper storage and handling features in place.

Product loading and unloading is performed under the direction of a Norlite employee who is trained in loading/unloading procedures and spill response. Unloading is performed manually via a tanker truck for storage tanks; drums and totes are transported by box truck. The loading operation is not complete until the delivery driver and/or Norlite employee have completed required paper work, inspected each tank or drum/container for leakage, and ensured no product has been released during the loading event.

Deliveries

Deliveries will follow standard practices of the supplier or transporter. All deliveries and loading events are supervised by a Norlite employee trained in emergency response. All equipment fuel deliveries entering the facility will adhere to the following protocols:

- Upon arrival, delivery personnel sign in at the Scale House (Gate 1) for verification of product delivery and immediate notification to applicable personnel (i.e. on-duty Kiln Supervisor);
- Delivery personnel are then directed to the on-duty Kiln Supervisor for specific delivery instructions (i.e. specific tanks to be filled and type of fuel to be delivered);
- The on-duty Kiln Supervisor informs delivery personnel of Norlite's delivery dispensing rules and procedures prior to the dispensing of any fuels:
 - Delivery personnel will be in visual range of the delivery vehicles, hoses, and fill ports at all times during dispensing operations,
 - Delivery personnel will abide by safety rules and procedures set by Norlite while on the facility grounds,
 - Delivery personnel will report spills to the Norlite personnel supervising the delivery or the Kiln Supervisor if a spill has occurred during transfer operations;
- Delivery personnel and Norlite employees will:
 - Ensure delivery truck brakes are set and wheels chocked,
 - Ensure persons are wearing appropriate PPE,
 - Ensure hose and fitting connections between delivery truck and fill port flange are secure,
 - Properly operate the delivery equipment,
 - Observe the tank level indicator and high level alarms (visual and audible),
 - Verify transport/delivery is to the correct tank by checking the labels on the PBS tank,
 - Verify that there is sufficient capacity in the tank to receive delivery by observing the tank level gauge, and
 - Verify all valves are in the proper position to accept delivery;

- Delivery personnel will sign-out at the Scale House (Gate 1) following completion of fuel delivery activities; and
- The Weight Master will record when delivery personnel are no longer on-site and when dispensing operations are complete.

Petroleum spills are to be reported immediately to the primary Spill Coordinator or the alternate Spill Coordinator backup by the employee who first notices the spill. The primary Spill Coordinator will notify the appropriate governmental authorities. In the absence of the primary Spill Coordinator, the Spill Coordinator backup will notify the appropriate governmental authorities of the spill(s). Further detail regarding spill response methodology is covered in Section 11.0 Spill Prevention & Response of this BMP Plan.

15.6 Elimination of Non-Stormwater Discharges to Storm Drains

There are no storm drains at the facility. There are catch basins associated with the on-site stormwater management system that capture, detain, and convey runoff to the quarry.

15.7 Spills Management

Spills management is covered in Section 11.0 Spill Prevention and Response of this BMP Plan.

15.8 Outdoor Handling of Material

As is typical of the industry, stone products are mined, processed, stockpiled, and transported outdoors. Best management practices for the outdoor handling of material include reduced intermediate trips so that material is taken from the source to the terminal storage location.

Petroleum and chemical bulk storage tanks are filled outdoors but in contained areas. LGF tankers and tank wagons are unloaded under cover and in permitted contained areas. Vehicles and mobile equipment are fueled outdoors. Best management practices for the outdoor handling of petroleum products and chemicals are detailed in Sections 10.0 and 11.0 of this BMP Plan.

15.9 Outdoor Material and Equipment Storage

With the exception of material stored in silos and under the covered storage structure, stone products are stored outdoors in stockpiles and bins, which is typical of the industry. A portion of the facility's fines material is stored in or under structures. The covered storage structure in the Fines Processing Area houses products that require a limited moisture content. Best management practices for the outdoor storage of the various stone products include covered piles, piles in bins, and pile shaping by front-end loader.

Petroleum and chemical bulk storage tanks are located outdoors, in secondary containment; some containment areas have roofs. Best management practices in place include appropriately sized and constructed secondary containment and regular visual inspections of secondary containment. These are detailed in Section 10.0 of this BMP Plan.

LGF is stored in indoor tanks and covered above-ground tanks. Drums and totes containing LGF are staged in the Tank Unloading area , which is comprised of a coated concrete floor, three walls, and a roof. These materials are stored indoors.

Mobile equipment and plant vehicles are stored outdoors, with the exception of disabled vehicles which are actively being repaired which may be in the Large Equipment Garage. Best management practices for reducing the potential of drips of petroleum products, including oil, from mobile equipment include pre-shift inspections and regular maintenance as detailed in Sections 6.0 and 8.0 of this BMP Plan.

Other product materials not detailed in this section are stored indoors.

15.10 Waste Management

Waste management is covered under Section 10.0 Material and Waste Handling, Storage, and Capacity of this BMP Plan.

15.11 Stormwater Facility Maintenance

Construction of the Upper Stormwater Pond and Lower Stormwater Basin was completed in the late fall of 2013. Both of these structures provide detention of stormwater runoff prior to pumping the water to the quarry. These structures accumulate sediment over time. Pumps, instrumentation and electrical elements require additional maintenance and are inspected monthly as part of the Monthly BMP Inspection (see Appendix J). This section briefly outlines routine maintenance for the above specified drainage structures.

Upper Stormwater Pond

- Remove accumulated sediment to maintain pond depth and storage capacity;
- Remove accumulated trash and debris;
- Check overflows for erosion and make repairs/armor as required;
- Visually examine liner for rips, punctures, and bridging. Examine edge of liner where it is keyed-in to sediment;
- Maintain pumps with long-term care contracts or as directed by manufacturer;
- Check oil absorbent booms regularly; replace annually at minimum;
- Repair damaged/compromised concrete pad; and
- Repair/replace weakened pump(s).

Lower Stormwater Basin

- Remove accumulated sediment to maintain pond depth and storage capacity;
- Remove accumulated trash and debris;
- Check overflows for erosion and make repairs/armor as required;
- Maintain pumps with long-term care contracts or as directed by manufacturer;

- Check oil absorbent booms regularly, replace annually at minimum;
- Repair damaged/compromised concrete pad;
- Repair/replacement of weakened pump(s);
- Paint guard rails to prevent rusting;
- Repair damaged/compromised blacktop overflow channel; and
- Repair damaged/compromised guard rails and vertical wall.

15.12 Rain Garden Maintenance

Construction of the rain gardens was completed in 2013. These structures provide pretreatment including filtering of sediment, and removal of petroleum products using an oil-absorbent boom. These structures accumulate sediment; routine maintenance as described by the following bullets detail sediment removal processes. This is inspected monthly as part of the Monthly BMP Inspection (see Appendix J). This section briefly outlines routine maintenance for the above specified drainage structures.

Routine maintenance of rain gardens includes:

- Mow grassed swales and filter strips to limit vegetation height limited to 18 inches;
- Remove of sediment accumulations in grass swales;
- Clean low areas of sediment when accumulation is noticeable or interferes with operations;
- Inspect all elements to check for erosion or ponding;
- Check overflows for erosion and make repairs/armor as required;
- Clean sediment out of sedimentation chamber when it reaches more than six inches in depth;
- Clean sediment chamber if drawdowns exceed 36 hours;
- Remove trash and debris;
- Remove silt/sediment from filter bed when it reaches one inch; and
- If water ponds on the filter bed for greater than 48 hours, remove material, and replace.

Rain garden maintenance items that shall be conducted every one to two years includes:

- When water ponds on rain garden surfaces for 48 hours or more, remove the top eight to twelve inches of material and replace; and
- Repair areas of excessive erosion, includes areas downstream if channels/overflows are being bypassed.

15.13 Salt Kill Response Plan

The purpose of this BMP is to minimize the impact to downstream properties along the Salt Kill should the Salt Kill overtop its banks within Norlite's property, specifically the area just north of Kiln 2. This BMP will be initiated using readily available information from the National

Weather Service (NWS) relative to Flash Flood and Flood Warnings for Albany County, New York. The Plant Manager or designee shall notify the on-site managers and supervisors either verbally or in writing that the Salt Kill Response Plan is in effect.

Should the NWS issue a Flash Flood or Flood Warning for Albany County, New York, the following steps shall be taken at the site. For every inspection noted below, the Salt Kill Stream Inspection Form (Appendix O) will be completed and filed with the Plant Manager or the Environmental Manager. Specific action items include:

Initial Preparedness

- The Plant Manager or designee will inspect the pool area behind the headwall structure just north of Kiln 2 and will continue the inspection at least every four hours or until conditions change that warrant more frequent inspections or the WARNING is cancelled or has expired.
- On-site managers and supervisors will prepare work areas for potential flood conditions. Loose articles that could be swept downstream are moved indoors or out of the potential flood zone. Loose articles include but are not limited to trash cans, supplies, aggregate sample containers, work pails, gas cylinders, gas cans, lumber, etc.
- Inspection of Outfall 004 and Outfall 007 will be made to determine if debris is present which has the potential to block downstream culverts. If such a determination is made, Norlite personnel will remove the debris from the Salt Kill Stream to a location on the property where it will not have the potential to wash back into the stream. Large equipment is not permitted for use on the stream bed; Norlite personnel will therefore use hand tools for debris removal. During a heavy rain event, Norlite will keep debris from traveling downstream using methods that will bring no danger to personnel.

Two-Foot Depth Stage

If the pool level reaches two feet in depth (1/2 of the height of the four-foot diameter outlet culverts), the inspection frequency will increase to one hour intervals. Inspections are based on water levels at the headwall pool north of Kiln 2.

Four-Foot Depth Stage

Should the pool level reach four feet in depth (top of outlet culvert), the on-site managers and supervisors will:

- Move active plant vehicles and mobile equipment east of the facility to the primary plant area on the west side of the facility. Personal vehicles parked on the east side of the facility will be moved to one of the higher elevation employee parking areas.

- On-site managers and supervisors will re-visit the areas on the eastern side of the property to make sure loose objects have been properly stowed. All doors to the buildings on the eastern side of the property will be closed and secure.

Six-Foot Depth Stage

If the pool level reaches approximately six feet in depth, notification to the City of Cohoes Emergency Response team will be made by the Plant Manager or designee at 518-237-5533 or via 911 service. The Plant Manager or designee will continue to monitor the headwall pool depth and issue instructions and information to both on-site personnel and off-site emergency coordinators. Inspections are based on water levels at the headwall pool north of Kiln 2.

Off-Site Impact

Should light weight aggregate or other material from the Norlite site impact downstream property, namely Cohoes Housing Authority, Hess Gas Station, Saratoga Street itself, or the headwall area at the of Tibbitts Place (behind Hot Dog Charlie's), Norlite will work with the City of Cohoes Emergency Response Team to set priorities for remedial clean up. Once Norlite is given clearance to perform remedial work by the City of Cohoes Emergency Response Team, Norlite will dispatch employees and/or subcontractors to begin remedial work within 24 hours. Remedial work will continue until it is complete and review with the City of Cohoes personnel has occurred.

Monitoring During Heavy Rain (Non-Flood) Events

Norlite will conduct an inspection of the Salt Kill for a one-inch rain event even if the Salt Kill Flood Response Plan has not been activated. Norlite management or a designee will inspect the Salt Kill at the Headwall located North of Kiln 2, the Salt Kill Area East of the Main Entrance Gate (Outfall 004 and Outfall 007, and the culverts on the west side of Route 32 (Norlite access road), using the Salt Kill Stream Inspection Form (Appendix O) for reference.

15.14 Visual Inspections

Routine inspections at Norlite are predominantly visual inspections. Examples include observations of tanks, secondary containment, stormwater management features, and checking water for sheen. Inspections forms are located in Appendix E.

15.15 Recordkeeping and Internal Reporting

Records are maintained in the Office Area. Records are maintained onsite for three years and at an offsite storage location for the life of the facility.

Internal reporting is conducted verbally and through written inspection forms. Operators verbally report to their Manager or Supervisor. Section 3.0 of this Plan describes the verbal reporting chain of command for a release or potential release. Shift Inspections are one example

of internal written communications. Section 6.0 of this Plan details how written inspections and reports are reviewed for maintenance items and safety and environmental concerns.

15.16 WWT Plant BMP

The Wastewater Treatment BMP describes the processes and controls used to treat process water prior to discharging the water from Outfall 006 (Figure 8). Outfall 006 is permitted under the facility's SPDES permit NY 000 4880. The SPDES permit details how the facility will handle upset conditions in the treatment plant itself or downstream from the treatment plant. The Wastewater Treatment Plan Operations Manual details operations of the plant including dosage procedures, operations of various treatment components, backwashing procedures, and unloading procedures for the acid and caustic. See Appendix P for a WWT Plant Flow Diagram.

Untreated Wastewater Collection and Transfer

A description of the WWT process is included herein for thoroughness and response to NYSDEC, even though a description of the WWT Plant is not usually incorporated as part of a BMP Plan. Sources of untreated wastewaters are limited to the Kiln 1 and Kiln 2 scrubber blowdowns. The combined wastewaters are continuously transferred from these sources to a 25,000 gallon agitated equalization tank (T-4501). The combined blowdown flow rate ranges between 30 to 60 gpm. The wastewater flow from the treatment system ranges from 60 gpm on average to 120 gpm peak flow.

Overview of Process Design

The Norlite wastewater treatment process is designed to treat the blowdown from the two kiln flue gas scrubbing systems. The treatment process utilizes physical and chemical unit operations to treat the blowdown to a degree required for discharge to the Mohawk River. Treatment of the blowdown is under the authority of the NYSDEC-issued SPDES permit (NY 000 4880) and requires removal of dissolved metals, suspended solids, pH adjustment, and temperature reduction.

The treatment process includes influent equalization to prevent sudden flow, temperature, or constituent surges to the system. Primary removal of the metals in the equalized blowdown stream is via alkaline precipitation of metal hydroxides and carbonates. This is followed by settling/removal of both precipitated metals and suspended solids in a clarifier. Sludge solids are then reduced in volume by the filter press.

The clarifier scrubber blowdown stream is then passed through a polishing filter and a carbon filter for final removal of minute quantities of suspended solids and organics. For upset conditions, the water at any step of the process can be directed by to the equalization tank for further treatment through the system.

The treated stream of water is then stored in an effluent equalization tank to prevent flow and constituent surges in the discharge. This system also provides retention time for process monitoring to ensure compliance with effluent limitations. The effluent is then discharged to an underground pipeline that conveys it to the Mohawk River.

Feed Stream Characterization

The WWT process is designed to accept blowdown from the two kiln flue gas scrubbers. These streams are fed to the front end of the treatment process at an average rate of 17 gpm each and a peak rate of 30 gpm each. The chemical constituents present in the waste stream are dissolved solids, metal hydroxides, and suspended solids; the system was designed to remove these constituents prior to discharging the waste stream.

Process Design

The Norlite WWT process consists of five basic unit operations: influent equalization, dissolved metals precipitation, solids settling and removal, effluent polishing, and effluent equalization/cooling.

Influent Equalization

The combined flows of the scrubber blowdowns enters a 25,000 gallon agitated Equalization Tank (TK-4601). The operating level in this tank is maintained at 12,500 gallons under normal conditions. This provides +/- six hours of equalization at average flow rates and over three hours of equalization at peak flows. The equalization tank has 12,500 gallons of available surge capacity. This provides six hours of additional storage in the event of downstream equipment breakdown or system upsets.

Metals Precipitation

The metals precipitation system consists of a 3,000 gallon capacity agitated Flocculation Tank (TK-4604). This tank receives the flow from the Equalization Tank via the Equalization Transfer Pump (PC-4603). The Flocculation Tank is equipped with a pH measurement and control system that adjusts the pH to approximately 10.0-10.2 via proportioned caustic addition. At this pH, the dissolved metals form a solid hydroxide precipitate. Caustic is fed as a 50% solution via a proportioning pump (Caustic Pump PM-4 611). It will be fed at an average rate of 6.0 gph from a 7,500 gallon receiving and storage tank. Maximum feed rates of 16.0 gph can be required during high flow and TDS periods. The Caustic Storage Tank (TK-4609) is located inside the WWT building.

Solids Settling and Removal

This portion of the process consists of the flocculent feed system, solids clarifier, sludge storage tank, and the filter press. Flocculent will be added to the Flocculent Tank (TK-4604) to promote

the formation of large flocs of metal precipitates and suspended solids. Flocculent solution is precisely fed by a chemical metering pump (Flocculent Pump PM-4608) from a 55 gallon drum which is routinely replaced. A dosage of up to 10 ppm of flocculent product is required under normal conditions with a maximum addition rate of 20 ppm during upset conditions. The flocculent solution is prepared by mixing 500 ml of flocculent product in 180 gallons of water. The process slurry of flocculated solids overflows via a still pipe in the Flocculation Tank into the center well of the Clarifier (CL-4612). The 150 sq. ft. Clarifier is sized for a loading of 0.23 gpm/sq. ft. under average flow conditions and 0.4 gpm/sq. ft. during peak flows. Resulting upflow rates of 0.37 and 0.64 inches/minute provide adequate settling time based on measured solids settling rates of 1.3 inches /minute. The sloped bottom Clarifier is equipped with a center feed well and a peripheral overflow weir. A mechanical rake mechanism provides continuous settled solids fluidization and prevents solids clogging of the underflow outlet. The underflow sludge from the Clarifier is periodically pumped (based on the level in the clarifier) to the Sludge Storage Tank (TK-4616). The underflow sludge solids concentration is approximately five to 10 wt.% exiting the Clarifier. This 5,800 gallon agitated storage tank has a seven day storage capacity under normal conditions and a 16-hour capacity during peak conditions. This sludge is pumped (via Filter Press Pump PD-4618) at least once a day through the 10 cubic feet Filter Press (FP-4619). This plate and frame filter press produces a filter cake of approximately 40 to 50 wt.% solids which is discharged into a collection hopper for incorporation into lightweight aggregate products via a NYSDEC approved Beneficial Use Determination. The filtrate from the filter press and the overflow from the clarifier containing less than 200 ppm of suspended solids gravity discharges into the Overflow Collection Tank (TK-4613).

Effluent Polishing

Polishing of the clarified effluent is designed to ensure that the treated water meets discharge limitations. Specifically, final pH adjustment, fine particle suspended solids removal, and carbon adsorption for selected dissolved metals removal are conducted. Reserve availability of a sulfur impregnated carbon adsorption system for additional metals removal capability provides assurance of meeting discharge limitations during worst case and also normal process upset conditions. The clarified stream is fed to the agitated Overflow Collection Tank (TK-4613, 7,000 gallons) where it is treated with hydrochloric acid to maintain a pH of 8.5 (tank is equipped with a pH measurement and control system). The Overflow Collection Tank provides two hours of retention under normal flow conditions and over an hour during peak flow conditions. The discharge from the Overflow Collection Tank is pumped (via Filter Feed Pump through a parallel bank of four Polishing Filters for fine suspended solids removal. The filtration system is designed for a maximum flow of 120 gpm. Loading under normal flow conditions is 60 gpm and 100 gpm during peak flow conditions. The surplus flow capability of the filters is available to allow re-treatment, if necessary, of final effluent recycled from the Effluent Storage Tanks. The sock filters are backwashed based on pressure differential, typically once every four

hours. The backwash stream (typically 30 gallons) is directed back to the equalization tank for full re-treatment.

The discharge from the sock filters is directed to a pair of Carbon Filters and Sulfur Impregnated Carbon Filters arranged in series for removal of trace metals. Significant organic materials are not normally present in these wastewater streams, however, the carbon will also remove organics. Piping arrangements allow the feed flow to be directed to either carbon canister first, followed by the second. As requested by the NYSDEC, Norlite has placed the Sulfur Impregnated Carbon Filters into continuous service. Previously during upset periods, a parallel sulfur impregnated carbon adsorber Carbon Filter is available to remove a higher degree of dissolved metals. Both of the carbon adsorption trains are sized to treat a peak flow of 120 gpm; normal throughput will be about 60 gpm. Backwashing of the carbon filters is based on pressure drop across the adsorbers and will utilize municipal or quarry water. Backwashing is performed at a rate of approximately once per day under normal conditions at a 60 gpm rate for a five minute duration. Periodic analysis of the adsorption efficiency of each unit will be performed to determine when replacement with fresh carbon is required. Discharge from the carbon filters is directed to the Effluent Storage Tanks.

Effluent Equalization

The effluent equalization system consists of two 25,000 gallon unagitated Effluent Storage Tanks. Discharge from the effluent polishing system is directed to one of the effluent storage tanks which will be controlled at a level of 7,000 gallons. This provides two hours of effluent equalization during normal flow conditions. The remaining 18,000 gallons is held as reserve storage in the event of poor quality effluent production. The second tank is held in reserve and provides an additional seven hours of storage capacity under normal flow conditions and over four hours at peak flows. Stored effluent will typically require retreatment through the effluent polishing system (with additional sulfur impregnated carbon adsorption) to attain discharge quality. Retreatment can be accomplished at a rate of 61 gpm under normal feed flow conditions (less than seven hours to retreat a 25,000 gallon tank volume). Providing that acceptable quality effluent is present, the effluent is pumped via the Effluent Discharge Pumps (PC-4629 A&B) through the discharge pipeline to a city stormwater sewer connection that discharges to the Mohawk River.

Best management practices at the WWT Plant area address the chemical bulk storage, the WWT process, and the process water discharge. BMPs include secondary containment for chemicals and the WWT Plant building; excess storage capacity for process water flows throughout the treatment process; the ability to retreat water and provide additional treatment; regular filter flushing to prevent clogging or reduced flows; and a pump controlled discharge. Secondary containment for chemical bulk storage is detailed in the SPR. The WWT Plant building itself provides secondary containment. The excess storage capacity for process water flows throughout the treatment process; the ability to retreat water and provide additional treatment;

regular filter flushing to prevent clogging or reduced flows are detailed in the preceding paragraphs. The discharge is controlled by an electric pump. If the pump is not operational, then no discharge occurs. The same is true for a “nonporous” situation.

15.17 Covered Conveyors

Most conveyors at the Norlite facility involved with the transport of raw shale and lightweight aggregate are partially enclosed by metal covers, or roofs, above the track of each conveyor. Covers and partial enclosures for product transport and processing at the facility help block high wind or precipitation events from knocking fines and larger sediment off of conveyors and onto the ground where the product could become incorporated into stormwater runoff. The covers reduce this potential risk and, in turn, contribute to the reduction of fines and sediment in stormwater runoff.

The conveyors are visually inspected during the work area daily pre-shift inspections and once a month, as part of the Monthly BMP Inspection (Appendix J), to determine where covers need to be repaired or replaced.

15.18 Wind Socks

To show wind direction at the facility, several wind socks have been placed around the facility. There is a wind sock installed in the Fuel Farm Area, on top of the Soda Ash Silo, on top of the WWTP, and on the top deck of the ¾” aggregate conveyor structure. These wind socks show wind direction and will be used in the event of an on-site emergency, including fire or release, to determine the appropriate evacuation route and Gate at which to meet. This is necessary for employee health and safety. Over time, normal wear and tear may fray the wind socks. Frayed wind socks are to be replaced immediately. Informal, routine visual inspections are conducted by Norlite personnel to determine if and when replacement of the wind sock is necessary.

15.19 Kiln Rear Chamber Fines

As excerpted from the Norlite Fugitive Dust Plan (2014), “Improvements were made to the kiln feed rear chamber system in 2010 and 2011. On the back end of the kiln (the feed end), a second seal system was installed behind the existing seal system and both systems were enclosed. The space between the two seal systems is under a low pressure vacuum system at approximately - 0.12 inch water column that enables the capture of emissions which may escape the backend of the kiln during upset conditions. (see language revised in Fugitive Dust Plan) The system then feeds the emissions back into the front (flame end) of the kiln. This negative pressure is maintained by an automated control valve that is connected to a pressure monitor and a PLC logic program. The current kiln rear chamber now consists of the following: a double seal system at the back end (feed end) and a single seal system at the front end.”

Relevant facility improvement drawings are included as Appendix Q of this Plan.

In addition to the above-described improvements, Norlite is in the process of determining a new BMP for fines dust collection from the Rear Chamber System.

15.20 White Noise Back-up Alarm

Norlite's mobile equipment is equipped with Brigade BBS Tek White Noise back-up alarms. This specific back-up alarm is heard only in the hazard zone of the truck, directly behind the vehicle, to cut down on noise nuisances for adjacent properties. The White Noise emitted is directional, enabling workers to know exactly which vehicle is moving and in which direction, even if they cannot visually see the vehicle, allowing them to move to safety. Use of the White Noise back-up alarms has been approved by the Noise Abatement Society.

15.21 Facility-Wide Speed Limit

To minimize dust generation and off-site tracking of material, Norlite maintains a facility-wide 10-mph speed limit for all vehicles. Signs are posted at Gates 1 and 2 and along internal haulways.

15.22 Shale Fines Landfill Pond

The Shale Fines Landfill Pond collects stormwater runoff from the grassed cap and leachate from inside the landfill. Water that collects in the pond is discharged via SPDES Outfall 004. Prior to discharge, the pond water is sampled and analyzed for metals, pH, and temperature. If parameters are within permitted limits, the valve is opened and water is discharged. During discharge, a composite sample is taken at the beginning, middle, and end of the discharge. It is Norlite's operating practice to keep the pond empty.

15.23 Quarry Pond

The quarry pond captures direct runoff and groundwater infiltration from the quarry excavation; stormwater runoff from the Southern Overburden Storage Area; and stormwater runoff pumped from the Lower Stormwater Basin and the Upper Stormwater Pond. Quarry pond water is used throughout the facility for watering roads and other processes. Norlite personnel maintain a consistent pond water level for facility usage.

The quarry pond can accumulate water in excess of what is needed for use at the facility. Water is discharged via SPDES Outfall 003. Water is pumped, using a floating pump, to the armored outlet. The pump is constantly "on" to maintain pressure head; two valves must be open to discharge. The pump is electric and has a maximum capacity of 300,000 gallons per day; an average discharge is 216,000 gallons per day.

Prior to discharging quarry water, Norlite personnel conduct a visual inspection and screen a sample for Total Suspended Solids (TSS). If the visual inspection is clean and TSS is below the permitted level, water is discharged. When the pond is discharging, samples are taken at the permit-prescribed interval and reported as required.

16.0 Detail of Facility Improvements

As excerpted from Norlite, LLC Audit Information Report (2014),

“During 1992, several capital improvements and modifications were instituted to upgrade Norlite's capabilities to receive, store, mix, and process waste fuels in compliance with NYSDEC standards.

Those improvements and modifications consist of the following:

- Construction of a new LGF Building to house the six 9,000 nominal gallon tanks. These tanks are equipped with mixers, pumps and computerized controls. The LGF building is fully enclosed to exclude rainwater, to facilitate heating of the tanks, and to protect equipment. The floor and lower walls of the building serve as a secondary containment for the tanks within. Building utilities and peripherals include equipment to monitor fugitive volatile organic compounds (VOC), a fire protection system, and grounding, lighting and ventilation systems.
- Upgraded Truck Tanker Unloading Facilities. Modifications to LGF pumping system and upgraded interconnecting piping between the existing storage and pumping systems and the new LGF building.
- Installation of a new, above ground 25,000 gallon, double wall, No. 2 Fuel Oil Tank which now houses Off-Specification Used Oil..
- Installation of a new, above ground fuel feed and fugitive emissions control piping extending from the new LGF Building and Feed Pump Room to the kilns. The piping is contained inside a new overhead 90 inch diameter walk-through tunnel which is approximately 500 feet long and is supported by a structural steel and concrete foundation system. The tunnel drains to the LGF building for containment of spills and wash-down fluids. The tunnel is also equipped with grounding, explosion proof lighting, ventilation, and lower explosive limit (LEL), O₂, flame and heat monitoring instruments.
- Construction of a new Solids Reprocessing/Interim Storage Building adjacent to the north side of the existing unloading dock. The building provides storage of drummed and toted low grade fuel and process equipment needed to reintroduce liquefied material into the LGF stream.
- Construction of a new waste feed area. This facility houses four 1,000 gallon fuel equalization tanks to receive material from the LGF storage tanks and restore/maintain homogeneity for feed to the kiln burners. LEL, O₂, flame and heat monitoring instruments, explosion proof lighting, grounding, ventilation and emergency exit locations were also included in the upgrade.
- Upgrade and relocation of fuel piping near the burner faces to provide approved secondary containment.

- Replacement of each kiln's control system. Included in the upgrade were new Allen-Bradley PLC hardware and Genesis Data Acquisition systems software that fully computerized both the kilns' control and data acquisitions functions.
- Installation of a computerized automatic waste feed cutoff system on both kiln's waste feed control systems.
- Design and installation of a combination manual/computerized control system for safe and efficient management of fuel storage and feed operations.
- Decontamination and decommissioning of existing fuel feed and tank vent piping.

Plant improvements completed in 1995-1998 include:

- Replacement of Kiln 1 and Kiln 2 carbon monoxide/oxygen continuous emissions monitoring systems.
- Installation of hazardous waste storage tank and tank vent oxygen monitoring system.
- Replacement of Kiln 1 and Kiln 2 air pollution control wet scrubbing systems and stacks.
- Installation of new dust collection systems on crushing and screening plants.
- Installation of new radial material stacking/conveying system for finished aggregates. Upgrading interconnecting piping between the existing storage and pumping systems and the LGF Building.
- Construction of a new Waste Water Treatment Plant.
- Modification of the Drum Processing building and equipment to allow for an increased ability to process drums.
- Implementation of a Nozzle Water project to allow Norlite to utilize quarry water in place of city water and to prepare for increasing Norlite's ability to process waste waters.
- Retubed air-to-air heat exchangers

Plant improvements completed in 1999-2000 include:

- Installation of 93,400 gallons of Petroleum Bulk Storage Capacity.
- Upgraded all computers to assure Y2K compliance.
- Upgraded the kilns data control with a Cimplicity Data Acquisition system.
- Installation of an additional two (2) bay hazardous waste truck off-loading pad.
- Construction of a new steel building to cover waste off-loading pads.
- Installation of a new break room building for fuel farm personnel.
- Installation of a new truck scale.
- Expansion of drummed/toted waste operation to allow for increased processing capabilities of solid or semi-solid waste
- Upgraded laboratory analytical equipment, including a new: ICP, GC, and mercury analyzer.

Plant improvements completed in 2001-2003 include:

- New off-loading pad certified operational by NYSDEC
- New GC/MS in Laboratory
- New building for vehicle maintenance activities for United Industrial Services and Advanced Liquid Recycling transportation fleet.
- New building for product/equipment storage for Advance Liquid Recycling.
- Wind Screen near fines storage silo.
- Refurbished shale storage silo and covered feed belts with a roof.

Plant improvements completed in 2004-2005 include:

- Outside Hazardous waste tanks 300, 400, 500, and 600 were modified to include agitators. Associated piping was modified for easier off-loading piping path to these tanks and also so these tanks can be burn tanks.
- Impervious coating applied to WWT Plant floor and secondary containment areas for kiln scrubber.
- Petroleum Bulk Storage (PBS) and Chemical Bulk Storage (CBS) upgrades to secondary containment and tanks were painted.
- Kiln stack supports were upgraded and painted.
- New water system installed at finish plant that uses storm water for fugitive dust control.
- Kiln two was modified to use diesel fuel as pilot to replace natural gas.
- New tanks installed to store anti-freeze and windshield washer fluid for Advanced Liquid Recycling.
- A new drum/tote crusher.
- Baghouses rebuilt.

Plant improvements completed in 2006-2007 include:

- Replacement of air –to-air heat exchangers for each kiln
- Installed piping to replace pilot fuel from diesel to specification used oil
- Installed newer primary crusher, has helped reduced run time up to 60%
- Installed new aggregate fine screening capabilities

Plant improvements completed in 2008-2010.

- Installed new CEM DAS software and computer
- Installed new central database collection server for storage and historical backup of data generated at the kiln area
- Started construction of Southern Overburden Storage Area to house the clay overburden in the quarry
- Installed new storage building for the aggregate fines material at the Elm Street entrance

- All employees required to attend RCRA/MACT annual refresher training. Also conduct job specific RCRA/MACT annual refresher training for plant personnel
- Purchased new mercury analyzer for the laboratory
- With installation of new central database, was able to gain access to kiln data and operation on a real-time bases over the web through a secured website

Plant improvements completed in 2010-2013.

- Purchased new ICP, & GC for the laboratory
- Complete a Comprehensive Performance Testing (CPT) under MACT program to demonstrate compliance with regulations. Norlite was well below the limits established in the MACT regulations
- Purchased 4 new combination CO & O2 analyzers for the CEMS system
- Conducted Industrial Hygiene Sampling in the Spring of 2011
- Conducted major upgrades to the kilns and kiln operations systems in fall of 2011. Upgraded included approximately 100 feet of new kiln shell for Kiln 1 and 130 feet of new kiln brick, near bull gear, realigned trunnions.
- Plant wide storm water management project, including use of rain gardens for treatment.
- Perform a Confirmatory Performance Test (CfPT) in May 2013 to show compliance with the air standards for Dioxin and Furan emissions.

Plant improvements completed or planned for 2014-2015

- Replacement of the current stack gas flow rate monitoring equipment with new technology which will help reduce cutoffs and provide a more stable kiln operating environment.
- Install a more automated fuel delivery system at the kilns to provide a smoother and steadier operation while also reducing the number of cutoffs which are attributed to fuel delivery to the kilns.
- Conducted major upgrades to the kilns and kiln operations systems in fall. Upgrade will included over 100 feet of new kiln shell for Kiln 2 as well as new kiln brick, near bull gear, realigned trunnions. Dependent on Department approval will be the replacement of the Kiln 2 mutliclone as part of the APC system
- Upgrade to entire kiln data acquisition system with new servers, data servers, workstations, additional fiber optics, and centralization of the servers into one protected area.
- Replace old multiclone units with new units which are more efficient and easier to clean
- Replace old heat exchangers with new units

P&IDs for an automated fuel delivery system are included in Appendix Q.

SHEETS

SHEET 1 & 2
NORLITE SITE FACILITY MAP
&
ACTIVITY AND PROCESS AREAS MAP

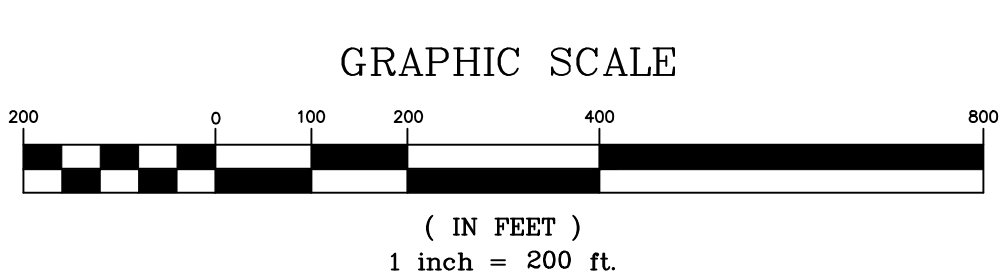


FACILITY BUILDING LIST

BLDG. NUMBER	DESCRIPTION	BLDG. NUMBER	DESCRIPTION
1	OFFSPEC USED OIL TANKS	27	KILN 2
2	UTILITIES BUILDING (MCC, FIRE, ETC.)	28	KILN 1
3	TANKER UNLOADING & LGF STORAGE AREA	29	SAFETY TRAILER
4	CONTAINER STORAGE	30	KILN 1 BAGHOUSE BUILDING
5	WASTE TRANSFER BUILDING	31	IRE TRAILER
6	LGF TANK PUMP BUILDING	32	QUARRY WATER TENT
7	MAIN OFFICE/LABS	33	SHALE FEED SYSTEM
8	EXTERIOR LGF TANKS	34	SODA ASH BUILDING
9	OIL ROOM/ CENTRAL INVENTORY/ LOCKER ROOM	35	OLD PRIMARY PLANT
10	WASTEWATER TREATMENT BUILDING	36	NEW PRIMARY PLANT
11	TRUNNION BREAK ROOM	37	PRIMARY OPERATIONS BREAK ROOM
12	DEC TRAILER	38	AGGREGATE FINES STORAGE TENT
13	STORAGE TRAILERS	39	STORAGE
14	UNITED GARAGE	40	POLE BARN
15	UNITED GARAGE	41	SCALE & SCALE HOUSE
16	FINISH PLANT	42	PUMP HOUSE
17	PUMP ROOM	43	NATURAL GAS HOUSE
18	GARAGE	44	CANAL AREA
19	FUEL FARM BREAK ROOM/LOCKER ROOM	45	STORAGE PAD
20	ELEVATED PIPE TUNNEL	46	PUMP HOUSE
21	KILN STORAGE BUILDING	47	LOWER PAD
22	KILN 2 CLINKER COOLER STACK	48	GATE 2 SECURITY TRAILER
23	KILN 1 CLINKER COOLER STACK	49	STORAGE
24	EO BUILDING	50	ELECTRICAL ENCLOSURE
25	KILN 2 BAGHOUSE BUILDING	51	AGGREGATE TESTING LAB
26	CEM BUILDING	52	LARGE EQUIPMENT STORAGE BUILDING

MAP REFERENCES:
 1. TOPOGRAPHY COMPILED USING PHOTOGRAMMETRIC METHODS FROM AERIAL PHOTOGRAPHY DATED DECEMBER 28, 2013, BY GEOSPATIAL CONSULTING SERVICES OF ATLANTA, GA.

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 — 75 — CONTOUR LINES

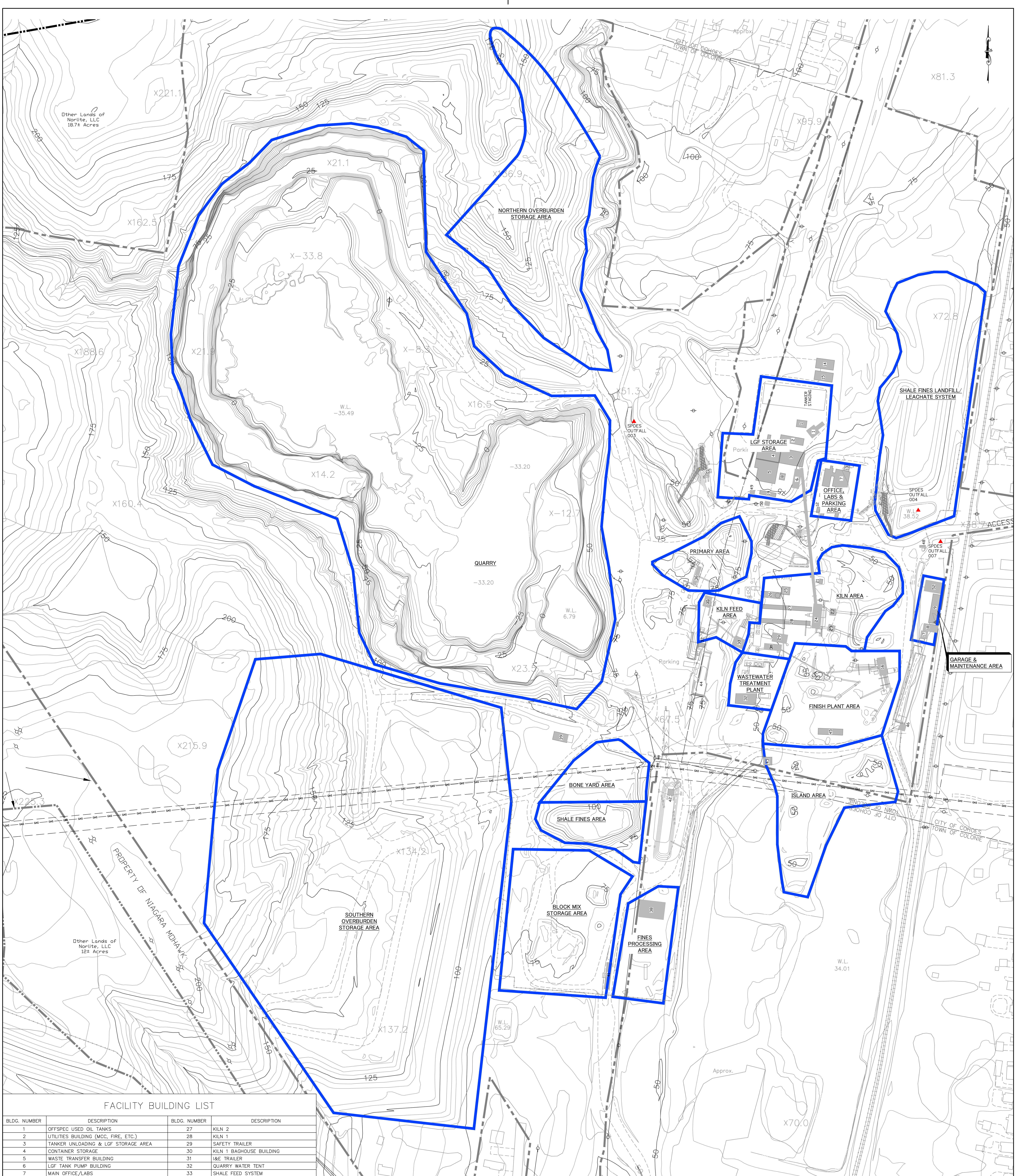


REV.	DATE	DESCRIPTION	DWN	CKD.	APPD.

NORLITE, LLC
 COHOES, NEW YORK

SITE FACILITY MAP

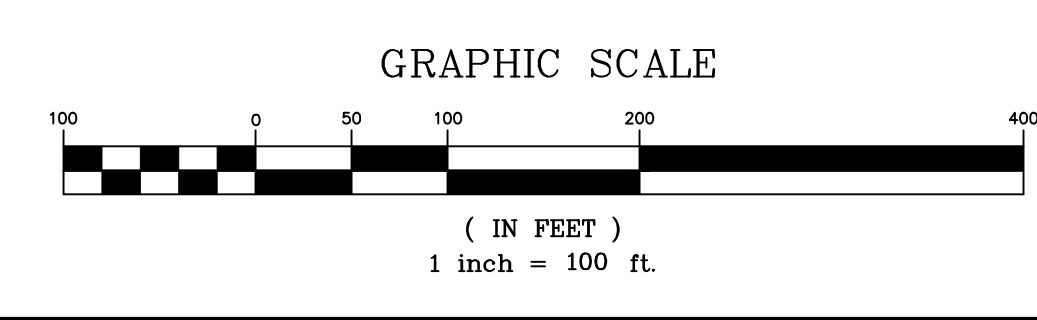
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 SHEET 1 OF 2



FACILITY BUILDING LIST

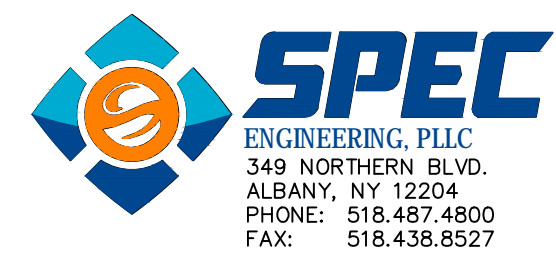
BLDG. NUMBER	DESCRIPTION	BLDG. NUMBER	DESCRIPTION
1	OFFSPEC USED OIL TANKS	27	KILN 2
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8	EXTERIOR LGF TANKS	34	SODA ASH BUILDING
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10	WASTEWATER TREATMENT BUILDING	36	NEW PRIMARY PLANT
11	TRUNNION BREAK ROOM	37	PRIMARY OPERATIONS BREAK ROOM
12	DEC TRAILER	38	AGGREGATE FINES STORAGE TENT
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18	GARAGE	44	CANAL AREA
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21	KILN STORAGE BUILDING	47	LOWER PAD
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MAP REFERENCES:
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LEGEND

- AREA BOUNDARY
- PROPERTY LINE
- 75 — CONTOUR LINES
- ▲ SPDES OUTFALL



REV.	DATE	DESCRIPTION	DWN	CKD.	APPD.

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Norlite
 EXPANDED SHALE PROCESSING

NORLITE, LLC
 COHOES, NEW YORK
 ACTIVITY AND PROCESS
 AREAS MAP
 SCALE: 1"=100' DATE: 8-28-14
 SHEET 2 OF 2

FIGURES

FIGURE 1

FACILITY-WIDE DRAINAGE AREA BOUNDARIES



LEGEND

- 5 DRAINAGE AREA BOUNDARY
- 7 DRAINAGE AREA NUMBERS



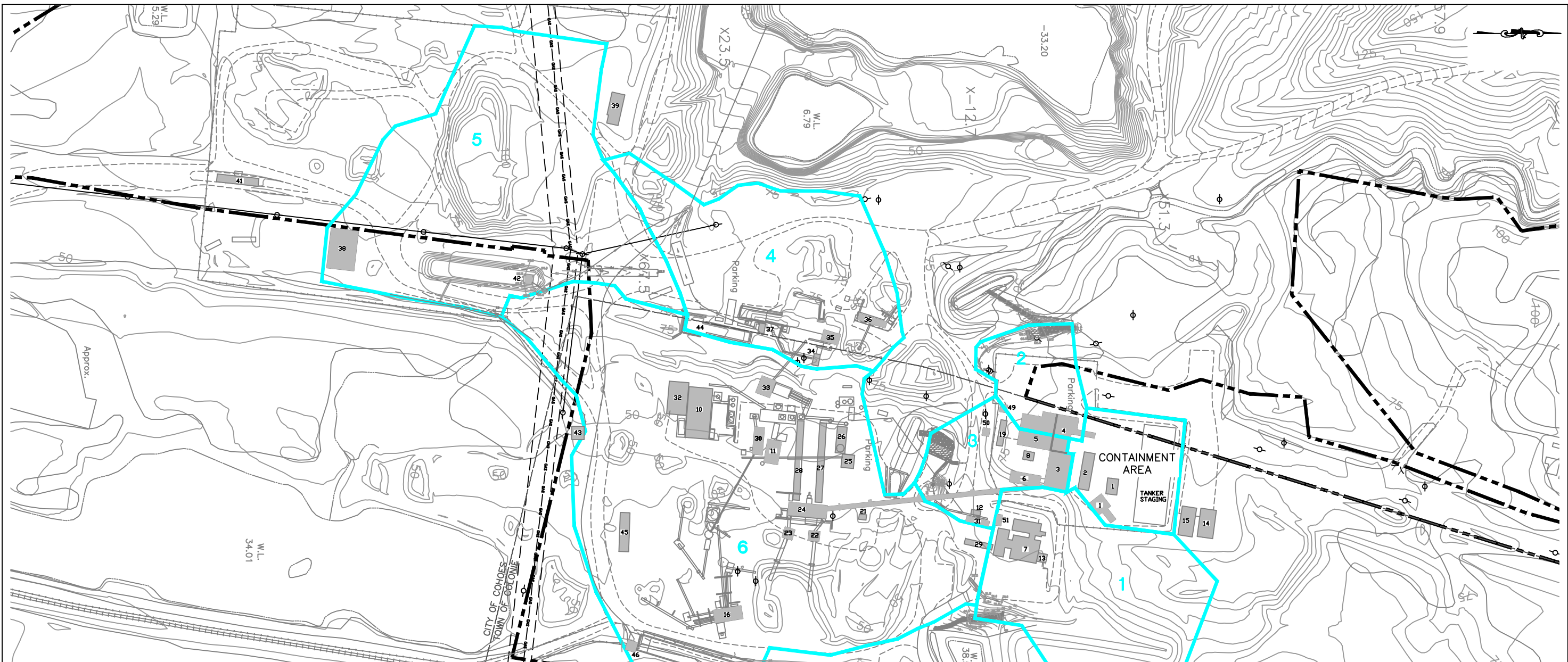
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NORLITE, LLC	
COHOES, NEW YORK	
FACILITY-WIDE DRAINAGE AREAS	
SCALE: N.T.S.	DATE: 8-28-14
FIGURE: 1	

FIGURE 2

DRAINAGE AREA BASINS AND BUILDING IDENTIFICATION AREAS



FACILITY BUILDING LIST

BLDG. NUMBER	DESCRIPTION	BLDG. NUMBER	DESCRIPTION
1	OFFSPEC USED OIL TANKS	27	KILN 2
2	UTILITIES BUILDING (MCC, FIRE, ETC.)	28	KILN 1
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23	KILN 1 CLINKER COOLER STACK	49	STORAGE
24	EQ BUILDING	50	ELECTRICAL ENCLOSURE
25	KILN 2 BAGHOUSE BUILDING	51	AGGREGATE TESTING LAB
26	CEM BUILDING	52	LARGE EQUIPMENT STORAGE BUILDING

LEGEND

- 5 DRAINAGE AREA BOUNDARY
- DRAINAGE AREA NUMBERS
- PROPERTY LINE
- CONTOUR LINES

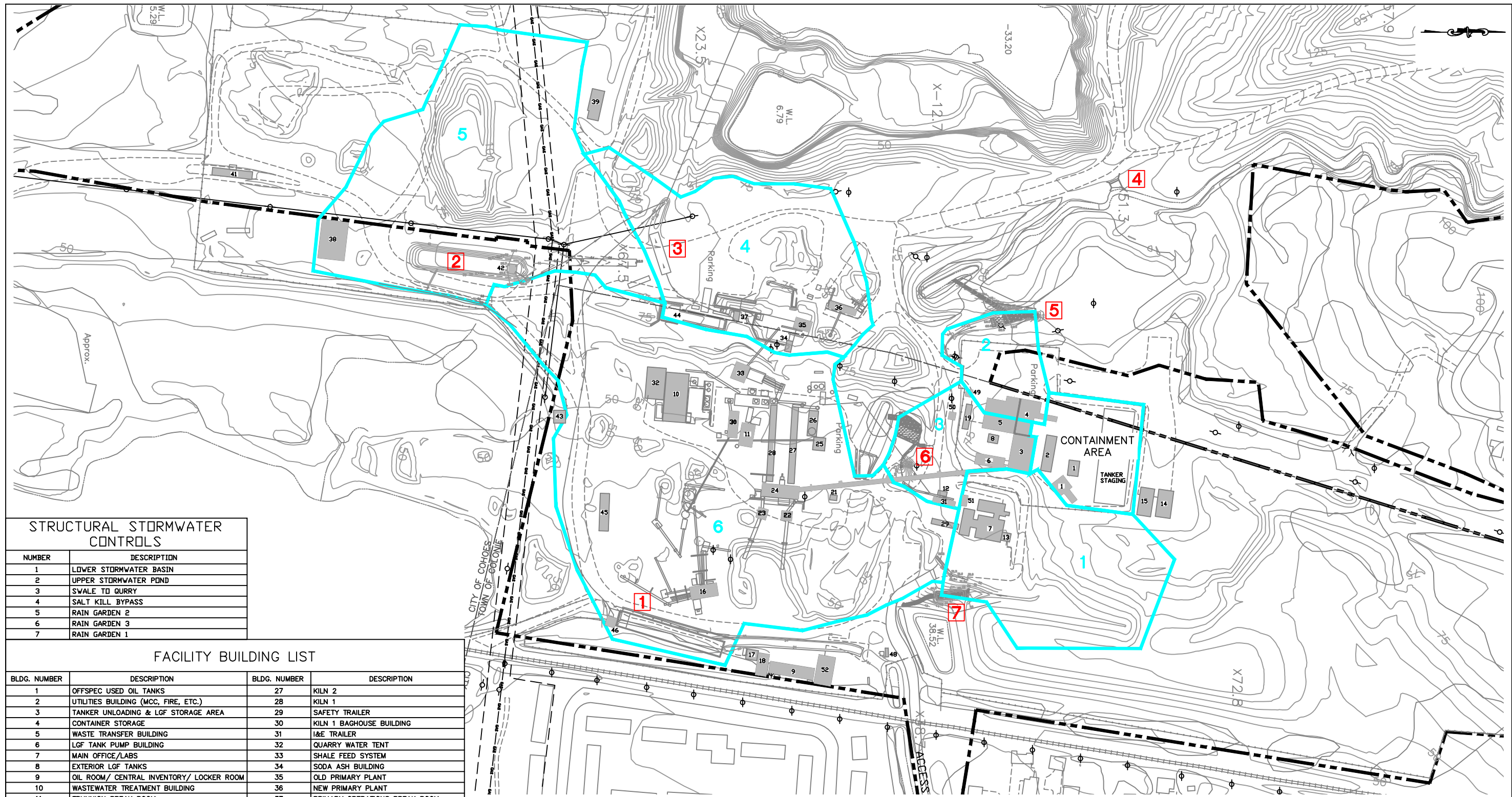


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NORLITE, LLC
 COHOES, NEW YORK
 DRAINAGE BASIN AREAS
 BUILDING IDENTIFICATION
 SCALE: N.T.S. | DATE: 8-28-14
 FIGURE: 2

FIGURE 3
STRUCTURAL STORMWATER CONTROLS



STRUCTURAL STORMWATER CONTROLS

NUMBER	DESCRIPTION
1	LOWER STORMWATER BASIN
2	UPPER STORMWATER POND
3	SWALE TO CURRY
4	SALT KILL BYPASS
5	RAIN GARDEN 2
6	RAIN GARDEN 3
7	RAIN GARDEN 1

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17	PUMP ROOM	43	NATURAL GAS HOUSE
18	GARAGE	44	CANAL AREA
19	FUEL FARM BREAK ROOM/LOCKER ROOM	45	STORAGE PAD
20	ELEVATED PIPE TUNNEL	46	PUMP HOUSE
21	KILN STORAGE BUILDING	47	LOWER PAD
22	KILN 2 CLINKER COOLER STACK	48	GATE 2 SECURITY TRAILER
23	KILN 1 CLINKER COOLER STACK	49	STORAGE
24	EQ BUILDING	50	ELECTRICAL ENCLOSURE
25	KILN 2 BAGHOUSE BUILDING	51	AGGREGATE TESTING LAB
26	CEM BUILDING	52	LARGE EQUIPMENT STORAGE BUILDING

LEGEND

- 5 DRAINAGE AREA BOUNDARY
- DRAINAGE AREA NUMBERS
- PROPERTY LINE
- CONTOUR LINES
- 1 STRUCTURAL STORMWATER CONTROLS

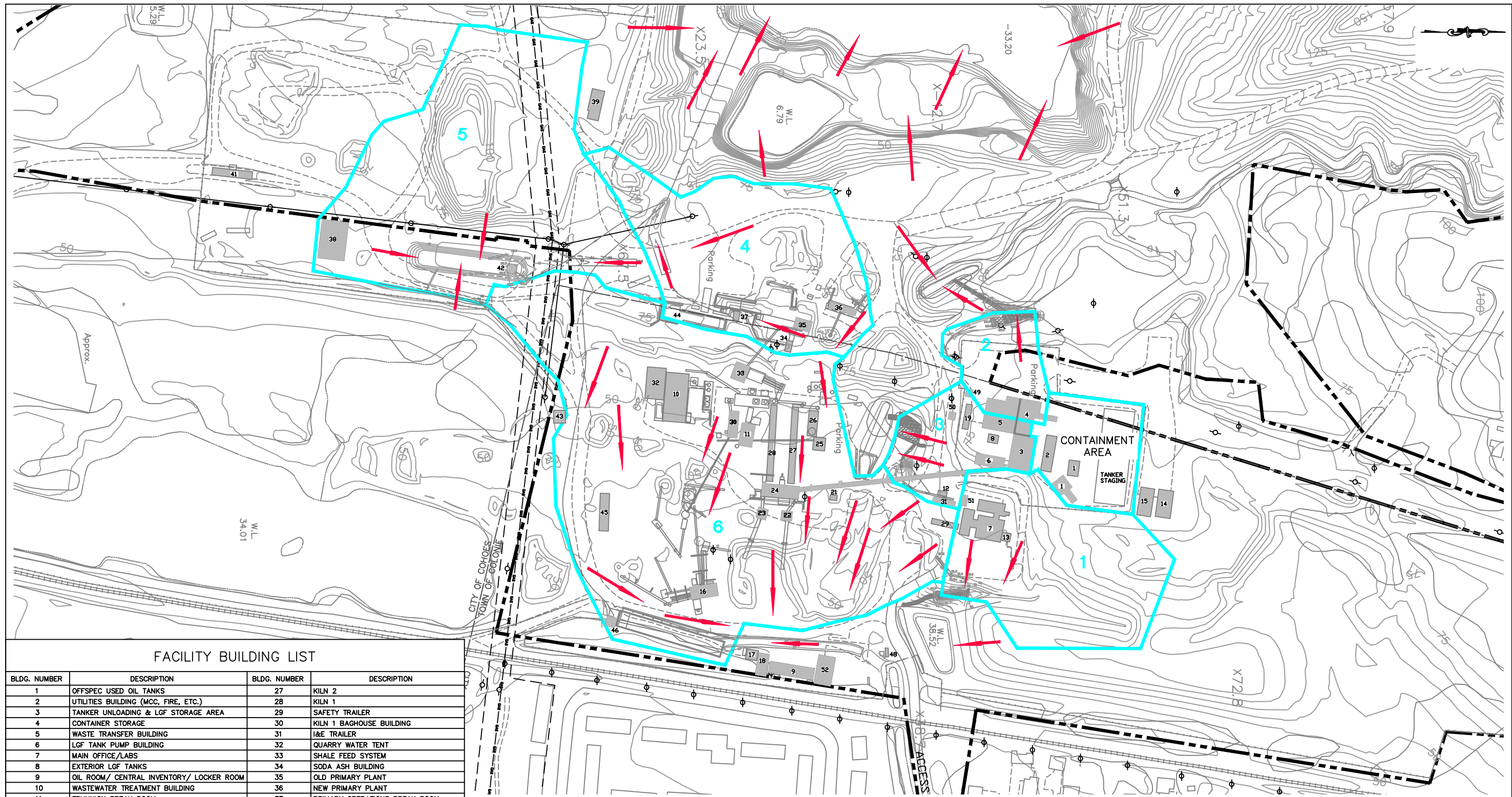


REV	DATE	DESCRIPTION	DWN	CKD	APPD.



NORLITE, LLC
 COHOES, NEW YORK
DRAINAGE AREAS WITH STORMWATER CONTROLS
 SCALE: N.T.S. | DATE: 8-28-14
 FIGURE: 3

FIGURE 4
SURFACE WATER FLOW PATHS MAP



FACILITY BUILDING LIST

BLDG. NUMBER	DESCRIPTION	BLDG. NUMBER	DESCRIPTION
1	OFFSPEC USED OIL TANKS	27	KILN 2
2	UTILITIES BUILDING (MCC, FIRE, ETC.)	28	KILN 1
3	TANKER UNLOADING & LGF STORAGE AREA	29	SAFETY TRAILER
4	CONTAINER STORAGE	30	KILN 1 BAGHOUSE BUILDING
5	WASTE TRANSFER BUILDING	31	I&E TRAILER
6	LGF TANK PUMP BUILDING	32	QUARRY WATER TENT
7	MAIN OFFICE/LABS	33	SHALE FEED SYSTEM
8	EXTERIOR LGF TANKS	34	SODA ASH BUILDING
9	OIL ROOM/ CENTRAL INVENTORY/ LOCKER ROOM	35	OLD PRIMARY PLANT
10	WASTEWATER TREATMENT BUILDING	36	NEW PRIMARY PLANT
11	TRUNNION BREAK ROOM	37	PRIMARY OPERATIONS BREAK ROOM
12	DEC TRAILER	38	AGGREGATE FINES STORAGE TENT
13	STORAGE TRAILERS	39	STORAGE
14	UNITED GARAGE	40	POLE BARN
15	UNITED GARAGE	41	SCALE & SCALE HOUSE
16	FINISH PLANT	42	PUMP HOUSE
17	PUMP ROOM	43	NATURAL GAS HOUSE
18	GARAGE	44	CANAL AREA
19	FUEL FARM BREAK ROOM/LOCKER ROOM	45	STORAGE PAD
20	ELEVATED PIPE TUNNEL	46	PUMP HOUSE
21	KILN STORAGE BUILDING	47	LOWER PAD
22	KILN 2 CLINKER COOLER STACK	48	GATE 2 SECURITY TRAILER
23	KILN 1 CLINKER COOLER STACK	49	STORAGE
24	EQ BUILDING	50	ELECTRICAL ENCLOSURE
25	KILN 2 BAGHOUSE BUILDING	51	AGGREGATE TESTING LAB
26	CEM BUILDING	52	LARGE EQUIPMENT STORAGE BUILDING

LEGEND

- 5 DRAINAGE AREA BOUNDARY
- DRAINAGE AREA NUMBERS
- PROPERTY LINE
- CONTOUR LINES
- FLOW DIRECTION

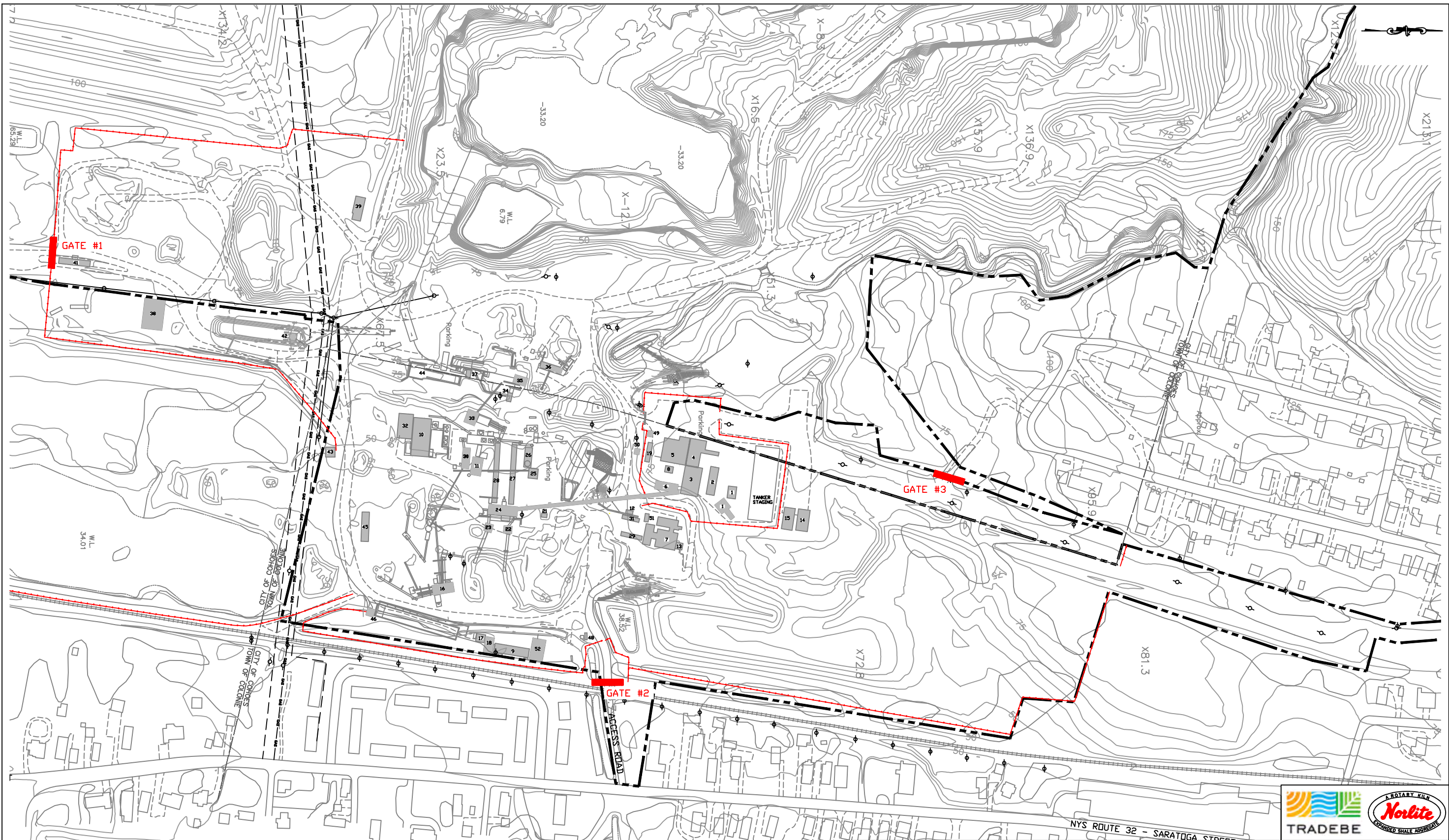


REV	DATE	DESCRIPTION	DWN	CKD	APPD.



NORLITE, LLC
 COHOES, NEW YORK
 DRAINAGE BASIN AREAS
 FLOWPATH IDENTIFICATION
 SCALE: N.T.S. | DATE: 8-28-14
 FIGURE: 4

FIGURE 5
SECURITY FENCE MAP



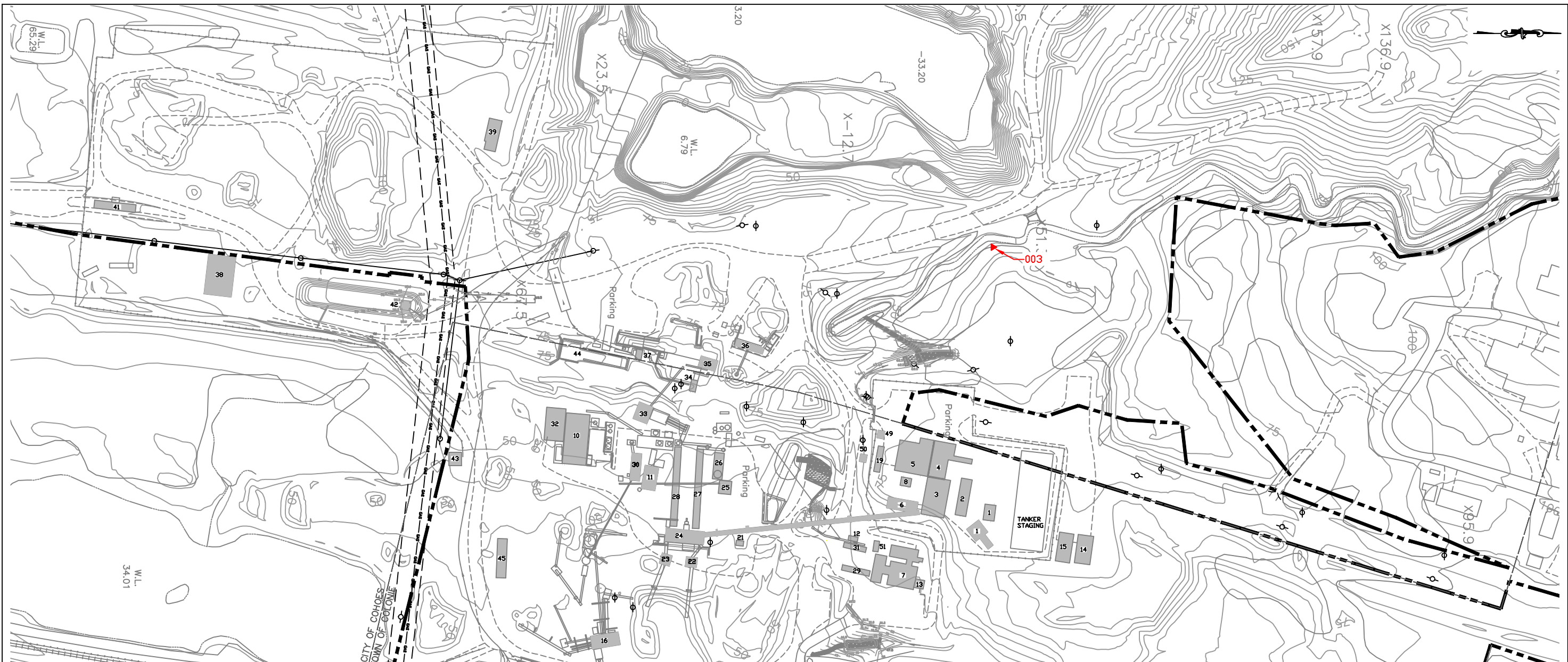
- LEGEND**
- SECURITY FENCE
 - ACCESS GATE



REV	DATE	DESCRIPTION	DWN	CKD	APPD.

TRADEBE
 NORLITE, LLC
 COHOES, NEW YORK
 SECURITY FENCE AND
 ACCESS GATES
 SCALE: N.T.S. | DATE: 8-28-14
 FIGURE: 5

FIGURE 6
SPDES OUTFALL LOCATIONS



FACILITY BUILDING LIST

BLDG. NUMBER	DESCRIPTION	BLDG. NUMBER	DESCRIPTION
1	OFFSPEC USED OIL TANKS	27	KILN 2
2	UTILITIES BUILDING (MCC, FIRE, ETC.)	28	KILN 1
3	TANKER UNLOADING & LGF STORAGE AREA	29	SAFETY TRAILER
4	CONTAINER STORAGE	30	KILN 1 BAGHOUSE BUILDING
5	WASTE TRANSFER BUILDING	31	I&E TRAILER
6	LGF TANK PUMP BUILDING	32	QUARRY WATER TENT
7	MAIN OFFICE/LABS	33	SHALE FEED SYSTEM
8	EXTERIOR LGF TANKS	34	SODA ASH BUILDING
9	OIL ROOM/ CENTRAL INVENTORY/ LOCKER ROOM	35	OLD PRIMARY PLANT
10	WASTEWATER TREATMENT BUILDING	36	NEW PRIMARY PLANT
11	TRUNNION BREAK ROOM	37	PRIMARY OPERATIONS BREAK ROOM
12	DEC TRAILER	38	AGGREGATE FINES STORAGE TENT
13	STORAGE TRAILERS	39	STORAGE
14	UNITED GARAGE	40	POLE BARN
15	UNITED GARAGE	41	SCALE & SCALE HOUSE
16	FINISH PLANT	42	PUMP HOUSE
17	PUMP ROOM	43	NATURAL GAS HOUSE
18	GARAGE	44	CANAL AREA
19	FUEL FARM BREAK ROOM/LOCKER ROOM	45	STORAGE PAD
20	ELEVATED PIPE TUNNEL	46	PUMP HOUSE
21	KILN STORAGE BUILDING	47	LOWER PAD
22	KILN 2 CLINKER COOLER STACK	48	GATE 2 SECURITY TRAILER
23	KILN 1 CLINKER COOLER STACK	49	STORAGE
24	EQ BUILDING	50	ELECTRICAL ENCLOSURE
25	KILN 2 BAGHOUSE BUILDING	51	AGGREGATE TESTING LAB
26	CEM BUILDING	52	LARGE EQUIPMENT STORAGE BUILDING

LEGEND
 ► SPDES OUTFALL

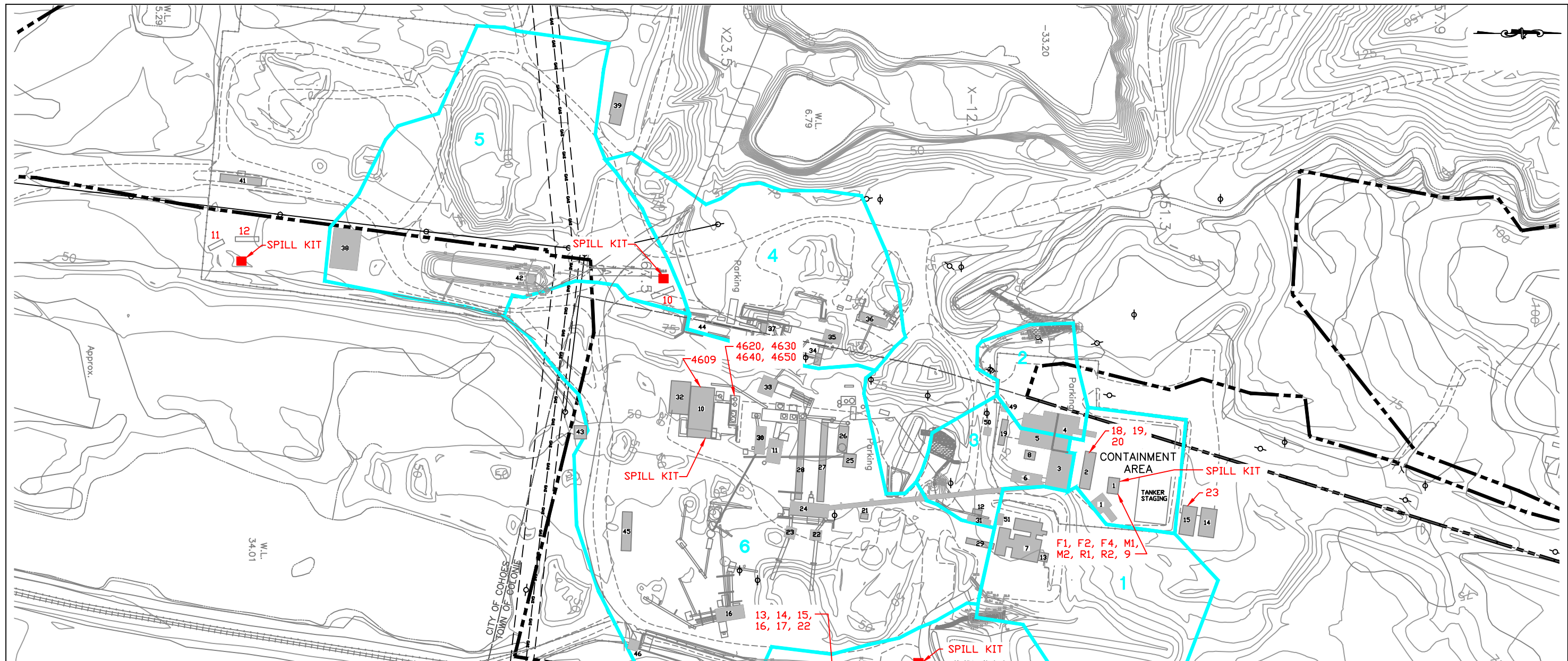


REV	DATE	DESCRIPTION	DWN	CKD	APPD.



NORLITE, LLC
 COHOES, NEW YORK
 SPDES OUTFALL LOCATIONS
 SCALE: 1"=100'-0" | DATE: 8-28-14
 FIGURE: 6

FIGURE 7
PBS AND CBS TANK LOCATIONS



FACILITY BUILDING LIST

BLDG. NUMBER	DESCRIPTION	BLDG. NUMBER	DESCRIPTION
1	OFFSPEC USED OIL TANKS	27	KILN 2
2	UTILITIES BUILDING (MCC, FIRE, ETC.)	28	KILN 1
3	TANKER UNLOADING & LGF STORAGE AREA	29	SAFETY TRAILER
4	CONTAINER STORAGE	30	KILN 1 BAGHOUSE BUILDING
5	WASTE TRANSFER BUILDING	31	I&E TRAILER
6	LGF TANK PUMP BUILDING	32	QUARRY WATER TENT
7	MAIN OFFICE/LABS	33	SHALE FEED SYSTEM
8	EXTERIOR LGF TANKS	34	SODA ASH BUILDING
9	OIL ROOM/ CENTRAL INVENTORY/ LOCKER ROOM	35	OLD PRIMARY PLANT
10	WASTEWATER TREATMENT BUILDING	36	NEW PRIMARY PLANT
11	TRUNNION BREAK ROOM	37	PRIMARY OPERATIONS BREAK ROOM
12	DEC TRAILER	38	AGGREGATE FINES STORAGE TENT
13	STORAGE TRAILERS	39	STORAGE
14	UNITED GARAGE	40	POLE BARN
15	UNITED GARAGE	41	SCALE & SCALE HOUSE
16	FINISH PLANT	42	PUMP HOUSE
17	PUMP ROOM	43	NATURAL GAS HOUSE
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19	FUEL FARM BREAK ROOM/LOCKER ROOM	45	STORAGE PAD
20	ELEVATED PIPE TUNNEL	46	PUMP HOUSE
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24	EQ BUILDING	50	ELECTRICAL ENCLOSURE
25	KILN 2 BAGHOUSE BUILDING	51	AGGREGATE TESTING LAB
26	CEM BUILDING	52	LARGE EQUIPMENT STORAGE BUILDING

LEGEND

- 5 DRAINAGE AREA BOUNDARY
- DRAINAGE AREA NUMBERS
- PROPERTY LINE
- CONTOUR LINES
- 13, 14 TANK ID
- SPILL KIT LOCATION



REV	DATE	DESCRIPTION	DWN	CKD	APPD.



NORLITE, LLC
 COHOES, NEW YORK
 DRAINAGE BASIN AREAS
 PBS & CBS TANK LOCATIONS
 SCALE: N.T.S. | DATE: 8-28-14
 FIGURE: 7

FIGURE 8
SPDES OUTFALL 006 LOCATION



- NOTES:
 1. APRIL 2011 PHOTOGRAMMETRIC MAPPING OBTAINED FROM THE NEW YORK STATE GIS CLEARINGHOUSE.
 2. NEW YORK STATE PLANE, EAST ZONE, NAD 1983



REV	DATE	DESCRIPTION	DWN	CKD	APPD.



NORLITE, LLC	
COHOES, NEW YORK	
WASTEWATER TREATMENT PLANT SPDES OUTFALL 006	
SCALE: N.T.S.	DATE: 8-28-14
FIGURE: 8	

APPENDICES

APPENDIX A

SPDES PERMIT NY 000 4880

New York State Department of Environmental Conservation
Division of Environmental Permits, Region 4
1150 North Westcott Road, Schenectady, New York 12306-2014
Phone: (518) 357-2069 • FAX: (518) 357-2460
Website: www.dec.state.ny.us



Erin M. Crotty
Commissioner

May 21, 2004

Mr. William Morris
Norlite Corporation
628 South Saratoga St.
Cohoes, NY 12047

Re: DEC #4-0103-16/20-0
SPDES # NY-000 4880
FACILITY: Norlite Corporation
City of Cohoes, Albany County

Dear Mr. Morris:

Enclosed is your modified SPDES Permit which is effective beginning May 21, 2004, and expires on February 1, 2007.

Please read all permit conditions carefully. All permit documents must be available upon request by the Department staff as well as distributed to and understood by your personnel responsible for the proper operation of the facility and compliance with the discharge limits. Any violation of these permit conditions constitutes a violation of the Environmental Conservation Law.

If you have any questions regarding this permit, you may contact the Division of Environmental Permits at the above address. Please refer to the above-referenced numbers when you are corresponding with this office or when you are applying to renew or modify this permit.

Any questions regarding your annual pollutant discharge elimination fee should be addressed directed to the Regulatory Fee Determination Unit at 1-800-225-2566.

Sincerely,

William J. Clarke
Regional Permit Administrator
Region 4

Enclosure (Permit)

cc: Div. of Water, Region 4
Division of Water, Albany
Dept. of Health
Regulatory Fee Unit
Anthony Kokocki
Parag Amin
File

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
State Pollutant Discharge Elimination System (SPDES)
DISCHARGE PERMIT
Special Conditions

Industrial Code: 1422
Discharge Class (CL): 01
Toxic Class (TX): T
Major Drainage Basin: 12
Sub Drainage Basin: 01
Water Index Number: H-240
Compact Area:

SPDES Number: NY-000 4880
DEC Number: 4-0103-16/20-0
Effective Date (EDP): February 2, 2002
Expiration Date (ExDP): February 1, 2007
Modification Dates:

This SPDES permit is issued in compliance with Title 8 of Article 17 of the Environmental Conservation Law of New York State and in compliance with the Clean Water Act, as amended, (33 U.S.C. §1251 et seq.) (hereinafter referred to as "the Act").

PERMITTEE NAME AND ADDRESS

Name: Norlite Corporation
Street: 628 South Saratoga Street
City: Cohoes

Attention: William Morris

State: NY Zip Code: 12047

is authorized to discharge from the facility described below:

FACILITY NAME AND ADDRESS

Name: Norlite Corporation
Location (C,T,V): Cohoes (C)
Facility Address: 628 South Saratoga Street
City: Cohoes

County: Albany

State: NY Zip Code: 12047

NYTM -E: From Outfall No.: 003 at Latitude: 42 ° 45 ' 14 " & Longitude: 73 ° 40 ' 20 "
into receiving waters known as: Salt Kill Creek Class: D

and; (list other Outfalls, Receiving Waters & Water Classifications)

004 Salt Kill Creek D
006 Mohawk River C
007 Salt Kill Creek D

in accordance with the effluent limitations, monitoring requirements and other conditions set forth in this permit and 6 NYCRR Part 750.

DISCHARGE MONITORING REPORT (DMR) MAILING ADDRESS

Mailing Name: Norlite Corporation
Street: 628 South Saratoga Street
City: Cohoes
Responsible Official or Agent: William Morris

State: NY Zip Code: 12047

Phone: (518) 235-0401

This permit and the authorization to discharge shall expire on midnight of the expiration date shown above and the permittee shall not discharge after the expiration date unless this permit has been renewed, or extended pursuant to law. To be authorized to discharge beyond the expiration date, the permittee shall apply for permit renewal not less than 180 days prior to the expiration date shown above.

DISTRIBUTION:

Bureau of Water Permits

Permit Administrator	William J. Clarke
Address:	NYSDEC, Region 4 1150 N. Westcott Rd. Schenectady, NY 12306
Signature: <i>William J. Clarke</i>	Date: 5/21/04

SPDES PERMIT NUMBER NY 000 4880

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PERMIT LIMITS, LEVELS, AND MONITORING

OUTFALL No.	WASTEWATER TYPE				RECEIVING WATER	EFFECTIVE	EXPIRING	
003	Quarry Water				Salt Kill Creek	EDM	02/01/07	
PARAMETER	MINIMUM	MAXIMUM	UNITS	SAMPLE FREQUENCY	SAMPLE TYPE	FOOTNOTES (FN)		
pH	6.0	9.0	SU	Daily	Grab	2		
PARAMETER	ENFORCEABLE LIMIT		MONITORING ACTION LEVEL		UNITS	SAMPLE FREQUENCY	SAMPLE TYPE	FN
	Monthly Avg.	Daily Max.	TYPE I	TYPE II				
Flow	Monitor	Monitor			gpd	Daily	Instantaneous	2
Solids, Total Suspended	25	45			mg/l	Weekly	Composite	1, 3

OUTFALL No.	WASTEWATER TYPE				RECEIVING WATER	EFFECTIVE	EXPIRING	
004	Shale Fines Leachate & Storm Runoff from Landfill Area				Salt Kill Creek	EDM	02/01/07	
PARAMETER	MINIMUM	MAXIMUM	UNITS	SAMPLE FREQUENCY	SAMPLE TYPE	FOOTNOTES (FN)		
pH	6.0	9.0	SU	Daily	Grab	2		
PARAMETER	ENFORCEABLE LIMIT		MONITORING ACTION LEVEL		UNITS	SAMPLE FREQUENCY	SAMPLE TYPE	FN
	Monthly Avg.	Daily Max.	TYPE I	TYPE II				
Flow	Monitor	Monitor			gpd	Daily	Instantaneous	2
Solids, Total Suspended	25	45			mg/l	Daily	Composite	2, 3
Temperature	NA	90			°F	Daily	Grab	2
Cadmium, Total	NA	0.004			mg/l	Daily	Grab	2
Chromium, Total	NA	1.7			mg/l	Daily	Grab	2
Chromium, Hexavalent	NA	0.016			mg/l	Daily	Grab	2
Copper, Total	NA	0.018			mg/l	Daily	Grab	2
Lead, Total	NA	0.08			mg/l	Daily	Grab	2
Mercury, Total	NA	0.0002			mg/l	Daily	Grab	2
Nickel, Total	NA	1.8			mg/l	Daily	Grab	2
Zinc, Total	NA	0.3			mg/l	Daily	Grab	2

SPDES PERMIT NUMBER NY 000 4880

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PERMIT LIMITS, LEVELS AND MONITORING

OUTFALL No.	WASTEWATER TYPE				RECEIVING WATER	EFFECTIVE	EXPIRING	
06A	Treated Scrubber Blowdown, Boiler Blowdown and Trunion Non Contact Cooling Water ^A				Outfall 006	EDM	02/01/07	
PARAMETER	ENFORCEABLE LIMIT		MONITORING ACTION LEVEL		UNITS	SAMPLE FREQUENCY	SAMPLE TYPE	FN
	Monthly Avg.	Daily Max.	TYPE I	TYPE II				
Flow	NA	Monitor			gpd	Continuous	Recorded	7
Arsenic, Total	NA	0.11			lbs/day	Daily	Grab	2, 9
Barium, Total	NA	2.88			lbs/day	Daily	Grab	2, 9
Beryllium, Total	NA	1.44			lbs/day	Daily	Grab	2, 9
Cadmium, Total	NA	0.04			lbs/day	Daily	Grab	2, 9
Chromium, Total	NA	0.14			lbs/day	Daily	Grab	2, 9
Copper, Total	NA	0.66			lbs/day	Daily	Grab	2, 9
Iron, Total	NA	2.88			lbs/day	Daily	Grab	2, 9
Lead, Total	NA	0.43			lbs/day	Daily	Grab	2, 9
Mercury, Total	NA	0.04			lbs/day	Daily	Grab	2, 9
Nickel, Total	NA	0.94			lbs/day	Daily	Grab	2, 9
Selenium, Total	NA	0.07			lbs/day	Daily	Grab	2, 9
Zinc, Total	NA	0.66			lbs/day	Daily	Grab	2, 9

OUTFALL No.	WASTEWATER TYPE				RECEIVING WATER	EFFECTIVE	EXPIRING	
06B	Trunion Non Contact Cooling Water				Outfall 006	EDM	02/01/07	
PARAMETER	ENFORCEABLE LIMIT		MONITORING ACTION LEVEL		UNITS	SAMPLE FREQUENCY	SAMPLE TYPE	FN
	Monthly Avg.	Daily Max.	TYPE I	TYPE II				
Flow	NA	NA			gpd	Daily Per Discharge Event	Instantaneous	7
Flow, Totalized	NA	Monitor			gpd		Recorded	8

SPDES PERMIT NUMBER NY 000 4880

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PERMIT LIMITS, LEVELS, AND MONITORING

OUTFALL No.	WASTEWATER TYPE		RECEIVING WATER	EFFECTIVE	EXPIRING			
006	Trunnion Non Contact Cooling Water, Scrubber Blowdown, Boiler Blowdown, & Plant Water*		Mohawk River	EDM	02/01/07			
PARAMETER	MINIMUM	MAXIMUM	UNITS	SAMPLE FREQUENCY	SAMPLE TYPE	FOOTNOTES (FN)		
pH	6.0	9.0	SU	Daily	Grab	2		
PARAMETER	ENFORCEABLE LIMIT		MONITORING ACTION LEVEL		UNITS	SAMPLE FREQUENCY	SAMPLE TYPE	FN
	Monthly Avg.	Daily Max.	TYPE I	TYPE II				
Flow	NA	Monitor			gpd	Continuous	Recorded	
Solids, Total Suspended	NA	66			lbs/day	Daily	Grab	2, 9
Solids, Total Dissolved	NA	Monitor			g/l	Weekly	Grab	1
Chlorine, Total Residual	NA	Monitor			mg/l		Grab	5
Temperature	NA	115			°F	Daily	Grab	2, 4
NH ₃ (as Ammonia)	NA	Monitor			mg/l	Monthly	Grab	
Chlorides	NA	Monitor			mg/l	Monthly	Grab	

OUTFALL No.	WASTEWATER TYPE		RECEIVING WATER	EFFECTIVE	EXPIRING
007	Storm Runoff		Salt Kill Creek	EDM	02/01/07

No monitoring required.

SPDES PERMIT NUMBER NY 000 4880

Page 5 of 11

PERMIT LIMITS, LEVELS, AND MONITORINGFOOTNOTES:

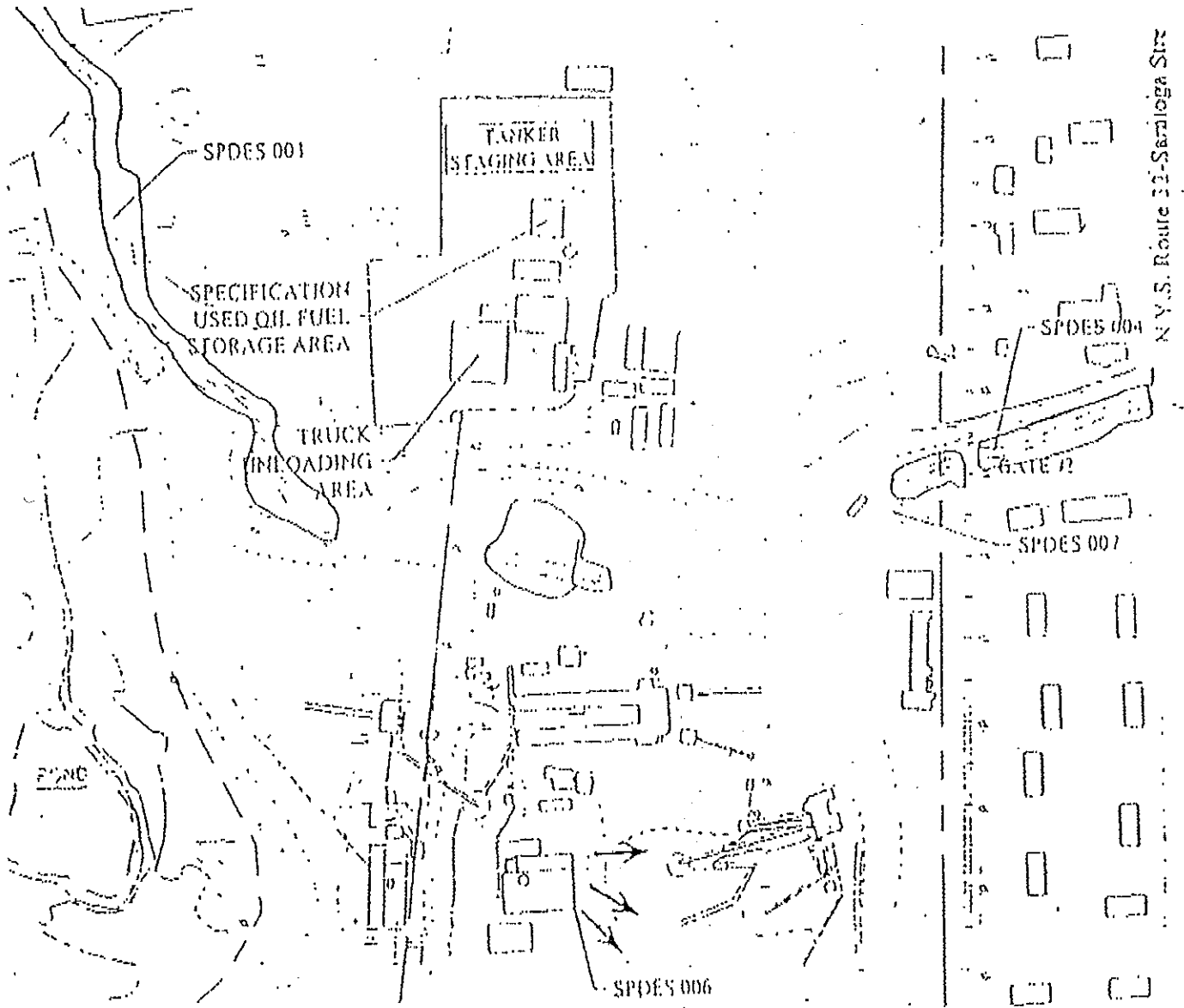
- 1 Samples shall be taken one day per week while discharging.
- 2 Samples shall be taken each day a discharge occurs.
- 3 Representative composites shall consist of a minimum of three samples taken at the beginning, middle and end of the day.
- 4 This temperature limit shall apply at the final discharge point from the wastewater treatment plant. A temperature of 90 °F shall apply at the final discharge point of Norlite's property, prior to the Mohawk River. Sampling at the final discharge point shall consist of a quarterly grab.
5. Grab samples shall be collected following the addition of sodium hypochlorite for hydrogen sulfide control. Analysis shall be by the DPD colorimetric method (equivalent to EPA Method 330.5). The addition of sodium hypochlorite shall be made whenever the ORP reading is unstable or falling below +100 toward zero or negative.
6. Plant Water shall be defined as that treated Quarry Water that is discharged through outfall 006, to aid in the control of the temperature of the entire outfall flow.
7. The instantaneous flow shall be recorded in the operator's logbook any time a discharge of Trunion Non Contact Cooling Water occurs through outfall 06B simultaneous to a sample of outfall 06A being taken. A summary of the relative flow rates for outfalls 06A and 06B, both instantaneous and totalized, shall be recorded and submitted with the Discharge Monitoring Report.
8. In the event of any discharge of Trunion Non Contact Cooling Water to the overflow collection tanks, the start and end times, and totalized flow shall be recorded in the operator's logbook.
9. Loadings shall be calculated using the totalized flow at the sampling location for each day on which sampling occurs.

SPDES PERMIT NUMBER NY 000 4880

Page 6 of 11

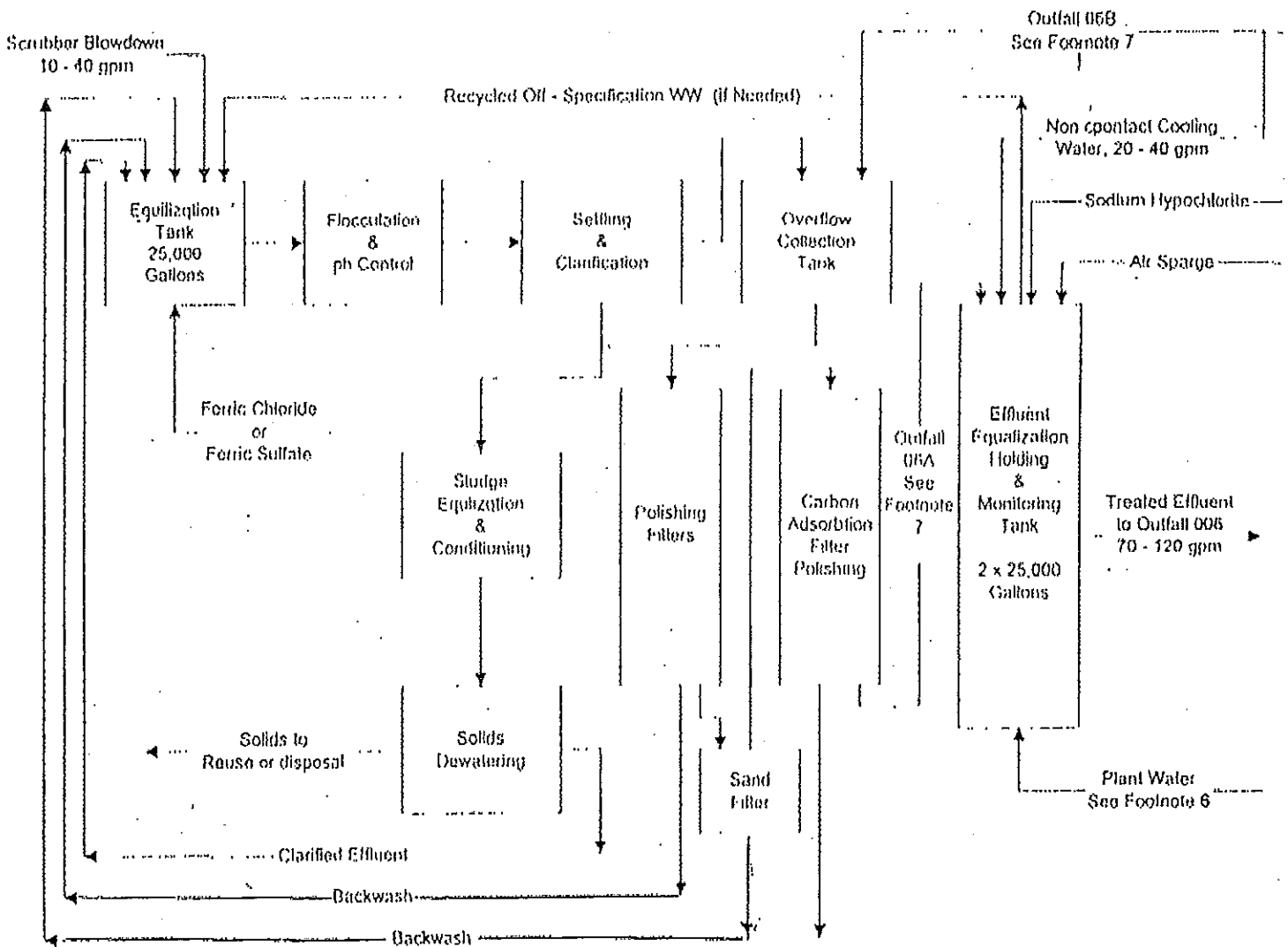
MONITORING LOCATIONS

The permittee shall take samples and measurements, to comply with the monitoring requirements specified in this permit, at the location(s) specified below:



MONITORING LOCATIONS, CONTINUED

WASTEWATER TREATMENT PLANT GENERAL PROCESS FLOW DIAGRAM



SPDES PERMIT NUMBER NY 000 4880

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SPECIAL CONDITIONS - BEST MANAGEMENT PRACTICES

1. If an approved Best Management Practices (BMP) plan is not already in place, the permittee shall develop a BMP plan to prevent, or minimize the potential for, release of significant amounts of toxic or hazardous pollutants to the waters of the State through plant site runoff; spillage and leaks; sludge or waste disposal; and storm water discharges including, but not limited to drainage from raw material storage. Completed BMP plans shall be submitted **WITHIN 6 MONTHS OF THE EFFECTIVE DATE OF MODIFICATION TO THIS PERMIT** to the Regional Water Engineer at the address shown on the Recording Reporting and Additional Monitoring Requirements. The BMP plan shall be implemented within 6 months of submission, unless a different time frame is approved by this Department.
2. Subsequent modifications to or renewal of this permit does not reset or revise the deadline set forth in (1) above, unless a new deadline is set explicitly by such permit modification or renewal.
3. The permittee shall review all facility components or systems (including material storage areas; in-plant transfer, process and material handling areas; loading and unloading operations; storm water, erosion, and sediment control measures; process emergency control systems; and sludge and waste disposal areas) where toxic or hazardous pollutants are used, manufactured stored or handled to evaluate the potential for the release of significant amounts of such pollutants to the waters of the State. In performing such an evaluation, the permittee shall consider such factors as the probability of equipment failure or improper operation, cross-contamination of storm water by process materials, settlement of facility air emissions, the effects of natural phenomena such as freezing temperatures and precipitation, fires, and the facility's history of spills and leaks. For hazardous pollutants, the list of reportable quantities as defined in 40 CFR, Part 117 may be used as a guide in determining significant amounts of releases. For toxic pollutants, the relative toxicity of the pollutant shall be considered in determining the significance of potential releases.

The review shall address all substances present at the facility that are listed as toxic pollutants under Section 307(a)(1) of the Clean Water Act or as hazardous pollutants under Section 311 of the Act or that are identified as Chemicals of Concern by the Industrial Chemical Survey.

4. Whenever the potential for a significant release of toxic or hazardous pollutants to State waters is determined to be present, the permittee shall identify Best Management Practices that have been established to minimize such potential releases. Where BMPs are inadequate or absent, appropriate BMPs shall be established. In selecting appropriate BMPs, the permittee shall consider typical industry practices such as spill reporting procedures, risk identification and assessment, employee training, inspections and records, preventive maintenance, good housekeeping, materials compatibility and security. In addition, the permittee may consider structural measures (such as secondary containment and erosion/sediment control devices and practices) where appropriate.
5. Development of the BMP plan shall include sampling of waste stream segments for the purpose of toxic "hot spot" identification. The economic achievability of effluent limits will not be considered until plant site "hot spot" sources have been identified, contained, removed or minimized through the imposition of site specific BMPs or application of internal facility treatment technology. For the purposes of this permit condition a "hot spot" is a segment of an industrial facility; including but not limited to soil, equipment, material storage areas, sewer lines etc.; which contributes elevated levels of problem pollutants to the wastewater and/or storm water collection system of that facility. For the purposes of this definition, problem pollutants are substances for which treatment to meet a water quality or technology requirement may, considering the results of waste stream segment sampling, be deemed unreasonable. For the purposes of this definition, an elevated level is a concentration or mass loading of the pollutant in question which is sufficiently higher than the concentration of that same pollutant at the compliance monitoring location so as to allow for an economically justifiable removal and/or isolation of the segment and/or B.A.T. treatment of wastewaters emanating from the segment.

SPDES PERMIT NUMBER NY 000 4880

Page 9 of 11

SPECIAL CONDITIONS-BEST MANAGEMENT PRACTICES, CONTINUED

6. The BMP plan shall be documented in narrative form and shall include any necessary plot plans, drawings or maps. Other documents already prepared for the facility such as a Safety Manual or a Spill Prevention, Control and Countermeasure (SPCC) plan may be used as part of the plan and may be incorporated by reference. USEPA guidance for development of storm water elements of the BMP is available in the September 1992 manual "Storm Water Management for Industrial Activities," USEPA Office of Water Publication EPA 832-R-92-006 (available from NTIS, (703)487-4650, order number PB 92235969). A copy of the BMP plan shall be maintained at the facility and shall be available to authorized Department representatives upon request. As a minimum, the plan shall include the following BMP's:

- | | | |
|-------------------------------------|----------------------------|--------------------------------|
| a. BMP Committee | e. Inspections and Records | i. Security |
| b. Reporting of BMP Incidents | f. Preventive Maintenance | j. Spill prevention & response |
| c. Risk Identification & Assessment | g. Good Housekeeping | k. Erosion & sediment control |
| d. Employee Training | h. Materials Compatibility | l. Management of runoff |

7. The BMP plan shall be reviewed annually and shall be modified whenever: (a) changes at the facility materially increase the potential for significant releases of toxic or hazardous pollutants, (b) actual releases indicate the plan is inadequate or (c) a letter from the Regional Water Engineer highlights inadequacies in the plan.

SPDES PERMIT NUMBER NY 000 4880

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DISCHARGE NOTIFICATION REQUIREMENTS

- (a) Except as provided in (c) and (f) of these Discharge Notification Act requirements, the permittee shall install and maintain identification signs at all outfalls to surface waters listed in this permit. Such signs shall be installed before initiation of any discharge.
- (b) Subsequent modifications to or renewal of this permit does not reset or revise the deadline set forth in (a) above, unless a new deadline is set explicitly by such permit modification or renewal.
- (c) The Discharge Notification Requirements described herein do not apply to outfalls from which the discharge is composed exclusively of storm water, or discharges to ground water.
- (d) The sign(s) shall be conspicuous, legible and in as close proximity to the point of discharge as is reasonably possible while ensuring the maximum visibility from the surface water and shore. The signs shall be installed in such a manner to pose minimal hazard to navigation, bathing or other water related activities. If the public has access to the water from the land in the vicinity of the outfall, an identical sign shall be posted to be visible from the direction approaching the surface water. The signs shall have minimum dimensions of eighteen inches by twenty four inches (18" x 24") and shall have white letters on a green background and contain the following information:

N.Y.S. PERMITTED DISCHARGE POINT	
SPDES PERMIT No.: NY _____	
OUTFALL No. : _____	
For information about this permitted discharge contact:	
Permittee Name:	_____
Permittee Contact:	_____
Permittee Phone:	() - ### - ####
OR:	
NYSDEC Division of Water Regional Office Address :	
NYSDEC Division of Water Regional Phone: () - ### - ####	

- (e) For each discharge required to have a sign in accordance with a), the permittee shall, concurrent with the installation of the sign, provide a repository of copies of the Discharge Monitoring Reports (DMRs), as required by the **RECORDING, REPORTING AND ADDITIONAL MONITORING REQUIREMENTS** page of this permit. This repository shall be open to the public, at a minimum, during normal daytime business hours. The repository may be at the business office repository of the permittee or at an off-premises location of its choice (such location shall be the village, town, city or county clerk's office, the local library or other location as approved by the Department). In accordance with the **RECORDING, REPORTING AND ADDITIONAL MONITORING REQUIREMENTS** page of your permit, each DMR shall be maintained on record for a period of three years.
- (f) If, upon November 1, 1997, the permittee has installed signs that include the information required by 17-0815-a(2)(a) of the ECL, but do not meet the specifications listed above, the permittee may continue to use the existing signs for a period of up to five years, after which the signs shall comply with the specifications listed above.
- (g) The permittee shall periodically inspect the outfall identification signs in order to ensure that they are maintained, are still visible and contain information that is current and factually correct.

SPDES PERMIT NUMBER NY 000 4880

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RECORDING, REPORTING AND ADDITIONAL MONITORING REQUIREMENTS

- a) The permittee shall also refer to the General Conditions (Part II) of this permit for additional information concerning monitoring and reporting requirements and conditions.
- b) The monitoring information required by this permit shall be summarized, signed and retained for a period of three years from the date of the sampling for subsequent inspection by the Department or its designated agent. Also, monitoring information required by this permit shall be summarized and reported by submitting:

(if box is checked) completed and signed Discharge Monitoring Report (DMR) forms for each 1 month reporting period to the locations specified below. Blank forms are available at the Department's Albany office listed below. The first reporting period begins on the effective date of this permit and the reports will be due no later than the 28th day of the month following the end of each reporting period.

(if box is checked) an annual report to the Regional Water Engineer at the address specified below. The annual report is due by February 1 and must summarize information for January to December of the previous year in a format acceptable to the Department.

(if box is checked) a monthly "Wastewater Facility Operation Report..." (form 92-15-7) to the:
 Regional Water Engineer and/or County Health Department or Environmental Control Agency specified below

Send the original (top sheet) of each DMR page to:

Department of Environmental Conservation
 Division of Water
 Bureau of Water Compliance Programs
 625 Broadway
 Albany, New York 12233-3506

Phone: (518) 402-8177

Send the first copy (second sheet) of each DMR page to:

Department of Environmental Conservation
 Regional Water Engineer
 Region 4
 1150 North Westcott Road
 Schenectady, New York 12306-2014
 Phone: (518) 357-2234

Send an additional copy of each DMR page to:

- c) Noncompliance with the provisions of this permit shall be reported to the Department as prescribed in the attached General Conditions (Part II).
- d) Monitoring must be conducted according to test procedures approved under 40 CFR Part 136, unless other test procedures have been specified in this permit.
- e) If the permittee monitors any pollutant more frequently than required by the permit, using test procedures approved under 40 CFR Part 136 or as specified in this permit, the results of this monitoring shall be included in the calculations and recording of the data on the Discharge Monitoring Reports.
- f) Calculation for all limitations which require averaging of measurements shall utilize an arithmetic mean unless otherwise specified in this permit.
- g) Unless otherwise specified, all information recorded on the Discharge Monitoring Report shall be based upon measurements and sampling carried out during the most recently completed reporting period.
- h) Any laboratory test or sample analysis required by this permit for which the State Commissioner of Health issues certificates of approval pursuant to section five hundred two of the Public Health Law shall be conducted by a laboratory which has been issued a certificate of approval. Inquiries regarding laboratory certification should be sent to the Environmental Laboratory Accreditation Program, New York State Health Department Center for Laboratories and Research, Division of Environmental Sciences, The Nelson A. Rockefeller Empire State Plaza, Albany, New York 12201.

APPENDIX I

PERSONNEL TRAINING Description of Training Program

PERSONNEL TRAINING
Description of Training Program

<u>Orientation</u>	20-minute video overview of basic plant operations and safety regulations. Completed first day of employment; usually done during 24-hour initial training.
<u>24-Hour Initial</u>	24-hour initial classroom and practical instruction covering safety and regulatory requirements for working within a mining and a TSD/RCRA facility. This is conducted prior to working without direct supervision and is a one-time training session.
<u>8-Hour Initial Supervisory</u>	8-hour classroom and practical instruction to be given after 24-hour training is completed. This course is designed for supervisory personnel to ensure compliance with RCRA operations. This course covers RCRA regulations, compliance, emergency response, and review of our contingency plan.
<u>Emergency Response-Operations Level</u>	8-hour classroom and practical instruction designed to prepare individuals to properly handle accidental releases of hazardous materials. A refresher is completed yearly.
<u>CPR/First Aid</u>	9 & 3 hour classroom and practical instruction, respectively. Covers CPR and first aid for supervisory personnel required to respond to a medical emergency. CPR is repeated yearly; first aid is repeated every three years.
<u>8-Hour Refresher</u>	8-hour classroom and practical instruction serving as a "refresher" to 24-hour training. Basic safety procedures are reviewed in addition to covering any new regulations or procedures. This is completed on a yearly basis.
<u>DOT</u>	3-hour classroom instruction covering proper labeling, handling, shipping and transportation of hazardous materials. This is also included in Emergency Response.

APPENDIX I

Levels of Training for Hazardous Waste Personnel

Job Title	Orientation	24 Hour Initial	8 Hour Initial	Emergency Response	CPR and First Aid	8 Hour Refresher	DOT
Director of Operations	Y	Y	Y	Y	N	Y	Y
Receiving Manager	Y	Y	Y	Y	Y	Y	Y
Director of Compliance	Y	Y	Y	Y	Y	Y	Y
Safety Manager	Y	Y	Y	Y	Y	Y	Y
Compliance Coord.	Y	Y	Y	Y	Y	Y	Y
Kiln Super.	Y	Y	Y	Y	Y	Y	Y
Lab Manager	Y	Y	Y	Y	Y	Y	Y
Lab Tech.	Y	Y	N	N	N	Y	Y
Receiving Tech.	Y	Y	N	Y	N	Y	Y
Drumrunner Operator	Y	Y	N	Y	N	Y	Y
Burner Operator	Y	Y	N	Y	N	Y	Y
I&E Tech.	Y	Y	N	N	N	Y	N
Q/A Tech.	Y	Y	Y	Y	Y	Y	Y
Runner	Y	N	N	N	N	N	Y

APPENDIX J

NORLITE INSPECTION REPORT FORMS

(REVISED)

FUEL FARM SHIFT REPORT

DATE: _____ SHIFT: _____ OPERATOR: _____

TIME				
I. TANK LEVELS				
TK 3 (INCHES)				
TK 4 (INCHES)				
TK 5 (INCHES)				
TK 6 (INCHES)				
TK 100A (GAL)				
TK 100B (GAL)				
TK 100C (GAL)				
TK-200A (GAL)				
TK 200B (GAL)				
TK 200C (GAL)				
K" N OIL TANK (FEET-INCHES)				
II. SWITCHED TANKS	TIME	FROM	TO	FEED PUMP PRESSURE (PSIG)
III. OTHER TANKS				
FIRE DAY TK LEVEL				
NITROGEN TK LEVEL				
HEATER DAY TK LEVEL				
COMMENTS: (ANY LEAKS, ODD NOISES, HIGH PRESSURES, PROBLEMS, ETC.)				

SUPERVISORS SIGNATURE: _____

FUEL FARM OPERATOR'S PRE-SHIFT & DAILY INSPECTION REPORT

DATE: _____

INSPECTED BY: _____

ITEM	OK / YES	OK / NO	STATUS	ACTION NEEDED OR TAKEN
WER PAD				
Pump 3				
Pump 4				
Pump 5				
Pump 6				
Tank 3 Circulators				
Tank 4 Circulators				
Tank 5 Circulators				
Tank 6 Circulators				
Pipe, Valves, Fittings				
Drip Pans				
Fire Extinguisher (2)				
Housekeeping				
Tank Pressure-300				
Tank Pressure-400				
Tank Pressure-500				
Tank Pressure-600				
Lights				
Other Remarks:				
LGF STORAGE BUILDING				
Pump 100A				
Pump 100B				
Pump 100C				
Pump 200A				
Pump 200B				
Pump 200C				
Pipe, Valves, Fittings				
Sump Level				
Fire Extinguisher (2)-Upper Level				
Eye/Body Wash-Upper Level				
Fire Blanket (1)-Upper Level				
Fire Extinguishers (2)-Lower Level				
Eye/Body Wash-Lower Level				

FUEL FARM OPERATOR'S PRE-SHIFT & DAILY INSPECTION REPORT

DATE: _____

INSPECTED BY: _____

ITEM	OK / YES	OK / NO	STATUS	ACTION NEEDED OR TAKEN
F STORAGE BUILDING				
TANK Pressure 100A				
TANK Pressure 100B				
TANK Pressure 100C				
TANK Pressure 200A				
TANK Pressure 200B				
TANK Pressure 200C				
Housekeeping				
Aisleways Clear				
Lights				
Other Remarks:				
GROUNDS				
Fence and Gates				
Signs Maintained				
Trash Cans Empty				
Oil Station				
Travelways Clear				
Lights				
Other Remarks:				
BREAK ROOM				
Housekeeping				
Free of LGF Hazards				
Other Remarks:				
TANKER STAGING AREA				
Storm Water Removed				
Free of Contamination Leaks				
Other Remarks:				

FUEL FARM OPERATOR'S PRE-SHIFT & DAILY INSPECTION REPORT

DATE: _____

INSPECTED BY: _____

ITEM	OK / YES	OK / NO	STATUS	ACTION NEEDED OR TAKEN
OFFLOADING PAD				
Pump 104				
Pump 204				
Fuel Oil Pump 107				
Muffin Monsters				
Offloading Filters				
Hoses				
Housekeeping				
Hazard Drums (# of _____)				
Non Hazardous Drums (# of _____)				
Fire Extinguisher				
Lights				
Other Remarks:				
DRUM STORAGE BLDG.				
Housekeeping				
Hazard Drums (# of _____)				
Non Hazardous Drums (# of _____)				
Fire Extinguisher (3)				
Fire Blanket (1)				
Eye/Body Wash				
Proper Aisle Space				
Proper Stacking				
Proper Labeling				
Lights				
Other Remarks:				
FUEL OIL TANK AREA				
Housekeeping				
East Pump				
West Pump				
Pipe, Valves, Fittings				
(_____) Extinguisher (1)				
Lights				
Other Remarks:				

FUEL FARM OPERATOR'S PRE-SHIFT & DAILY INSPECTION REPORT

DATE: _____

INSPECTED BY: _____

ITEM	OK / YES	OK / NO	STATUS	ACTION NEEDED OR TAKEN
UTILITY BUILDING OUTSIDE				
Fire Extinguisher (2)				
Lights				
UTILITY BUILDING-BOILER ROOM				
Housekeeping				
Boilers				
Pressure Washer				
Other Remarks:				
UTILITY BUILDING - MCC ROOM				
Housekeeping				
All Electrical Covers Closed				
Fire System Panel				
Fuel Oil Leak Detector				
Tank Oxygen Monitor				
O ₂ /LEL System				
Other Remarks:				
UTILITY BUILDING-FIRE SYSTEM ROOM				
Housekeeping				
Other Remarks:				
OTHER				
Other Remarks:				

BURNER OPERATORS LOG

KILN

BURNER

SHIFT A B C D

DATE

/ /

TIME	KILN										COOLER				FRONT BARRON AMPS			
	CLINKER WT LBS	FEEDER SETTING TPH	STONE TEMP °F	FLAME TEMP °F	BACKEND TEMP °F	KILN HOOD PRESSURE "WC	LGF GPM	WASTE OIL GPM	WATER GPM	NATURAL GAS PSI	ATOM AIR PSI	COOLER SPEED	EAST COOLER FAN	WEST COOLER FAN		FRONT BARRON SPEED		
7:00																		
8:00																		
9:00																		
10:00																		
11:00																		
12:00																		
13:00																		
14:00																		
15:00																		
16:00																		
17:00																		
18:00																		
TIME	SCRUBBER										BAGHOUSE				HEAT EXCHANGER/MC			
	QUENCH TEMP °F	RECYCLE FLOW GPM	VENTURI D.P. "WC	DUCON D.P. "WC	I.D.FAN AMPS	I.D.FAN SPEED	INLET TEMP °F	DIFF PSI "WC	OXYGEN %	CO CNT PPM	LIME FEED ON / OFF	HX D.P. "WC	HX EXIT TEMP	M.C. DIFF PSI "WC	DILUTION DAMPER %			
7:00																		
8:00																		
9:00																		
10:00																		
11:00																		
12:00																		
13:00																		
14:00																		
15:00																		
16:00																		
17:00																		
18:00																		
KILN RAW SHALE	END		GAS		END		AVERAGE WEIGHT		REMARKS									
	START	TOTAL	START	TOTAL	START	TOTAL	START	TOTAL										

BURNER OPERATORS LOG

KILN

BURNER

SHIFT A B C D

DATE

/ /

TIME	KILN										COOLER					
	CLINKER WT LBS	FEEDER SETTING TPH	STONE TEMP °F	FLAME TEMP °F	BACKEND TEMP °F	KILN HOOD PRESSURE "WC	IGF GPM	WASTE OIL GPM	WATER GPM	NATURAL GAS	ATOM AIR PSI	COOLER SPEED	EAST COOLER FAN	WEST COOLER FAN	FRONT BARRON SPEED	FRONT BARRON AMPS
19:00																
20:00																
21:00																
22:00																
23:00																
0:00																
1:00																
2:00																
3:00																
4:00																
5:00																
6:00																

TIME	SCRUBBER										BAGHOUSE				HEAT EXCHANGER/MC			
	QUENCH TEMP °F	RECYCLE FLOW GPM	VENTURI D.P. "WC	DUCON D.P. "WC	I.D.FAN AMPS	I.D.FAN SPEED	INLET TEMP °F	DIFF PSI "WC	OXYGEN %	LIME FEED ON/OFF	CO HRA PPM	HX D.P. "WC	HX EXIT TEMP	M.C. DIFF PSI "WC	DILUTION DAMPER %			
19:00																		
20:00																		
21:00																		
22:00																		
23:00																		
0:00																		
1:00																		
2:00																		
3:00																		
4:00																		
5:00																		
6:00																		

KILN RAW SHALE	END	GAS		END	REMARKS	
	START	TOTAL	WEIGHT	START	TOTAL	

KILN FIELD OPERATORS SHIFT REPORT

NAME _____ DATE _____ SHIFT _____

SUPERVISORS SIGNATURE: _____

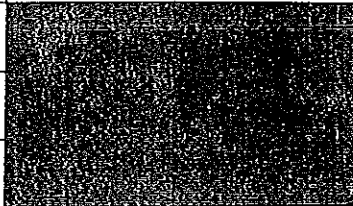
WATER READINGS AND SILO LEVELS

QUARRY/CITY WATER READINGS	START	END	GALLONS
KILN1 QUARRY/CITY WATER TOTALIZER			
KILN 1 CAUSTIC TOTALIZER			
KILN 2 QUARRY/CITY WATER TOTALIZER			
KILN 2 CAUSTIC TOTALIZER			
SODA ASH MAKE-UP TOTALIZER			
LIME SILO LEVEL	TIME		
SODA ASH SILO LEVEL	TIME		

KILN 1		OIL LEVEL OK	AMOUNT ADDED	SEAL OK	KILN 2		OIL LEVEL OK	AMOUNT ADDED	SEAL OK
PIER 1	NE				PIER 1	NE			
PIER 1	SE				PIER 1	SE			
PIER 1	NW				PIER 1	NW			
PIER 1	SW				PIER 1	SW			
PIER 2	NE				PIER 2	NE			
PIER 2	SE				PIER 2	SE			
PIER 2	NW				PIER 2	NW			
PIER 2	SW				PIER 2	SW			
NOTE PIER 1 IS DISCHARGE PIER					PIER 3	NE			
					PIER 3	SE			
					PIER 3	NW			
					PIER 3	SW			

DO OIL DRUMS NEED TO BE EMPTIED AT KILN 2?	PIER 1	PIER 2	PIER 3
KILN 1 PIERS CLEAN			
KILN 2 PIERS CLEAN			
KILN 1 TRUNNION DRIP TRAYS CLEAN			
KILN 2 TRUNNION DRIP TRAYS CLEAN			

BULL GEAR, PINNION GEAR AND DUST SEAL INSPECTIONS

	KILN 1	KILN 2	
KILN 1 BULL GEAR GREASED AND KILN 2 OIL LEVEL CHECKED			WAS OIL ADDED TO KILN2 GEAR
PINION BEARINGS (EAST AND WEST) GREASED			
# OF FEED SEALS MISSING			
# OF DISCHARGE SEALS MISSING			
KILN 1 ANY MAINTENANCE REQUIRED IN THIS AREA			
KILN 2 ANY MAINTENANCE REQUIRED IN THIS AREA			

LIME FEEDERS, ROTARY VALVES AND BLOWER INSPECTION- RECORD ALL CHANGES

*USE ADDITIONAL SHEETS AS REQUIRED

FEEDING KILN	TIME	SETTING *NOT FROM WAP 2- ACTUAL SETTING*	LIME FEEDER	ROTARY VALVE	BLOWER SELECTED
KILN 1		_____lbs./hr	1 2 3	ON OFF	A B C D
KILN 2		_____lbs./hr	1 2 3	ON OFF	A B C D
KILN 1		_____lbs./hr	1 2 3	ON OFF	A B C D
KILN 2		_____lbs./hr	1 2 3	ON OFF	A B C D
KILN 1		_____lbs./hr	1 2 3	ON OFF	A B C D
KILN 2		_____lbs./hr	1 2 3	ON OFF	A B C D
KILN 1		_____lbs./hr	1 2 3	ON OFF	A B C D
KILN 2		_____lbs./hr	1 2 3	ON OFF	A B C D

ARE ALL LIME FEEDERS GUARDED- REPORT CONDITION
IS LIME SILO CLEAN AND FREE OF SPENT LIME- REPORT CONDITION
IS ANY MAINTENANCE REQUIRED IN THIS AREA

NAME: _____ DATE: _____ SHIFT: _____

SCRUBBER SYSTEM INSPECTION

		KILN 1			KILN 2		
RECYCLE PUMP RUNNING		NORTH	OR	SOUTH	NORTH	OR	SOUTH
RECYCLE PUMP LEAKING		YES	OR	NO	YES	OR	NO
BLOWDOWN PUMP LEAKING		YES	OR	NO	YES	OR	NO
KILN 1 QUENCH WATER SETTINGS	1	2	3	4			
KILN 1 MIST PAD WATER SETTING		*NOTE-READINGS TO BE TAKEN AT CENTER OF FLOAT TOTAL QUENCH FLOW SHOULD BE 8 TO 10 GPM					
KILN 2 QUENCH WATER SETTINGS	1	2	3	4			
KILN 2 MIST PAD WATER SETTINGS							
KILN 1 QUENCH PUMP RUNNING	YES OR NO	KILN 1 EMERGENCY QUENCH VALVES OPEN			YES OR NO		
KILN 2 QUENCH PUMP RUNNING	YES OR NO	KILN 2 EMERGENCY QUENCH VALVES OPEN			YES OR NO		
KILN 1 SCRUBBER- IS ANY MAINTENANCE REQUIRED IN THIS AREA?							
KILN 2 SCRUBBER- IS ANY MAINTENANCE REQUIRED IN THIS AREA?							

SODA ASH BUILDING

			KILN 1	KILN 2	TIME	CONCENTRATION
NORTH PUMP FEEDING KILN	IS PUMP LEAKING	YES NO				
SOUTH PUMP FEEDING KILN	IS PUMP LEAKING	YES NO				
SODA ASH SCREW-REPORT CONDITION	ARE ALL COVERS IN PLACE ARE ALL GUARDS IN PLACE	YES NO YES NO				
SODA ASH MIXERS RUNNING- REPORT CONDITION						
IS ANY MAINTENANCE REQUIRED IN THIS AREA						

HEAT EXCHANGER FANS, PRIMARY AIR FANS, KILN 2 DRIVE AND SILO HEAT INSPECTION

KILN 1 UPPER HEAT EXCHANGER FAN GREASED	YES NO	KILN 1 LOWER HEAT EXCHANGER FAN GREASED	YES NO
KILN 2 HEAT EXCHANGER FAN GREASED	YES NO	KILN 1 LOWER (OLD) FAN RUNNING	YES NO
KILN 1 UPPER(NEW) FAN SETPOINT	HZ	KILN 2 MAIN DRIVE SETPOINT	HZ
KILN 2 HEAT EXCHANGER SETPOINT	HZ	K1 SHALE SILO HEAT RUNNING	YES NO
KILN 1 PRIMARY AIR FAN SETPOINT	HZ	IS ANY MAINTENANCE REQUIRED IN THESE AREAS?	
KILN 2 PRIMARY AIR FAN SETPOINT	HZ		

NAME: _____ DATE: _____ SHIFT: _____

RAW SHALE BELTS INSPECTION

	KILN 1 TOP	KILN 1 BOTTOM	KILN 2 TOP	KILN 2 MIDDLE	KILN 2 BOTTOM
SHALE BELTS AND SPLICES IN WORKING CONDITION	YES NO	YES NO	YES NO	YES NO	YES NO
ROLLERS AND RETURNS IN WORKING CONTITION	YES NO	YES NO	YES NO	YES NO	YES NO
WIPERS IN PLACE AND IN GOOD CONDITION	YES NO	YES NO	YES NO	YES NO	YES NO
HEAD PULLEYS AND TAIL PULLEYS GREASED	YES NO	YES NO	YES NO	YES NO	YES NO
KILN 1 ALL CONVEYOR COVERS AND GUARDS IN PLACE	YES NO	YES NO	YES NO	YES NO	YES NO
KILN 2 ALL CONVEYOR COVERS AND GUARDS IN PLACE			YES NO	YES NO	YES NO
ROTARY VALVE- SHALE FEED FOR KILN 1 REPORT CONDITION			ARE GUARDS IN PLACE	YES NO	
ROTARY VALVE- SHALE FEED FOR KILN 2 REPORT CONDITION			ARE GUARDS IN PLACE	YES NO	
ACCURATE FEEDER FOR KILN 1 REPORT CONDITION			ARE GUARDS IN PLACE	YES NO	
ACCDURATE FEEDER FOR KILN 2 REPORT CONDITION			ARE GUARDS IN PLACE	YES NO	
KILN 1 SHALE FEED- IS ANY MAINTENANCE REQUIRED IN THIS AREA					
KILN 2 SHALE FEED- IS ANY MAINTENANCE REQUIRED IN THIS AREA					

COOLER SYSYTEM AND COOLER FAN INSPECTION

COOLERS AND COOLER FANS

KILN 1

KILN 2

COOLER DRIVE SYSTEM GREASED	YES NO	YES NO
BARRON EXHAUST SYSTEM GREASED	YES NO	YES NO
EAST COOLER FAN GREASED	YES NO	YES NO
WEST COOLER FAN GREASED	YES NO	YES NO
KILN COOLER AREAS CLEANED	YES NO	YES NO
COOLER SCREWS RUNNING NORTH	YES NO	YES NO
COOLER SCREW RUNNING SOUTH	YES NO	YES NO
DUST DRUMS EMPTIED	YES NO	YES NO
KILN 1 COOLER- IS ANY MAINTENANCE REQUIRED IN THIS AREA		
KILN 2 COOLER- IS ANY MAINTENANCE REQUIRED IN THIS AREA		

NAME: _____

DATE: _____

SHIFT: _____

CLINKER BELTS AND TUNNEL INSPECTION

	KILN 1		KILN 2	
BELTS AND SPLICES IN GOOD CONDITION	YES	NO	YES	NO
HEAD PULLEYS AND TAIL PULLEYS GREASED AND GUARDED	YES	NO	YES	NO
ROLLERS AND RETURN IN GOOD CONDITION AND GUARDED	YES	NO	YES	NO
WIPERS IN PLACE AND IN GOOD CONDITION	YES	NO	YES	NO
PUMP IN TUNNEL IN GOOD CONDITION	YES	NO	YES	NO
WAS PUMP CHANGED OUT ON YOUR SHIFT	YES	NO	YES	NO
CLINKER BELT WATER SPRAYS	ON	OFF	ON	OFF
CLINKER BELT HEAD BOX WATER SPRAYS	ON	OFF	ON	OFF
TUNNEL CLEAN AT START OF SHIFT	YES	NO	YES	NO
TUNNEL CLEAN AT END OF SHIFT	YES	NO	YES	NO
ALL CONVEYOR COVERS IN PLACE	YES	NO	YES	NO
KILN 1 -- ANY MAINTENANCE REQUIRED IN THIS AREA				
KILN 2- ANY MAINTENANCE REQUIRED IN THIS AREA				

AIR COMPRESSORS AND PORTABLE AIR COMPRESSORS

	KILN 1		KILN 2	
OIL LEVEL CHECKED	YES	NO	YES	NO
HOW MUCH OIL WAS ADDED				
AIR COMPRESSOR TEMP				
AIR DRYERS AND AFTERCOOLERS WORKING	YES	NO	YES	NO
DRYER RELIEF VALVE WORKING PROPERLY	YES	NO	YES	NO
PORTABLE COMPRESSOR RUNNING	YES	NO	YES	NO
FLUIDS CHECKED IN PORTABLE	YES	NO	YES	NO
PORTABLE RE-FUELED FOR NEXT SHIFT	YES	NO	YES	NO
ANY MAINTENANCE REQUIRED IN THIS AREA				

NAME: _____ DATE: _____ SHIFT: _____



NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
State Pollutant Discharge Elimination System (SPDES)
DISCHARGE PERMIT

First3.99

Industrial Code: **1422/4953**
 Discharge Class (CL): **01**
 Toxic Class (TX): **T**
 Major Drainage Basin: **12**
 Sub Drainage Basin: **01**
 Water Index Number: **H-240**
 Compact Area:

SPDES Number: **NY- 000 4880**
 DEC Number: **4-0103-16/20-0**
 Effective Date (EDP): **February 1, 2007**
 Expiration Date (ExDP): **January 31, 2012**
 Modification Dates: (EDPM) **08/17/07**

This SPDES permit is issued in compliance with Title 8 of Article 17 of the Environmental Conservation Law of New York State and in compliance with the Clean Water Act, as amended, (33 U.S.C. §1251 et.seq.)(hereinafter referred to as "the Act").

PERMITTEE NAME AND ADDRESS

Name: **Norlite Corporation**
 Street: **628 South Saratoga Street**
 City: **Cohoes**

Attention: **William Morris**
 State: **NY** Zip Code: **12047**

is authorized to discharge from the facility described below:

FACILITY NAME AND ADDRESS

Name: **Norlite Corporation**
 Location (C,T,V): **Cohoes (C)**
 Facility Address: **628 South Saratoga Street**
 City: **Cohoes**

County: **Albany**
 State: **NY** Zip Code: **12047**

NYTM -E: From Outfall No.: **003** at Latitude: **42 ° 45 ' 14 "** & Longitude: **73 ° 40 ' 20 "**
 into receiving waters known as: **Salt Kill Creek (H-239)** Class: **D**

and; (list other Outfalls, Receiving Waters & Water Classifications)

- 004 Salt Kill Creek H-239 D**
- 006 Mohawk River H-240 C**
- 007 Salt Kill Creek H-239 D**
- 008 Salt Kill Creek H-239 D**
- 009 Salt Kill Creek H-239 D**

in accordance with: effluent limitations; monitoring and reporting requirements; other provisions and conditions set forth in this permit; and 6 NYCRR Part 750-1.2(a) and 750-2.

DISCHARGE MONITORING REPORT (DMR) MAILING ADDRESS

Mailing Name: **Norlite Corporation**
 Street: **628 South Saratoga Street**
 City: **Cohoes**
 Responsible Official or Agent: **William Morris**

State: **NY** Zip Code: **12047**
 Phone: **(518) 235-0401**

This permit and the authorization to discharge shall expire on midnight of the expiration date shown above and the permittee shall not discharge after the expiration date unless this permit has been renewed, or extended pursuant to law. To be authorized to discharge beyond the expiration date, the permittee shall apply for permit renewal not less than 180 days prior to the expiration date shown above.

DISTRIBUTION:

CO BWP - Permit Coordinator
 RWE
 RPA
 EPA Region II - Jeffrey Gratz
 EFC

Permit Administrator: William J. Clarke	
Address: 1130 North Westcott Road Schenectady, New York 12306	
Signature: <i>William J. Clarke</i>	Date: 8/17/07

PERMIT LIMITS, LEVELS AND MONITORING

OUTFALL No.	WASTEWATER TYPE			RECEIVING WATER	EFFECTIVE	EXPIRING		
003	Quarry Water			Salt Kill Creek	08/17/07	01/31/12		
PARAMETER	MINIMUM	MAXIMUM	UNITS	SAMPLE FREQUENCY	SAMPLE TYPE	FOOTNOTES (FN)		
pH	6.0	9.0	SU	Daily	Grab	2		
PARAMETER	ENFORCEABLE LIMIT		MONITORING ACTION LEVEL		UNITS	SAMPLE FREQUENCY	SAMPLE TYPE	FN
	Monthly Avg.	Daily Max.	TYPE I	TYPE II				
Flow	Monitor	Monitor			gpd	Daily	Instantaneous	2
Mercury, Total	Monitor	30			ng/l	Semi annually	Grab	17
Solids, Setttable	Monitor	0.1			ml/l	Weekly	Grab	1
Solids, Total Dissolved	Monitor	Monitor			mg/l	Weekly	Grab	1
Solids, Total Suspended	25	45			mg/l	Weekly	Grab	1

OUTFALL No.	WASTEWATER TYPE			RECEIVING WATER	EFFECTIVE	EXPIRING		
004	Shale Fines Leachate and Storm Runoff from Landfill Area			Salt Kill Creek	08/17/07	01/31/12		
PARAMETER	MINIMUM	MAXIMUM	UNITS	SAMPLE FREQUENCY	SAMPLE TYPE	FOOTNOTES (FN)		
pH	6.0	9.0	SU	Daily	Grab	2		
PARAMETER	ENFORCEABLE LIMIT		MONITORING ACTION LEVEL		UNITS	SAMPLE FREQUENCY	SAMPLE TYPE	FN
	Monthly Avg.	Daily Max.	TYPE I	TYPE II				
Flow	Monitor	Monitor			gpd	Daily	Instantaneous	2
Solids, Total Suspended	25	45			mg/l	Daily	Grab	2
Temperature	Monitor	90			°F	Daily	Grab	2
Cadmium, Total	Monitor	0.004			mg/l	Daily	Grab	2
Chromium, Total	Monitor	1.7			mg/l	Daily	Grab	2
Chromium, Hexavalent	Monitor	0.016			mg/l	Daily	Grab	2
Copper, Total	Monitor	0.018			mg/l	Daily	Grab	2
Lead, Total	Monitor	0.08			mg/l	Daily	Grab	2
Mercury, Total	Monitor	30			ng/l	Daily	Grab	2, 17
Nickel, Total	Monitor	0.61			mg/l	Daily	Grab	2
Zinc, Total	Monitor	0.3			mg/l	Daily	Grab	2

PERMIT LIMITS, LEVELS AND MONITORING

OUTFALL No.	WASTEWATER TYPE				RECEIVING WATER	EFFECTIVE	EXPIRING	
06A	Treated Scrubber Blowdown, Boiler Blowdown and Trunnion Non Contact Cooling Water				Outfall 006	08/17/07	01/31/12	
PARAMETER	ENFORCEABLE LIMIT		MONITORING ACTION LEVEL		UNITS	SAMPLE FREQUENCY	SAMPLE TYPE	FN
	Monthly Avg.	Daily Max.	TYPE I	TYPE II				
Flow	Monitor	Monitor			gpd	Continuous	Recorded	7
Arsenic, Total	Monitor	0.11			lbs/day	Daily	Grab	2, 10
Barium, Total	Monitor	2.88			lbs/day	Daily	Grab	2, 10
Beryllium, Total	Monitor	1.44			lbs/day	Daily	Grab	2, 10
Cadmium, Total	Monitor	0.04			lbs/day	Daily	Grab	2, 10
Chromium, Total	Monitor	0.14			lbs/day	Daily	Grab	2, 10
Copper, Total	Monitor	0.66			lbs/day	Daily	Grab	2, 10
Iron, Total	Monitor	2.88			lbs/day	Daily	Grab	2, 10
Lead, Total	Monitor	0.43			lbs/day	Daily	Grab	2, 10
Mercury, Total	Monitor	30			ng/l	Daily	Grab	2, 17
Nickel, Total	Monitor	0.94			lbs/day	Daily	Grab	2, 10
Selenium, Total	Monitor	0.07			lbs/day	Daily	Grab	2, 10
Zinc, Total	Monitor	0.66			lbs/day	Daily	Grab	2, 10

OUTFALL No.	WASTEWATER TYPE				RECEIVING WATER	EFFECTIVE	EXPIRING	
06B	Trunnion Non Contact Cooling Water				Outfall 006	08/17/07	01/31/12	
PARAMETER	ENFORCEABLE LIMIT		MONITORING ACTION LEVEL		UNITS	SAMPLE FREQUENCY	SAMPLE TYPE	FN
	Monthly Avg.	Daily Max.	TYPE I	TYPE II				
Flow	Monitor	Monitor			gpd	Continuous	Recorded	7
Flow, Totalized	NA	Monitor			gpd		Recorded	8

PERMIT LIMITS, LEVELS AND MONITORING

OUTFALL No.	WASTEWATER TYPE			RECEIVING WATER	EFFECTIVE	EXPIRING		
006	Trunnion Non Contact Cooling Water, Treated Scrubber Blowdown, Boiler Blowdown, and Plant Water ⁶			Mohawk River	08/17/07	01/31/12		
PARAMETER	MINIMUM	MAXIMUM	UNITS	SAMPLE FREQUENCY	SAMPLE TYPE	FOOTNOTES (FN)		
pH	6.0	9.0	SU	Daily	Grab	2		
PARAMETER	ENFORCEABLE LIMIT		MONITORING ACTION LEVEL		UNITS	SAMPLE FREQUENCY	SAMPLE TYPE	FN
	Monthly Avg.	Daily Max.	TYPE I	TYPE II				
Flow	Monitor	Monitor			gpd	Continuous	Recorded	
Solids, Total Suspended	Monitor	66			lbs/day	Daily	Grab	2, 10
Solids, Total Dissolved	Monitor	Monitor			g/l	Weekly	Grab	1
Chlorine, Total Residual	Monitor	Monitor			mg/l		Grab	5
Temperature	Monitor	115			°F	Daily	Grab	2, 4
Ammonia (as NH ₃)	Monitor	Monitor			mg/l	Monthly	Grab	
Chlorides	Monitor	Monitor			mg/l	Monthly	Grab	

OUTFALL No.	WASTEWATER TYPE			RECEIVING WATER	EFFECTIVE	EXPIRING		
007	Storm Runoff from Production Area			Salt Kill Creek	08/17/07	01/31/12		
PARAMETER	MINIMUM	MAXIMUM	UNITS	SAMPLE FREQUENCY	SAMPLE TYPE	FOOTNOTES (FN)		
pH	6.0	9.0	SU	Monthly	Grab	1		
PARAMETER	ENFORCEABLE LIMIT		MONITORING ACTION LEVEL		UNITS	SAMPLE FREQUENCY	SAMPLE TYPE	FN
	Monthly Avg.	Daily Max.	TYPE I	TYPE II				
Flow	Monitor	Monitor			gpd	Daily	Estimate	2
Solids, Total Suspended	25	45			mg/l	Daily	Grab	2, 9
Solids, Settleable	Monitor	0.1			ml/l	Daily	Grab	2, 9
Oil & Grease	Monitor	15			mg/l	Daily	Grab	2,

PERMIT LIMITS, LEVELS AND MONITORING

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OUTFALL NUMBER	WASTEWATER TYPE	RECEIVING WATER	EFFECTIVE	EXPIRING
008	Storm Runoff from Tanker Truck Staging Area	Salt Kill Creek	08/17/07	01/31/12

PARAMETER	MINIMUM	MAXIMUM	UNITS	SAMPLE FREQUENCY	SAMPLE TYPE	FOOTNOTES (FN)
pH	6.0	9.0	SU	Each Batch Discharge	Grab	

PARAMETER	EFFLUENT LIMIT		PQL	MONITORING ACTION LEVEL		UNITS	SAMPLE FREQUENCY	SAMPLE TYPE	FN
	Monthly Avg.	Daily Max.	Daily Max.	TYPE I	TYPE II				
Flow	Monitor	Monitor				gpd	Each Batch	Total	19
Acenaphthene	Monitor	10				µg/l	Each Batch	Grab	
Acenaphthylene	Monitor	10				µg/l	Each Batch	Grab	
Acentonitrile	Monitor	50				µg/l	Each Batch	Grab	
Acetone	Monitor	10				µg/l	Each Batch	Grab	
Acetopenone	Monitor	10				µg/l	Each Batch	Grab	
Acrylonitrile	Monitor	100				µg/l	Each Batch	Grab	
Anthracene	Monitor	10				µg/l	Each Batch	Grab	
Antimony, Total	Monitor	100				µg/l	Each Batch	Grab	
Benzene	Monitor	5				µg/l	Each Batch	Grab	
Benzdine	Monitor	0.1	0.3			µg/l	Each Batch	Grab	11
Benzo(a)pyrene	Monitor	0.0012	0.09			µg/l	Each Batch	Grab	12
Benzo(ghi)pyrene	Monitor	10				µg/l	Each Batch	Grab	
Benzo(k)fluoranthene	Monitor	10				µg/l	Each Batch	Grab	
Bromoform	Monitor	50				µg/l	Each Batch	Grab	
Butylbenzyl phthlate	Monitor	10				µg/l	Each Batch	Grab	
Carbon Disulfide	Monitor	10				µg/l	Each Batch	Grab	
Carbon Tetrachloride	Monitor	10				µg/l	Each Batch	Grab	
Chlordane	Monitor	0.00002	0.06			µg/l	Each Batch	Grab	13
Chlorobenzene	Monitor	25				µg/l	Each Batch	Grab	
bis (2Chloroethyl)ether	Monitor	10				µg/l	Each Batch	Grab	
Chloroform	Monitor	100				µg/l	Each Batch	Grab	
2 - Chlorophenol	Monitor	10				µg/l	Each Batch	Grab	
m - Cresol	Monitor	50				µg/l	Each Batch	Grab	
o - Cresol	Monitor	50				µg/l	Each Batch	Grab	
Chrysene	Monitor	10				µg/l	Each Batch	Grab	
Dibenzo(ah)anthracene	Monitor	10				µg/l	Each Batch	Grab	

PERMIT LIMITS, LEVELS AND MONITORING

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OUTFALL NUMBER	WASTEWATER TYPE		RECEIVING WATER	EFFECTIVE	EXPIRING				
008, Continued	Storm Runoff from Tanker Truck Staging Area		Salt Kill Creek	08/17/07	01/31/12				
PARAMETER	EFFLUENT LIMIT		PQL	MONITORING ACTION LEVEL		UNITS	SAMPLE FREQUENCY	SAMPLE TYPE	FN
	Monthly Avg.	Daily Max.	Daily Max.	TYPE I	TYPE II				
Dibenzofuran	Monitor	10				µg/l	Each Batch	Grab	
Dichlorobenzenes, Sum of	Monitor	5				µg/l	Each Batch	Grab	18
3,3 - Dichlorobenzidine	Monitor	20				µg/l	Each Batch	Grab	
2,4 - Dichlorophenol	Monitor	1				µg/l	Each Batch	Grab	
2,6 - Dichlorophenol	Monitor	10				µg/l	Each Batch	Grab	
2,4 - Dimethylphenol	Monitor	5				µg/l	Each Batch	Grab	
Dimethylphthlate	Monitor	25				µg/l	Each Batch	Grab	
Di - n - octylphlate	Monitor	10				µg/l	Each Batch	Grab	
Dinoseb	Monitor	5				µg/l	Each Batch	Grab	
Ethyl Methraclate	Monitor	20				µg/l	Each Batch	Grab	
Ethylbenzene	Monitor	50				µg/l	Each Batch	Grab	
Fluoranthene	Monitor	10				µg/l	Each Batch	Grab	
Fluorene	Monitor	4.8				µg/l	Each Batch	Grab	
Heptachlor	Monitor	0.0002	0.01			µg/l	Each Batch	Grab	13
Hexachlorobenzene	Monitor	0.00005	0.2			µg/l	Each Batch	Grab	14
Hexachlorobutadiene	Monitor	0.01	1			µg/l	Each Batch	Grab	14
Hexachloroethane	Monitor	0.6				µg/l	Each Batch	Grab	14
Isobutanol	Monitor	50				µg/l	Each Batch	Grab	
Isophorone	Monitor	50				µg/l	Each Batch	Grab	
Mercury, Total	Monitor	30				ng/l	Each Batch	Grab	17
Methacrylonite	Monitor	50				µg/l	Each Batch	Grab	
Methoxchlor	Monitor	50				µg/l	Each Batch	Grab	
Methyl Methacrylate	Monitor	50				µg/l	Each Batch	Grab	
Naphthalene	Monitor	10				µg/l	Each Batch	Grab	
1 - Naphthylamine	Monitor	10				µg/l	Each Batch	Grab	
Nitrobenzene	Monitor	50				µg/l	Each Batch	Grab	

PERMIT LIMITS, LEVELS AND MONITORING

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OUTFALL NUMBER	WASTEWATER TYPE		RECEIVING WATER	EFFECTIVE	EXPIRING				
008, Continued	Strom Runoff from Tanker Truck Staging Area		Salt Kill Creek	08/17/07	01/31/12				
PARAMETER	EFFLUENT LIMIT		PQL	MONITORING ACTION LEVEL		UNITS	SAMPLE FREQUENCY	SAMPLE TYPE	FN
	Monthly Avg.	Daily Max.	Daily Max.	TYPE I	TYPE II				
PCBs , Total	NA	0.001				ng/l		Grab	15
Aroclor 1016	Monitor	see PCBs	300			ng/l	Each Batch	Grab	16
Aroclor 1221	Monitor	see PCBs	300			ng/l	Each Batch	Grab	16
Aroclor 1232	Monitor	see PCBs	300			ng/l	Each Batch	Grab	16
Aroclor 1242	Monitor	see PCBs	300			ng/l	Each Batch	Grab	16
Aroclor 1248	Monitor	see PCBs	300			ng/l	Each Batch	Grab	16
Aroclor 1254	Monitor	see PCBs	300			ng/l	Each Batch	Grab	16
Aroclor 1260	Monitor	see PCBs	300			ng/l	Each Batch	Grab	16
Pentachlorophenol	Monitor	5				µg/l	Each Batch	Grab	
Phenanthrene	Monitor	10				µg/l	Each Batch	Grab	
Phenol	Monitor	5				µg/l	Each Batch	Grab	
Propionitrile	Monitor	50				µg/l	Each Batch	Grab	
Pyrene	Monitor	10				µg/l	Each Batch	Grab	
Styrene	Monitor	10				µg/l	Each Batch	Grab	
Tetrachloroethylene	Monitor	1				µg/l	Each Batch	Grab	
Toluene	Monitor	5				µg/l	Each Batch	Grab	
o - Toluidine	Monitor	50				µg/l	Each Batch	Grab	
1,1,1 - Trichloroethane	Monitor	10				µg/l	Each Batch	Grab	
1,1,2 - Trichloroethane	Monitor	10				µg/l	Each Batch	Grab	
Trichloroethylene	Monitor	10				µg/l	Each Batch	Grab	
2,4,5 - Trichlorophenol	Monitor	5	10			µg/l	Each Batch	Grab	
2,4,6 - Trichlorophenol	Monitor	5				µg/l	Each Batch	Grab	
Trichlorotrifluoroethane	Monitor	10				µg/l	Each Batch	Grab	
p - Xylene	Monitor	5				µg/l	Each Batch	Grab	

PERMIT LIMITS, LEVELS AND MONITORING

OUTFALL No.	WASTEWATER TYPE			RECEIVING WATER	EFFECTIVE	EXPIRING		
009	Storm Runoff from Advanced Liquid Recycling Area			Salt Kill Creek	08/17/07	01/31/12		
PARAMETER	MINIMUM	MAXIMUM	UNITS	SAMPLE FREQUENCY	SAMPLE TYPE	FOOTNOTES (FN)		
pH	6.0	9.0	SU	Daily	Grab	2		
PARAMETER	ENFORCEABLE LIMIT		MONITORING ACTION LEVEL		UNITS	SAMPLE FREQUENCY	SAMPLE TYPE	FN
	Monthly Avg.	Daily Max.	TYPE I	TYPE II				
Flow	Monitor	Monitor			gpd	Daily	Instantaneous	2
Glycols	Monitor	Monitor			mg/l	Daily	Grab	2, 20
Oil & Grease	Monitor	15			mg/l	Daily	Grab	2
Solids, Total Suspended		25	45		mg/l	Daily	Grab	2

OUTFALL No.	RECEIVING WATER			EFFECTIVE	EXPIRING		
Sum of 003, 004, and 008	Salt Kill Creek			08/17/07	01/31/12		
PARAMETER	ENFORCEABLE LIMIT		WET MONITORING ACTION LEVEL	UNITS	SAMPLE FREQUENCY	SAMPLE TYPE	FN
	Monthly Avg.	Daily Max.					
Flow	Monitor	Monitor		gpd	Quarterly	Calculated	21
WET - Acute Invertebrate	-	-	0.3	TUa	Quarterly	24hr comp/renewal	22
WET - Acute Vertebrate	-	-	0.3	TUa	Quarterly	24hr Comp/renewal	22

PERMIT LIMITS, LEVELS, AND MONITORING - FOOTNOTES

FOOTNOTE:

1. Samples shall be taken one day per week while discharging.
2. Samples shall be taken each day a discharge occurs.
3. Representative composites shall consist of a minimum of three samples taken at the beginning, middle and end of the day.
4. This temperature limit shall apply at the final discharge point from the wastewater treatment plant. A temperature of 90^oF shall apply at the final discharge point of Norlite's property, prior to the Mohawk River. Sampling at the final discharge point shall consist of a quarterly grab.
5. Grab samples shall be collected following the addition of sodium hypochlorite for hydrogen sulfide control. Analysis shall be by the DPD colorimetric method (equivalent to EPA Method 330.5). The addition of sodium hypochlorite shall be made whenever the ORP reading is unstable or falling below +100 toward zero or negative.
6. Plant Water shall be defined as that treated Quarry Water that is discharged through Outfall 006, to aid in the control of the temperature of the entire outfall.
7. The instantaneous flow shall be recorded in the operator's logbook any time a discharge of Trunnion Non Contact Cooling Water occurs through Outfall 06B simultaneous to a sample of Outfall 06A being taken. A summary of the relative flow rates for outfalls 06A and 06B, both instantaneous and totalized, shall be recorded and submitted with the Discharge Monitoring Report.
8. In the event of any discharge of Trunnion Non Contact Cooling Water to the overflow collections tanks, the start and end times, and totalized flow shall be recorded in the operator's logbook.
9. Limits for these parameters shall be "Monitoring Only" until 2 years from the Effective Date of Modification to this permit. Thereafter, the effluent limits noted shall apply.
10. Loadings shall be calculated using the totalized flow at the sampling location for each day on which sampling occurs.
11. Analysis shall be by EPA Method 605.
12. Analysis shall be by EPA Method 610.
13. Analysis shall be by EPA Method 608.
14. Analysis shall be by EPA Method 612.
15. The 0.000001 ng/l effluent limit for Total PCBs is the calculated water quality based effluent limit. For permit compliance purposes, Total PCBs are indicated by Aroclor limits. Monitoring and reporting of Total PCBs is specified on the PCB Pollutant Minimization Program, page 16 of 20.
16. Analysis shall be by EPA Method 608. Grams/day shall also be reported on the Discharge Monitoring Report. Refer also to the requirements on the PCB Pollutant Minimization Program, page 16 of 20.
17. Analysis shall be by EPA Method 1631. Grams/day shall also be reported on the Discharge Monitoring Report. Refer also to the requirements on the Mercury Pollutant Minimization Program, page 17 of 20.
18. The sum of 1, 2 - Dichlorobenzene, 1, 3 - Dichlorobenzene, and 1, 4 - Dichlorobenzene shall be 5 µg/l or less. Analysis shall be by EPA Method 601 or 602.

PERMIT LIMITS, LEVELS, AND MONITORING - FOOTNOTES, CONTINUED

FOOTNOTE:

19. No discharge is authorized from this outfall until a viable wastewater treatment facility has been constructed in accordance with engineering reports, plans and specifications approved by the Department, and has been inspected by the Department for compliance with those approved engineering documents.

20. Analytical test for Glycols shall have a minimum detection of 50 micrograms per liter ($\mu\text{g/l}$).

21. Samples collected from the specified outfalls shall be flow weighted for analysis.

22. **Whole Effluent Toxicity Testing (WET) Requirements** - Quarterly analysis shall be conducted during the years ending with an 8 or 3. The analyses shall be performed on a combined sample of the designated outfalls. Such sample shall be collected on a flow weighted basis. Every effort shall be made to collect the samples when there is a discharge from all the outfalls noted, but the absence of a discharge from any outfall(s) shall not constitute a cause for relief from the WET requirements. Testing shall be performed in accordance with 40 CFR, Part 136, and TOGS 1.3.2, unless prior written approval of an alternate method has been obtained from the Department. The test species shall be *Ceriodaphnia dubia* (invertebrate), and *Pimephales promelas* (vertebrate). All tests conducted shall be static - renewal (1 renewal for Acute Tests), using the appropriate dilution series bracketing the IWC and generating a definitive test end point, otherwise an immediate rerun is required. WET testing shall be coordinated with the monitoring of chemical and physical parameters limited in this permit so that the resulting analyses are also representative of the sample used for WET testing. The dilution factor for Salt Kill Creek is zero (0).

Reporting - Toxicity Units shall be calculated and reported on the discharge Monitoring Reports as follows: $TU_{acute} = 100/48hr LC50$ or $100/48hr EC50$, where the 48hr LC50 or 48hr EC50 are expressed in % effluent. Report a TU_{acute} of 0.3 if the sample shows no statistically significant difference in mortality from control. Additionally, a summary page of the test results for the invertebrate and vertebrate species indicating TU_{acute} , 48hr LC50 or 48hr EC50 for Acute Tests shall also be included at the beginning of the report. The complete test report, including all corresponding results, statistical analyses, reference toxicity data, daily average flow at the time of sampling, and other appropriate supporting documentation shall be submitted within 60 days following the end of each test period to the Toxicity Testing Unit, Bureau of Water Assessment & Management, 625 Broadway, Albany, New York 12233.

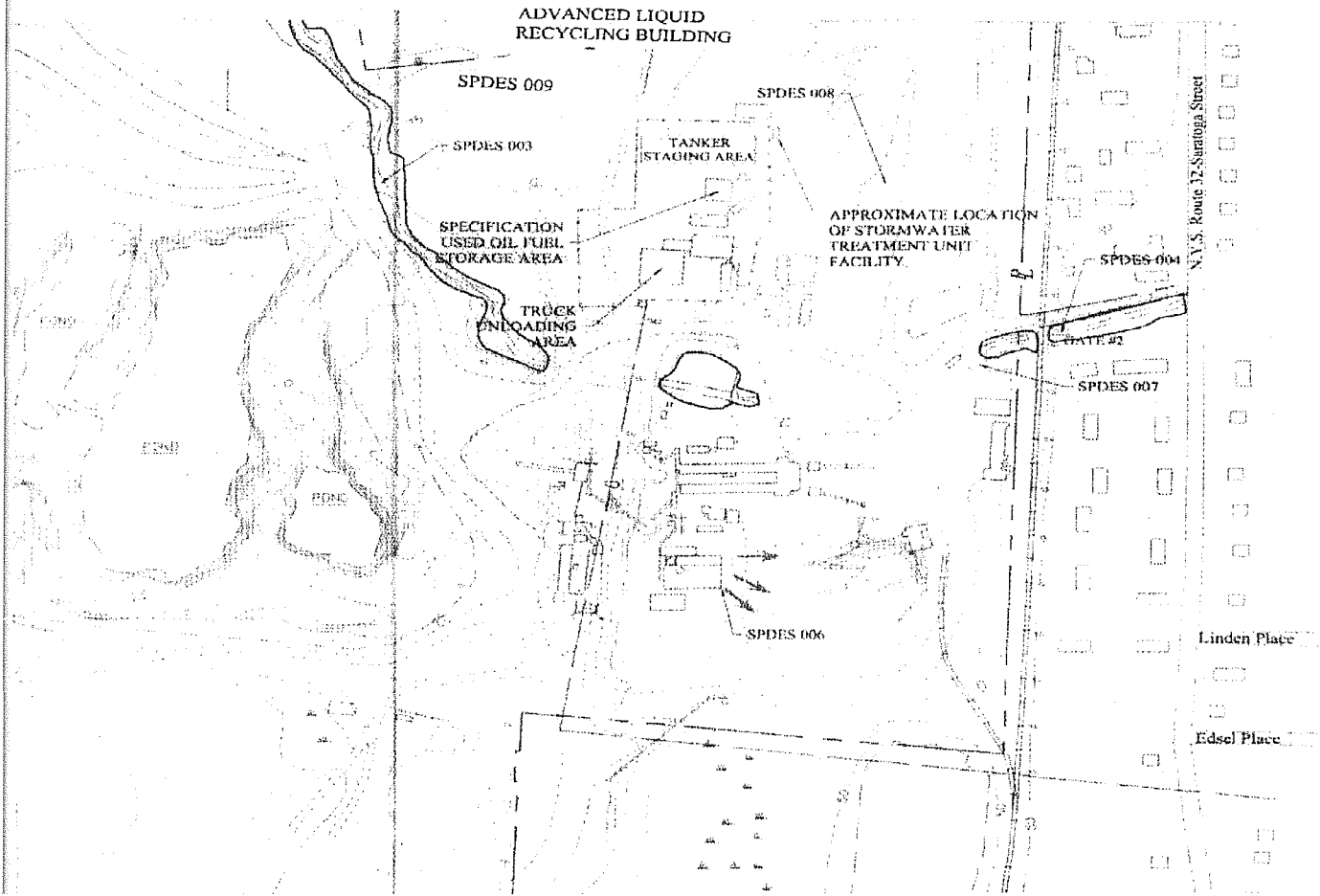
WET Testing Action Level Exceedances - If an action level is exceeded, the Department may require the permittee to conduct additional WET acute tests. Additionally, the permittee may be required to perform a Toxicity Reduction Evaluation (TRE) in accordance with Department guidance. If such additional testing or performance of a TRE is required, the permittee shall be notified in writing by the Region 4 Water Engineer, 1130 North Westcott Road, Schenectady, New York 12306. The written notification shall include the reason(s) why additional testing or a TRE is required.

MONITORING LOCATIONS

The permittee shall take samples and measurements, to comply with the monitoring requirements specified in this permit, at the location(s) specified below:

SPDES OUTFALLS

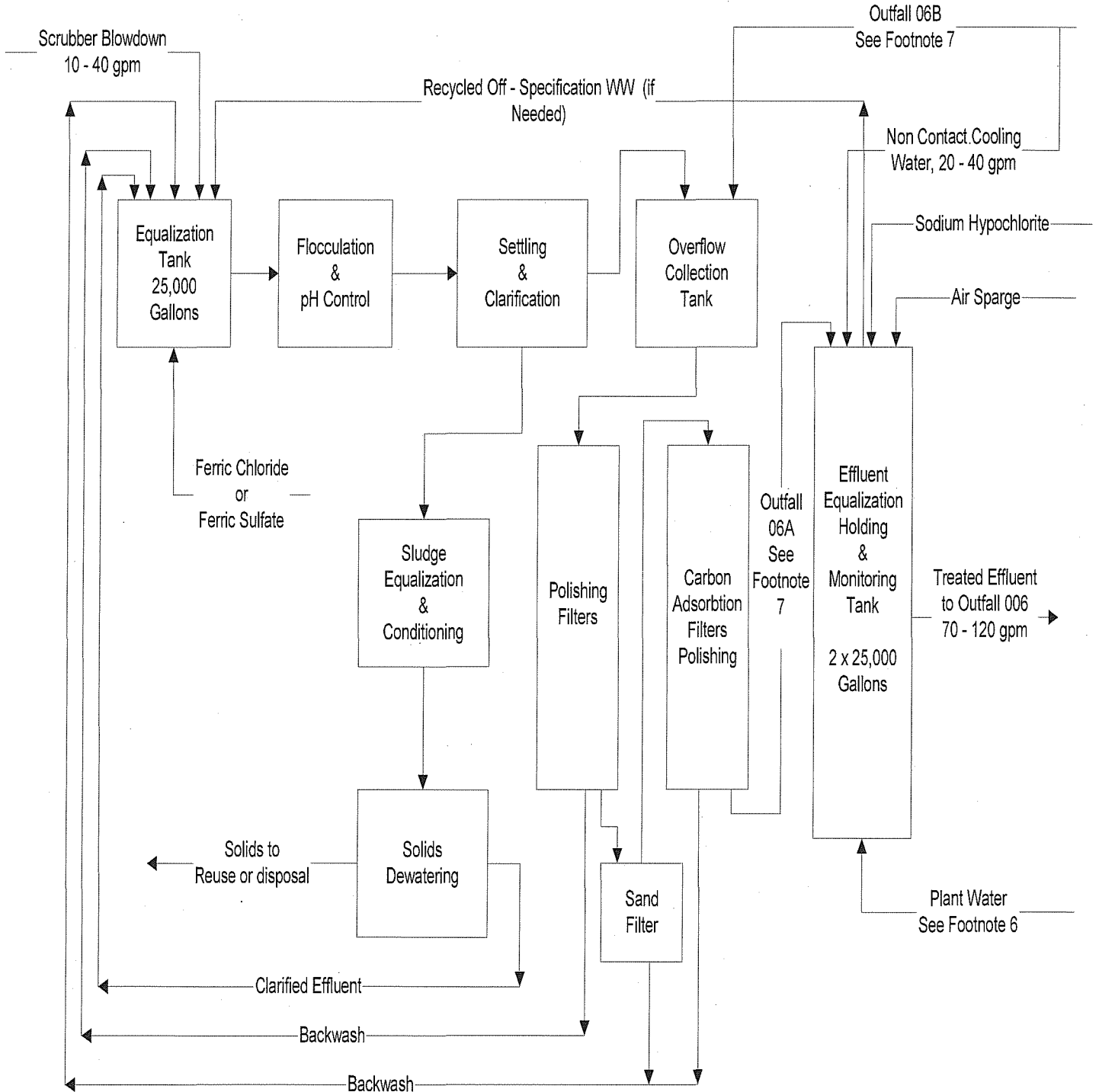
- 003 QUARRY WATER
- 004 SHALE FINES & STORM RUNOFF FROM LANDFILL AREA
- 006 TRUNNION NON CONTACT COOLING WATER, SCRUBBER BLOWDOWN, BOILER BLOWDOWN, AND PLANT WATER
- 007 STORM RUNOFF FROM PRODUCTION AREA
- 008 STORM RUNOFF FROM TANKER TRUCK STAGING AREA
- 009 STORM RUNOFF FROM ADVANCED LIQUID RECYCLING AREA



MONITORING LOCATIONS, CONTINUED

WASTEWATER TREATMENT PLANT GENERAL PROCESS FLOW DIAGRAM

The permittee shall take samples and measurements, to comply with the monitoring requirements specified in this permit, at the location(s) specified below:



SPECIAL CONDITIONS - BEST MANAGEMENT PRACTICES

1. **General** - The permittee shall develop, maintain, and implement a Best Management Practices (BMP) plan to prevent releases of significant amounts of pollutants to the waters of the State through plant site runoff; spillage and leaks; sludge or waste disposal; and stormwater discharges including, but not limited to, drainage from raw material storage.

The BMP plan shall be documented in narrative form and shall include the 13 minimum BMPs and any necessary plot plans, drawings, or maps. Other documents already prepared for the facility such as a Safety Manual or a Spill Prevention, Control and Countermeasure (SPCC) plan may be used as part of the plan and may be incorporated by reference. A copy of the current BMP plan shall be submitted to the Department as required in item (2.) below and a copy must be maintained at the facility and shall be available to authorized Department representatives upon request.

2. **Compliance Deadlines** - An **UPDATED** completed BMP plan shall be submitted **WITHIN SIX MONTHS OF THE EFFECTIVE DATE OF MODIFICATION TO THIS PERMIT** to the Region 4 Water Engineer, 1130 North Westcott Road Schenectady, New York 12306. The BMP plan shall be implemented within 6 months of submission, unless a different time frame is approved by the Department. The BMP plan shall be reviewed annually and shall be modified whenever (a) changes at the facility materially increase the potential for releases of pollutants, (b) actual releases indicate the plan is inadequate, or (c) a letter from the Department identifies inadequacies in the plan. The permittee shall certify in writing, as an attachment to the December Discharge Monitoring Report (DMR), that the annual review has been completed. All BMP plan revisions (with the exception of SWPPPs - see item (4.B.) below) must be submitted to the Regional Water Engineer within 30 days. Note that the permittee is not required to obtain Department approval of the BMP plan (or of any SWPPPs) unless notified otherwise. Subsequent modifications to or renewal of this permit does not reset or revise these deadlines unless a new deadline is set explicitly by such permit modification or renewal.
3. **Facility Review** - The permittee shall review all facility components or systems (including but not limited to material storage areas; in-plant transfer, process, and material handling areas; loading and unloading operations; storm water, erosion, and sediment control measures; process emergency control systems; and sludge and waste disposal areas) where materials or pollutants are used, manufactured, stored or handled to evaluate the potential for the release of pollutants to the waters of the State. In performing such an evaluation, the permittee shall consider such factors as the probability of equipment failure or improper operation, cross-contamination of storm water by process materials, settlement of facility air emissions, the effects of natural phenomena such as freezing temperatures and precipitation, fires, and the facility's history of spills and leaks. The relative toxicity of the pollutant shall be considered in determining the significance of potential releases.

The review shall address all substances present at the facility that are identified in Tables 6-10 of SPDES application Form NY-2C (available at <http://www.dec.state.ny.us/website/dcs/permits/olpermits/form2c.pdf>) or that are required to be monitored for by the SPDES permit.

4. **A. 13 Minimum BMPs** - Whenever the potential for a release of pollutants to State waters is determined to be present, the permittee shall identify BMPs that have been established to prevent or minimize such potential releases. Where BMPs are inadequate or absent, appropriate BMPs shall be established. In selecting appropriate BMPs, the permittee shall consider good industry practices and, where appropriate, structural measures such as secondary containment and erosion/sediment control devices and practices. USEPA guidance for development of stormwater elements of the BMP is available in the September 1992 manual *Storm Water Management for Industrial Activities*, EPA 832-R-92-006 (available from NTIS, 703-487-4650, order # PB 92235969). As a minimum, the plan shall include the following BMPs:

- | | | |
|-------------------------------------|---|---------------------------------|
| 1. BMP Pollution Prevention Team | 6. Security | 10. Spill Prevention & Response |
| 2. Reporting of BMP Incidents | 7. Preventive Maintenance | 11. Erosion & Sediment Control |
| 3. Risk Identification & Assessment | 8. Good Housekeeping | 12. Management of Runoff |
| 4. Employee Training | 9. Materials/Waste Handling, Storage, & Compatibility | 13. Street Sweeping |
| 5. Inspections and Records | | |

SPECIAL CONDITIONS - BEST MANAGEMENT PRACTICES, CONTINUED

B. Stormwater Pollution Prevention Plans (SWPPPs) Required for Discharges of Stormwater From Construction Activity to Surface Waters - As part of BMP #11, a SWPPP shall be developed prior to the initiation of any site disturbance of one acre or more of uncontaminated area. Uncontaminated area means soils or groundwater which are free of contamination by any toxic or non-conventional pollutants identified in Tables 6-10 of SPDES application Form NY-2C. Disturbance of any size contaminated area(s) and the resulting discharge of contaminated stormwater is not authorized by this permit unless the discharge is under State or Federal oversight as part of a remedial program or after review by the Regional Water Engineer; nor is such discharge authorized by any SPDES general permit for stormwater discharges. SWPPPs are not required for discharges of stormwater from construction activity to groundwaters.

The SWPPP shall conform to the *New York Standards and Specifications for Erosion and Sediment Control* and *New York State Stormwater Management Design Manual*, unless a variance has been obtained from the Regional Water Engineer, and to any local requirements. The permittee shall submit a copy of the SWPPP and any amendments thereto to the local governing body and any other authorized agency having jurisdiction or regulatory control over the construction activity **at least 30 days prior to soil disturbance**. The SWPPP shall also be submitted to the Regional Water Engineer if contamination, as defined above, is involved and the permittee must obtain a determination of any SPDES permit modifications and/or additional treatment which may be required prior to soil disturbance. Otherwise, the SWPPP shall be submitted to the Department only upon request. When a SWPPP is required, a properly completed *Notice of Intent* (NOI) form shall be submitted (available at www.dec.state.ny.us/website/dow/toolbox/swforms.html) prior to soil disturbance. Note that submission of a NOI is required for informational purposes; the permittee is not eligible for and will not obtain coverage under any SPDES general permit for stormwater discharges, nor are any additional permit fees incurred. SWPPPs must be developed and submitted for subsequent site disturbances in accordance with the above requirements. The permittee is responsible for ensuring that the provisions of each SWPPP is properly implemented.

NOTE: This paragraph shall apply to all activities (such as the construction of new buildings, parking areas, roadways, the southern overburden storage area, etc.) that are not part of the routine mining or industrial activities at the site. Those routine activities are addressed elsewhere in this requirement.

5. **Required Sampling For "Hot Spot" Identification** - Development of the BMP plan shall include sampling of waste stream segments for the purpose of pollutant "hot spot" identification. The economic achievability of effluent limits will not be considered until plant site "hot spot" sources have been identified, contained, removed or minimized through the imposition of site specific BMPs or application of internal facility treatment technology. For the purposes of this permit condition a "hot spot" is a segment of an industrial facility (including but not limited to soil, equipment, material storage areas, sewer lines etc.) which contributes elevated levels of problem pollutants to the wastewater and/or stormwater collection system of that facility. For the purposes of this definition, problem pollutants are substances for which treatment to meet a water quality or technology requirement may, considering the results of waste stream segment sampling, be deemed unreasonable. For the purposes of this definition, an elevated level is a concentration or mass loading of the pollutant in question which is sufficiently higher than the concentration of that same pollutant at the compliance monitoring location so as to allow for an economically justifiable removal and/or isolation of the segment and/or B.A.T. treatment of wastewaters emanating from the segment.
6. **Facilities with Petroleum and/or Chemical Bulk Storage (PBS and CBS) Areas** - Compliance must be maintained with all applicable regulations including those involving releases, registration, handling and storage (6NYCRR 595-599 and 612-614). Stormwater discharges from handling and storage areas should be eliminated where practical.

A. **Spill Cleanup** - All spilled or leaked substances must be removed from secondary containment systems as soon as practical and for CBS storage areas within 24 hours, unless written authorization is received from the Department. The containment system must be thoroughly cleaned to remove any residual contamination which could cause contamination of stormwater and the resulting discharge of pollutants to waters of the State. Following spill cleanup the affected area must be completely flushed with clean water three times and the water removed after each flushing for proper disposal in an on-site or off-site wastewater treatment plant designed to treat such water and permitted to discharge such wastewater. Alternately, the permittee may test the first batch of stormwater following the spill cleanup to determine discharge acceptability. If the water contains no pollutants it may be discharged. Otherwise it must be disposed of as noted above. See *Discharge Monitoring* below for the list of parameters to be sampled for.

SPECIAL CONDITIONS - BEST MANAGEMENT PRACTICES, CONTINUED

B. Discharge Operation - Stormwater must be removed before it compromises the required containment system capacity. Each discharge may only proceed with the prior approval of the permittee staff person responsible for ensuring SPDES permit compliance. Bulk storage secondary containment drainage systems must be locked in a closed position except when the operator is in the process of draining accumulated stormwater. Transfer area secondary containment drainage systems must be locked in a closed position during all transfers and must not be reopened unless the transfer area is clean of contaminants. Stormwater discharges from secondary containment systems should be avoided during periods of precipitation. A logbook shall be maintained on site noting the date, time and personnel supervising each discharge.

C. Discharge Screening - Prior to each discharge from a secondary containment system the stormwater must be screened for contamination*. All stormwater must be inspected for visible evidence of contamination. Additional screening methods shall be developed by the permittee as part of the overall BMP Plan, e.g. the use of volatile gas meters to detect the presence of gross levels of gasoline or volatile organic compounds. If the screening indicates contamination, the permittee must collect and analyze a representative sample** of the stormwater. If the water contains no pollutants it may be discharged. Otherwise it must either be disposed of in an on site or off site wastewater treatment plant designed to treat and permitted to discharge such wastewater or the Regional Water Engineer can be contacted to determine if it may be discharged without treatment.

D. Discharge Monitoring - Unless the discharge from any bulk storage containment system outlet is identified in the SPDES permit as an outfall with explicit effluent and monitoring requirements, the permittee shall monitor the outlet as follows:

(i) *Bulk Storage Secondary Containment Systems:*

(a) The volume of each discharge from each outlet must be monitored. Discharge volume may be calculated by measuring the depth of water within the containment area times the wetted area converted to gallons or by other suitable methods. A representative sample shall be collected of the first discharge* following any cleaned up spill or leak. The sample must be analyzed for pH, the substance(s) stored within the containment area and any other pollutants the permittee knows or has reason to believe are present**.

(b) Every fourth discharge* from each outlet must be sampled for pH, the substance(s) stored within the containment area and any other pollutants the permittee knows or has reason to believe are present**.

(ii) *Transfer Area Secondary Containment Systems:*

The first discharge* following any spill or leak must be sampled for flow, pH, the substance(s) transferred in that area and any other pollutants the permittee knows or has reason to believe are present**.

E. Discharge Reporting - Any results of monitoring required above, excluding screening data, must be submitted to the Department by appending them to the corresponding DMR. Failure to perform the required discharge monitoring and reporting shall constitute a violation of the terms of the SPDES permit.

F. Prohibited Discharges - **In all cases, any discharge which contains a visible sheen, foam, or odor, or may cause or contribute to a violation of water quality is prohibited.** The following discharges are prohibited unless specifically authorized elsewhere in this SPDES permit: spills or leaks, tank bottoms, maintenance wastewaters, wash waters where detergents or other chemicals have been used, tank hydrotest and ballast waters, contained fire fighting runoff, fire training water contaminated by contact with pollutants or containing foam or fire retardant additives, and unnecessary discharges of water or wastewater into secondary containment systems.

* Discharge includes stormwater discharges and snow and ice removal. If applicable, a representative sample of snow and/or ice should be collected and allowed to melt prior to assessment.

** If the stored substance is gasoline or aviation fuel then sample for oil & grease, benzene, ethylbenzene, naphthalene, toluene and total xylenes (EPA method 602). If the stored substance is kerosene, diesel fuel, fuel oil, or lubricating oil then sample for oil & grease and polynuclear aromatic hydrocarbons (EPA method 610). If the substance(s) are listed in Tables 6-8 of SPDES application form NY-2C then sampling is required. If the substance(s) are listed in NY-2C Tables 9-10 sampling for appropriate indicator parameters may be required, e.g. BOD5 or toxicity testing. Contact the facility inspector for further guidance. In all cases flow and pH monitoring is required.

SPECIAL CONDITIONS - INDUSTRIAL POLLUTANT MINIMIZATION PROGRAM POLYCHLORINATED BIPHENYLS (PCBs)

1. The permittee shall develop, maintain, and implement a Pollutant Minimization Program (PMP). The PMP is required because the calculated water quality based effluent limit (WQBEL) of 0.001 nanograms/liter (ng/L) for Total PCBs is below the permit limit (quantification level) of 300 ng/L per Aroclor using EPA Method 608. The goal of this PMP will be to meet the calculated WQBEL. **WITHIN 6 MONTHS OF COMPLETION OF CONSTRUCTION OF AN APPROVED WASTEWATER TREATMENT SYSTEM AND POSITIVE DISCHARGE FROM OUTFALL 008, USING EPA METHOD 608.** The completed, approvable PMP plan shall be submitted to the Region 4 Water Engineer, 1130 North Westcott Road, Schenectady, New York 12306, and to the Bureau of Water Permits, 625 Broadway, Albany, New York 12233-3505, for approval. Subsequent modifications or renewal of this permit does not reset or revise this deadline unless a new deadline is set explicitly by such a permit modification or renewal.

2. The PMP plan shall be documented in narrative form and shall include any necessary plot plans, drawings, or maps. Other documents already prepared for the facility, such as a Best Management Practices Plan, may be used as part of the plan and may be incorporated by reference. As a minimum, the PMP plan shall include:

A. An on-going potential source identification, evaluation, and prioritization program.

B. Periodic monitoring designed to quantify and, over time, track the reduction of discharges of PCBs. As EPA Method 608 does not determine Total PCBs, monitoring using EPA Method 1668A is also required to determine the level of Total PCBs in the discharge. Minimum required monitoring is as follows: quarterly monitoring of wastewater treatment system influent(s), sludge(s), effluent(s), and outfall(s) which are known or suspected of containing PCBs; and, semi-annual monitoring of potential PCB sources except during the first year which shall be quarterly. This monitoring shall be performed using EPA Method 1668A and shall be coordinated with routine EPA Method 608 compliance monitoring, if applicable, so that the results can be compared. Additional PCB monitoring must be completed as may be required elsewhere in this permit.

C. An approvable schedule for submission of an approvable control strategy for reducing PCB discharges via cost-effective control measures, including but not limited to site treatment or remediation. The schedule for submission of a control strategy will become enforceable under this permit. The control strategy and the schedule for implementation of the control strategy will also become enforceable under this permit.

D. An approvable annual report shall be prepared and submitted to the Regional Water Engineer and to the Bureau of Water Permits by February 1 of each year. This report shall summarize all PCB monitoring data (in a format acceptable to the Department - contact the permit writer to obtain an electronic spreadsheet for displaying EPA 1668A data); for treatment systems include a mass balance comparison of influent, effluent, and sludge levels; a list of known or potential PCB sources; all control measures implemented during the previous calendar year; monitoring, investigations, and control measures to be completed during the current calendar year; and document progress toward the goal of achieving the calculated WQBEL.

3. The PMP plan shall be modified whenever: (a) changes at the facility increase the potential for discharge of the PCBs, (b) actual discharges indicate the plan is inadequate, or (c) a letter from the Department identifies inadequacies in the PMP plan.

SPECIAL CONDITIONS - INDUSTRIAL POLLUTANT MINIMIZATION PROGRAM MERCURY

1. The permittee shall develop, maintain, and implement a Pollutant Minimization Program (PMP). The PMP is required because the calculated water quality based effluent limit (WQBEL) of 0.7 nanograms/liter (ng/L) for Total Mercury is below the permit limit of 30 ng/L using EPA Method 1631. The goal of this PMP will be to meet the calculated WQBEL. **WITHIN 6 MONTHS OF THE EFFECTIVE DATE OF MODIFICATION TO THIS PERMIT**, the completed, approvable PMP plan shall be submitted to the Region 4 Water Engineer, 1130 North Westcott Road, Schenectady, New York 12306, and to the Bureau of Water Permits, 625 Broadway, Albany, New York 12233-3505, for approval. Subsequent modifications or renewal of this permit does not reset or revise this deadline unless a new deadline is set explicitly by such a permit modification or renewal.
2. The PMP plan shall be documented in narrative form and shall include any necessary plot plans, drawings, or maps. Other documents already prepared for the facility, such as a Best Management Practices Plan, may be used as part of the plan and may be incorporated by reference. As a minimum, the PMP plan shall include:
 - A. An on-going potential source identification, evaluation, and prioritization program.
 - B. Periodic monitoring designed to quantify and, over time, track the reduction of discharges of Mercury. Minimum required monitoring is as follows: monthly monitoring of wastewater treatment system influent(s), sludge(s), effluent(s), and outfall(s) which are known or suspected of containing Mercury; and, quarterly monitoring of potential Mercury sources, including raw materials, except during the first year which shall be monthly. This monitoring shall be performed using EPA Method 1631, and shall be coordinated with routine compliance monitoring, if applicable, so that the results can be compared. Additional Mercury monitoring must be completed as may be required elsewhere in this permit.
 - C. An approvable control strategy (including a schedule for implementation) for reducing Mercury discharges via cost-effective control measures, which may include but is not limited to site treatment or remediation. The schedule for implementation and the control strategy will become enforceable under this permit.
 - C. An approvable control strategy (including a schedule for implementation) for reducing Mercury discharges via cost-effective control measures, which may include but is not limited to site treatment or remediation. The schedule for implementation and the control strategy will become enforceable under this permit.
 - D. Treatment System Operation - The periodic monitoring required in item (2B) and elsewhere in this permit shall also be used, and supplemented if appropriate, to determine the most effective way to operate the wastewater treatment system(s) to ensure the greatest removal of Mercury while maintaining compliance with other permit requirements. For example, monitoring data may indicate that greater Mercury removals are achieved when the system(s) are operated below certain hydraulic loading thresholds.
 - E. An approvable annual report shall be prepared and submitted to the Regional Water Engineer and to the Bureau of Water Permits by February 1 of each year. This report shall summarize all Mercury monitoring data; for treatment systems include a mass balance comparison of influent, effluent, and sludge levels; a list of known or potential mercury sources; all control measures implemented during the previous calendar year; monitoring, investigations, and control measures to be completed during the current calendar year; and document progress toward the goal of achieving the calculated WQBEL.
3. The PMP plan shall be modified whenever: (a) changes at the facility increase the potential for discharge of the Mercury, (b) actual discharges indicate the plan is inadequate, or (c) a letter from the Department identifies inadequacies in the PMP plan.

DISCHARGE NOTIFICATION REQUIREMENTS

- (a) Except as provided in (c) of these Discharge Notification Act requirements, the permittee shall install and maintain identification signs at all outfalls to surface waters listed in this permit. Such signs shall be installed within 90 days of the Effective Date of this Modification.
- (b) Subsequent modifications to or renewal of this permit does not reset or revise the deadline set forth in (a) above, unless a new deadline is set explicitly by such permit modification or renewal.
- (c) The Discharge Notification Requirements described herein do not apply to outfalls from which the discharge is composed exclusively of storm water, or discharges to ground water.
- (d) The sign(s) shall be conspicuous, legible and in as close proximity to the point of discharge as is reasonably possible while ensuring the maximum visibility from the surface water and shore. The signs shall be installed in such a manner to pose minimal hazard to navigation, bathing or other water-related activities. If the public has access to the water from the land in the vicinity of the outfall, an identical sign shall be posted to be visible from the direction approaching the surface water.

The signs shall have **minimum** dimensions of eighteen inches by twenty four inches (18"x 24") and shall have white letters on a green background and contain the following information:

N.Y.S. PERMITTED DISCHARGE POINT

SPDES PERMIT No.: NY _____

OUTFALL No. : _____

For information about this permitted discharge contact:

Permittee Name: _____

Permittee Contact: _____

Permittee Phone: () - ### - #####

OR:

NYSDEC Division of Water Regional Office Address :

NYSDEC Division of Water Regional Phone: () - ### - #####

- (e) For each discharge required to have a sign in accordance with a), the permittee shall, concurrent with the installation of the sign, provide a repository of copies of the Discharge Monitoring Reports (DMRs), as required by the **RECORDING, REPORTING AND ADDITIONAL MONITORING REQUIREMENTS** page of this permit. This repository shall be open to the public, at a minimum, during normal daytime business hours. The repository may be at the business office repository of the permittee or at an off-premises location of its choice (such location shall be the village, town, city or county clerk's office, the local library or other location as approved by the Department). In accordance with the **RECORDING, REPORTING AND ADDITIONAL MONITORING REQUIREMENTS** page of your permit, each DMR shall be maintained on record for a period of five years.
- (f) The permittee shall periodically inspect the outfall identification signs in order to ensure that they are maintained, are still visible and contain information that is current and factually correct.

RECORDING, REPORTING AND ADDITIONAL MONITORING REQUIREMENTS

- a) The permittee shall also refer to 6 NYCRR Part 750-1.2(a) and 750-2 for additional information concerning monitoring and reporting requirements and conditions.
- b) The monitoring information required by this permit shall be summarized, signed and retained for a period of at least five years from the date of the sampling for subsequent inspection by the Department or its designated agent. **Also, monitoring information required by this permit shall be summarized and reported by submitting;**

(if box is checked) completed and signed Discharge Monitoring Report (DMR) forms for each 1 month reporting period to the locations specified below. Blank forms are available at the Department's Albany office listed below. The first reporting period begins on the effective date of this permit and the reports will be due no later than the 28th day of the month following the end of each reporting period.

(if box is checked) an annual report to the Regional Water Engineer at the address specified below. The annual report is due by February 1 and must summarize information for January to December of the previous year in a format acceptable to the Department.

(if box is checked) a monthly "Wastewater Facility Operation Report..." (form 92-15-7) to the:

Regional Water Engineer and/or County Health Department or Environmental Control Agency specified below

Send the **original** (top sheet) of each DMR page to:

Department of Environmental Conservation
Division of Water
Bureau of Water Compliance Programs
625 Broadway
Albany, New York 12233-3506

Phone: (518) 402-8177

Send the **first copy** (second sheet) of each DMR page to:

Department of Environmental Conservation
Region 4 Water Engineer
1130 North Westcott Road
Schenectady, New York 12306

Phone: (518) 357-2234

- c) Noncompliance with the provisions of this permit shall be reported to the Department as prescribed in 6 NYCRR Part 750-1.2(a) and 750-2.
- d) Monitoring must be conducted according to test procedures approved under 40 CFR Part 136, unless other test procedures have been specified in this permit.
- e) If the permittee monitors any pollutant more frequently than required by the permit, using test procedures approved under 40 CFR Part 136 or as specified in this permit, the results of this monitoring shall be included in the calculations and recording of the data on the Discharge Monitoring Reports.
- f) Calculation for all limitations which require averaging of measurements shall utilize an arithmetic mean unless otherwise specified in this permit.
- g) Unless otherwise specified, all information recorded on the Discharge Monitoring Report shall be based upon measurements and sampling carried out during the most recently completed reporting period.
- h) Any laboratory test or sample analysis required by this permit for which the State Commissioner of Health issues certificates of approval pursuant to section five hundred two of the Public Health Law shall be conducted by a laboratory which has been issued a certificate of approval. Inquiries regarding laboratory certification should be sent to the Environmental Laboratory Accreditation Program, New York State Health Department Center for Laboratories and Research, Division of Environmental Sciences, The Nelson A. Rockefeller Empire State Plaza, Albany, New York 12201.

PERMIT LIMITS, LEVELS AND MONITORING DEFINITIONS

C:\MYFILES\Other\Norlite SPDES permit.wpd

OUTFALL	WASTEWATER TYPE		RECEIVING WATER	EFFECTIVE	EXPIRING	
	This cell describes the type of wastewater authorized for discharge. Examples include process or sanitary wastewater, storm water, non-contact cooling water.		This cell lists classified waters of the state to which the listed outfall discharges.	The date this page starts in effect. (e.g. EDP or EDPM)	The date this page is no longer in effect. (e.g. ExDP)	
PARAMETER	MINIMUM	MAXIMUM	UNITS	SAMPLE FREQ.	SAMPLE TYPE	
e.g. pH, TRC, Temperature, D.O.	The minimum level that must be maintained at all instants in time.	The maximum level that may not be exceeded at any instant in time.	SU, °F, mg/l, etc.			
PARA-METER	EFFLUENT LIMIT	PRACTICAL QUANTITATION LIMIT (PQL)	ACTION LEVEL	UNITS	SAMPLE FREQUENCY	SAMPLE TYPE
	Limit types are defined below in Note 1. The effluent limit is developed based on the more stringent of technology-based limits, required under the Clean Water Act, or New York State water quality standards. The limit has been derived based on existing assumptions and rules. These assumptions include receiving water hardness, pH and temperature; rates of this and other discharges to the receiving stream; etc. If assumptions or rules change the limit may, after due process and modification of this permit, change.	For the purposes of compliance assessment, the analytical method specified in the permit shall be used to monitor the amount of the pollutant in the outfall to this level, provided that the laboratory analyst has complied with the specified quality assurance/quality control procedures in the relevant method. Monitoring results that are lower than this level must be reported, but shall not be used to determine compliance with the calculated limit. This PQL can be neither lowered nor raised without a modification of this permit.	Type I or Type II Action Levels are monitoring requirements, as defined below in Note 2, that trigger additional monitoring and permit review when exceeded.	This can include units of flow, pH, mass, Temperature, concentration. Examples include µg/l, lbs/d, etc.	Examples include Daily, 3/week, weekly, 2/month, monthly, quarterly, 2/yr and yearly.	Examples include grab, 24 hour composite and 3 grab samples collected over a 6 hour period.

Note 1: DAILY DISCHARGE.: The discharge of a pollutant measured during a calendar day or any 24-hour period that reasonably represents the calendar day for the purposes of sampling. For pollutants expressed in units of mass, the 'daily discharge' is calculated as the total mass of the pollutant discharged over the day. For pollutants with limitations expressed in other units of measurement, the 'daily discharge' is calculated as the average measurement of the pollutant over the day.

DAILY MAX.: The highest allowable daily discharge. **DAILY MIN.:** The lowest allowable daily discharge.

MONTHLY AVG: The highest allowable average of daily discharges over a calendar month, calculated as the sum of each of the daily discharges measured during a calendar month divided by the number of daily discharges measured during that month.

7 DAY ARITHMETIC MEAN (7 day average): The highest allowable average of daily discharges over a calendar week.

30 DAY GEOMETRIC MEAN: The highest allowable geometric mean of daily discharges over a calendar month, calculated as the antilog of : the sum of the log of each of the daily discharges measured during a calendar month divided by the number of daily discharges measured during that month.

7 DAY GEOMETRIC MEAN: The highest allowable geometric mean of daily discharges over a calendar week.

RANGE: The minimum and maximum instantaneous measurements for the reporting period must remain between the two values shown.

Note 2: ACTION LEVELS: Routine Action Level monitoring results, if not provided for on the Discharge Monitoring Report (DMR) form, shall be appended to the DMR for the period during which the sampling was conducted. If the additional monitoring requirement is triggered as noted below, the permittee shall undertake a short-term, high-intensity monitoring program for the parameter(s). Samples identical to those required for routine monitoring purposes shall be taken on each of at least three consecutive operating and discharging days and analyzed. Results shall be expressed in terms of both concentration and mass, and shall be submitted no later than the end of the third month following the month when the additional monitoring requirement was triggered. Results may be appended to the DMR or transmitted under separate cover to the same address. If levels higher than the Action Levels are confirmed, the permit may be reopened by the Department for consideration of revised Action Levels or effluent limits. The permittee is not authorized to discharge any of the listed parameters at levels which may cause or contribute to a violation of water quality standards. **TYPE I:** The additional monitoring requirement is triggered upon receipt by the permittee of any monitoring results in excess of the stated Action Level. **TYPE II:** The additional monitoring requirement is triggered upon receipt by the permittee of any monitoring results that show the stated action level exceeded for four of six consecutive samples, or for two of six consecutive samples by 20 % or more, or for any one sample by 50 % or more.

SPDES PERMIT FACT SHEET: Wastewater Data, Receiving Water Data, and Permit Limit Derivation.

(see last pages of fact sheet for explanatory notes).

Date	June 15, 2007
Permit Writer	James M. Harrington
WQ Engineer	Charles St Lucia

(1) General Permittee Data:

Permit Number	Permittee Name	Facility Name	Location (C, T, V)	County	Industrial Code	Major/Sub Basin
NY 000 4880	Norlite Corp.		Cohoes (C)	Albany	1422/4953	12/01

(2) Summary of Final Outfall Flow Rate(s) and Receiving Water Data:

Outfall Information					Receiving Water Information								
Outfall #	Latitude	Longitude	Flow Rate (gpd)		Name	Class	Water Index Number	For use by WQ Engineer - Critical Data					
	" , ' , "	" , ' , "	Average	Maximum or Design				7Q10 (MGD)	30Q10 (MGD)	Dilution/ Mixing	pH (SU)	Temp (°F)	Hardness (mg/l)
003	42 45 14	73 40 20			Salt Kill Creek	D	H-239	Int.			-	-	~100
004			69,400	216,000	Salt Kill Creek	D	H-239	Int.			-	-	0
06A			64,000	70,000	006			-			-	-	0
06B			33,900	46,000	006			-			-	-	0
006			97,900	116,000	Mohawk River	C	H-240	223			-	-	0
007					Salt Kill Creek	D	H-239	Int.			-	-	0
008			860	30,000	Salt Kill Creek	D	H-239	Int.			-	-	0
009			UKN	UKN	Salt Kill Creek	D	H-239	Int.			-	-	0

(3) Individual Outfall Data Summaries and Permit Limit Development:

Outfall 003

Discharge to Saff Kill - Class "D"

Source(s) of Wastewater	Quarry Water
Existing Wastewater Treatment Facilities	Settling
EPA Point Source Category & Production Rate	NA

Effluent Parameter (Units) <small>(concentration units - mg/l, ug/l or ng/l; mass units - lbs/d or g/d)</small>	Existing Effluent Quality				Technology Based Effluent Limit					Water Quality Based Effluent Limit				Permit Basis (T or WQ)
	concentration		mass		conc.	mass	Type	PQL conc.	Basis	AWQC conc.	Effluent		Type	
	Avg/Max	95%/99%	Avg/Max	95%/99%							conc.	mass		
WET TESTING					NA					Recommended		YES *		
Flow Rate (gpd)	Average		Maximum					NA		-	-	-		
pH (su)	Minimum		Maximum		6.0 - 9.0		Range		BPJ, TOGS 1.2.1	6-9.5	Test	Ok		
Solids, Total Suspended (mg/l)					45				BPJ, TOGS 1.2.1 <i>Never</i>	703, 2	"	"		
Solids, Total Dissolved (mg/l)					Monitor					"	"	"		
Solids, Settleable (ml/l)					0.1				BPJ, TOGS 1.2.1 <i>Never</i>	"	"	"		
Mercury, Total (ng/l)					30				BPJ	0.7 ng/l	Mercury	Permit	Writing	

* WET Testing recommended on a flow proportioned combined sample from outfalls 003, 004 and 008.

(3) Individual Outfall Data Summaries and Permit Limit Development:

Outfall	004
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Salt Kill - Class "0"

Source(s) of Wastewater	Shale Fines Leachate & Storm Runoff from Landfill Area
Existing Wastewater Treatment Facilities	None
EPA Point Source Category & Production Rate	NA

Effluent Parameter (Units) <small>(concentration units - mg/l, ug/l or ng/l; mass units - lbs/d or g/d)</small>	Existing Effluent Quality				Technology Based Effluent Limit					Water Quality Based Effluent Limit				Permit Basis (T or WQ)	
	concentration		mass		conc.	mass	Type	PQL conc.	Basis	AWQC <small>(mg/l conc.)</small>	Effluent		Type		
	Avg/Max	95%/99%	Avg/Max	95%/99%							conc.	mass			mass
WET TESTING					NA					Recommended		YES*			
Flow Rate (gpd)	Average	69,400	Maximum	216,000				NA							
pH (su)	Minimum		Maximum		6.0 - 9.0		Range		BPI, TOGS 1.2.1	6-9.5	<i>Tech. Okay</i>				
Solids, Total Suspended (mg/l)					45				BPI, TOGS 1.2.1	<i>None</i> 703.2	"	"			
Temperature (°F)					90				Thermal Criteria, Part 704.2	704.2	"	"			
Cadmium, Total (mg/l)					0.004				BPI, TOGS 1.2.1	0.009	<i>Current limit</i>				
Chromium, Total (mg/l)					1.7				BPI, TOGS 1.2.1	2.8	"	"			
Chromium, Hexavalent (mg/l)					0.016				BPI, TOGS 1.2.1	0.016	"	"			
Copper, Total (mg/l)					0.018				BPI, TOGS 1.2.1	0.024	"	"			
Lead, Total (mg/l)					0.08				BPI, TOGS 1.2.1	0.243	"	"			
Mercury, Total (ng/l)					30				BPI	0.7 ng/l	<i>Mercury Permit Waiver</i>				
Nickel, Total (mg/l)					1.8				BPI, TOGS 1.2.1	0.61	0.61				
Zinc, Total (mg/l)					0.3				BPI, TOGS 1.2.1	0.24	0.3	<i>ok</i>			

* WET Testing recommended on a flow proportioned combined sample from outfalls 003, 004 and 008.

(3) Individual Outfall Data Summaries and Permit Limit Development:

Outfall 06A → To *Outfall 006*

Source(s) of Wastewater	Treated Scrubber Blowdown, Boiler Blowdown, and Trunion Non Contact Cooling Water
Existing Wastewater Treatment Facilities	Equalization, Flocculation, Chemical Addition and Precipitation, Filtration, and Sulfur Impregnated Activated Carbon Filters
EPA Point Source Category & Production Rate	NA

Effluent Parameter (Units) <small>(concentration units - mg/l, ug/l or ng/l; mass units - lbs/d or g/d)</small>	Existing Effluent Quality				Technology Based Effluent Limit						Water Quality Based Effluent Limit				Permit Basis (T or WQ)
	concentration		mass		conc.	mass	Type	PQL conc.	Basis	AWQC conc.	Effluent		Type		
	Avg/Max	95%/99%	Avg/Max	95%/99%							conc.	mass		Type	conc.
WET TESTING					NA						Recommended?	YES/NO			
Flow Rate (gpd)	Average	64,000	Maximum	70,000				NA							
pH (su)	Minimum		Maximum		6.0 - 9.0		Range		BPL TOGS 1.2.1						
Arsenic, Total (lbs/day)						0.11			BPL TOGS 1.2.1						
Barium, Total (lbs/day)						2.88			BPL TOGS 1.2.1						
Beryllium, Total (lbs/day)						1.44			BPL TOGS 1.2.1						
Cadmium, Total (lbs/day)						0.04			BPL TOGS 1.2.1						
Chromium, Total (lbs/day)						0.14			BPL TOGS 1.2.1						
Copper, Total (lbs/day)						0.66			BPL TOGS 1.2.1						
Iron, Total (lbs/day)						2.88			BPL TOGS 1.2.1						
Lead, Total (lbs/day)						0.43			BPL TOGS 1.2.1						
Nickel, Total (lbs/day)						0.94			BPL TOGS 1.2.1						
Selenium, Total (lbs/day)						0.07			BPL TOGS 1.2.1						
Zinc, Total (lbs/day)						0.66			BPL TOGS 1.2.1						

Outfall 06B → To outfall 006

Source(s) of Wastewater	Trunnion Non Contact Cooling Water
Existing Wastewater Treatment Facilities	None
EPA Point Source Category & Production Rate	NA

Effluent Parameter (Units) <small>(concentration units - mg/l, ug/l or ng/l; mass units - lbs/d or g/d)</small>	Existing Effluent Quality				Technology Based Effluent Limit					Water Quality Based Effluent Limit				Permit Basis (T or WQ)	
	concentration		mass		conc.	mass	Type	PQL conc.	Basis	AWQC conc.	Effluent		Type		
	Avg/Max	95%/99%	Avg/Max	95%/99%							conc.	conc.			mass
WET TESTING					NA					Recommended?		YES/NO			
Flow Rate (gpd)	Average	33,900	Maximum	46,000				NA							

(3) Individual Outfall Data Summaries and Permit Limit Development:

Outfall 006

To Mohawk River - Class "C"

Source(s) of Wastewater	Combined 06A and 06B
Existing Wastewater Treatment Facilities	None
EPA Point Source Category & Production Rate	NA

Effluent Parameter (Units) <small>(concentration units - mg/l, ug/l or ng/l; mass units - lbs/d or g/d)</small>	Existing Effluent Quality				Technology Based Effluent Limit						Water Quality Based Effluent Limit				Permit Basis (T or WQ)	
	concentration		mass		conc.	mass	Type	PQL conc.	Basis	AWQC conc.	Effluent					
	Avg/Max	95%/99%	Avg/Max	95%/99%							conc.	mass	Type			
WET TESTING					NA						Recommended?	YES/NO				
Flow Rate (gpd)	Average	97,900	Maximum	116,090				NA								
pH (su)	Minimum		Maximum		6.0 - 9.0		Range		BPJ, TOGS 1.2.1		6.5 - 8.5		Tech	okay		
Solids, Total Suspended (lbs/day)						66			BPJ, TOGS 1.2.1 <i>Adv.</i>		703.2	"	"			
Solids, Total Dissolved (g/l)					Monitor						500 mg/l	Mon.	okay			
Ammonia (as NH ₃) (mg/l)					Monitor						15/2.2"	Mon.	okay			
Chlorides (mg/l)					Monitor				"A"		250 "	Mon.	okay			
Chlorine, Total Residual (mg/l)					Monitor						0.005 "	Mon.	okay			
Temperature (°F)						115			Operational Necessity**		704.2	Tech	okay			
Mercury, Total (ng/l)						30			BPJ		0.7 mg/l	Merc.	Permit	Writing		

** Temperature shall not exceed °F at the end of pipe, approximately a 2 mile run to the Mohawk River.

(3) Individual Outfall Data Summaries and Permit Limit Development:

Outfall	007
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To Satt Kill - Class "D"

Source(s) of Wastewater	Storm Runoff from Production Area
Existing Wastewater Treatment Facilities	None
EPA Point Source Category & Production Rate	NA

Effluent Parameter (Units) (concentration units - mg/l, ug/l or ng/l; mass units - lbs/d or g/d)	Existing Effluent Quality				Technology Based Effluent Limit					Water Quality Based Effluent Limit				Permit Basis (T or WQ)	
	concentration		mass		conc.	mass	Type	PQL conc.	Basis	AWQC conc.	Effluent				
Avg/Max	95%/99%	Avg/Max	95%/99%	conc.							mass	Type	conc.	Basis	conc.
WET TESTING					NA					Recommended?	YES/NO				
Flow Rate (gpd)	Average		Maximum					NA							
pH (su)	Minimum		Maximum		6.0 - 9.0		Range		BPL, TOGS 1.2.1	6-9.5	Tech okay				
Solids, Total Suspended (mg/l)					45				BPL, TOGS 1.2.1	Navr. 703.2	Tech okay				
Solids, Settleable (ml/l)					0.1				BPL, TOGS 1.2.1	Navr. 703.2	Tech okay				
Oil & Grease (mg/l)					15				BPL, TOGS 1.2.1	Navr. 703.2	Tech okay				

(3) Individual Outfall Data Summaries and Permit Limit Development:

Outfall	008
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To Salt Kill - Class "D"

Source(s) of Wastewater	Storm Runoff from Tanker Truck Staging Area
Existing Wastewater Treatment Facilities	Activated Carbon
EPA Point Source Category & Production Rate	NA

Effluent Parameter (Units) <small>(concentration units - mg/l, ug/l or ng/l; mass units - lbs/d or g/d)</small>	Existing Effluent Quality				Technology Based Effluent Limit					Water Quality Based Effluent Limit				Permit Basis (T or WQ)
	concentration		mass		conc.	mass	Type	PQL conc.	Basis	AWQC <small>(ug/l conc.)</small>	Effluent <small>(ug/l conc.)</small>	mass	Type	
Avg/Max	95%/99%	Avg/Max	95%/99%	6.0 - 9.0										Range
WET TESTING					NA					Recommended	YES*			
Flow Rate (gpd)	Average	860	Maximum	30,000			NA							
pH (su)	Minimum		Maximum		6.0 - 9.0		Range		BPI, TOGS 1.2.1	4-9.5	Techn	okay		
Acenaphthene (ug/l)					10				BPI, TOGS 1.2.1 "D"	48	"	"		
Acenaphthylene (ug/l)					10				BPI, TOGS 1.2.1 "D"	48	"	"		
Acetonitrile (ug/l)					50				BPI, TOGS 1.2.1	-	"	"		
Acetone (ug/l)					10				BPI, TOGS 1.2.1 "A"	50	"	"		
Acetophenone (ug/l)					10				BPI, TOGS 1.2.1	-	"	"		
Acrylonitrile (ug/l)					100				BPI, TOGS 1.2.1 "A"	0.07	"	"		
Anthracene (ug/l)					10				BPI, TOGS 1.2.1 "D"	35	"	"		
Antimony, Total (ug/l)					100				BPI, TOGS 1.2.1 "A"	3	"	"		
Benzene (ug/l)					5				BPI, TOGS 1.2.1 "D"	10	"	"		
Benzidine (ug/l)					10				BPI, TOGS 1.2.1 "D"	0.1	0.1			
Benzo(a)pyrene (ug/l)					10				BPI, TOGS 1.2.1 "D"	0.0012	0.0012			
Benzo(g,h,i)pyrene (ug/l)					10				BPI, TOGS 1.2.1	-	Techn	okay		
Benzo(k)fluoranthene (ug/l)					10				BPI, TOGS 1.2.1 "A"	0.002	"	"		
Bromoform (ug/l)					50				BPI, TOGS 1.2.1 "A"	50	"	"		
Butylbenzyl phthalate (ug/l)					10				BPI, TOGS 1.2.1 "A"	50	"	"		

(3) Individual Outfall Data Summaries and Permit Limit Development:

Outfall	008, Continued
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Effluent Parameter (Units) <small>(concentration units - mg/l, ug/l or ng/l; mass units - lbs/d or g/d)</small>	Existing Effluent Quality				Technology Based Effluent Limit					Water Quality Based Effluent Limit			Permit Basis (T or WQ)
	concentration		mass		conc.	mass	Type	PQL conc.	Basis	AWQC (ug/l) conc.	Effluent		
	Avg/Max	95%/99%	Avg/Max	95%/99%							conc.	mass	
Carbon Disulfide (µg/l)					10				BPL TOGS 1.2.1	-		Tech okay	
Carbon Tetrachloride (µg/l)					10				BPL TOGS 1.2.1 "A"	0.4		Tech okay	
Chlordane (µg/l)					10				BPL TOGS 1.2.1 "D"	2x10 ⁻⁵	2x10 ⁻⁵		
Chlorobenzene (µg/l)					25				BPL TOGS 1.2.1 "D"	400		Tech okay	
bis (2Chloroethyl) Ether (ug/l)					10				BPL TOGS 1.2.1 "A"	0.03		" "	
Chloroform (µg/l)					100				BPL TOGS 1.2.1 "A"	7		" "	
2 - Chlorophenol (µg/l)					10				BPL TOGS 1.2.1	-		" "	
m - Cresol (µg/l)					50				BPL TOGS 1.2.1	-		" "	
o - Cresol (µg/l)					50				BPL TOGS 1.2.1	-		" "	
Chrysene (µg/l)					10				BPL TOGS 1.2.1 "A"	0.002		" "	
Dibenza(ah)anthracene (µg/l)					10				BPL TOGS 1.2.1	-		" "	
Dibenzofuran (µg/l)					10				BPL TOGS 1.2.1	-		" "	
1,2 - Dichlorobenzene (µg/l)					10				BPL TOGS 1.2.1	≤ 50		" "	
1,3 - Dichlorobenzene (µg/l)					10				BPL TOGS 1.2.1	≤ 50		" "	
1,4 - Dichlorobenzene (µg/l)					10				BPL TOGS 1.2.1	≤ 50		" "	
3,3 - Dichlorobenzidine (ug/l)					20				BPL TOGS 1.2.1 "A"	5		" "	
1,2 - Dichloroethane (µg/l)					10				BPL TOGS 1.2.1 "A"	0.6		" "	
2,4 - Dichlorophenol (µg/l)					10				BPL TOGS 1.2.1 "D"	1	1		
2,6 - Dichlorophenol (µg/l)					10				BPL TOGS 1.2.1	-		Tech okay	
1,2 - Dichloropropane (µg/l)					10				BPL TOGS 1.2.1 "A"	1		Tech okay	
2,4 - Dimethylphenol (µg/l)					50				BPL TOGS 1.2.1 "D"	5	5		
Dimethyl Phthalate (µg/l)					25				BPL TOGS 1.2.1 "A"	50		Tech okay	

(3) Individual Outfall Data Summaries and Permit Limit Development:

Outfall 008, Continued

Effluent Parameter (Units) <small>(concentration units - mg/l, ug/l or ng/l; mass units - lbs/d or g/d)</small>	Existing Effluent Quality				Technology Based Effluent Limit						Water Quality Based Effluent Limit			Permit Basis (T or WQ)
	concentration		mass		conc.	mass	Type	PQL conc.	Basis	AWQC (ug/l) conc.	Effluent (ug/l) conc.			
	Avg/Max	95%/99%	Avg/Max	95%/99%							mass	Type		
Ethylbenzene (µg/l)					50				BPJ, TOGS 1.2.1	"D"	150	Tech	okay	
Fluoranthene (µg/l)					10				BPJ, TOGS 1.2.1	"A"	50	Tech	okay	
Fluorene (µg/l)					10				BPJ, TOGS 1.2.1	"D"	4.8	4.8		
Heptachlor (µg/l)					10				BPJ, TOGS 1.2.1	"D"	2x10 ⁻⁴	2x10 ⁻⁴		
Hexachlorobenzene (µg/l)					10				BPJ, TOGS 1.2.1	"D"	3x10 ⁻⁵	3x10 ⁻⁵		
Hexachlorobutadiene (µg/l)					10				BPJ, TOGS 1.2.1	"D"	0.01	0.01		
Hexachloroethane (µg/l)					10				BPJ, TOGS 1.2.1	"D"	0.6	0.6		
Isobutanol (µg/l)					50				BPJ, TOGS 1.2.1		-	Tech	okay	
Isophotone (µg/l)					50				BPJ, TOGS 1.2.1		-	Tech	okay	
Mercury, Total (ng/l)					30				BPJ		0.7 ng/l	More	Permit Writing	
Methacrylonite (µg/l)					50				BPJ, TOGS 1.2.1		-	Tech	okay	
Methoxychlor (µg/l)					50				BPJ, TOGS 1.2.1		-	Tech	okay	
Methyl Methacrylate (µg/l)					50				BPJ, TOGS 1.2.1		-	Tech	okay	
Naphthalene (µg/l)					10				BPJ, TOGS 1.2.1	"D"	110	Tech	okay	
1-Naphthylamine (µg/l)					10				BPJ, TOGS 1.2.1		-	"	"	
Nitrobenzene (µg/l)					50				BPJ, TOGS 1.2.1	"A"	0.4	"	"	
PCBs, Total (ng/l)									Indicated by Aroclors	"D"	1x10 ⁻⁶	Permit		
Aroclor 1016 (ng/l)					300				BPJ	"	"	Writing		
Aroclor 1221 (ng/l)					300				BPJ	"	"	For		
Aroclor 1232 (ng/l)					300				BPJ	"	"	PCB's		
Aroclor 1252 (ng/l)					300				BPJ	"	"	"	"	
Aroclor 1254 (ng/l)					300				BPJ	"	"	"	"	

(3) Individual Outfall Data Summaries and Permit Limit Development:

Outfall	008, Continued
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Effluent Parameter (Units) (concentration units - mg/l, ug/l or ng/l; mass units - lbs/d or g/d)	Existing Effluent Quality				Technology Based Effluent Limit					Water Quality Based Effluent Limit			Permit Basis (T or WQ)
	concentration		mass		conc.	mass	Type	PQL conc.	Basis	AWQC (ug/l conc.)	Effluent		
	Avg/Max	95%/99%	Avg/Max	95%/99%							conc.	mass	
Arochlor 1260 (ng/l)					300				BPJ	1×10^{-6}	PUB Permit Writing		
Pentachlorophenol (ug/l)					10				BPJ, TOGS 1.2.1	"D" 14.5	14.5	Tech okay	
Phenanthrene (ug/l)					10				BPJ, TOGS 1.2.1	"D" 45	45	Tech okay	
Phenol (ug/l)					50				BPJ, TOGS 1.2.1	"D" 5	5		
Propionitrile (ug/l)					50				BPJ, TOGS 1.2.1	-		Tech okay	
Pyrene (ug/l)					10				BPJ, TOGS 1.2.1	"D" 42	42	Tech okay	
Styrene (ug/l)					10				BPJ, TOGS 1.2.1	"A" 5	5	Tech okay	
Tetrachloroethylene (ug/l)					10				BPJ, TOGS 1.2.1	"D" 1	1		
Toluene (ug/l)					5				BPJ, TOGS 1.2.1	"D" 480	480	Tech okay	
o-Toluidine (ug/l)					50				BPJ, TOGS 1.2.1	"A" 0.6	0.6	Tech okay	
1,1,1-Trichloroethane (ug/l)					10				BPJ, TOGS 1.2.1	"A" 5	5	Tech okay	
1,1,2-Trichloroethane (ug/l)					10				BPJ, TOGS 1.2.1	"A" 1	1	Tech okay	
Trichloroethylene (ug/l)					10				BPJ, TOGS 1.2.1	"D" 40	40	Tech okay	
2,4,5-Trichlorophenol (ug/l)					10				BPJ, TOGS 1.2.1	"D" 5	5		
2,4,6-Trichlorophenol (ug/l)					10				BPJ, TOGS 1.2.1	"D" 5	5		
Trichlorotrifluoroethane (ug/l)					10				BPJ, TOGS 1.2.1	"A"		Tech okay	
p-Xylene (ug/l)					5				BPJ, TOGS 1.2.1	"D" 5-590	5-590	Tech okay	

* WET Testing recommended on a flow proportioned combined sample from outfalls 003, 004 and 008.

(3) Individual Outfall Data Summaries and Permit Limit Development:

Outfall 009

Salt Creek - Class "0"

Source(s) of Wastewater	Storm Runoff from Advanced Liquid Recycling Area
Existing Wastewater Treatment Facilities	None
EPA Point Source Category & Production Rate	NA

Effluent Parameter (Units) (concentration units - mg/l, ug/l or ng/l; mass units - lbs/d or g/d)	Existing Effluent Quality				Technology Based Effluent Limit						Water Quality Based Effluent Limit				Permit Basis (T or WQ)
	concentration		mass		conc.	mass	Type	PQL conc.	Basis	AWQC conc.	Effluent				
	Avg/Max	95%/99%	Avg/Max	95%/99%							conc.	conc.	mass	Type	
WET TESTING					NA						Recommended?		YES/NO		
Flow Rate (gpd)	Average	UKN	Maximum					NA							
pH (su)	Minimum		Maximum		6.0 - 9.0		Range		BPJ, TOGS 1.2.1		6-9.5	Tech	okay		
Glycols (mg/l)					Monitor							Mon.	okay		
Oil & Grease (mg/l)					15				BPJ, TOGS 1.2.1	Narr.	703.2	Tech	okay		
Solids, Total Suspended (mg/l)					45				BPJ, TOGS 1.2.1	Narr.	703.2	Tech	okay		

(4) Additional Issues:

Water Quality Based Effluent Limits (WQBELs):

New York State water quality regulations (for surface waters) are implemented by applying the Total Maximum Daily Load (TMDL) process to watersheds, drainage basins or waterbody segments on a pollutant specific basis. The analysis determines if there is a "reasonable potential" that the discharge of a pollutant will result in exceedance of ambient water quality criteria (AWQC). If there is a reasonable potential for an exceedance of AWQC, the TMDL is used to establish waste load allocations for point sources and load allocations for nonpoint sources of the pollutant. For point sources, the waste load allocations are translated to WQBELs for inclusion in SPDES permits. Reference - TOGS 1.3.1, USEPA Guidance for Water Quality - Based Decisions: The TMDL Process, 40 CFR 130 and the Clean Water Act 303(d).

The following table has been completed only for those parameters for which WQBELs were determined to be necessary.

Parameter					
Amount to be Allocated (TMDL)					
Number of Sources					
Allocation to this Permit					

Statistics:

The statistical methods utilized are consistent with TOGS 1.2.1 and the USEPA, Office of Water, Technical Support Document For Water Quality-based Toxics Control, March 1991, Appendix E. Generally based on lognormal analysis. If other data distributions such as normal or delta-lognormal are utilized it is noted below. Statistical calculations were not performed for parameters with insufficient data. Generally, ten or more data points are needed to calculate percentiles. Two or more data points are necessary to calculate an average and a maximum. Non-detects were included in the statistical calculations at the reported detection limit unless otherwise noted.

Monitoring data collected during the following time period was used to calculate statistics:

This data was taken from the following source(s): DMRs; NY2-C Application, dated 6/11/03; analytical Data Package, dated 7/17/06

Internal Waste Stream Monitoring:

40 CFR 122.45(h)(1) allows the permit authority to monitor and limit parameters at internal locations when controlling them solely at the final outfall is impractical or infeasible. Dilution of a process wastewater with large volumes of cooling water and/or storm water is one example of when the use of an internal monitoring point is justified. Monitoring at the following internal outfalls is necessary for the reasons specified:

WET Testing:

Testing is required, in accordance with TOGS 1.3.2, for the following reasons: Unknown synergistic toxicity effects of the discharge of various metals and numerous hazardous substances to Salt Kill Creek.

Indicator Parameters:

In accordance with 40 CFR 122.44(e)(2), The permit writer has determined that effective treatment and/or acceptable performance for specific parameters is indicated by one or more other parameters which are limited and therefore a decision has been made to not limit or monitor these specific parameters. This judgement is based on the similarity between this and the regulated parameter(s) and historical data where available. The use of indicator parameters is not appropriate for WQBELs. Following is a list of the affected parameters:

Schedule of Compliance: None.

(5) Summary of Proposed Permit Changes:

Compared to the issued permit this draft is intended to replace, the following significant changes are proposed -

The permittee has applied for a new outfall 008; a field inspection has discovered a previously unknown outfall 009; the permittee is expanding the mining area by 54 acres that will involve the construction of an overburden storage area which will affect the storm runoff to outfalls 003 and 007. The proposed modifications to the current permit (effective 5/1/04) are:

Add effluent limits and monitoring requirements for Mercury, Settleable Solids, and Total Dissolved Solids at outfall 003.

Decrease effluent limit for Nickel at outfall 004 to reflect new water quality limit.

Add effluent limits and monitoring requirements for Total Suspended Solids, Oil & Grease, and Settleable Solids at outfall 007.

Add effluent limits and monitoring requirements for various parameters present in the hazardous waste fuel used to heat the trunnions at outfall 008. This outfall serves storm runoff from the tanker truck staging area where trucks carrying the hazardous waste fuel are parked while awaiting their turn to unload their contents into the fuel storage tanks.

Add effluent limits and monitoring requirements for various parameters at outfall 009. This outfall serves storm runoff from the Advanced Liquid Recycling Area, where glycols are recovered and recycled.

Add Whole Effluent Toxicity (WET) testing on the combination of flows from outfalls 003, 004, and 008. This is added due to the unknown synergistic toxicity effects of the discharge of various metals and numerous hazardous substances to Salt Kill Creek, an intermittent stream.

Add additional footnotes to define sampling and/or analytical methods required for various parameters at the appropriate outfalls.

Update the map on the monitoring locations page.

Update the Best management Practices requirements to those now routinely used in SPDEs permit development.

Add Pollutant Minimization Program requirements for PCBs.

Add Pollutant Minimization Program requirements for Mercury.

(6) Explanatory Notes:

Please note that some of these terms are not applicable to every fact sheet.

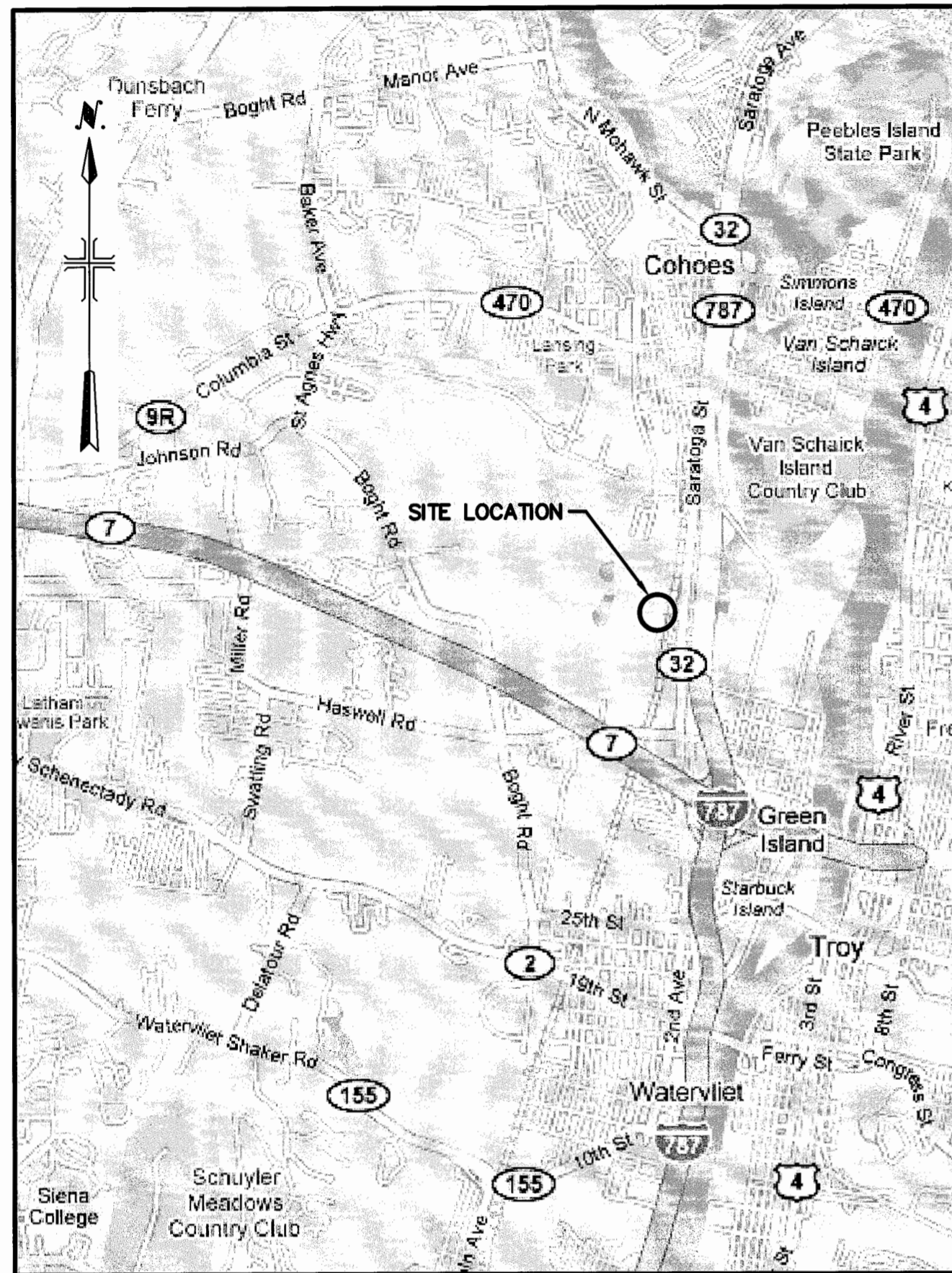
- AL - Action level calculated in accordance with TOGS 1.2.1 (non POTWs) and TOGS 1.3.3 (POTWs). See the permit for a complete definition.
- AVG or Av - Average. The arithmetic mean.
- AWQC - Ambient water quality criteria for the receiving water. The applicable standard, guidance value or estimated value in accordance with TOGS 1.1.1, TOGS 1.3.1 and 6NYCRR 700-705.
- Basis - The technical analysis, internal guidance, regulation and/or law upon which an effluent limit or monitoring requirement is proposed.
- BAT - Best Available Technology Economically Achievable in accordance with TOGS 1.2.1 (non POTWs) and TOGS 1.3.3 (POTWs), 40 CFR 125, 6NYCRR 754, ECL 17-0811 and the Clean Water Act.
- BCT - Best Conventional Control Technology in accordance with TOGS 1.3.4, 40 CFR 125, 6NYCRR 754, ECL 17-0811 and the Clean Water Act.
- BPI - Best Professional Judgement in accordance with TOGS 1.2.1 (non POTWs) and TOGS 1.3.3 (POTWs), 40 CFR 122 and 125, 6NYCRR 754.1, ECL 17-0811 and the Clean Water Act.
- BPT - Best Practicable Control Technology in accordance with TOGS 1.2.1, 40 CFR 125, 6NYCRR 754, ECL 17-0811 and the Clean Water Act.
- Conc. - Concentration in units of mg/l, ug/l or ng/l.
- Design Flow - Treatment system design capacity as noted in an approved engineering report.
- Final - Final permit period requirements. A level of performance that must be achieved according to a schedule specified in either the permit or a consent order.
- g/d - Grams per day discharged.
- GW - Groundwater effluent limitation developed in accordance with TOGS 1.2.1 (nonPOTWs), TOGS 1.3.3 (POTWs), TOGS 1.1.2 and 6NYCRR 703.
- Ind - Indicated parameter. See definition in section (4).
- Interim - Interim permit period requirements. A level of performance that must be achieved while improvements are being implemented in order to achieve final permit period requirements.
- lbs/d or #/d - Pounds per day discharged.
- Mass - Mass discharge in units of #/d or g/d discharge.
- Max or Mx - The maximum value.
- MGD - Million gallons per day.
- mg/l - Milligrams per liter.
- Dilution/Mixing - Used to determine dilution available in receiving waters. For lakes, estuaries and slowly flowing rivers and streams, mixing zone dilution is generally assumed to be 10:1 unless data is available to indicate otherwise.
- Model - Calibrated water quality model applied in accordance with TOGS 1.3.1.
- Mon - Monitor only.
- NA - The characteristics of this parameter and the reported discharge levels do not justify routine monitoring or a limit. Also indicates "not applicable".
- ng/l - Nanograms per liter. 1000 ng/l = 1 ug/l = 0.001 mg/l.
- PQL - The DEC published or site specific practical quantitation limit; the concentration in wastewater at which analytical results are thought to be accurate to within approximately plus or minus thirty percent.
- R - "Rolled Over", i.e. the specific requirement in this permit is equivalent to the previous permit. R(T) is roll over of a technology based requirement and R(WQ) is roll over of a WQBEL.
- Range - The discharge is limited to a range of effluent values, e.g. a pH limit of (6.0-9.0) SU.
- RREL - EPA's Risk Reduction Engineering Laboratory treatability database.
- T - Technology based effluent limit or requirement.
- TOGS - Technical and Operational Guidance Series. Internal guidance to permit drafters used by the NYSDEC Division of Water to aid in permit drafting. Copies of these guidance documents may be obtained from the internet at

<http://www.dec.state.ny.us/website/dow/togs/index.htm>.

ug/l -	Micrograms per liter. 1000 ug/l = 1 mg/l.
WET-	Whole Effluent Toxicity (testing). See TOGS 1.3.2.
WQ -	Water quality.
WQBEL -	Water quality-based effluent limit. See information in section (4).
7Q10 -	The minimum average 7 consecutive day flow at a recurrence interval of 10 years. Applicable to evaluations involving aquatic health based AWQC.
30Q10 -	The minimum average 30 consecutive day flow at a recurrence interval of 10 years. Applicable to evaluations involving human health based AWQC.
95% -	The 95th percent confidence interval for the historical effluent data used to draft the permit.
99% -	The 99th percent confidence interval for the historical effluent data used to draft the permit.
133 -	Secondary treatment requirements in accordance with TOGS 1.3.3, 40 CFR 133, 6NYCRR 754, ECL 17-0509 and the Clean Water Act.
' -	These parameters represent scans. Detections vary among the compounds which are included in the scans. The listed value represent the maximum detected level of any compound in the scan.

APPENDIX B

NYSDEC-APPROVED DESIGN DRAWINGS (ARCADIS SWPPP)



LOCATION PLAN
SCALE: 1"=3000'

**NORLITE CORPORATION
COHOES, NEW YORK**

FACILITY STORMWATER DESIGN PROJECT

**APRIL 2012
REVISED SEPTEMBER 2012
REVISED NOVEMBER 2012**

INDEX TO DRAWINGS	
SHEET NO.	TITLE
	COVER SHEET
G1	LEGEND AND GENERAL NOTES
C1	OVERALL SITE PLAN
C2	SITE PLAN 1
C3	SITE PLAN 2
C4	DETAILS 1
C5	DETAILS 2
C6	DETAILS 3
C7	DETAILS 4

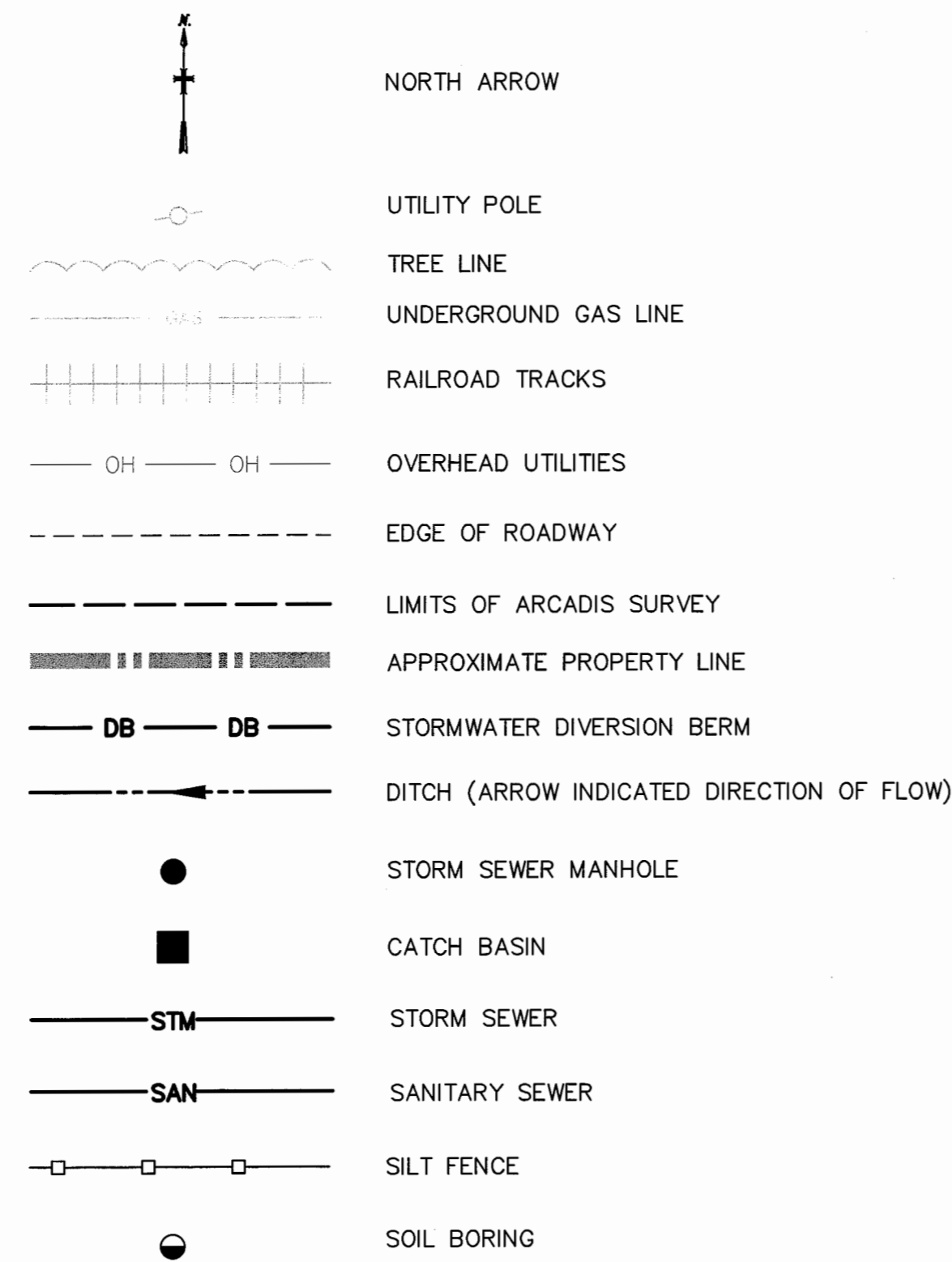
CONSULTING ENGINEERS

**MALCOLM PIRNIE, INC.
THE WATER DIVISION OF ARCADIS
855 ROUTE 146
SUITE 210
CLIFTON PARK, NEW YORK 12605**



THESE PLANS
New York State Department of Environmental Conservation
This report for STORMWATER MANAGEMENT IMPROVEMENTS AT SPDES OUTFALL NO. 02 AT THE NORLITE FACILITY IN COHOES, N.Y.
is hereby approved subject to the provisions of the Environmental Conservation Law and Order of Consent Date 11/19/12 By [Signature] P.E.
New York State Commissioner of Environmental Conservation
Designated Representative
Recommended by: _____

LEGEND



GENERAL NOTES:

1. TOPOGRAPHICAL SURVEY WAS COLLECTED USING GPS/GNSS SURVEY SYSTEM BY ARCADIS IN 2011 & 2012. ARCADIS DATA IS SHOWN WITHIN THE LINE DESIGNATED AS "LIMITS OF ARCADIS SURVEY". TOPOGRAPHY OUTSIDE OF THAT LINE IS DATA PROVIDED BY NORLITE, CREATED BY AXIS GEOSPACIAL, LLC, DATED NOVEMBER 2006.
2. ALL CONSTRUCTION OPERATIONS SHALL BE ACCOMPLISHED IN ACCORDANCE WITH APPLICABLE NORLITE SITE SPECIFIC SAFETY RULES, STATE STATUTES AND MINE SAFETY AND HEALTH ADMINISTRATION (MSHA) REGULATIONS. THE CONTRACTOR ALONE WILL BE RESPONSIBLE FOR THE EXECUTION OF THE WORK IN ACCORDANCE WITH ALL APPLICABLE HEALTH AND SAFETY REQUIREMENTS.
3. CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS AND CONDITIONS BEFORE COMMENCING THE WORK. IT IS THE CONTRACTOR'S RESPONSIBILITY TO REPORT ANY DISCREPANCIES TO THE OWNER IN A TIMELY MANNER. FAILURE TO PROSPECT IN ADVANCE OF THE WORK OR VERIFY DIMENSIONS SHALL NOT BE CAUSE FOR ADDITIONAL COSTS TO THE OWNER.
4. CONTRACTOR SHALL PROVIDE ALL EXCAVATIONS REQUIRED TO COMPLETE THE WORK, INCLUDING BUT NOT LIMITED TO SHEETING, SHORING, STABILIZING EXCAVATIONS AND DEWATERING SYSTEMS IN ACCORDANCE WITH APPLICATION REGULATIONS.
5. ALL STORM DRAINAGE STRUCTURES SHALL HAVE A MINIMUM 2-FOOT DEEP SUMP BELOW THE INVERT OF THE LOWEST PIPE, UNLESS OTHERWISE NOTED.
6. EXISTING UTILITIES SHOWN ARE APPROXIMATE. CONTRACTOR SHALL VERIFY IN THE FIELD.
7. EXISTING GAS MAIN CROSSING SHALL REQUIRE A PERMIT FROM NATIONAL GRID.
8. THE CONTRACTOR SHALL IMMEDIATELY INFORM THE OWNER IF UNDERGROUND UTILITIES ARE DISTURBED AND THE CONTRACTOR SHALL IMMEDIATELY REPAIR THE UTILITY PRIOR TO CONTINUING WORK.
9. WATER GENERATED FROM DEWATERING SHALL BE DISCHARGED TO EXISTING WATERCOURSE WITH NO VISIBLE CONTRAST TO THE RECEIVING WATER.
10. EROSION AND SEDIMENT CONTROLS SHALL BE INSTALLED IN ACCORDANCE WITH THE NEW YORK STATE STANDARDS AND SPECIFICATIONS FOR EROSION AND SEDIMENT CONTROL AS PUBLISHED BY THE NEW YORK STATE DEPARTMENT OF CONSERVATION, DIVISION OF WATER.
11. OIL ABSORBENT BOOMS SHALL BE INSTALLED AT LOCATIONS SHOWN. MONITOR BOOMS FOR EFFECTIVENESS AND ADJUST AS REQUIRED.

EARTHWORK NOTES:

1. CONTRACTOR SHALL BACKFILL UTILIZING EXISTING EXCAVATED MATERIALS PLACED AND COMPACTED TO A MINIMUM OF 95% OF STANDARD PROCTOR AT ALL NON-TRAFFIC AREAS.
2. AREAS OF EXISTING ROADWAYS AND AS OTHERWISE SHOWN ON THE DRAWINGS SHALL BE BACKFILLED WITH SELECT GRANULAR FILL THAT MEETS THE REQUIREMENTS OF NYS DOT ITEM 203, SELECT GRANULAR FILL AND SELECT STRUCTURAL FILL.
3. PIPE BEDDING MATERIALS SHALL BE NYS DOT ITEM 703, TYPE 1 STONE.
4. FINISHED EXISTING ROADWAY SURFACES SHALL BE RESTORED WITH 12 INCHES OF NYS DOT ITEM 403, TYPE 2 SUBBASE COMPACTED TO 100% OF STANDARD PROCTOR.
5. NEW PAVEMENT SECTIONS SHALL CONSIST OF A 12-INCH SUBBASE LAYER AS DEFINED IN NOTE 4 ABOVE AND 3 INCHES OF TYPE 3 BINDER IN ACCORDANCE WITH NYS DOT ITEM 403.
6. TOPSOIL SHALL BE 6-INCHES AND MEET THE REQUIREMENTS OF NYS DOT ITEM 713.
7. SEED AND MULCH SHALL BE IN ACCORDANCE WITH NYS DOT ITEM 610, ESTABLISHING TURF.

CONCRETE NOTES:

1. CONCRETE SHALL BE A MINIMUM OF 4,000 PSI MIX DESIGN AT 28 DAYS FOR ALL REINFORCED AND NON-REINFORCED CONCRETE UNLESS OTHERWISE SHOWN.
2. CONCRETE SHALL BE PLACED IN A MANNER TO PREVENT WASHOUT OF FRESH CONCRETE INTO WATER BODIES OR RECEIVING WATER BODIES.
3. CONCRETE WORK SHALL BE INSTALLED IN ACCORDANCE WITH THE REQUIREMENTS OF NYS DOT ITEM 501.
4. REINFORCING STEEL SHALL BE ASTM A615, GRADE 60 STEEL.

PRECAST STRUCTURES:

1. PRECAST STRUCTURES SHALL BE MANUFACTURED BY FORT MILLER OR EQUAL. STRUCTURES SHALL BE REINFORCED CONCRETE DESIGNED FOR A MINIMUM TRAFFIC LOAD OF H20.
2. CASTINGS FOR PRECAST STRUCTURES SHALL BE AS NOTED ON THE DRAWINGS AND SHALL BE AS MANUFACTURED BY SYRACUSE CASTINGS OR EQUAL. ALL CASTING SHALL BE RATED FOR A MINIMUM H20 TRAFFIC LOAD CONDITION.
3. SURFACE DRAINAGE STRUCTURE ELEVATION SHALL BE SET USING PRECAST GRADE RINGS AND MORTAR. ADDITIONAL PRECAST RISER SECTIONS SHALL BE PROVIDED TO ADJUST GRADE MORE THAN 12 INCHES FROM TOP OF PRECAST STRUCTURE TO TOP OF CASTING FRAME.

DRAINAGE PIPE:

1. DRAINAGE PIPE SHALL BE ADS N-12 CORRUGATED SMOOTH INTERIOR POLYETHYLENE DRAINAGE PIPE OR EQUAL. SIZE AND SLOPE SHALL BE AS SHOWN ON THE DRAWINGS. MAINTAIN A MINIMUM COVER OF 1' AT ALL INSTALLATIONS.
2. DRAINAGE PIPE SHALL BE INSTALLED WITH SPIGOT JOINTS ORIENTED IN THE DIRECTION OF THE PIPE SLOPE (I.E. BELL INTO SPIGOT JOINT WHEN WORKING FROM HIGHER ELEVATION TO LOWER ELEVATION).
3. DRAINAGE PIPE SHALL BE BEDDED AND BACKFILLED TO PROVIDE H2O LOADING OF THE PIPE AT THE FINAL COVER CONDITIONS.

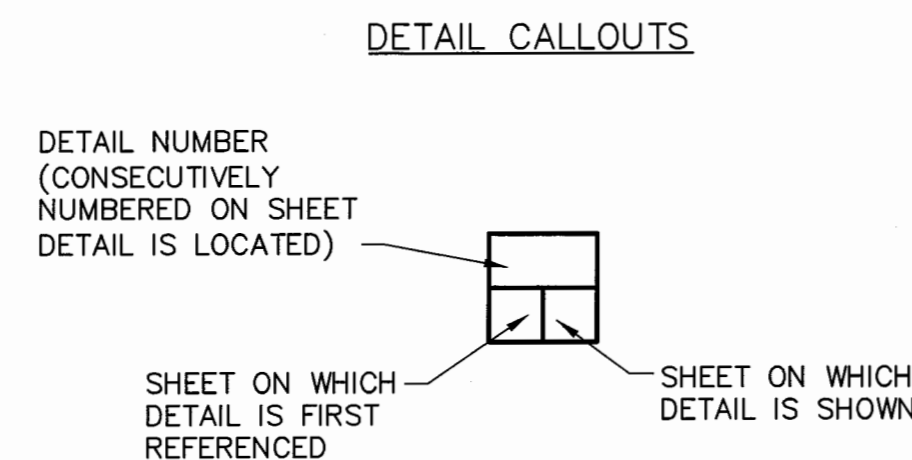
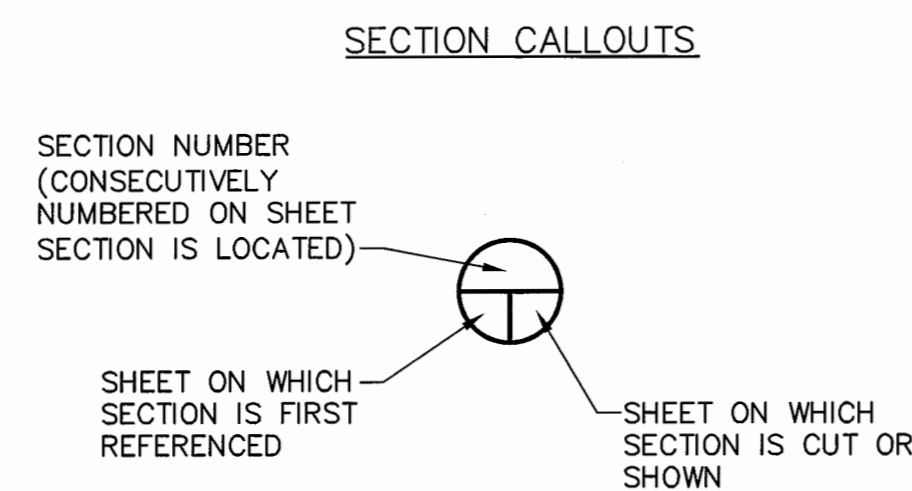
FORCEMAIN PIPING:

1. THE STORMWATER PUMP DISCHARGE PIPING SHALL BE POLYETHYLENE PIPE AS MANUFACTURED BY ISCO INDUSTRIES OR EQUAL. PIPE SHALL BE DR 17 UNLESS OTHERWISE SHOWN OR SPECIFIED.
2. FORCEMAIN PIPE AND FITTINGS SHALL BE BUTT FUSION WELDED PER THE MANUFACTURERS RECOMMENDATIONS.
3. FITTINGS SHALL BE PRESSURE RATED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.

OPERATION AND MAINTENANCE:

1. ROUTINE MAINTENANCE OF RAIN GARDENS INCLUDES:
 - MOWING OF GRASSED SWALES AND FILTER STRIPS.
 - REMOVAL OF SEDIMENT ACCUMULATIONS IN GRASS SWALES.
 - INSPECTION OF ALL ELEMENTS TO CHECK FOR EROSION OR PONDING.
2. RAIN GARDEN MAINTENANCE ITEMS THAT SHALL BE CONDUCTED ONCE EVERY 1 TO 2 YEARS INCLUDES:
 - WHEN WATER PONDS ON RAIN GARDEN SURFACES FOR 48 HOURS OR MORE, REMOVE THE TOP 8 TO 12-INCHES OF MATERIAL AND REPLACE.
 - REPAIR AREAS OF EXCESSIVE EROSION, INCLUDES AREAS DOWNSTREAM IF CHANNELS/OVERFLOWS ARE BEING BYPASSED.
3. POND AND BASIN MAINTENANCE ITEMS INCLUDE:
 - MOW GRASSED AREAS REGULARLY.
 - CLEAN LOW AREAS OF SEDIMENT WHEN ACCUMULATION IS NOTICABLE OR INTERFERES WITH OPERATIONS.
 - MAINTAIN PUMPS WITH LONG TERM CARE CONTRACTS OR AS DIRECTED BY MANUFACTURER.
 - CHECK OVERFLOWS FOR EROSION AND MAKE REPAIRS/ARMOR AS REQUIRED.

SECTION AND DETAIL KEY



SITE BENCHMARK TABLE

I.D.	NORTHING	EASTING	ELEVATION
BM-1	1429373.347	706474.337	35.832
BM-2	1428706.687	706343.138	40.369
BM-3	1429852.347	705433.722	54.737
BM-4	1429512.321	706257.627	50.846
BM-5	1429641.375	705720.609	62.221
BM-6	1428688.221	705544.286	63.974

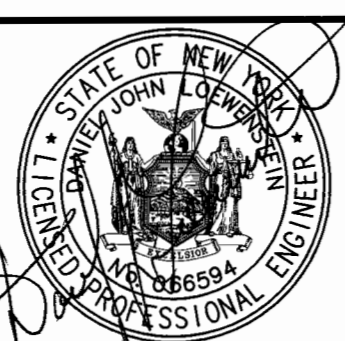
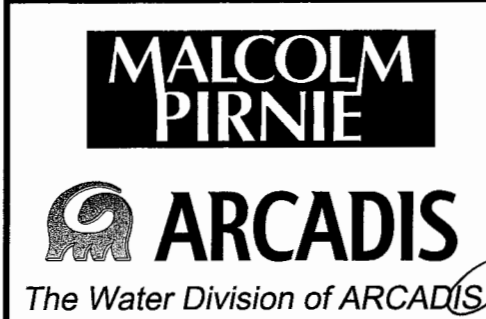
NY STATE PLANE (EAST ZONE) NAD 83 HORIZONTAL, NAVD 88 VERTICAL

REVISION HISTORY

NO.	DATE	ITEM REVISED
1	5-4-12	REVISED POSITION AND CONFIGURATION OF RAIN GARDENS 1 & 3, CHANGED POND TO HARD WALLED BASIN.
2	7-20-12	REVISED CONFIGURATION AND LOCATION OF RAIN GARDENS 1 & 2, ADDED UPPER POND, CHANGED MOST OF COLLECTION SYSTEM TO OPEN CHANNELS.
3	8-22-12	FINALIZED PUMP SELECTION, LOWER BASIN DESIGN, RG1 CONFIGURATION, UPPER POND CONFIGURATION AND RG2 CONFIGURATION.
4	9-7-12	ADDED OIL ABSORBENT BOOMS, ADDED CATCH BASIN AND PIPE TO RG3, CHANNELS CHANGED TO SWALE, UPPER POND CHANGED TO LINER ONLY.
5	9-21-12	DETAILS AND SECTIONS NUMBERED, REVISION HISTORY ADDED, POND LINER ANCHOR DETAIL ADDED, BACKUP PUMP ADDED.
6	10-26-12	ADDED NOTES FOR ALARMS AND MONITORING OF PUMPS.
7	11-6-12	FINAL REVISIONS FOR STAMPING AND APPROVAL.

New York State Department of Environmental Conservation
 Division of Water
 By direction of the Commissioner these plans are hereby approved
 pursuant to the Environmental Conservation Law.
 See first sheet for date and signature.

User: Hausmann Spec: PIRNIE STANDARD File: G:\ACAD\PROJ\02475022\0000\DRAWINGS\REVISED SW DESIGN\02475022-G01.DWG Scale: 1:1 Date: 09/19/2012 Time: 12:55 Layout: Blank



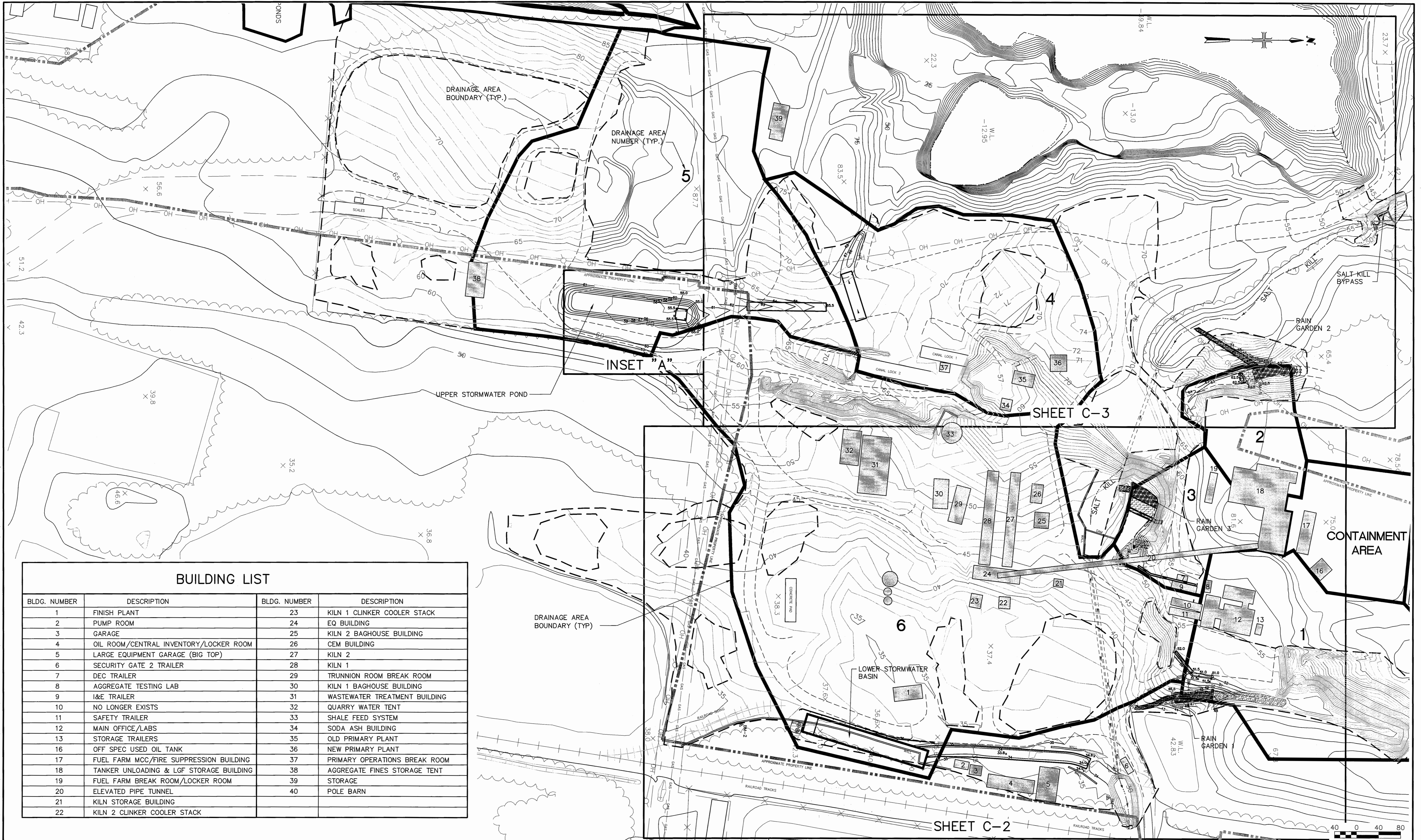
NO.	BY	DATE	REVISIONS	REMARKS
1	TAM	5/4/12	REVISED RAIN GARDEN #1 AND RAIN GARDEN #3	
2	RJT	7/20/12	ADDRESSED DEC REVIEW COMMENTS	
3	RJT	8/22/12	ADDRESSED DEC REVIEW COMMENTS	
4	RJT	9/7/12	ADDRESSED DEC REVIEW COMMENTS	
5	RJT	9/21/12	ADDRESSED DEC REVIEW COMMENTS	
6	RJT	11/6/12	FINAL REVISIONS	

DES: RJT
 DWN: SMH
 CKD: TAM

NORLITE CORPORATION
 628 S. SARATOGA STREET, COHOES, NY
FACILITY STORMWATER DESIGN

LEGEND AND GENERAL NOTES
 NOT TO SCALE

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 DATE: NOVEMBER 2012
 G SHEET 1 OF 1
 CAD REF. NO. 02475022.0000



BUILDING LIST

BLDG. NUMBER	DESCRIPTION	BLDG. NUMBER	DESCRIPTION
1	FINISH PLANT	23	KILN 1 CLINKER COOLER STACK
2	PUMP ROOM	24	EQ BUILDING
3	GARAGE	25	KILN 2 BAGHOUSE BUILDING
4	OIL ROOM/CENTRAL INVENTORY/LOCKER ROOM	26	CEM BUILDING
5	LARGE EQUIPMENT GARAGE (BIG TOP)	27	KILN 2
6	SECURITY GATE 2 TRAILER	28	KILN 1
7	DEC TRAILER	29	TRUNNION ROOM BREAK ROOM
8	AGGREGATE TESTING LAB	30	KILN 1 BAGHOUSE BUILDING
9	I&E TRAILER	31	WASTEWATER TREATMENT BUILDING
10	NO LONGER EXISTS	32	QUARRY WATER TENT
11	SAFETY TRAILER	33	SHALE FEED SYSTEM
12	MAIN OFFICE/LABS	34	SODA ASH BUILDING
13	STORAGE TRAILERS	35	OLD PRIMARY PLANT
16	OFF SPEC USED OIL TANK	36	NEW PRIMARY PLANT
17	FUEL FARM MCC/FIRE SUPPRESSION BUILDING	37	PRIMARY OPERATIONS BREAK ROOM
18	TANKER UNLOADING & LGF STORAGE BUILDING	38	AGGREGATE FINES STORAGE TENT
19	FUEL FARM BREAK ROOM/LOCKER ROOM	39	STORAGE
20	ELEVATED PIPE TUNNEL	40	POLE BARN
21	KILN STORAGE BUILDING		
22	KILN 2 CLINKER COOLER STACK		

BASEMAP SOURCE: AXIS GEOSPATIAL, LLC, NOVEMBER 2006



NO.	BY	DATE	REVISIONS	REMARKS
1	TAM	5/4/12	REVISED RAIN GARDEN #1 AND RAIN GARDEN #3	
2	RJT	7/20/12	ADDRESSED DEC REVIEW COMMENTS	
3	RJT	8/22/12	ADDRESSED DEC REVIEW COMMENTS	
4	RJT	9/7/12	ADDRESSED DEC REVIEW COMMENTS	
5	RJT	9/21/12	ADDRESSED DEC REVIEW COMMENTS	
6	RJT	11/6/12	FINAL REVISIONS	

DES: RJT
DWN: SMH
CKD: TAM

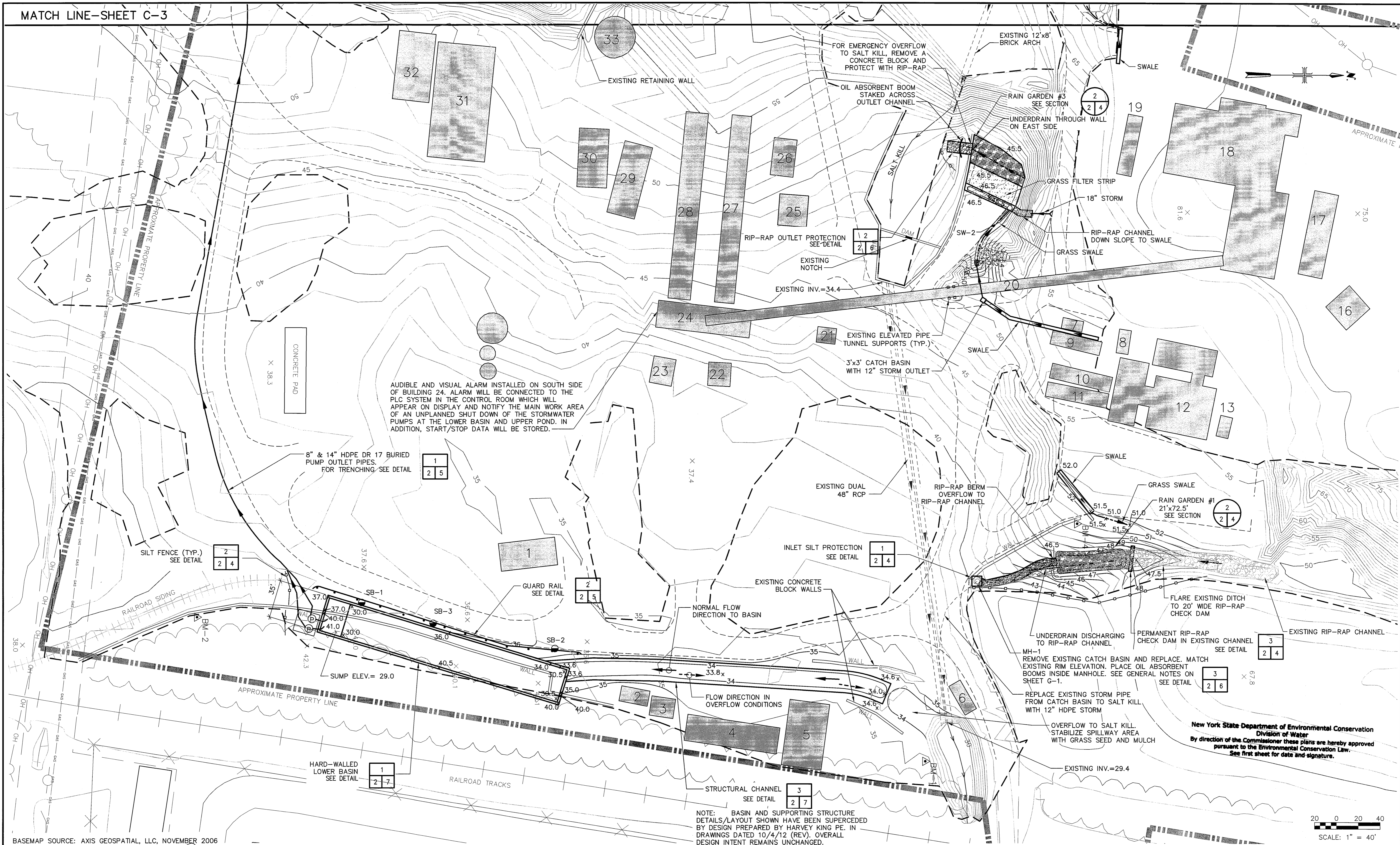
NORLITE CORPORATION
 628 S. SARATOGA STREET, COHOES, NY
FACILITY STORMWATER DESIGN

New York State Department of Environmental Conservation
 Division of Water
 In direction of the Commissioner these plans are hereby approved
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 See first sheet for date and signature.

OVERALL SITE PLAN

SCALE: 1"=80'

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 DATE: NOVEMBER 2012
 C SHEET 1 OF 7
 CAD REF. NO. 02475022.0000



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BASEMAP SOURCE: AXIS GEOSPATIAL, LLC, NOVEMBER 2006



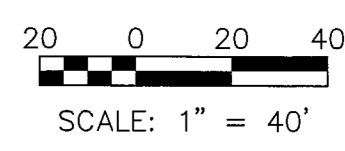
NO.	BY	DATE	REVISIONS	REMARKS
1	TAM	5/4/12	REVISED RAIN GARDEN #1 AND RAIN GARDEN #3	
2	RJT	7/20/12	ADDRESSED DEC REVIEW COMMENTS	
3	RJT	8/22/12	ADDRESSED DEC REVIEW COMMENTS	
4	RJT	9/7/12	ADDRESSED DEC REVIEW COMMENTS	
5	RJT	9/21/12	ADDRESSED DEC REVIEW COMMENTS	
6	RJT	10/25/12	ADDED NOTE ON ALARM CONTROLS	
7	RJT	11/6/12	FINAL REVISIONS	

DES: RJT
DWN: SMH
CKD: TAM

NORLITE CORPORATION
628 S. SARATOGA STREET, COHOES, NY
FACILITY STORMWATER DESIGN

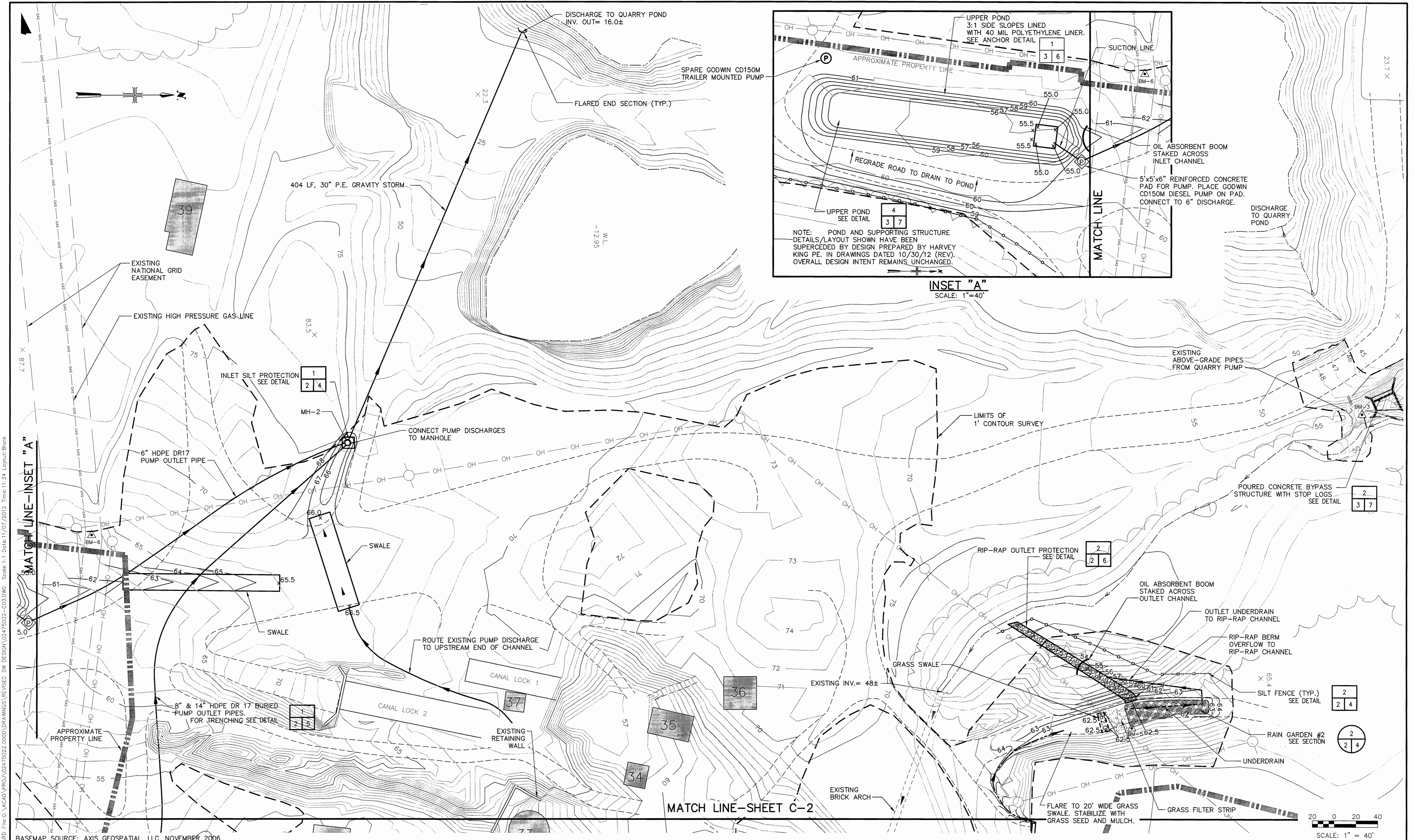
SITE PLAN 1

SCALE: 1"=40'



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C SHEET 2 OF 7
CAD REF. NO. 02475022.0000

New York State Department of Environmental Conservation
Division of Water
By direction of the Commissioner these plans are hereby approved pursuant to the Environmental Conservation Law. See first sheet for date and signature.



User: Ittus Spec: PIRNE STANDARD File: C:\ACAD\PROJ\02475022\0000\DRAWINGS\REVISED SW DESIGN\02475022-003.DWG Scale: 1:1 Date: 11/07/2012 Time: 11:34 Layout: Blank

BASEMAP SOURCE: AXIS GEOSPATIAL, LLC, NOVEMBER 2006



REVISIONS		REMARKS
NO.	BY	DATE
1	TAM	5/4/12
2	RJT	7/20/12
3	RJT	8/22/12
4	RJT	9/7/12
5	RJT	9/21/12
6	RJT	11/6/12

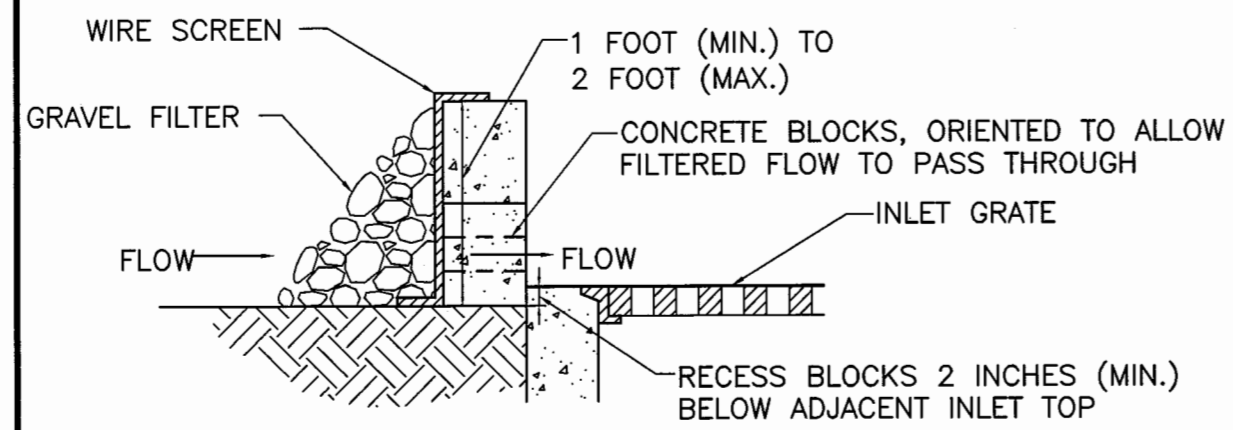
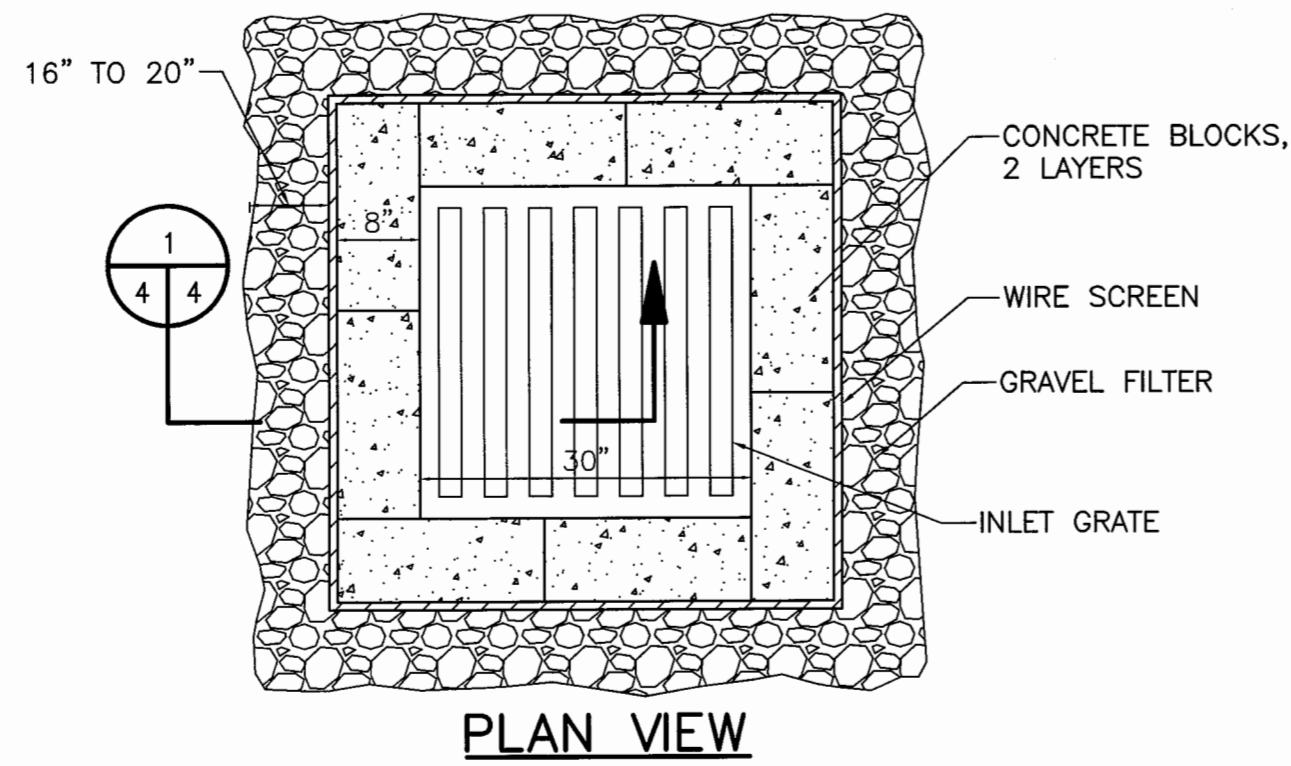
DES	RJT
DWN	SMH
CKD	TAM

NORLITE CORPORATION
 628 S. SARATOGA STREET, COHOES, NY
FACILITY STORMWATER DESIGN

New York State Department of Environmental Conservation
 Division of Water
 By direction of the Commissioner these plans are hereby approved
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 See first sheet for date and signature.

SITE PLAN 2
 SCALE: 1"=80'

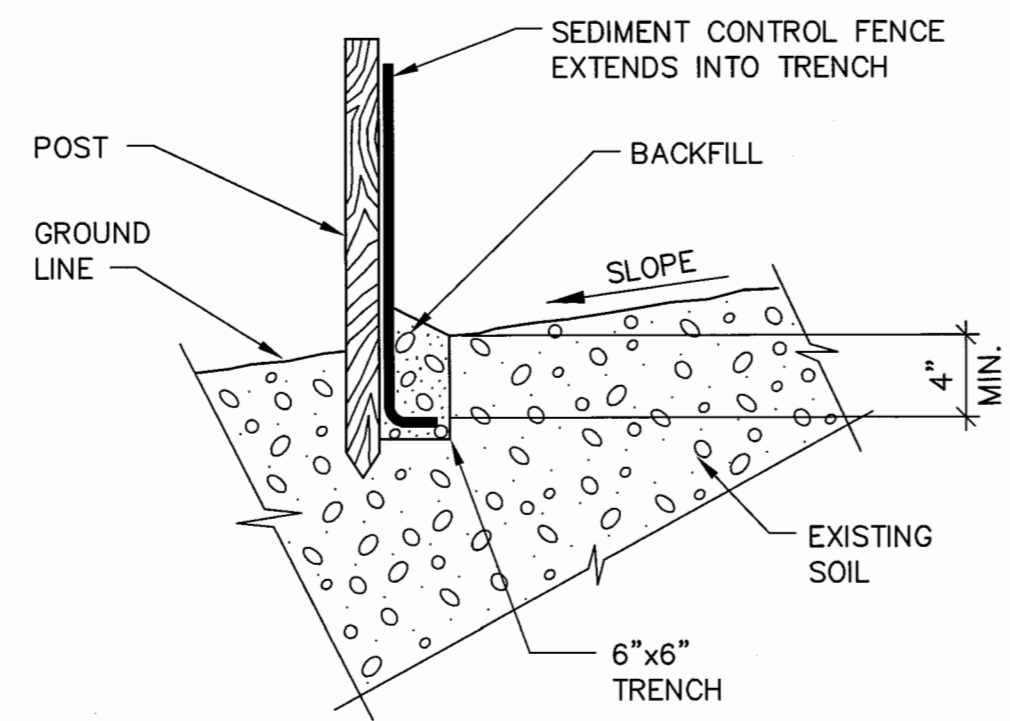
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 C SHEET 3 OF 7
 CAD REF. NO. 02475022.0000



NOTE:
CONTRACTOR SHALL INSTALL AND MAINTAIN INLET PROTECTION AT ALL INSTALLED INLET GRATES UNTIL FINAL RESTORATION.

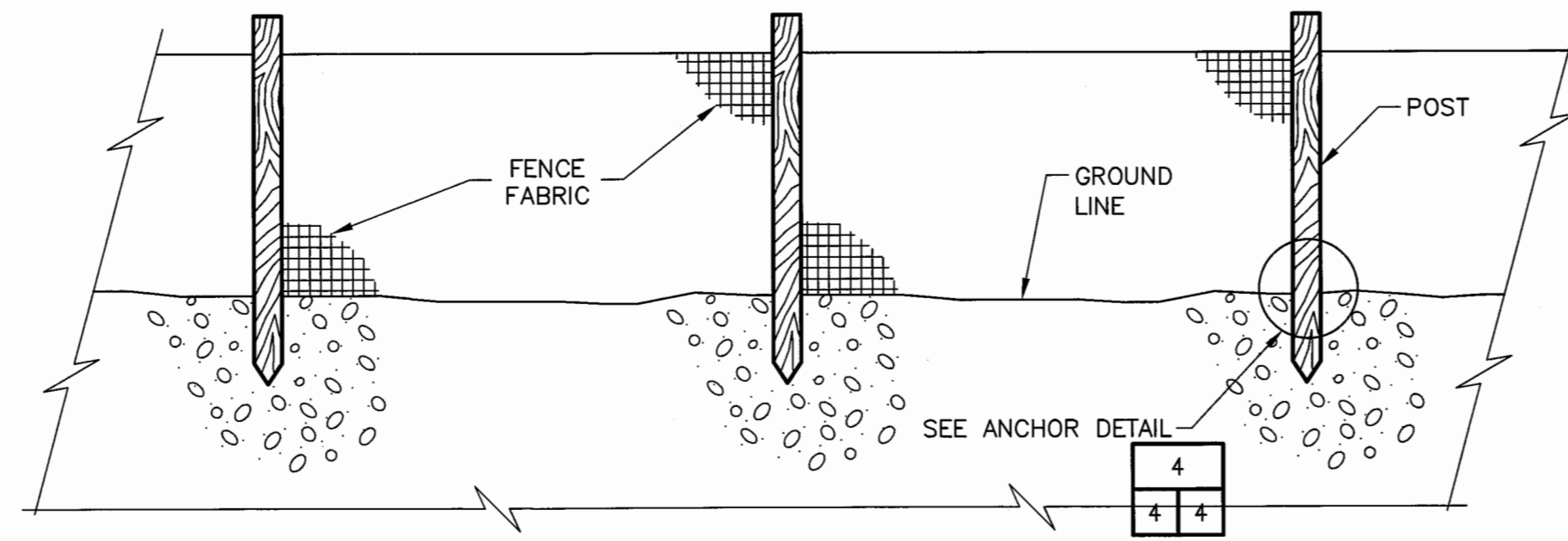
INLET SILT PROTECTION DETAIL
NOT TO SCALE

1
2 4



SEDIMENT CONTROL FENCE ANCHOR DETAIL
NOT TO SCALE

4
4 4



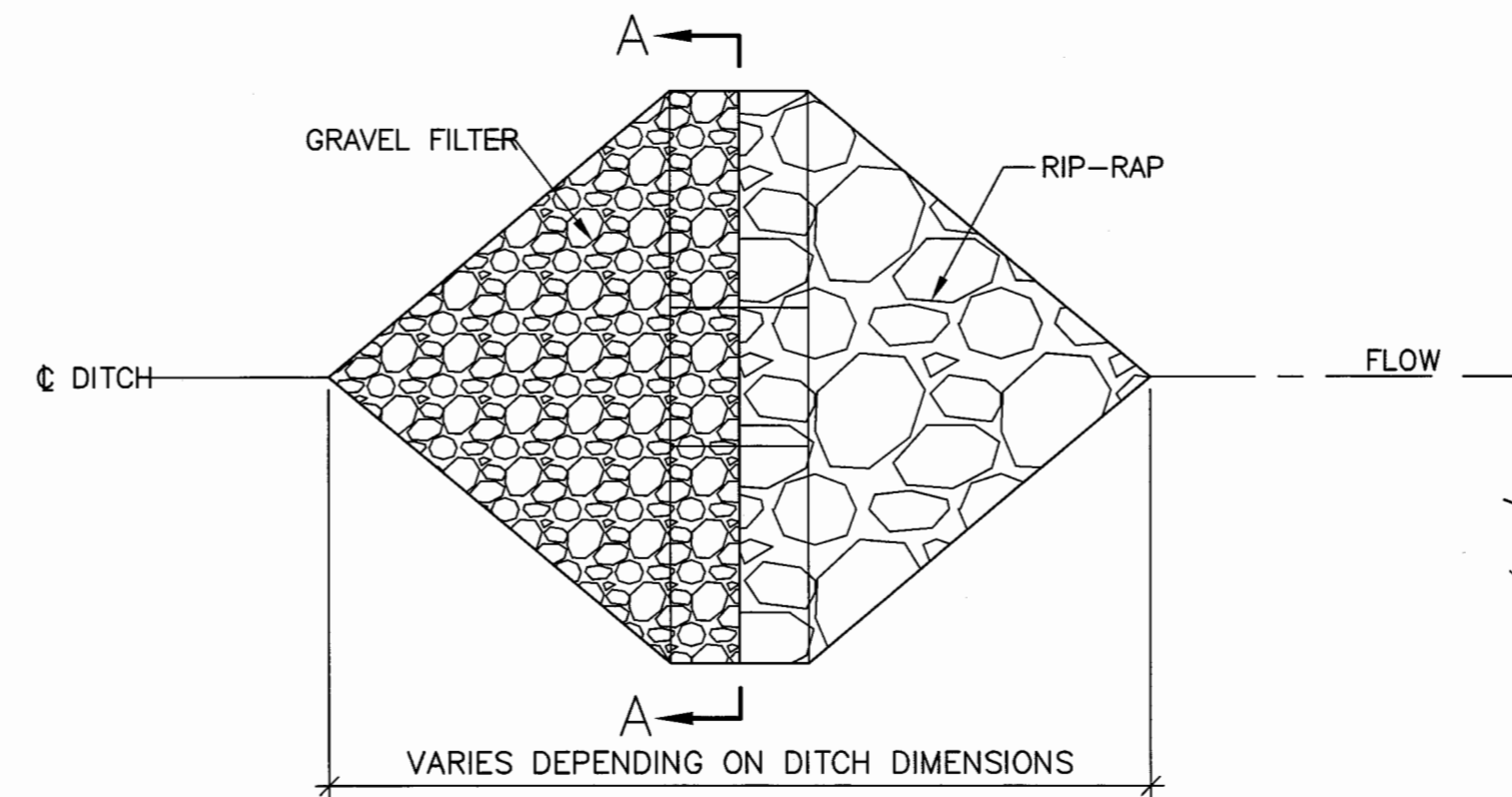
NOTES:

1. CONTRACTOR SHALL FURNISH AND INSTALL SEDIMENT CONTROL FENCE AT DOWN GRADIENT LOCATIONS OF ALL AREAS OF DISTURBANCE.
2. FENCE FABRIC SHALL BE FASTENED SECURELY TO FENCE POSTS WITH TIES OR STAPLES
3. WHEN TWO SECTIONS OF FENCE FABRIC ADJOIN EACH OTHER THEY SHALL BE OVERLAPPED BY SIX INCHES AND FOLDED.
4. MAINTENANCE SHALL BE PERFORMED AS NEEDED AND MATERIAL REMOVED WHEN "BULGES" DEVELOP IN THE FENCE.

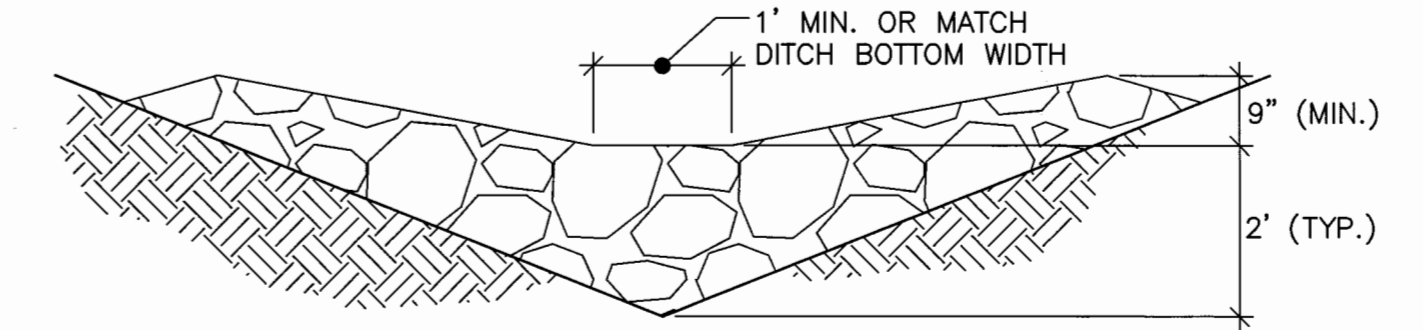
SEDIMENT CONTROL FENCING DETAIL

NOT TO SCALE

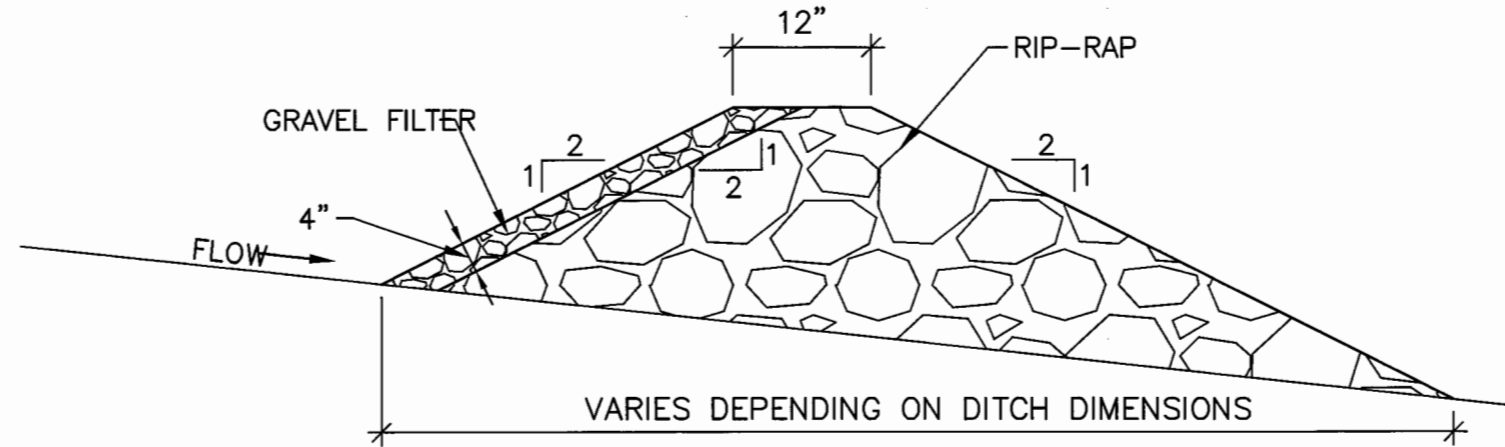
2
2 4



PLAN VIEW



SECTION A-A

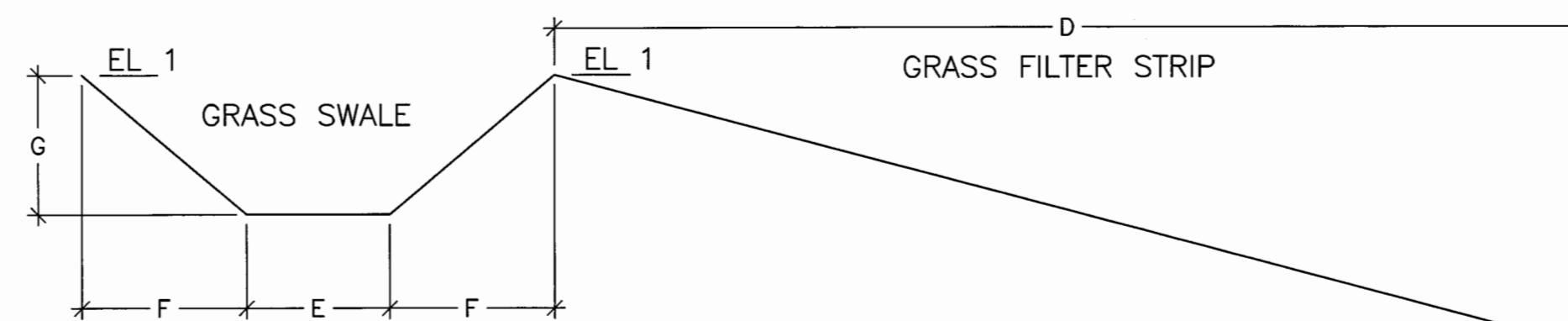


NOTE:
CONTRACTOR SHALL INSTALL CHECK DAMS AT LOCATIONS AS NOTED AND MAINTAIN UNTIL FINAL ACCEPTANCE OF WORK BY OWNER.

CHECK DAM DETAIL

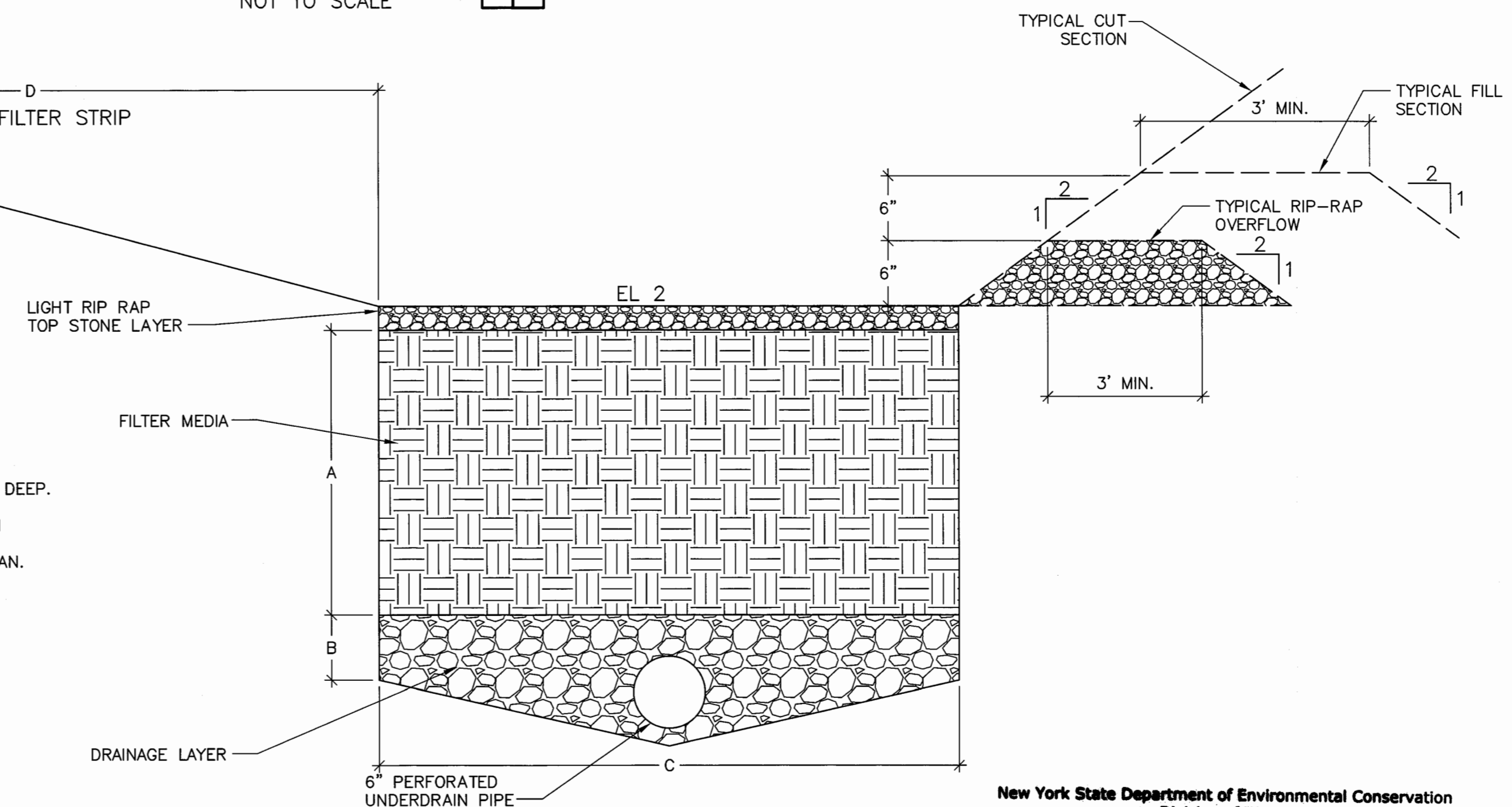
NOT TO SCALE

3
2 4



NOTES:

1. THE COMPOSITION OF THE FILTER MEDIA SHALL CONSIST OF NORLITE LIGHTWEIGHT AGGREGATE 4x0 MATERIAL.
2. THE DRAINAGE LAYER SHALL CONSIST OF CLEAN WASHED GRAVEL WITH APPROXIMATE DIAMETERS OF 1.5 TO 2 INCHES AND SHALL BE 6 INCHES DEEP.
3. UNDERDRAIN SHALL BE PERFORATED, CORRUGATED HDPE PIPE. FOR RAIN GARDENS WITH RETAINING WALLS, AN OPENING IN THE WALL SHALL BE CREATED FOR PENETRATION OF THE UNDERDRAIN AS SHOWN ON THE PLAN.



RAIN GARDEN SECTION

NOT TO SCALE

2
2 4

New York State Department of Environmental Conservation
Division of Water
By direction of the Commissioner these plans are hereby approved pursuant to the Environmental Conservation Law.
See first sheet for date and signature.

RAIN GARDEN DESIGNATION	DIMENSION A (FT.)	DIMENSION B (FT.)	DIMENSION C (FT.)	DIMENSION D (FT.)	DIMENSION E (FT.)	DIMENSION F (FT.)	DIMENSION G (FT.)	GRASS FILTER STRIP SLOPE (%)	EL 1	EL 2
1	2.5	0.5	20±	VARIES	--	--	--	--	--	--
2	2.5	0.5	VARIES 17'-20'	20.0	1.0	2.0	0.5	2.5	62.5	62.0
3	2.5	0.5	VARIES	20.0	1.5	2.0	1.0	5.0	46.5	45.5

RAIN GARDEN SCHEDULE

MALCOLM PIRNIE

ARCADIS
The Water Division of ARCADIS



NO.	BY	DATE	REVISIONS	REMARKS
1	TAM	5/4/12	REVISED RAIN GARDEN SECTION & SCHEDULE	
2	RJT	7/20/12	ADDRESSED DEC REVIEW COMMENTS	
3	RJT	8/22/12	ADDRESSED DEC REVIEW COMMENTS	
4	RJT	9/7/12	ADDRESSED DEC REVIEW COMMENTS	
5	RJT	9/21/12	ADDRESSED DEC REVIEW COMMENTS	
6	RJT	11/6/12	FINAL REVISIONS	

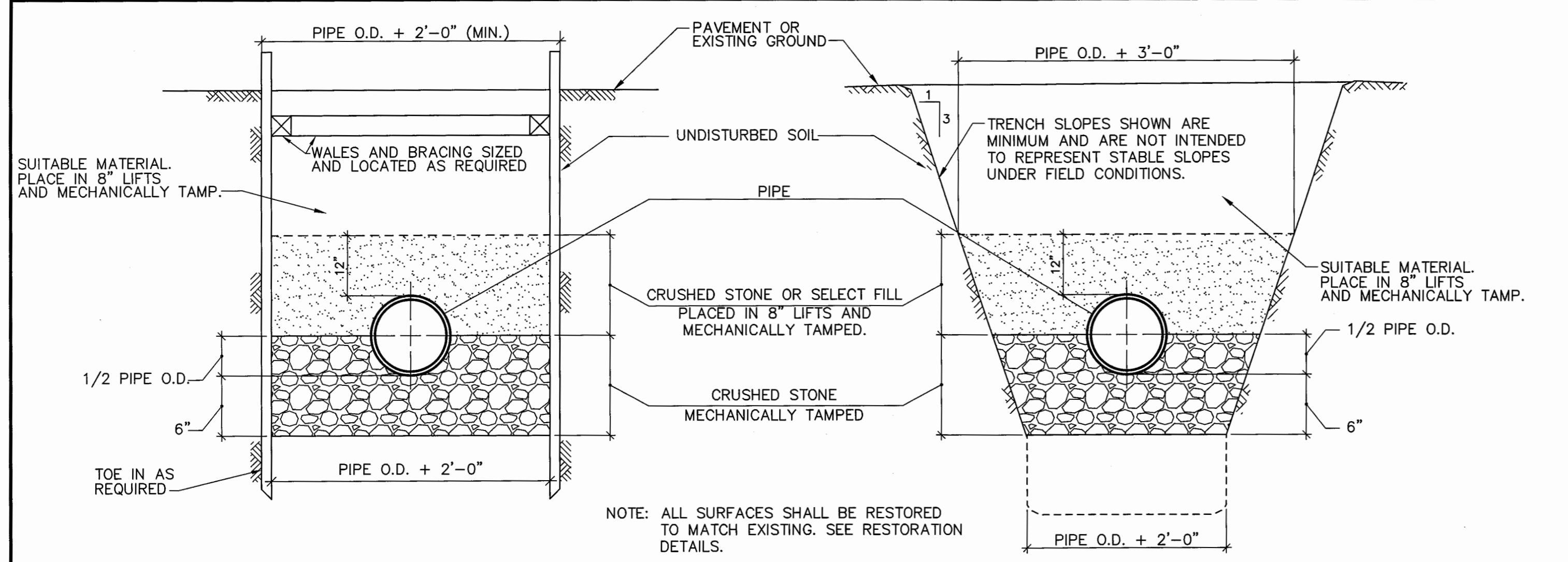
DES: RJT
DWN: SMH
CKD: TAM

NORLITE CORPORATION
628 S. SARATOGA STREET, COHOES, NY
FACILITY STORMWATER DESIGN

DETAILS 1

NOT TO SCALE

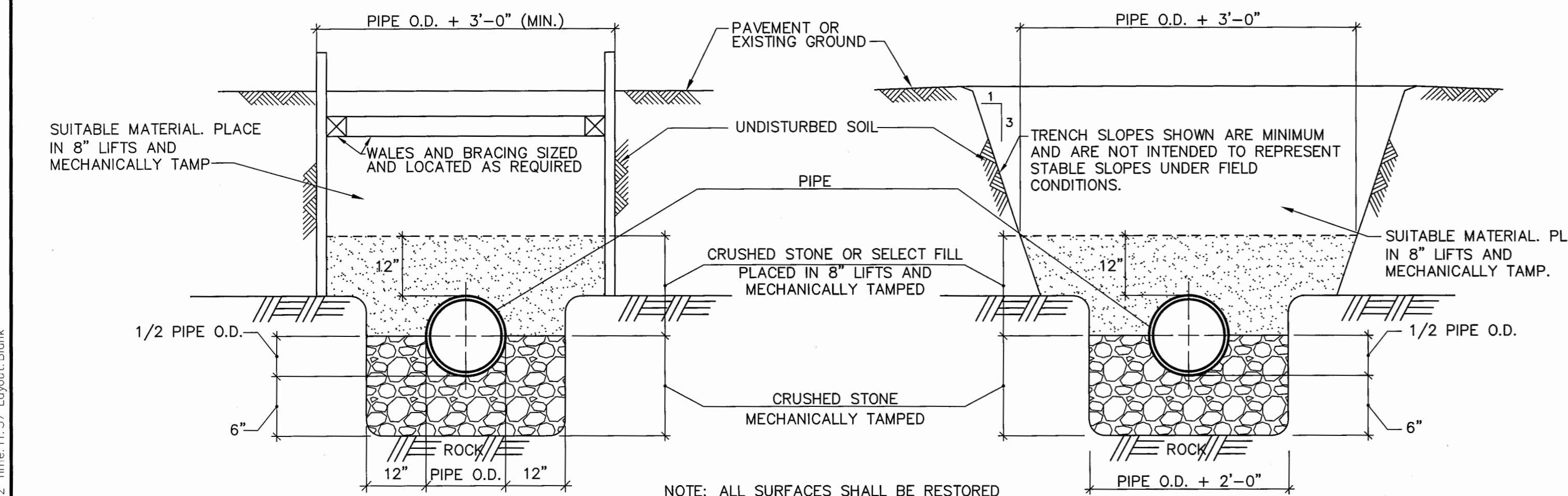
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DATE: NOVEMBER 2012
C SHEET 4 OF 7
CAD REF. NO. 02475022.0000



SHEETED TRENCH

TYPICAL TRENCH DETAILS
NOT TO SCALE

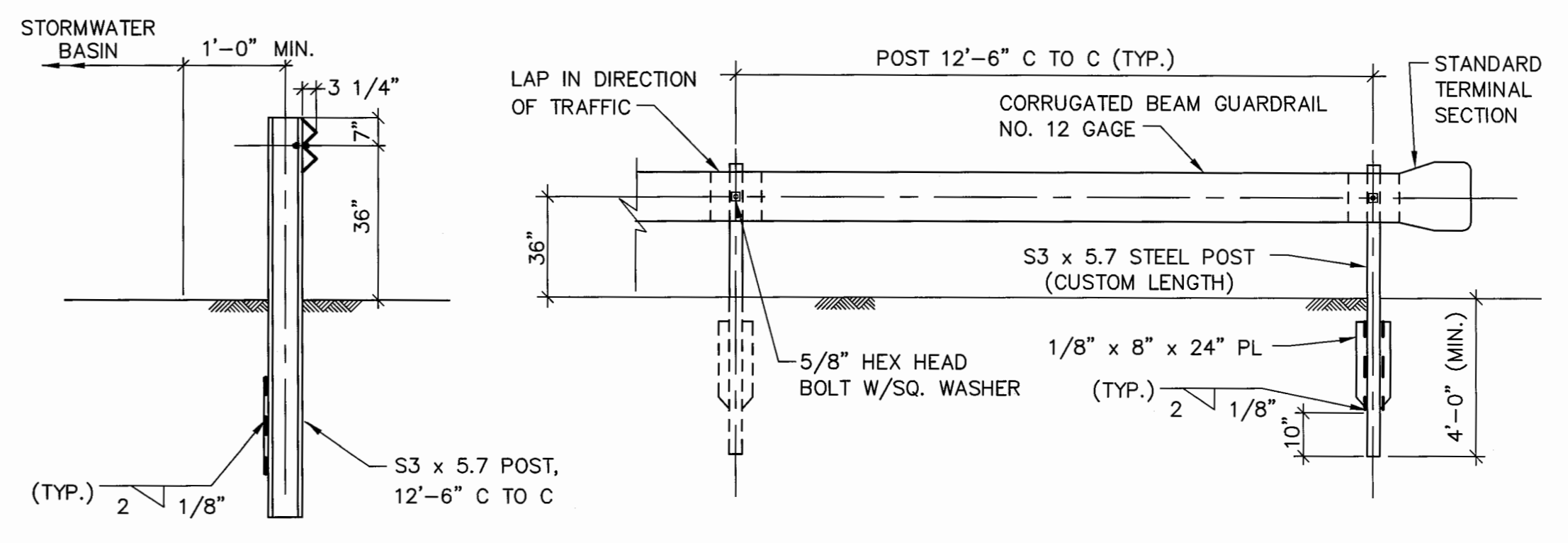
OPEN CUT



SHEETED TRENCH IN ROCK

TYPICAL TRENCH DETAILS IN ROCK
NOT TO SCALE

OPEN CUT IN ROCK



SECTION

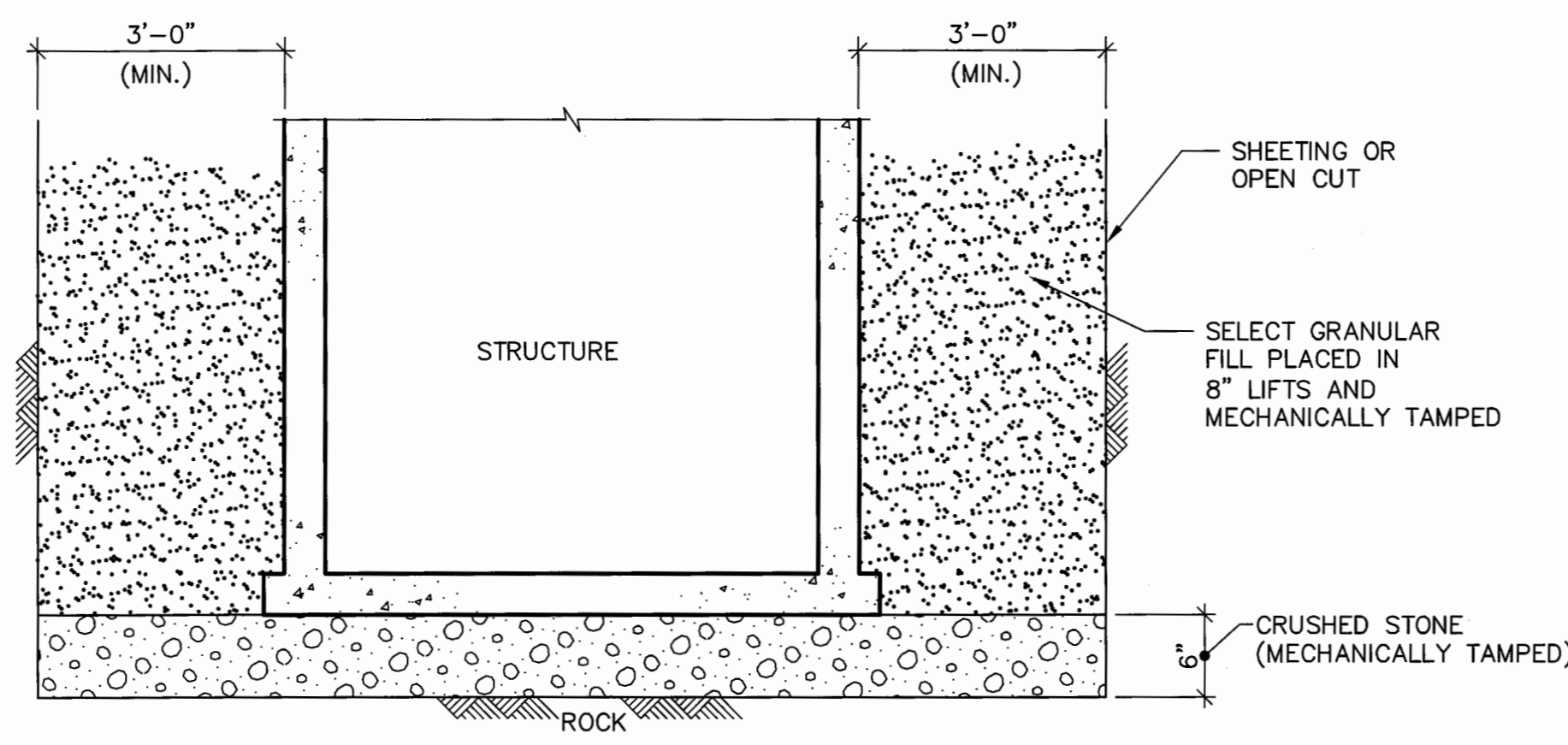
ELEVATION

- NOTES:**
- LAP ALL GUARDRAIL SPLICES IN DIRECTION OF TRAFFIC.
 - GUARDRAIL SHALL COMPLY WITH NYS DOT ITEM 606 OR EQUAL, EXCEPT AS MODIFIED HEREIN.

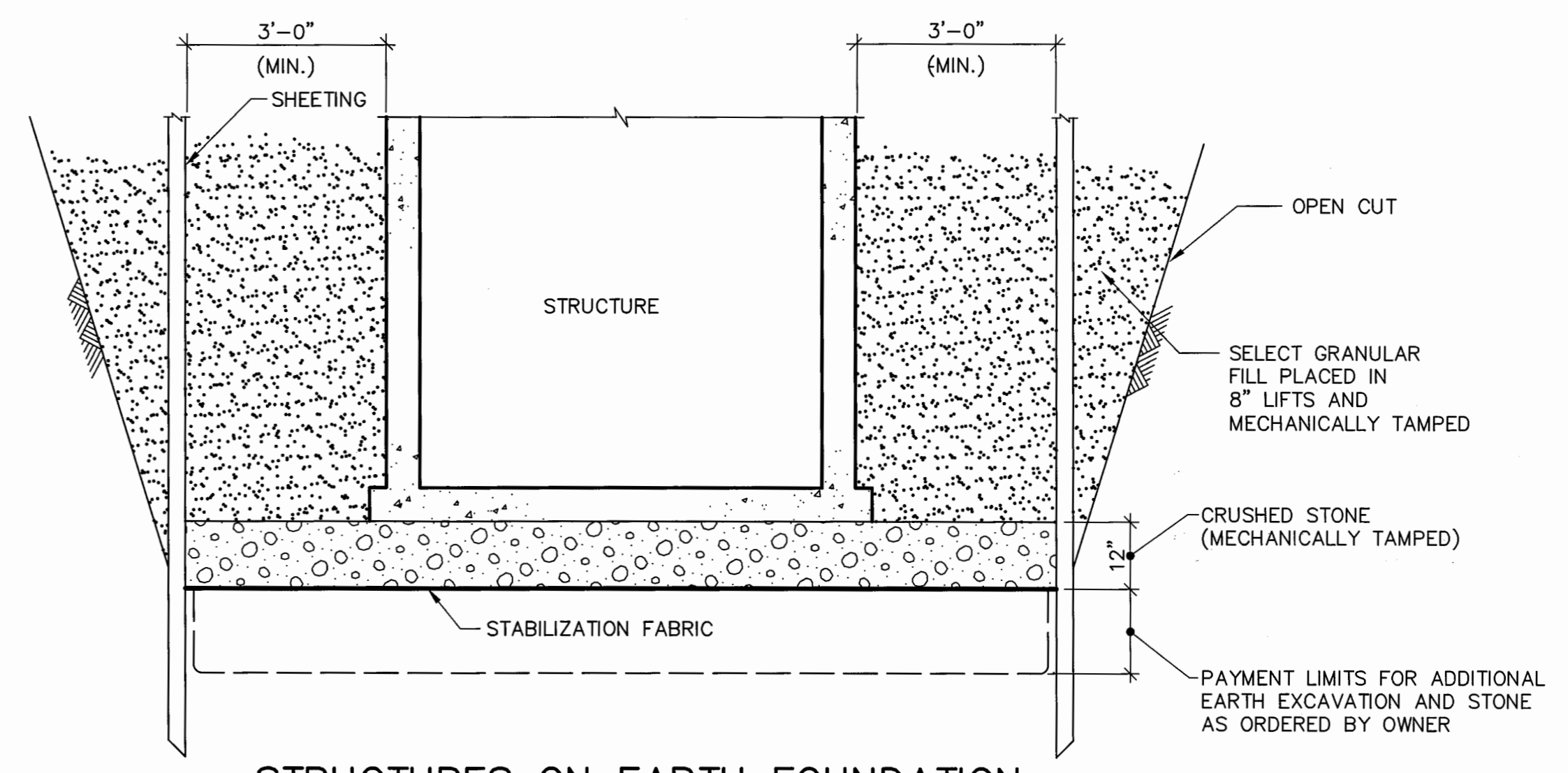
GUARDRAIL DETAIL
NOT TO SCALE

New York State Department of Environmental Conservation
Division of Water
By direction of the Commissioner these plans are hereby approved
pursuant to the Environmental Conservation Law.
See first sheet for date and signature.

NOTE:
CONTRACTOR SHALL UTILIZE SELECT GRANULAR FILL FOR TRENCH BACKFILL AND RESTORE TRAFFIC SURFACE IN KIND AT TRAFFIC AREAS. NATIVE BACKFILL FROM TRENCHING ACTIVITIES MAY BE UTILIZED IN NON-TRAFFIC AREAS. RESTORE ALL EXISTING SURFACES IN KIND.



STRUCTURES ON ROCK FOUNDATION
NOT TO SCALE



STRUCTURES ON EARTH FOUNDATION IN SHEETED OR OPEN CUT EXCAVATION
NOT TO SCALE



REVISIONS			
NO.	BY	DATE	REMARKS
1	TAM	5/4/12	REVISED RAIN GARDEN #1 AND RAIN GARDEN #3
2	RJT	7/20/12	ADDRESSED DEC REVIEW COMMENTS
3	RJT	8/22/12	ADDRESSED DEC REVIEW COMMENTS
4	RJT	9/7/12	ADDRESSED DEC REVIEW COMMENTS
5	RJT	9/21/12	ADDRESSED DEC REVIEW COMMENTS
6	RJT	11/6/12	FINAL REVISIONS

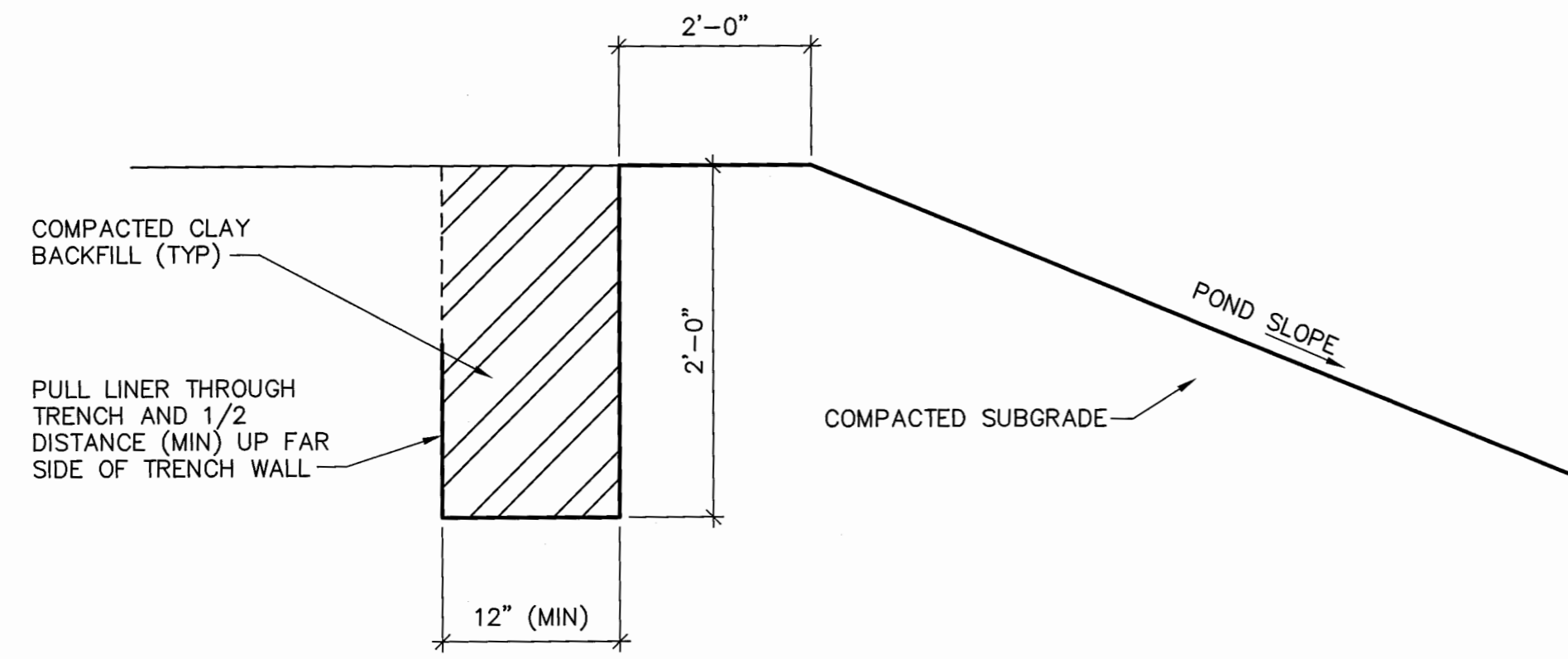
DES: RJT
DWN: SMH
CKD: TAM

NORLITE CORPORATION
628 S. SARATOGA STREET, COHOES, NY
FACILITY STORMWATER DESIGN

DETAILS 2
NOT TO SCALE

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DATE: NOVEMBER 2012
C SHEET 5 OF 7
CAD REF. NO. 02475022.0000

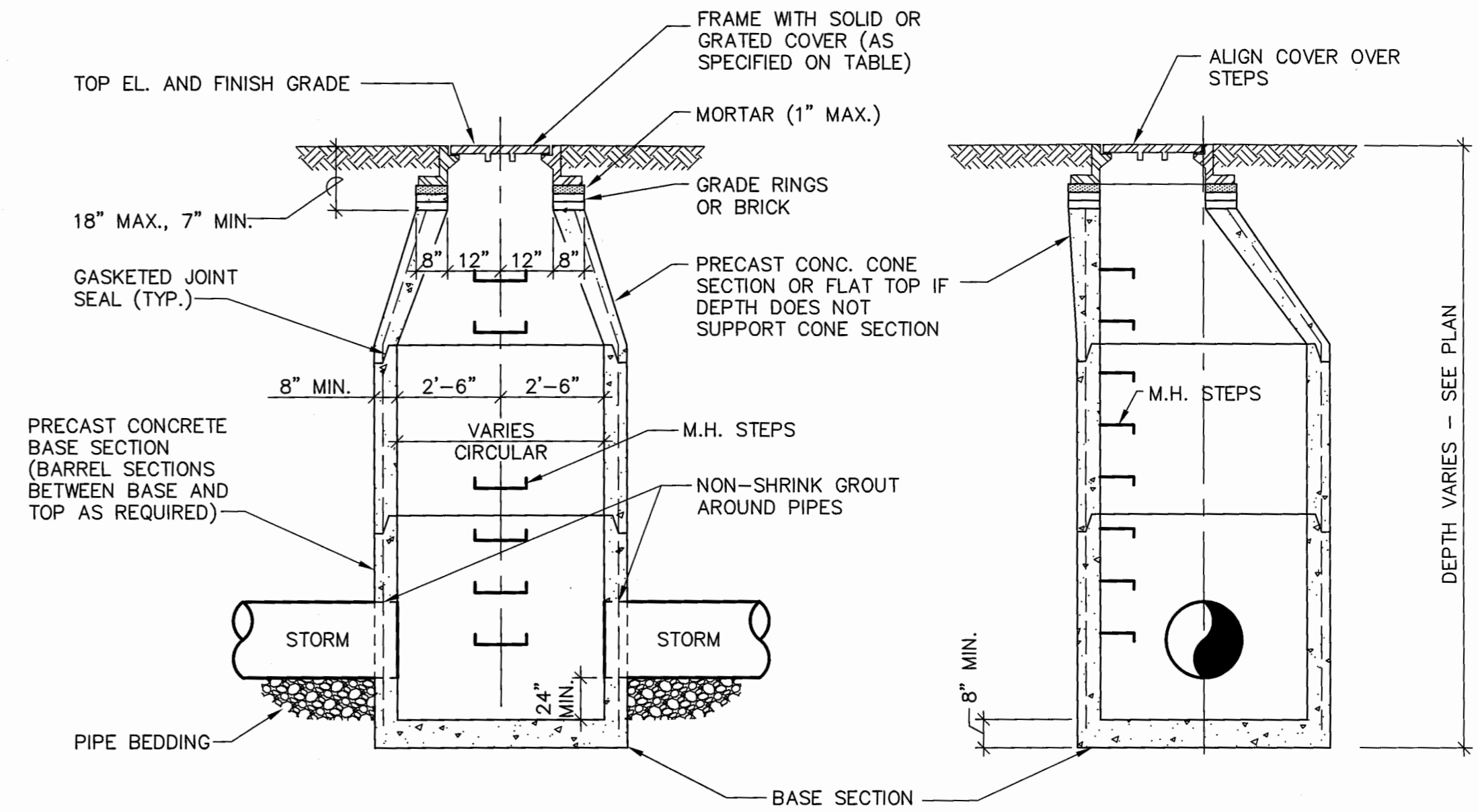
User: Itus Spcc: PIRNIE - STANDARD File: G:\ACAD\PROJ\02475022.0000\DRAWINGS\REVISED SW DESIGN\02475022-005.DWG Scale: 1:1 Date: 11/07/2012 Time: 11:37 Layout: Blank



POND LINER ANCHOR DETAIL

1
3 6

NOT TO SCALE



NOTES:

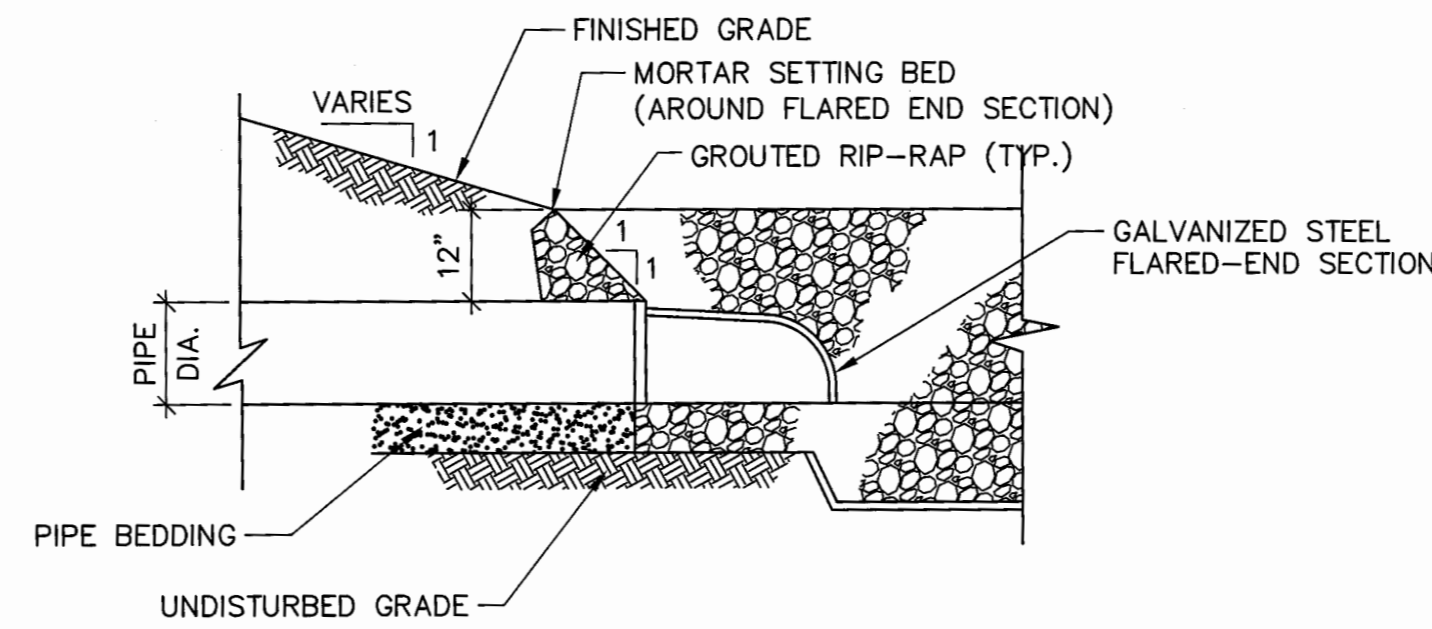
1. PRECAST MANHOLES BY FORT MILLER (OR EQUAL) TO BE SELECTED TO PROVIDE ADEQUATE SPACE FOR INCOMING AND OUTGOING STORM PIPING NOTED ON PLANS AND PROFILES.
2. MANHOLE SELECTIONS SHALL BE APPROVED BY ENGINEER.
3. ALIGN COVER OVER STEPS.
4. PRECAST MANHOLES SHALL BE H20 TRAFFIC LOAD RATED.

STORM MANHOLE DETAIL

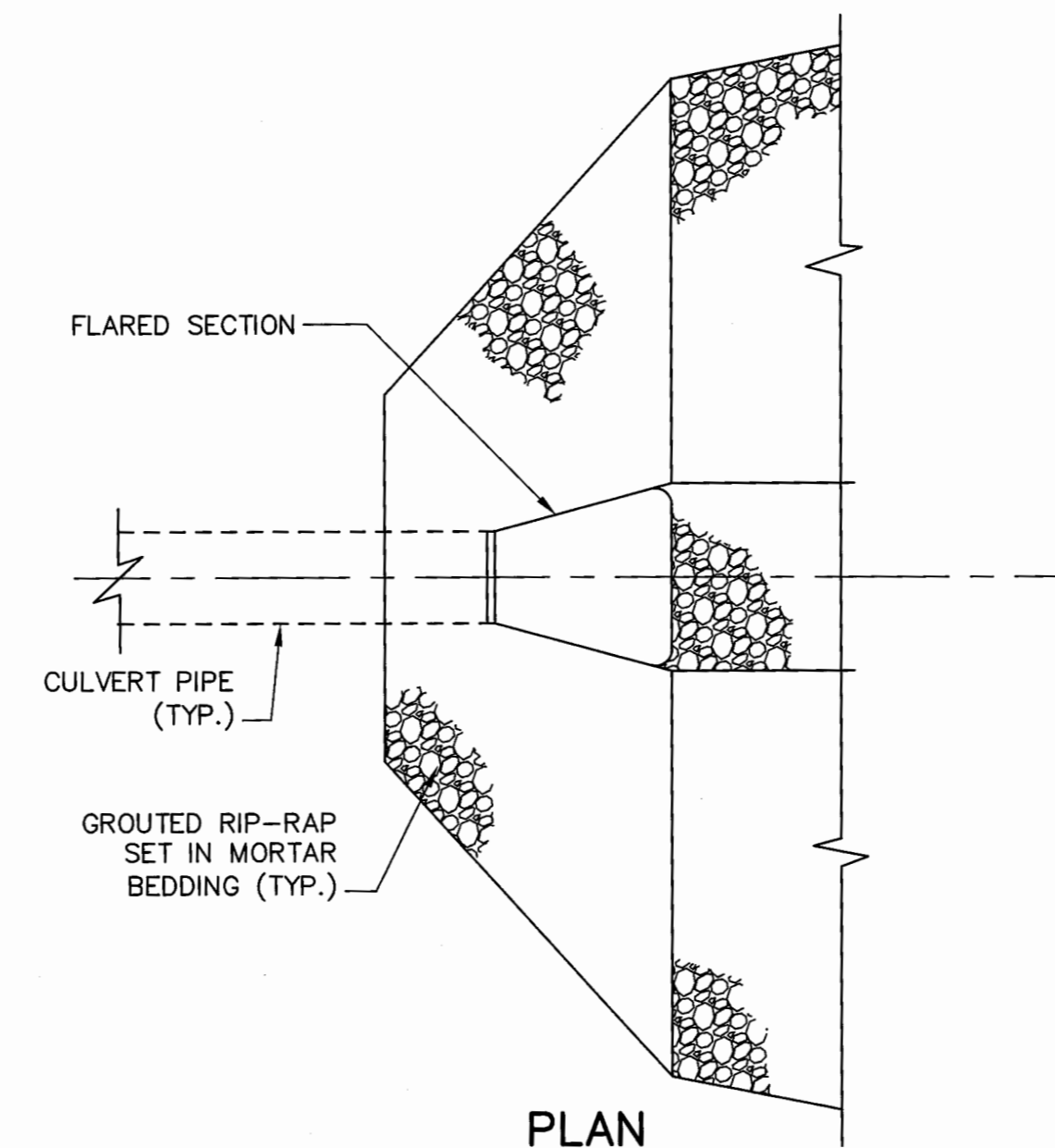
4
2 6

NOT TO SCALE

MANHOLE DESIGNATION	MANHOLE INSIDE DIAMETER (FT.)	RIM ELEVATION	INVERT ELEVATION - IN	INVERT ELEVATION - OUT	SUMP DEPTH (FT)	NOTES
MH-1	4'-0"	MATCH EXISTING	N/A	MATCH EXISTING	2.0	PROVIDE FRAME AND GRATE SYRACUSE CASTINGS #1186D
MH-2	6'-0"	65.5	N/A	61.0	0	PROVIDE FRAME AND GRATE SYRACUSE CASTINGS #1186D



ELEVATION

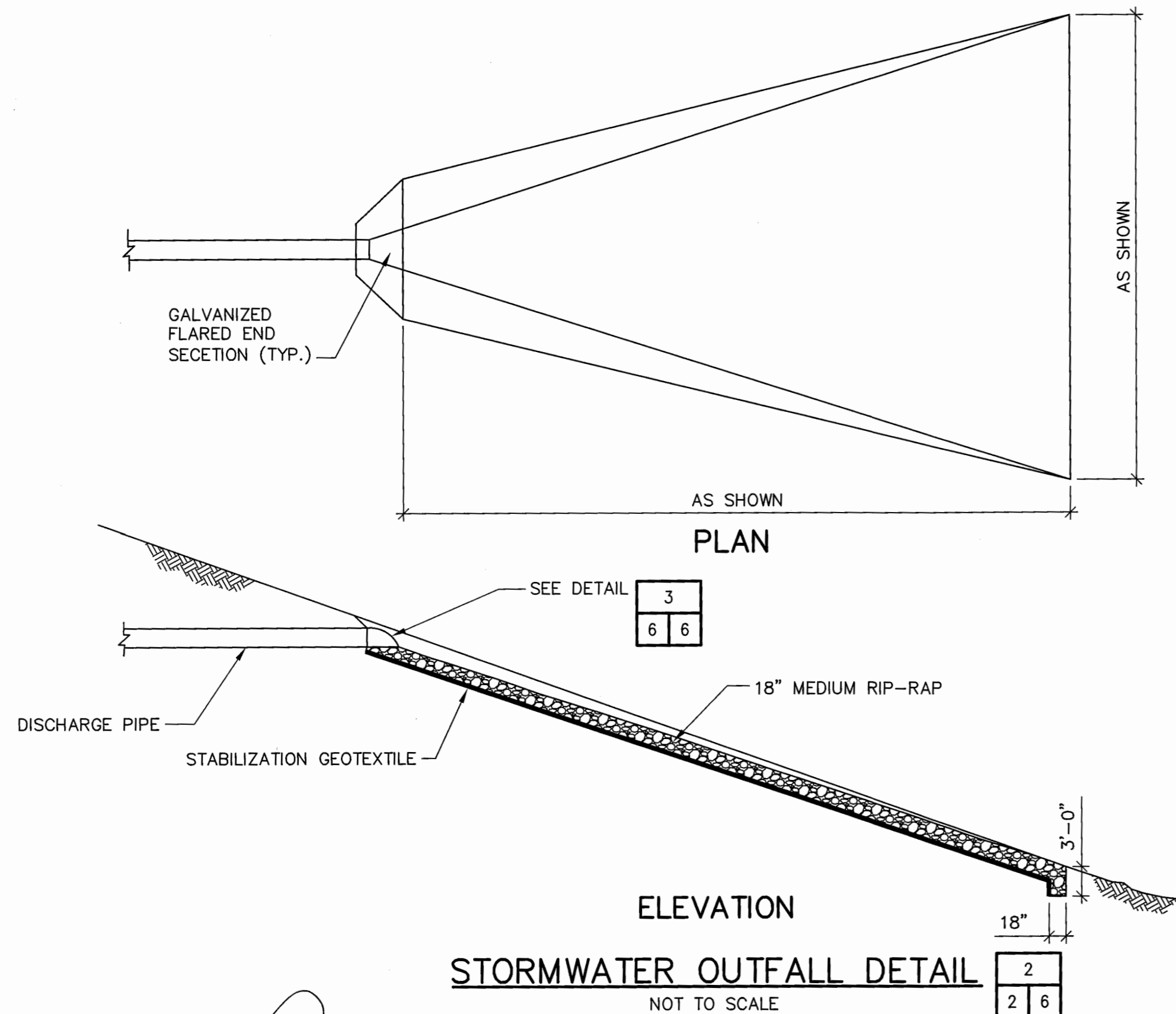


PLAN

CULVERT TERMINUS DETAIL

3
6 6

NOT TO SCALE



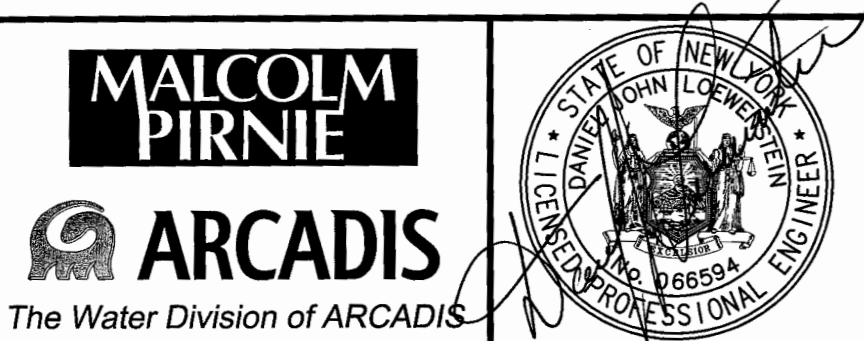
STORMWATER OUTFALL DETAIL

2
2 6

NOT TO SCALE

New York State Department of Environmental Conservation
Division of Water
By direction of the Commissioner these plans are hereby approved pursuant to the Environmental Conservation Law.
See first sheet for date and signature.

User: hseaman; Spec: PIRNIE; STANDARD; File G:\ACAD\PROJ\02475022\0000\DRAWINGS\REVISED_SW_DESIGN\02475022-006.DWG; Scale: 1:1; Date: 09/19/2012; Time: 13:21; Layout: Blank

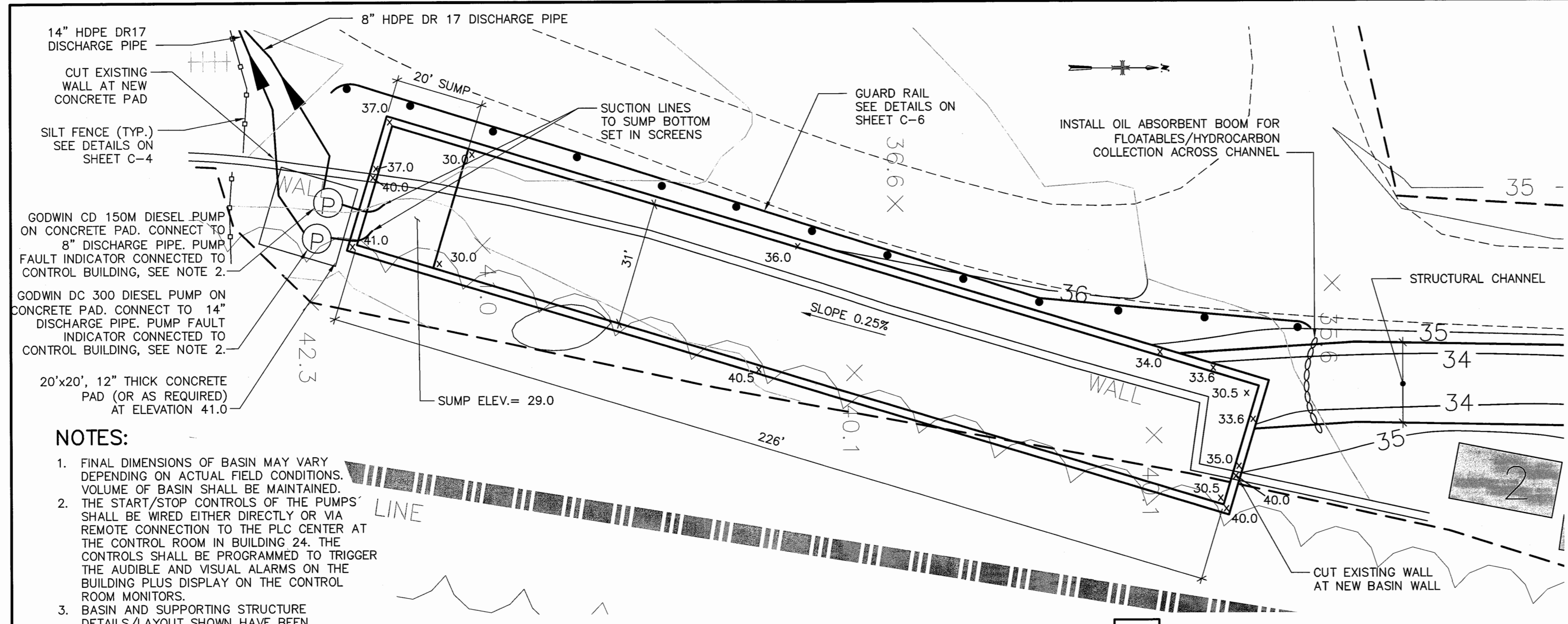


NO.	BY	DATE	REVISIONS	REMARKS
1	TAM	5/4/12	REVISED RAIN GARDEN #1 AND RAIN GARDEN #3	
2	RJT	7/20/12	ADDRESSED DEC REVIEW COMMENTS	
3	RJT	8/22/12	ADDRESSED DEC REVIEW COMMENTS	
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5	RJT	9/21/12	ADDRESSED DEC REVIEW COMMENTS	
6	RJT	11/6/12	FINAL REVISIONS	

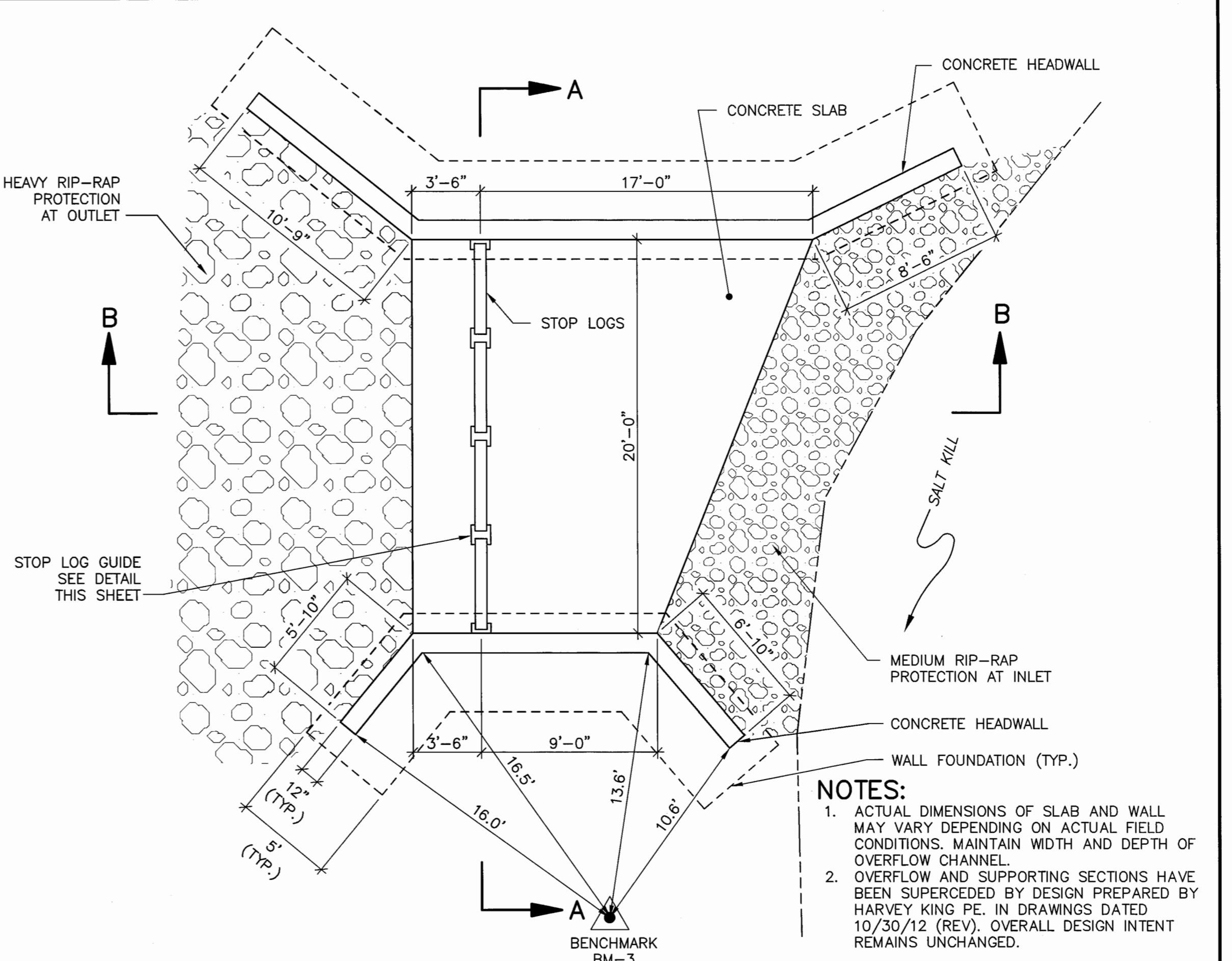
NORLITE CORPORATION
628 S. SARATOGA STREET, COHOES, NY
FACILITY STORMWATER DESIGN

DETAILS 3
NOT TO SCALE

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DATE NOVEMBER 2012
C SHEET 6 OF 7
CAD REF. NO. 02475022.0000



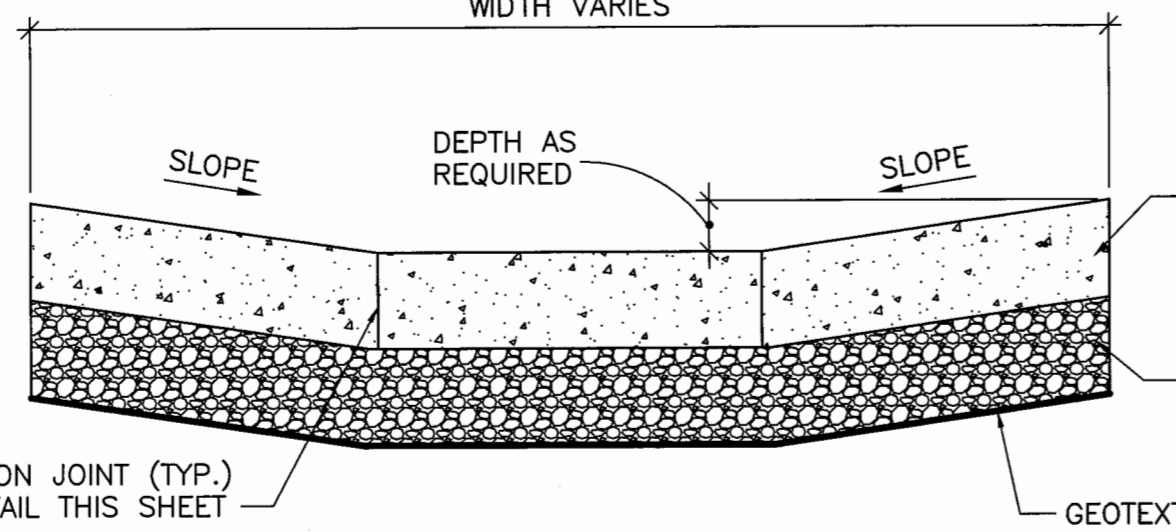
HARD WALLED LOWER BASIN DETAIL
SCALE: 1"=20'



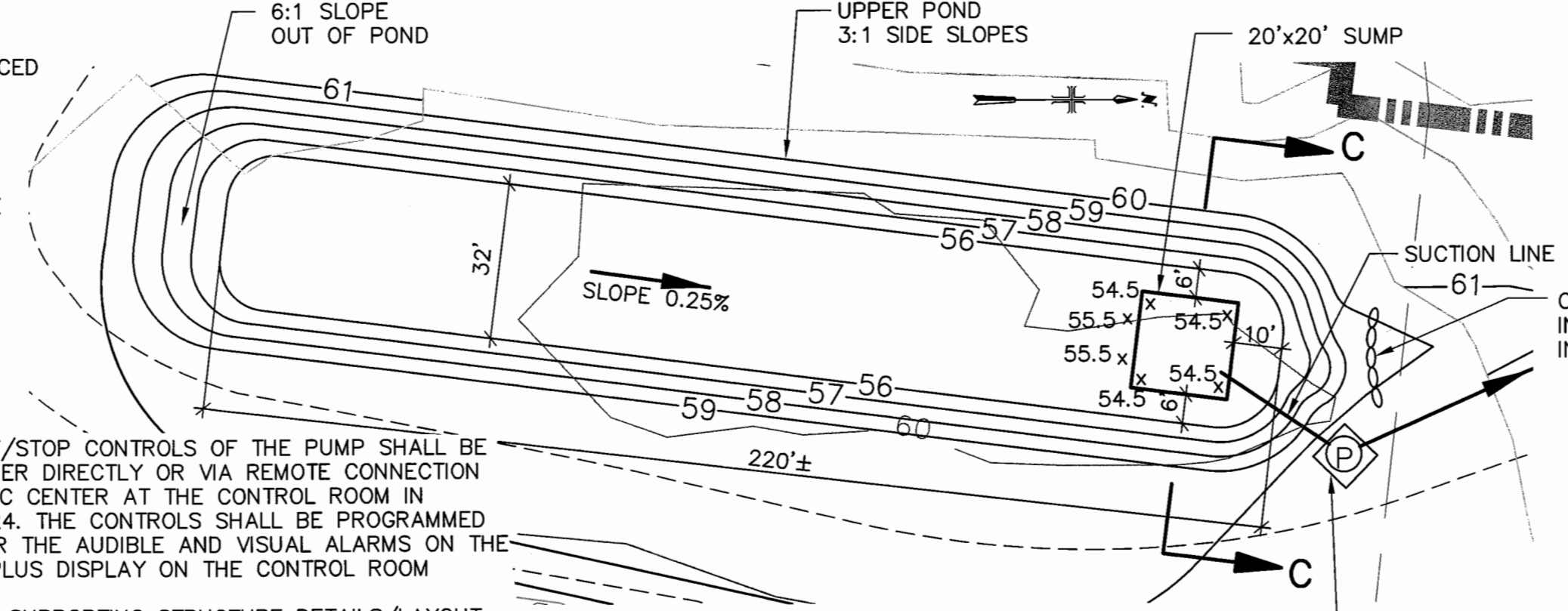
SALT KILL OVERFLOW DETAIL
SCALE: 1"=5'

- NOTES:**
1. FINAL DIMENSIONS OF BASIN MAY VARY DEPENDING ON ACTUAL FIELD CONDITIONS. VOLUME OF BASIN SHALL BE MAINTAINED.
 2. THE START/STOP CONTROLS OF THE PUMPS SHALL BE WIRED EITHER DIRECTLY OR VIA REMOTE CONNECTION TO THE PLC CENTER AT THE CONTROL ROOM IN BUILDING 24. THE CONTROLS SHALL BE PROGRAMMED TO TRIGGER THE AUDIBLE AND VISUAL ALARMS ON THE BUILDING PLUS DISPLAY ON THE CONTROL ROOM MONITORS.
 3. BASIN AND SUPPORTING STRUCTURE DETAILS/LAYOUT SHOWN HAVE BEEN SUPERCEDED BY DESIGN PREPARED BY HARVEY KING PE. IN DRAWINGS DATED 10/4/12 (REV). OVERALL DESIGN INTENT REMAINS UNCHANGED.

- NOTES:**
1. ACTUAL DIMENSIONS OF SLAB AND WALL MAY VARY DEPENDING ON ACTUAL FIELD CONDITIONS. MAINTAIN WIDTH AND DEPTH OF OVERFLOW CHANNEL.
 2. OVERFLOW AND SUPPORTING SECTIONS HAVE BEEN SUPERCEDED BY DESIGN PREPARED BY HARVEY KING PE. IN DRAWINGS DATED 10/30/12 (REV). OVERALL DESIGN INTENT REMAINS UNCHANGED.

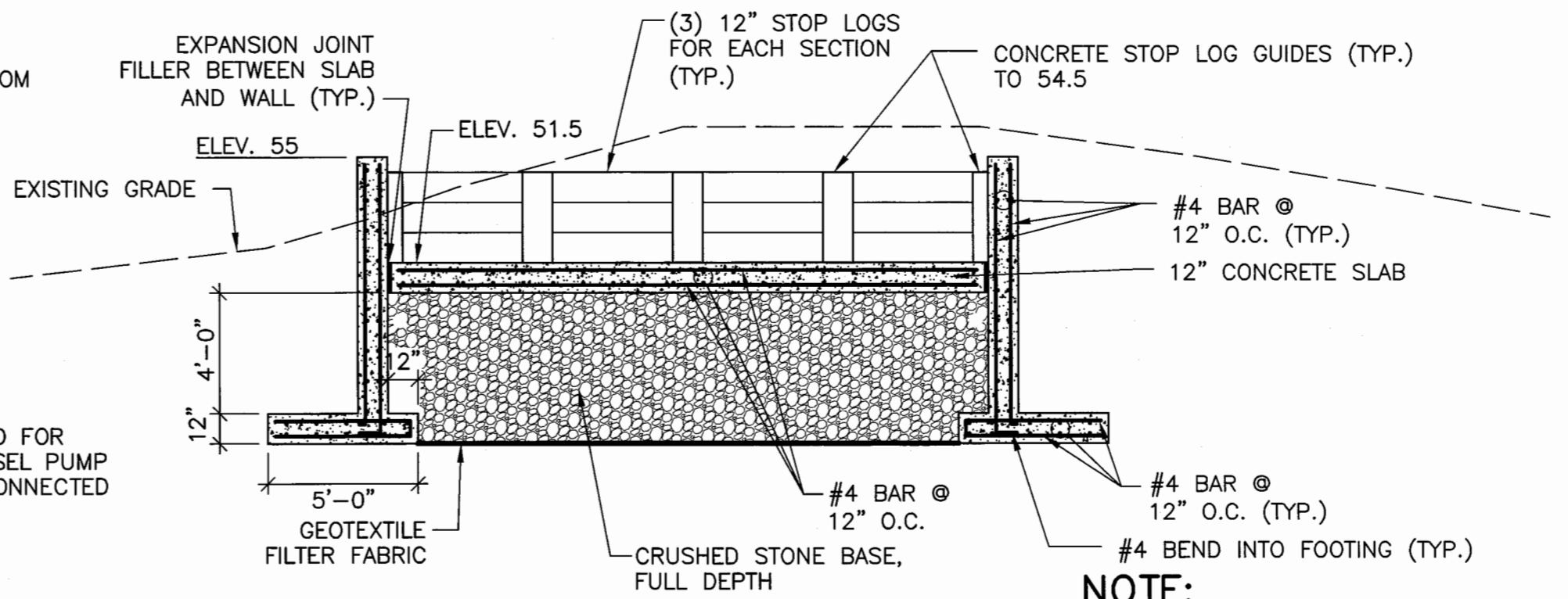


STRUCTURAL CHANNEL DETAIL
SCALE: 1"=10'



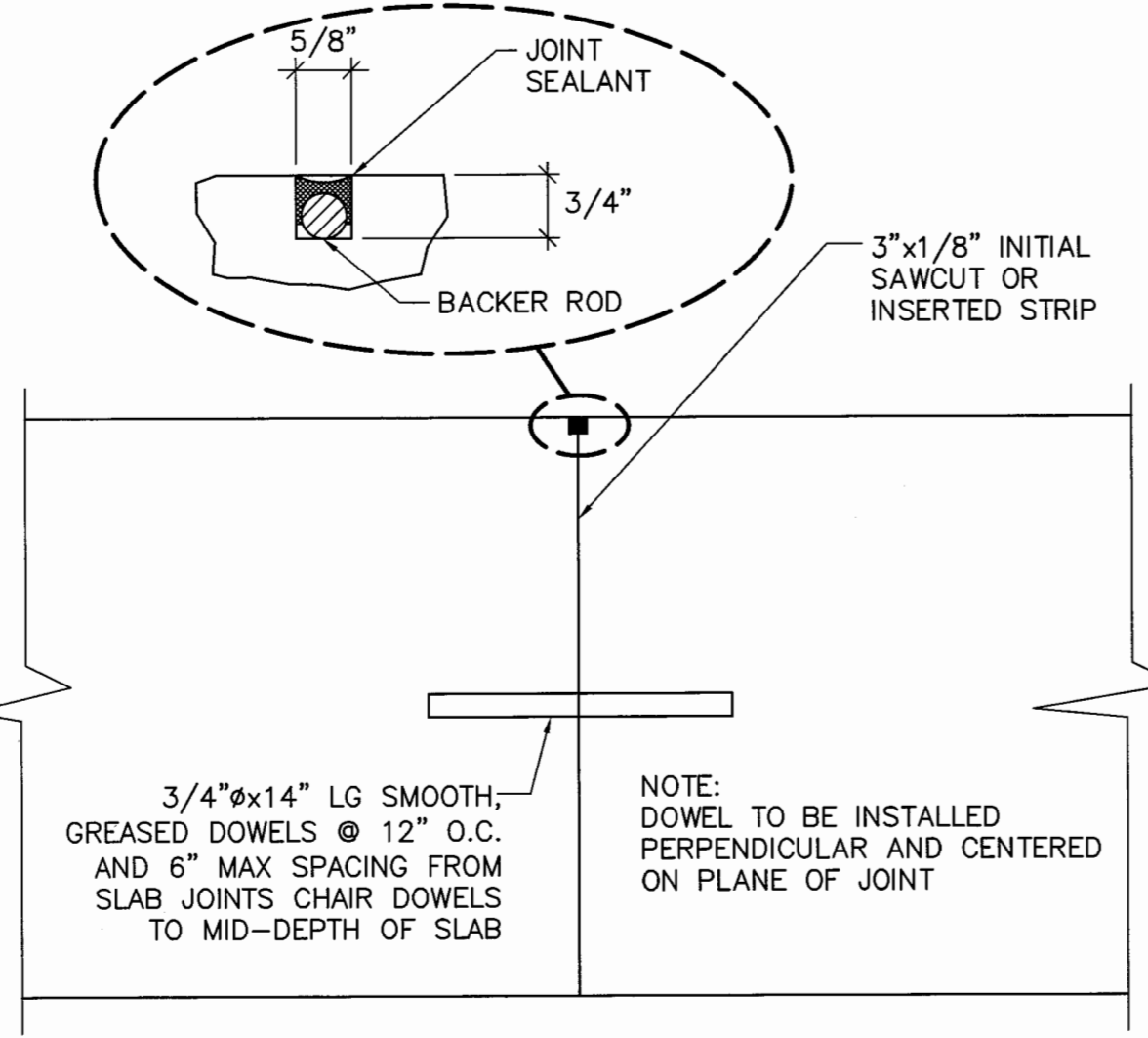
UPPER POND DETAIL
SCALE: 1"=30'

- NOTES:**
1. THE START/STOP CONTROLS OF THE PUMP SHALL BE WIRED EITHER DIRECTLY OR VIA REMOTE CONNECTION TO THE PLC CENTER AT THE CONTROL ROOM IN BUILDING 24. THE CONTROLS SHALL BE PROGRAMMED TO TRIGGER THE AUDIBLE AND VISUAL ALARMS ON THE BUILDING PLUS DISPLAY ON THE CONTROL ROOM MONITORS.
 2. POND AND SUPPORTING STRUCTURE DETAILS/LAYOUT SHOWN HAVE BEEN SUPERCEDED BY DESIGN PREPARED BY HARVEY KING PE. IN DRAWINGS DATED 10/30/12 (REV). OVERALL DESIGN INTENT REMAINS UNCHANGED.

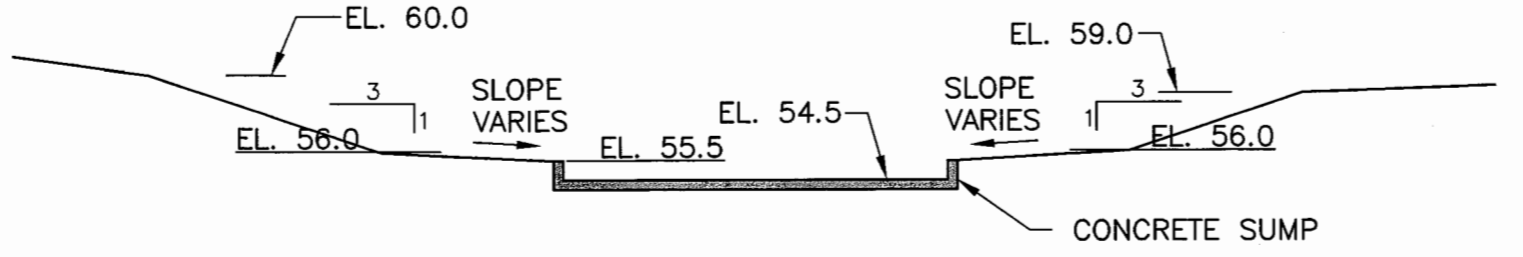


SECTION A-A
SCALE: 1"=5'

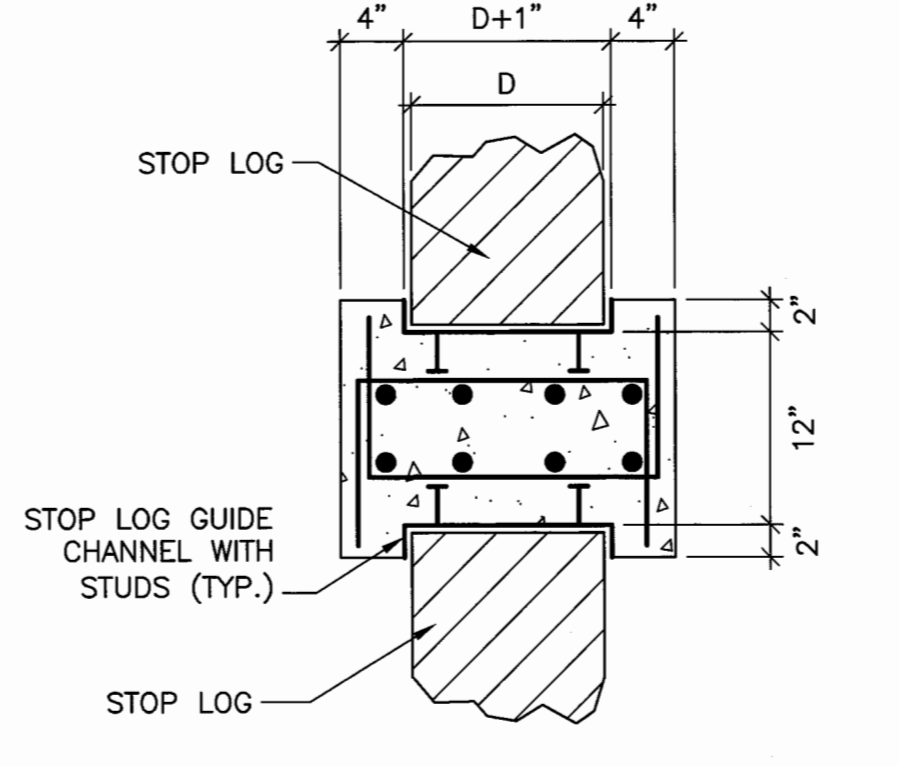
- NOTE:** REINFORCEMENT AND WALLS ARE SHOWN SCHEMATICALLY.



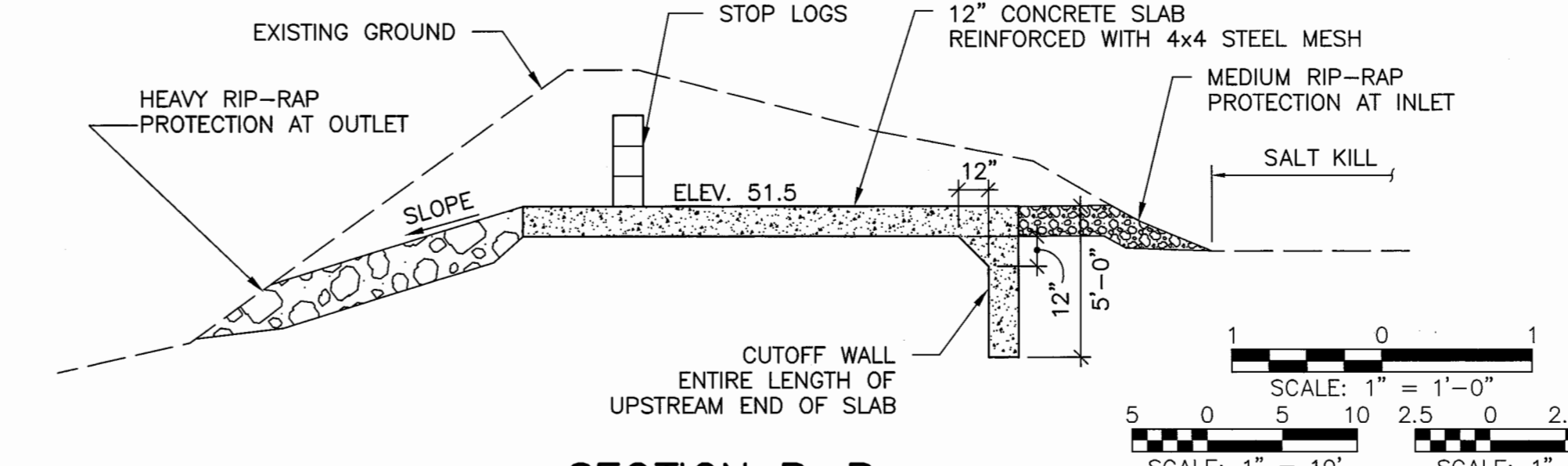
EXPANSION JOINT DETAIL
SCALE: 1"=10'



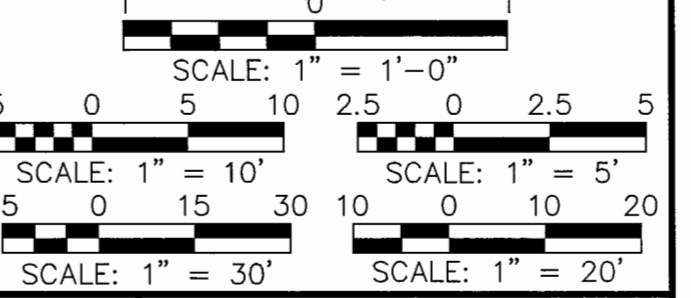
SECTION C-C
SCALE: 1"=10'



STOP LOG GUIDE DETAIL
SCALE: 1"=1'



SECTION B-B
SCALE: 1"=5'



REVISIONS		DATE	REMARKS
1	TAM	5/4/12	REVISED RAIN GARDEN #1 AND RAIN GARDEN #3
2	RJT	7/20/12	ADDRESSED DEC REVIEW COMMENTS
3	RJT	8/22/12	ADDRESSED DEC REVIEW COMMENTS
4	RJT	9/7/12	ADDRESSED DEC REVIEW COMMENTS
5	RJT	9/21/12	ADDRESSED DEC REVIEW COMMENTS
6	RJT	10/25/12	ADDED NOTE ON ALARM CONTROLS
7	RJT	11/6/12	FINAL REVISIONS

NORLITE CORPORATION
628 S. SARATOGA STREET, COHOES, NY

FACILITY STORMWATER DESIGN

New York State Department of Environmental Conservation
Division of Water

By direction of the Commissioner these plans are hereby approved pursuant to the Environmental Conservation Law.
See first sheet for date and signature.

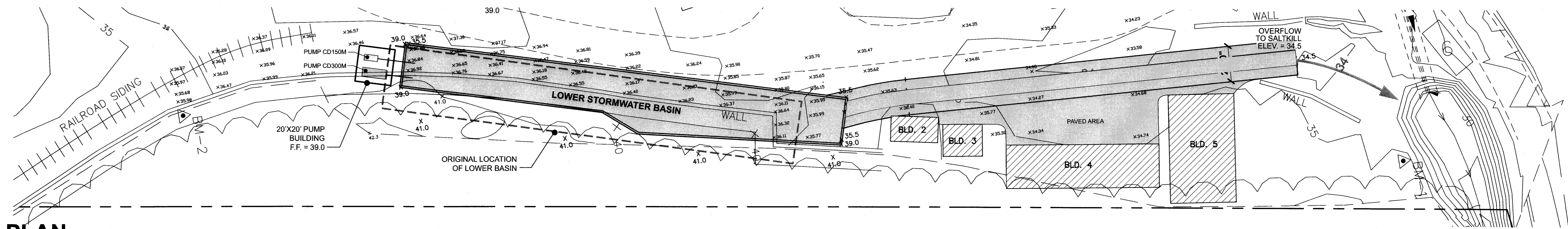
DETAILS 4
SCALE: AS SHOWN

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DATE: NOVEMBER 2012

C SHEET 7 OF 7

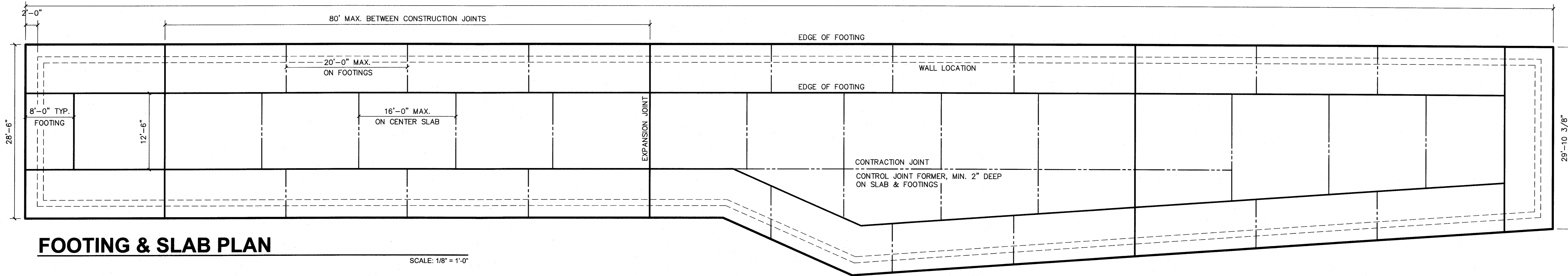
CAD REF. NO. 02475022.0000



SITE PLAN

SCALE: 1" = 30'

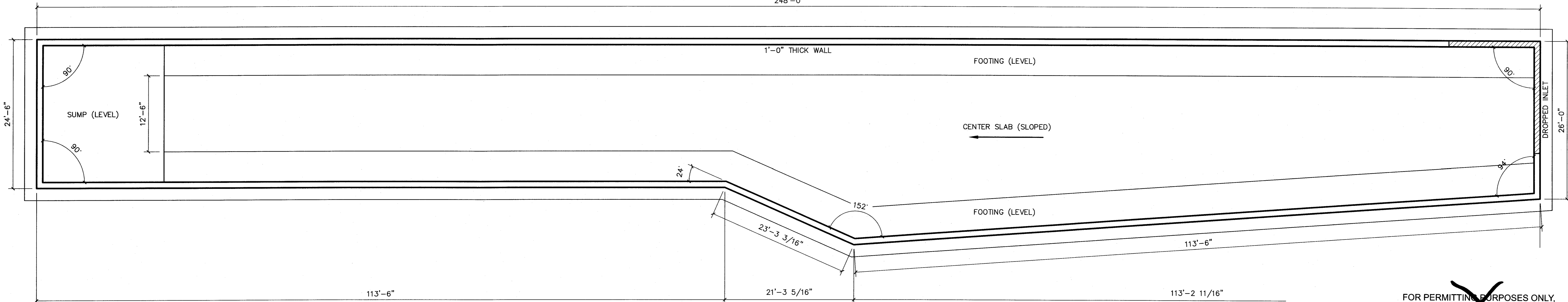
252'-0"



FOOTING & SLAB PLAN

SCALE: 1/8" = 1'-0"

248'-0"



WALL PLAN

SCALE: 1/8" = 1'-0"

6250 S.F. X 4.5' = 28,125 C.F. SCALE: 1/8" = 1'-0"
 SUMP: 22.5' X 20' X 1' = 450 C.F.
 CENTER SLOPING SLAB: 56.5 S.F. X 12.5' = 706 C.F.
 TOTAL VOLUME = 29,281 C.F.

OVERFLOW ELEVATION AT SALT KILL: 34.5'
 BASIN BOTTOM ELEV. 30

CONTRACTION JOINTS IN THE VERTICAL WALL AND FOOTING SHALL BE AT INTERVALS NO GREATER THAN 20 FEET APART AND SHALL MATCH THE JOINTS IN THE FOOTING/SLAB. CONSTRUCTION JOINTS SHALL BE NO GREATER THAN 80 FEET APART REPLACING EVERY 4TH CONTRACTION JOINT. MEANING THEY SHOULD BE PLACED IN CONJUNCTION WITH A CONTRACTION JOINT DEPENDING ON ACTUAL CONSTRUCTION CONSTRAINTS. REINFORCING AT CONTRACTION JOINTS SHALL BE REDUCED BY A MINIMUM OF 50% BY CUTTING THE TRANSVERSE BARS ON BOTH CURTAINS REMOVING 2 INCHES ON EITHER SIDE OF THE JOINT.

New York State Department of Environmental Conservation
 Division of Water
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REV.	DESCRIPTION	DATE	CHK.	APP.
2	GENERAL DESIGN REVISIONS	10/12/12	TVB	HMK
1	GENERAL DESIGN REVISIONS	10/04/12	TVB	HMK

**FOR PERMITTING PURPOSES ONLY,
NOT FOR CONSTRUCTION**

CLIENT APPROVAL: _____ DATE: _____

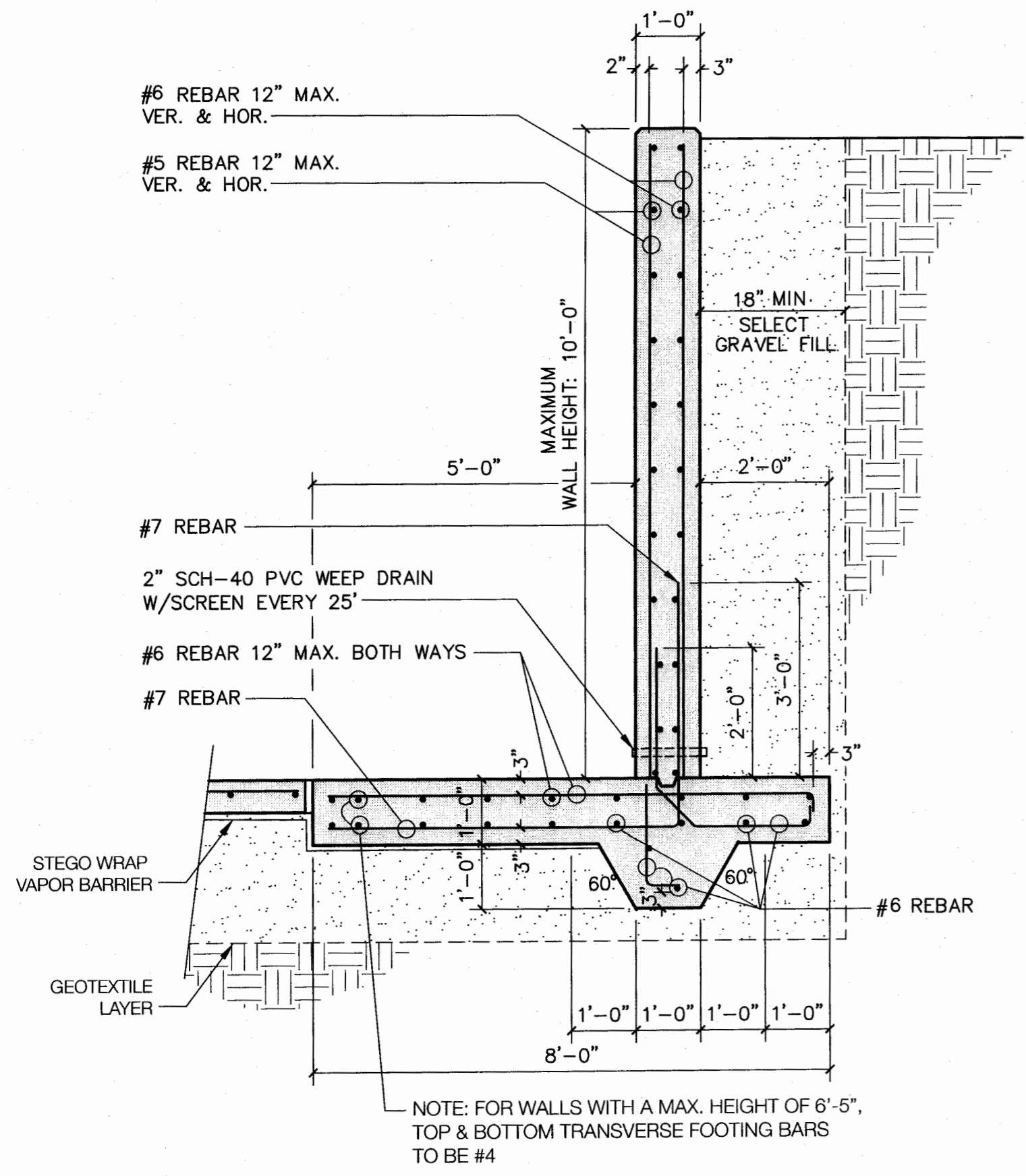
HARVEY M. KING, P.E.
 ENVIRONMENTAL ENGINEERS & SCIENTISTS
 39 FALCON CHASE, CITY OF RENSSELAER, N.Y.

NORLITE CORPORATION
LOWER STORMWATER BASIN

SHEET 1 OF 2

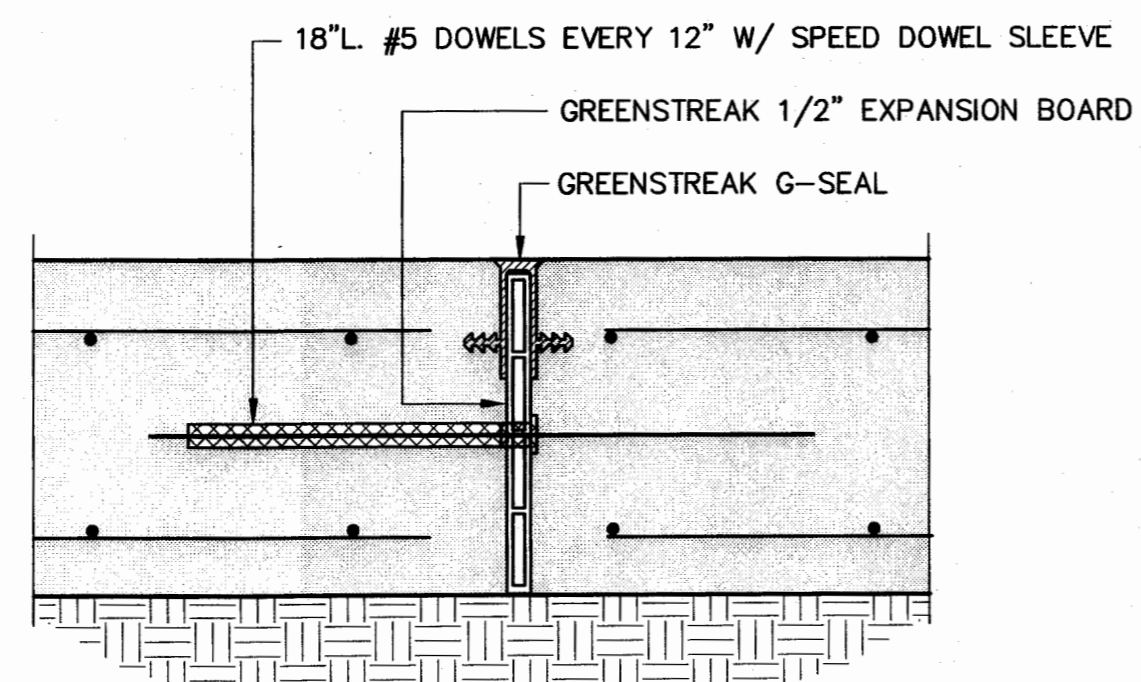
DRAWN BY: TVB	DATE: 09/25/12	PROJECT NO.:
ENGINEER: HMK	CHECKED:	AS SHOWN
APPROVED:	DATE:	FILE NAME REF.:

REV: 0



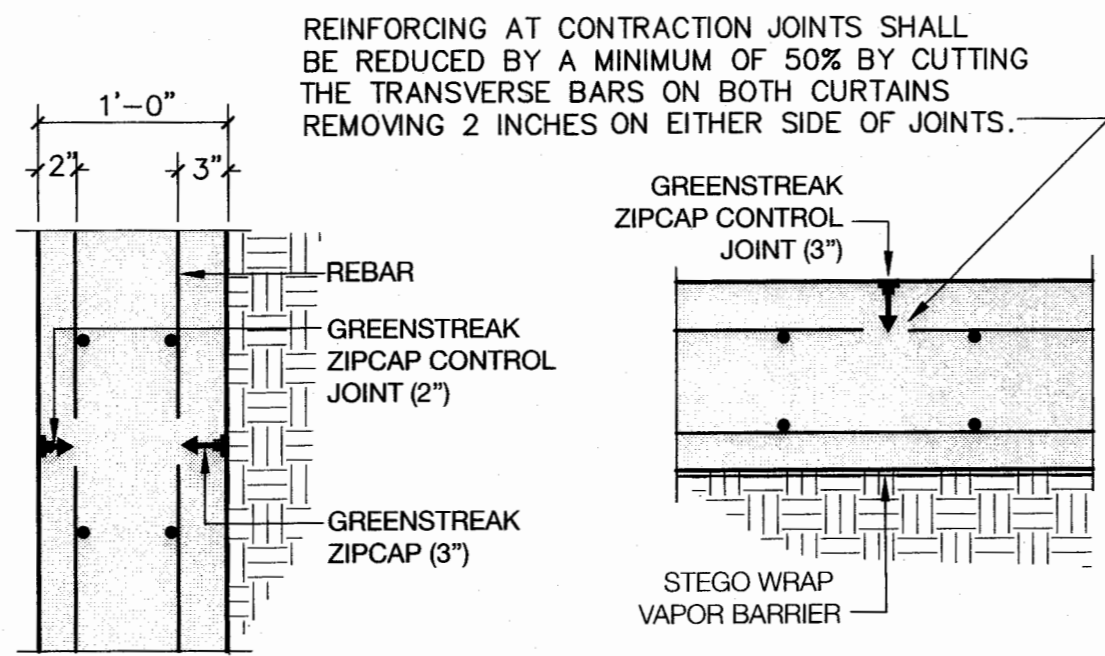
REINFORCING STEEL DETAIL

SCALE: 1/2" = 1'-0"



WALL, FOOTING, OR SLAB EXPANSION JOINT DETAIL

SCALE: NONE

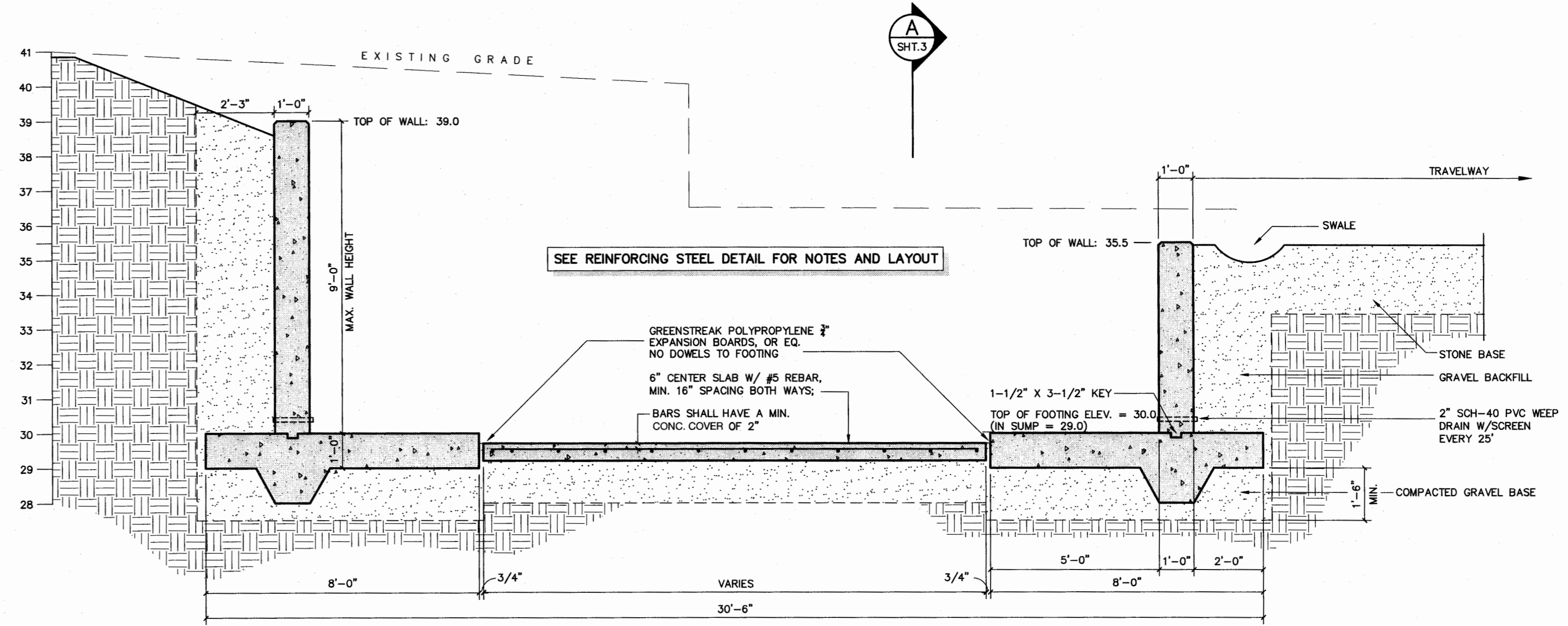


WALL (TOP VIEW)

FOOTING/SLAB

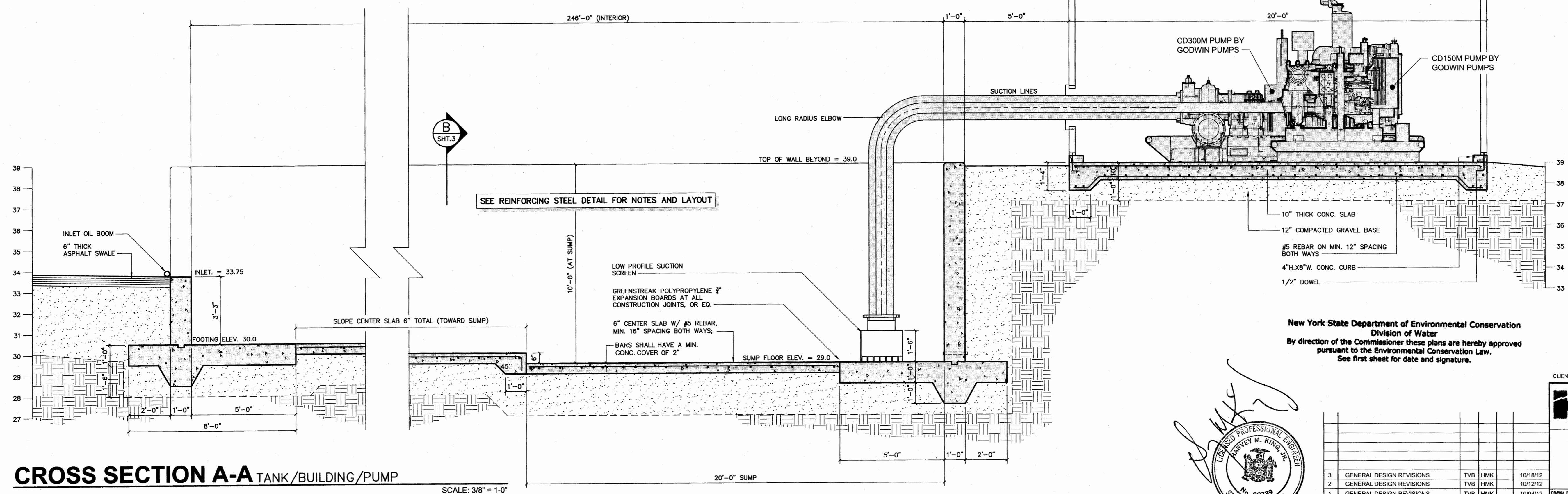
CONTRACTION JOINT DETAIL

SCALE: NONE



CROSS SECTION B-B

SCALE: 3/8" = 1'-0"



CROSS SECTION A-A TANK/BUILDING/PUMP

SCALE: 3/8" = 1'-0"

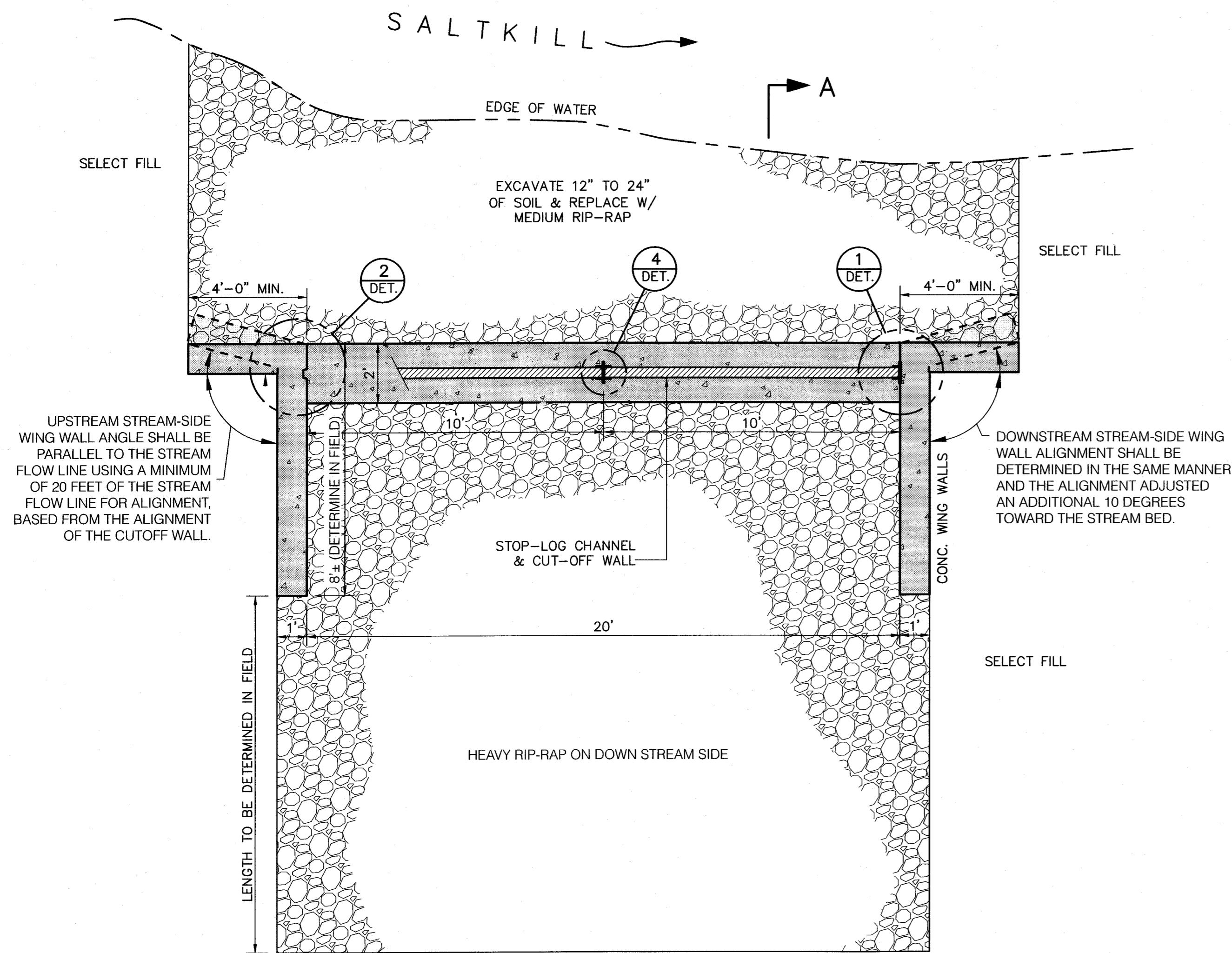
20'-0" SUMP



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 Division of Water
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CLIENT APPROVAL:		DATE:	
HARVEY M. KING, P.E. ENVIRONMENTAL ENGINEERS & SCIENTISTS 39 FALCON CHASE, CITY OF RENSSELAER, N.Y.			
NORLITE CORPORATION LOWER STORMWATER BASIN			
DRAWN BY: TVB		DATE: 09/25/12	PROJECT NO. REF.:
CHECKED: HMK		DATE: 10/04/12	FILE NAME REF.:
APPROVED:		DATE:	DATE:
3 GENERAL DESIGN REVISIONS 2 GENERAL DESIGN REVISIONS 1 GENERAL DESIGN REVISIONS		TVB HMK 10/18/12 TVB HMK 10/12/12 TVB HMK 10/04/12	SHEET 2 OF 2 PLOT SCALE: AS SHOWN PLOT DATA:

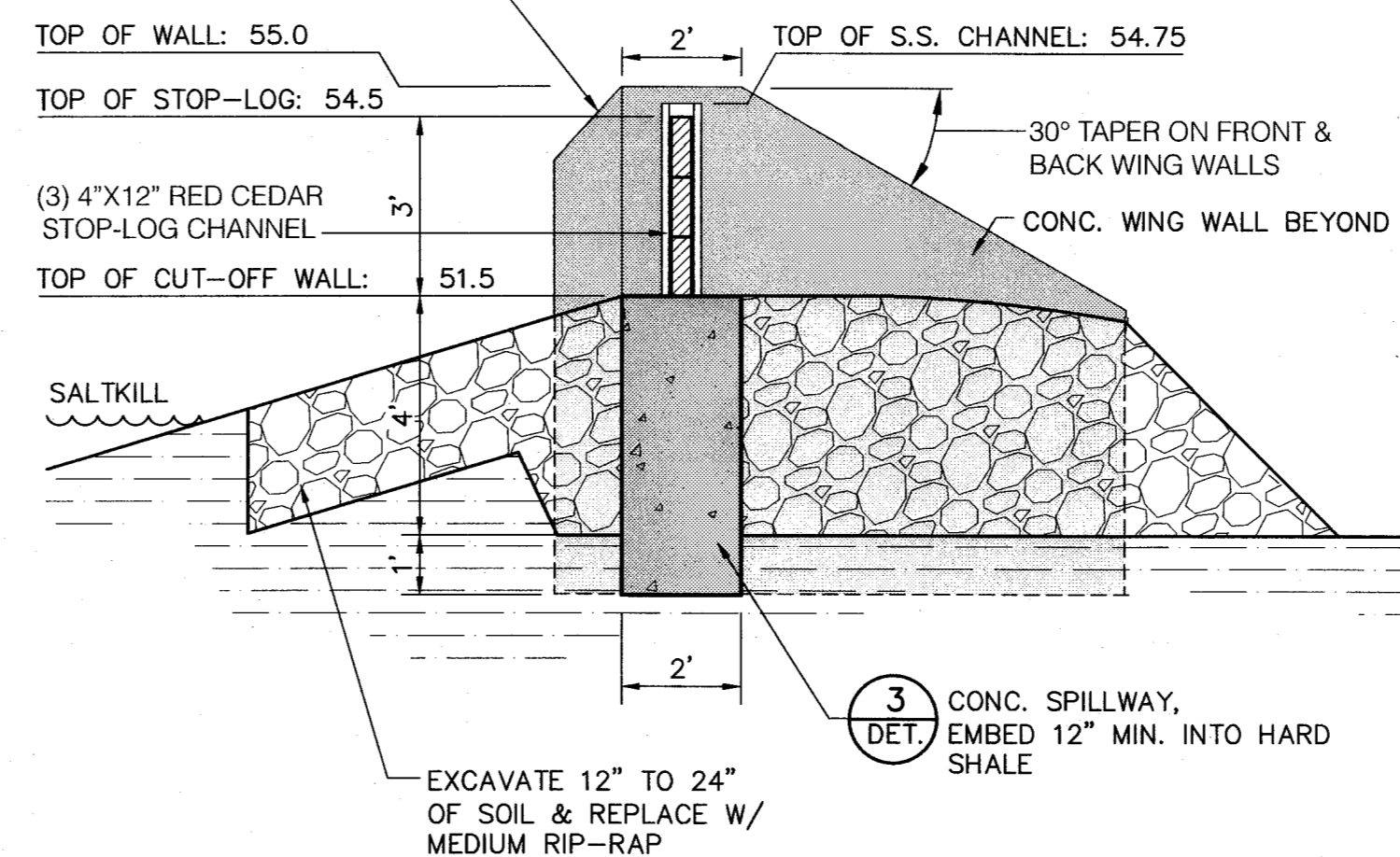


SITE PLAN

SCALE: 1" = 3'

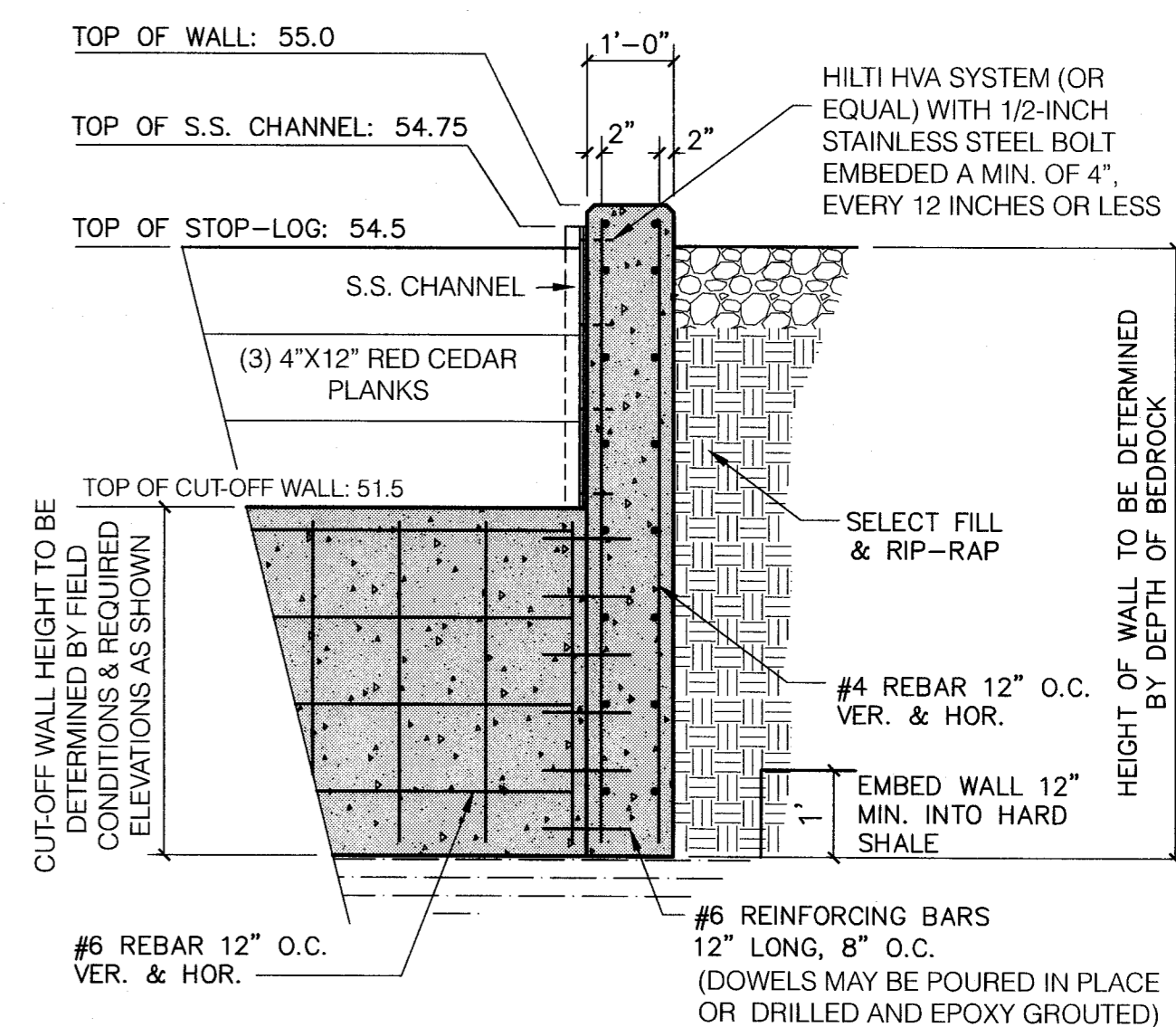
NOTE:
UPSTREAM AND DOWNSTREAM QUARRY-SIDE WING WALLS SHALL BE PERPENDICULAR TO THE CUTOFF WALL AS SHOWN. THE HORIZONTAL SLOPE OF THESE WALLS AWAY FROM THE CUTOFF WALL SHALL BE DETERMINED IN THE FIELD BASED ON EXISTING ELEVATION OF SURROUNDING SOILS ADJACENT TO CONSTRUCTION, BUT IN NO INSTANCE SHALL EXCEED 30 DEGREES DOWNWARD TOWARD THE QUARRY-SIDE TERMINATION.

HORIZONTAL SLOPE OF STREAM-SIDE WING WALLS SHALL BE DETERMINED IN THE FIELD BASED ON EXISTING ELEVATION OF SURROUNDING STREAM-SIDE SOILS, BUT IN NO INSTANCE SHALL EXCEED 30 DEGREES DOWNWARD TOWARD THE STREAM-SIDE TERMINATION, QUARRY-SIDE TERMINATION.



CROSS SECTION A-A

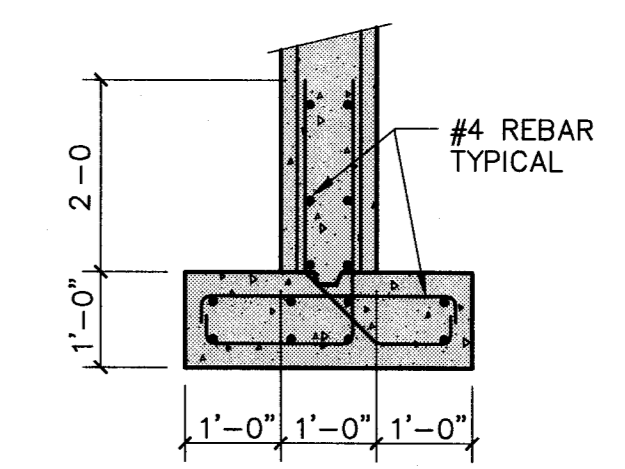
SCALE: 1" = 3'



WING WALL & CUT-OFF WALL DETAIL (SECTION VIEW)

1

SCALE: 1/2" = 1'-0"

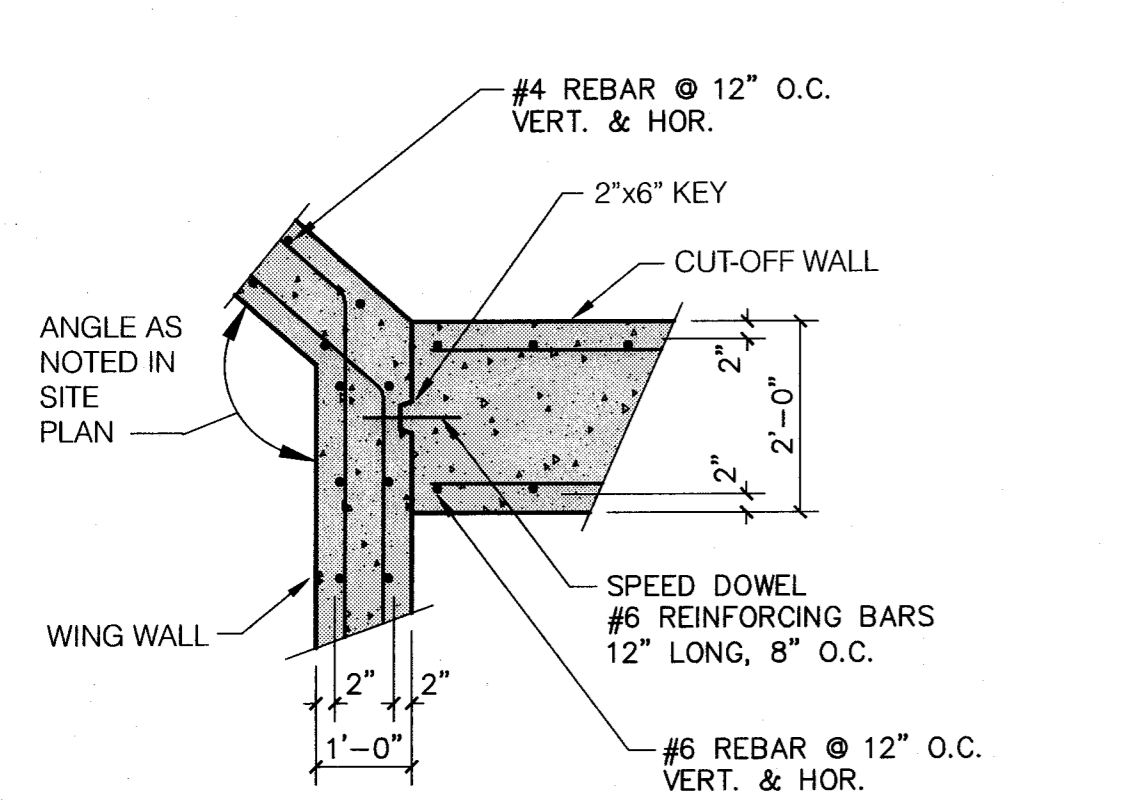


FOOTING DETAIL

1A

IF UNABLE TO ANCHOR WING WALL INTO HARD SHALE BEDROCK INSTALL FOOTING AND REBAR AS SHOWN

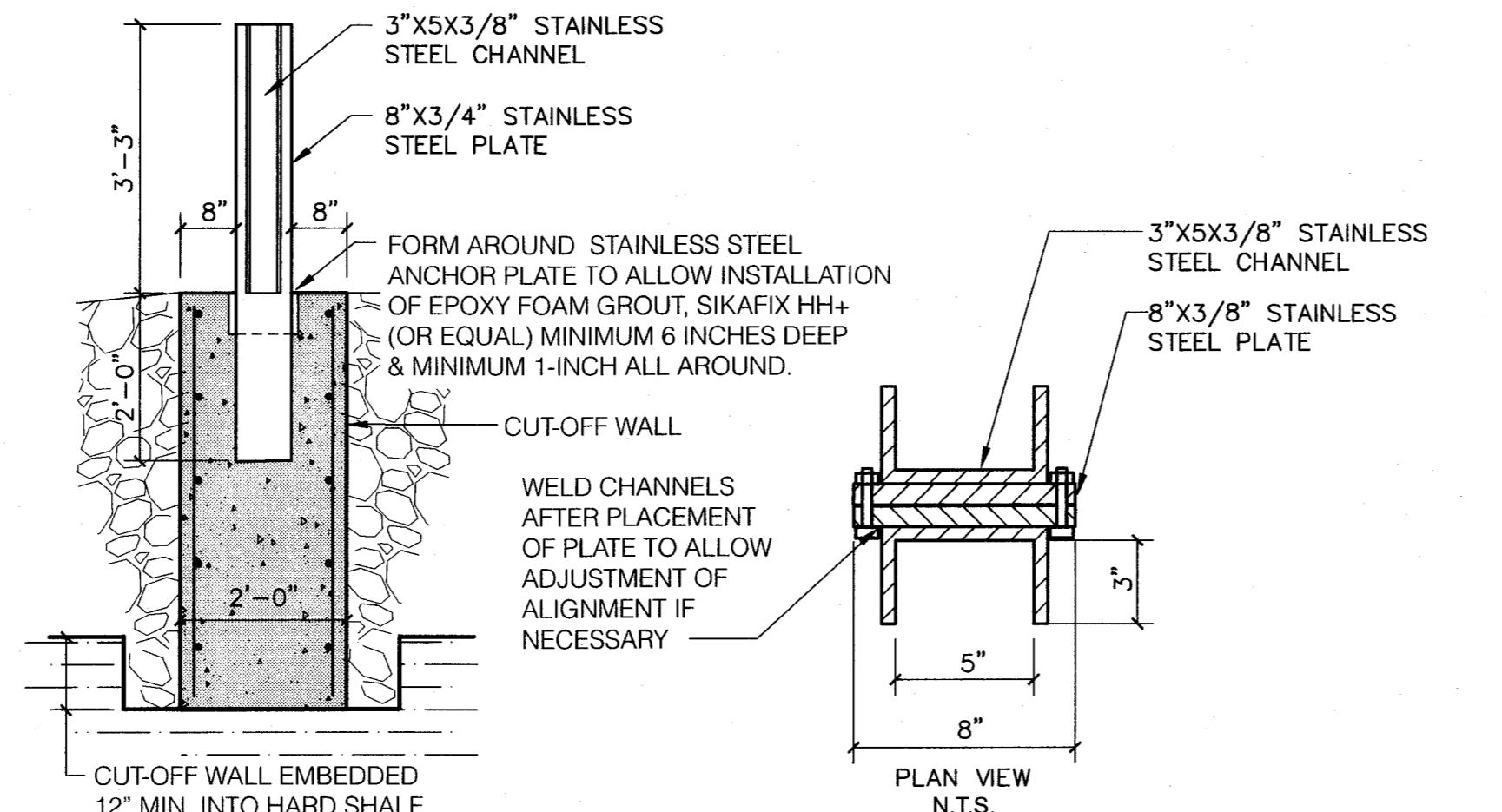
SCALE: 1/2" = 1'-0"



WING WALL & CUT-OFF WALL DETAIL (PLAN VIEW)

2

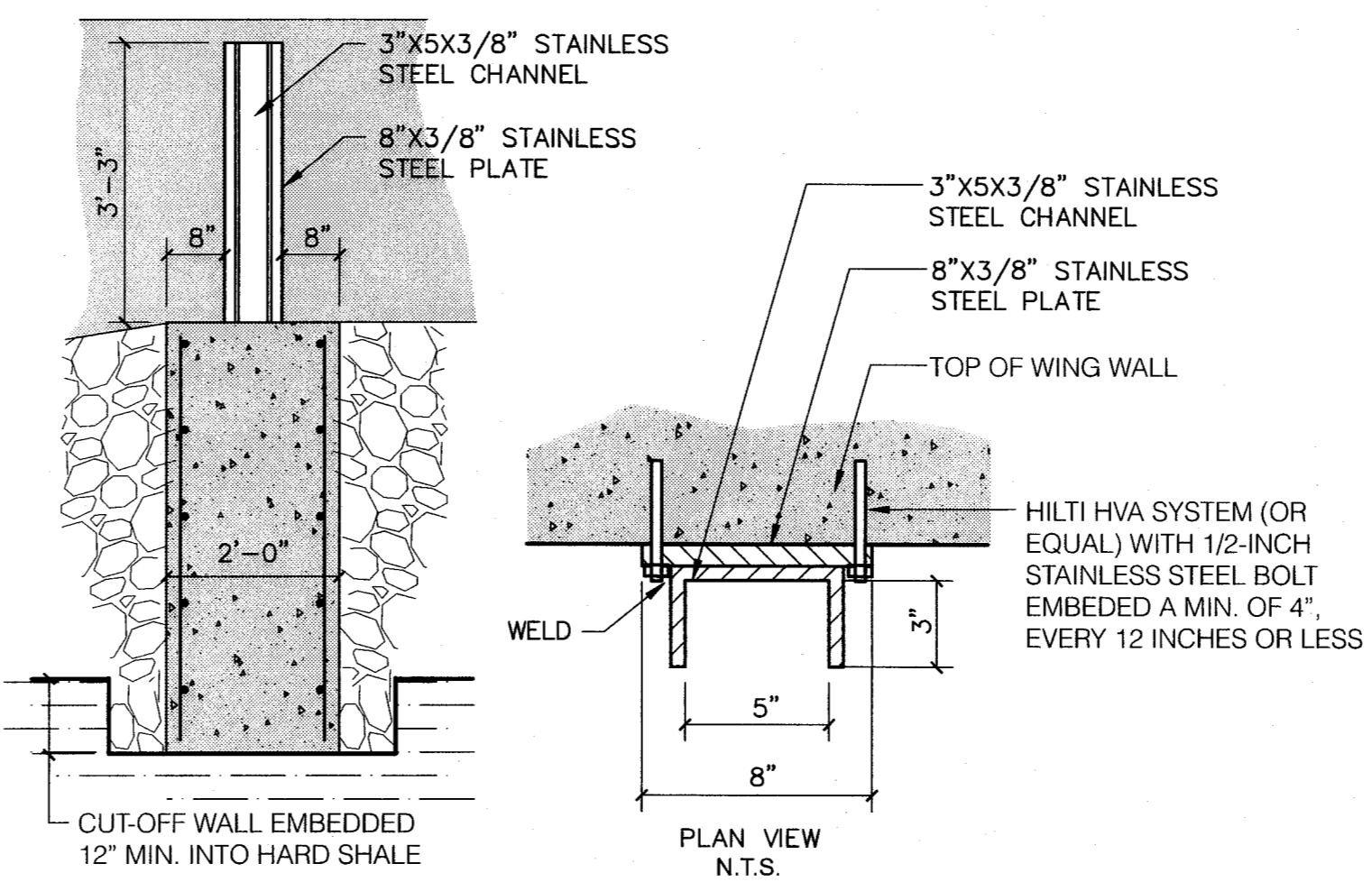
SCALE: 1/2" = 1'-0"



CENTER STOP-LOG CHANNEL DETAIL

3

SCALE: 1/2" = 1'-0"

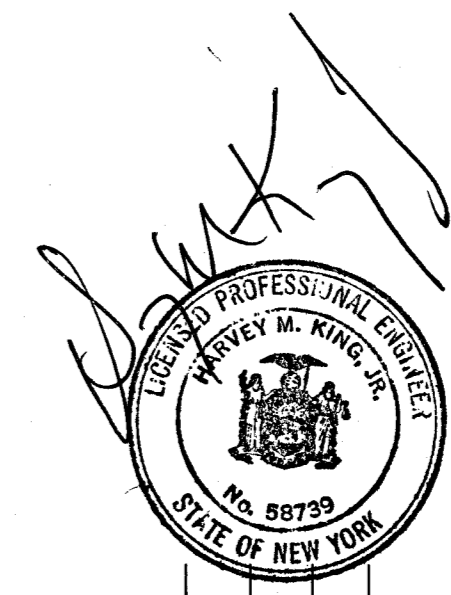


END STOP-LOG CHANNEL DETAIL

4

SCALE: 1/2" = 1'-0"

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Division of Water
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See first sheet for date and signature.



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CLIENT APPROVAL: _____ DATE: _____

HARVEY M. KING, P.E.
ENVIRONMENTAL ENGINEERS & SCIENTISTS
39 FALCON CHASE, CITY OF RENNSSELAER, N.Y.

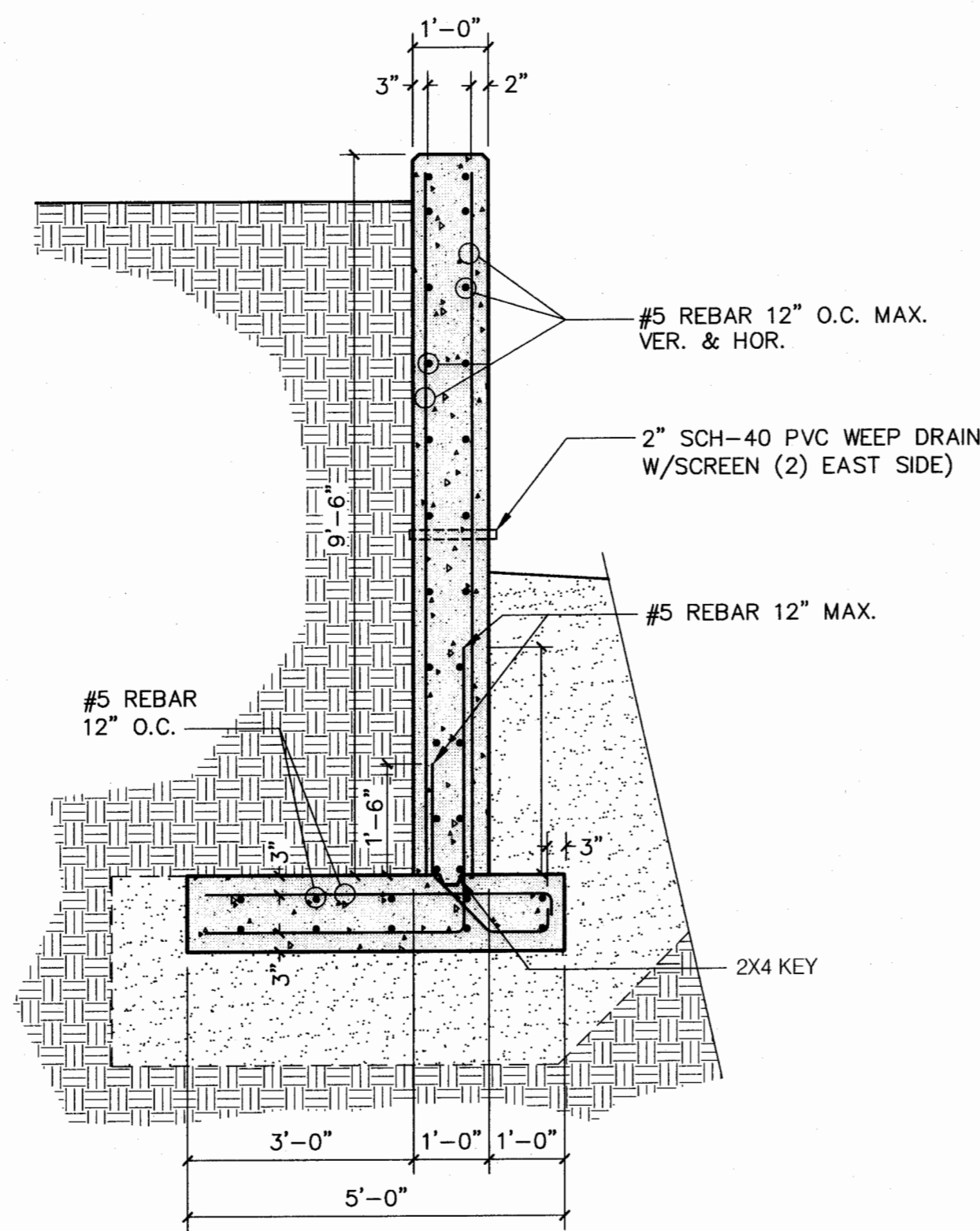
NORLITE CORPORATION
SALT KILL BYPASS CONTROL

REV.	DESCRIPTION	DATE	BY	CHECKED	DATE	PROJECT NO.	SHEET NO.
2	WING WALL REVISIONS	TVB	HMK	11/03/2012			
1	GENERAL REVISIONS	TVB	HMK	10/30/2012			

DRAWN BY: TVB DATE: 10/27/12 PLOT SCALE: AS SHOWN PROJECT NO. REF.:
 ENGINEER: HMK CHECKED: _____ PLOT DATE: _____ FILE NAME REF.:
 APPROVED: _____ DATE: _____ DWG NO. REF.: _____

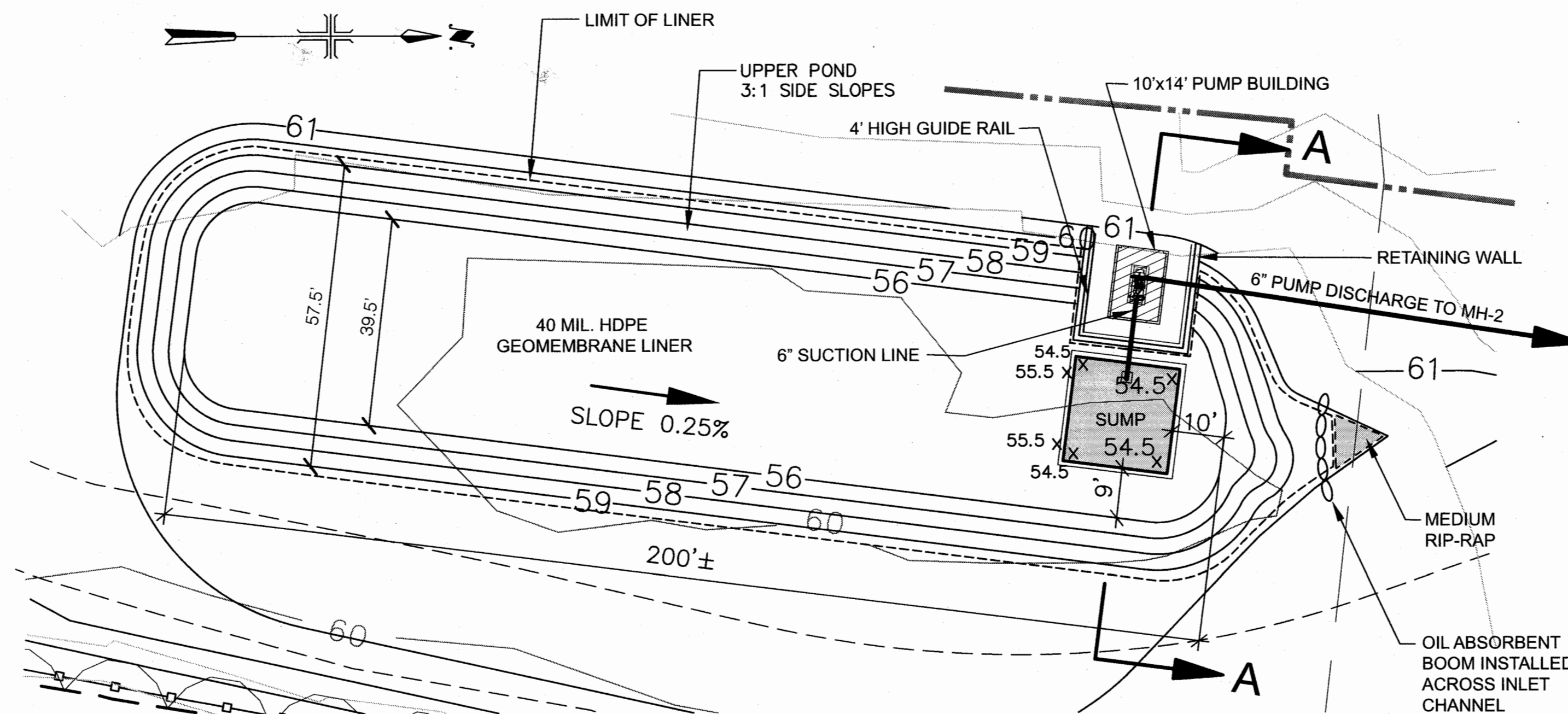
SHEET 1 OF 1

0



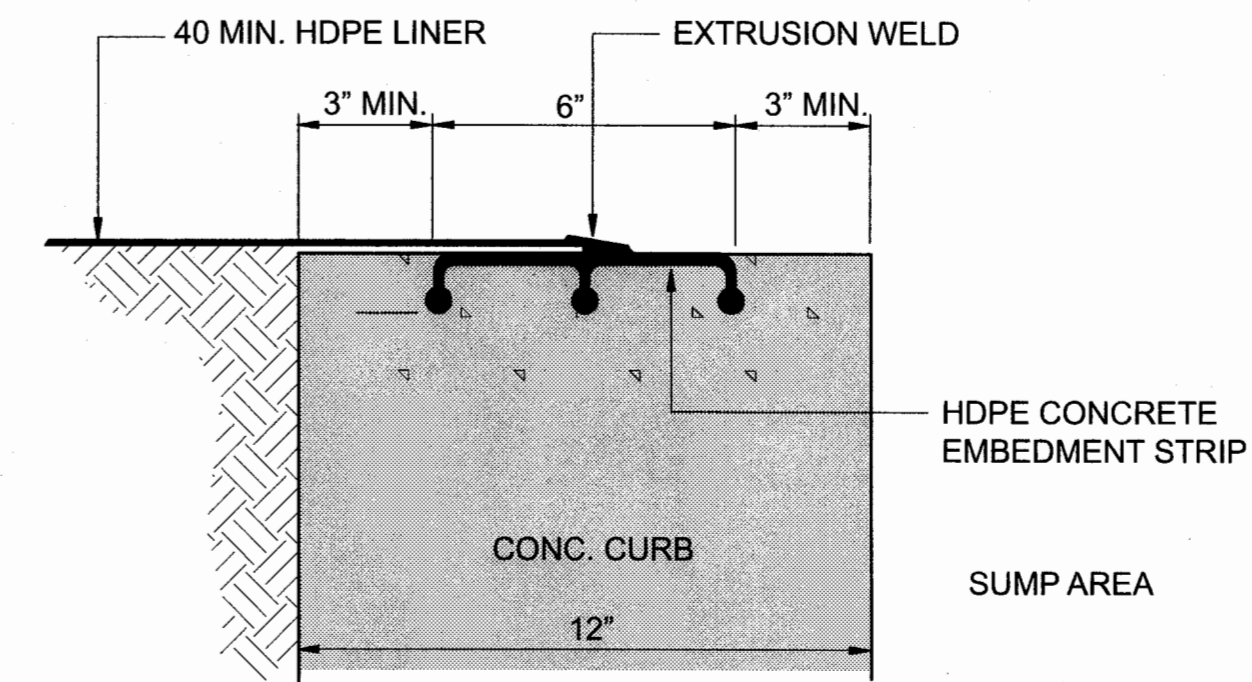
REINFORCING STEEL DETAIL

SCALE: 1/2" = 1'-0"



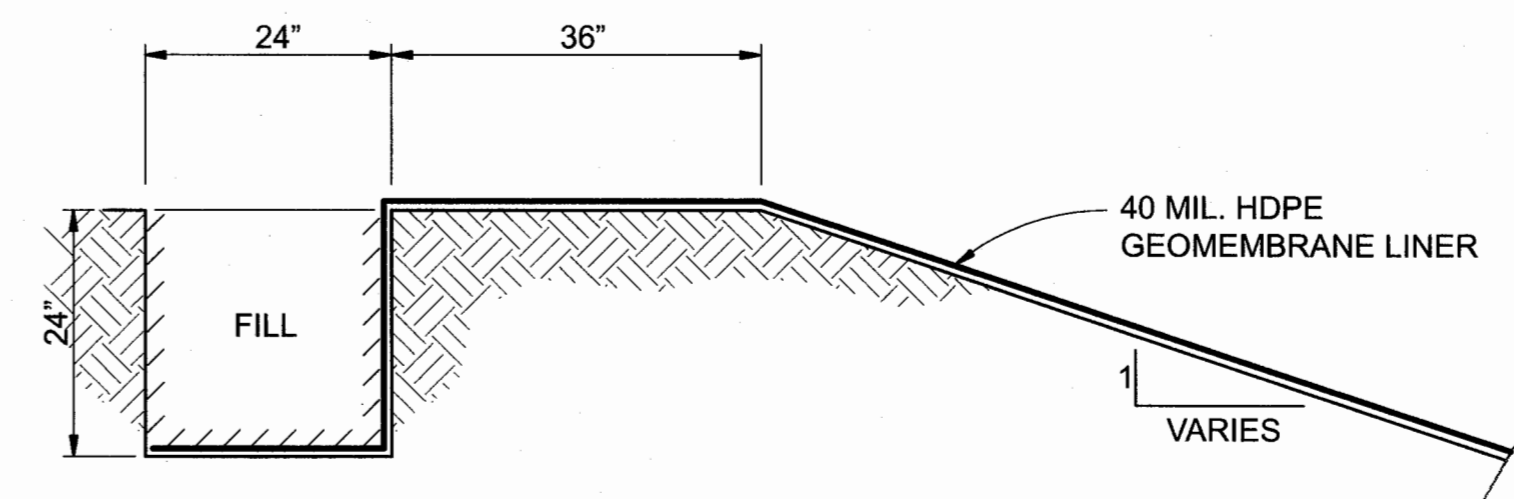
SITE PLAN

SCALE: 1" = 20'



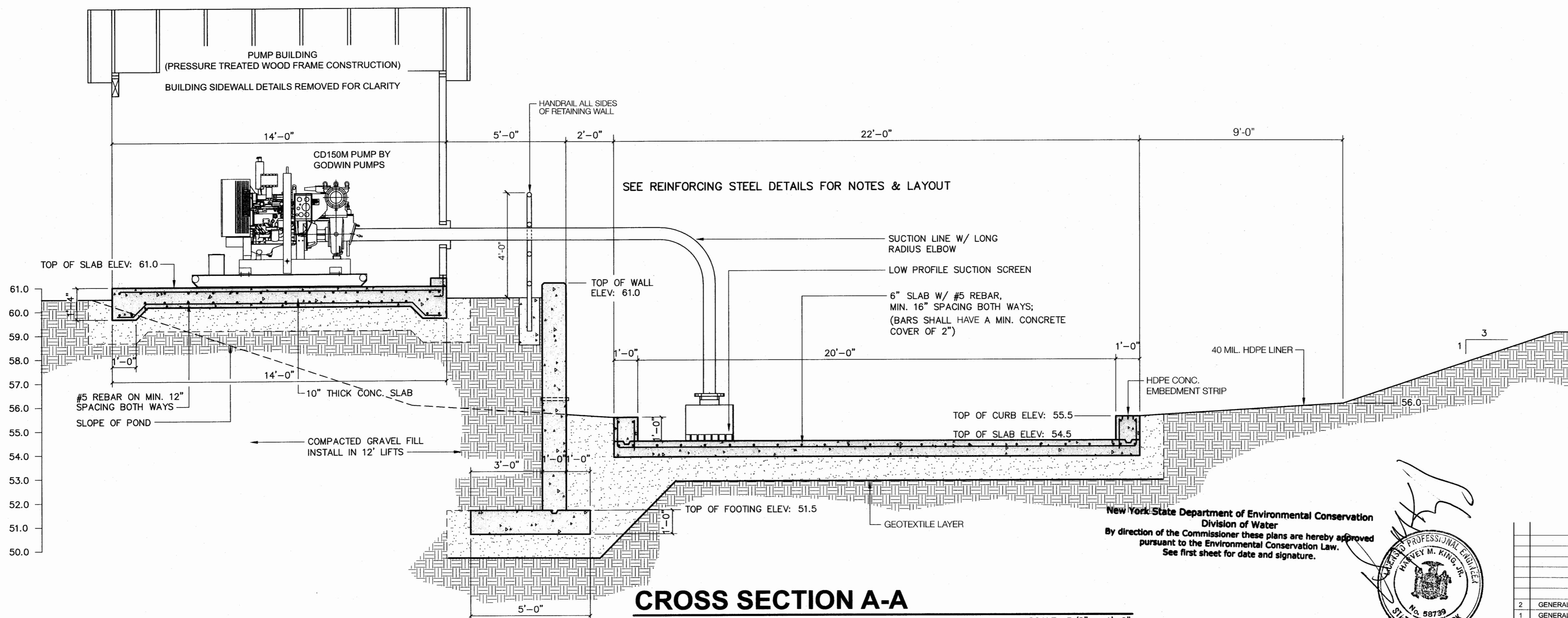
HDPE CONCRETE EMBEDMENT STRIP DETAIL

SCALE: NONE



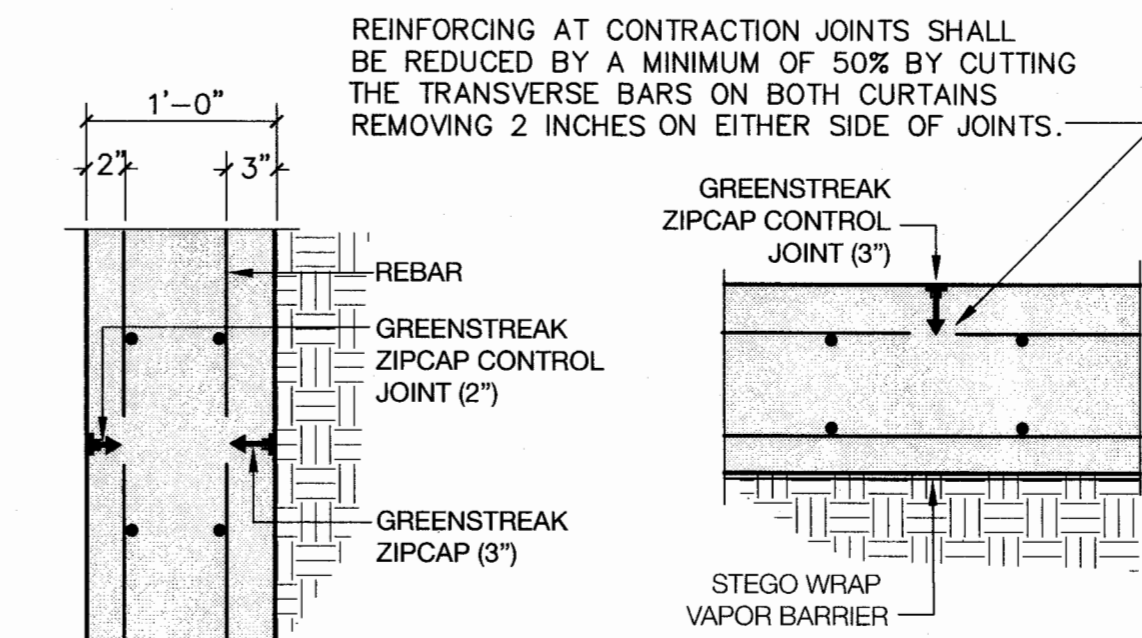
TYPICAL LINER ANCHOR DETAIL

SCALE: NONE



CROSS SECTION A-A

SCALE: 3/8" = 1'-0"



WALL (TOP VIEW) FOOTING/SLAB

CONTRACTION JOINT DETAIL

SCALE: NONE

New York State Department of Environmental Conservation
Division of Water
By direction of the Commissioner these plans are hereby approved
pursuant to the Environmental Conservation Law.
See first sheet for date and signature.



CLIENT APPROVAL: _____ DATE: _____

HARVEY M. KING, P.E.
ENVIRONMENTAL ENGINEERS & SCIENTISTS
39 FALCON CHASE, CITY OF RENSSELAER, N.Y.

NORLITE CORPORATION
UPPER STORMWATER POND

SHEET 1 OF 1

REV.	DESCRIPTION	DATE	BY	CHK
2	GENERAL DESIGN REVISIONS	10/30/12	TVB	HMK
1	GENERAL DESIGN REVISIONS	10/26/12	TVB	HMK

DRAWN BY	DATE	PLUT SCALE	PROJECT NO. REF.
TVB	10/05/12	AS SHOWN	
ENGINEER	CHECKED	PLUT DATA	FILE NAME REF.
HMK			
APPROVED	DATE	DWG NO. REF.	REV.
			0

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APPENDIX C
SPILL PREVENTION REPORT

SPILL PREVENTION REPORT

HAZARDOUS SUBSTANCE BULK STORAGE

NORLITE CORPORATION
628 SOUTH SARATOGA STREET
COHOES, NY

Norlite's full SPR is maintained in the on-site library.

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APPENDIX D
OPERATIONS AND MAINTENANCE MANUAL

Operations and Maintenance Manual

Norlite completed a facility wide storm water management system in the winter of 2013. A construction completion certification was provided to the NYSDEC on 12/23/13. Since that time Norlite has operated and maintained the storm water management system to ensure proper operation during heavy storm and thaw events at the facility. The following paragraphs outline the steps taken to ensure proper operation of the system components.

Pump Installation

Norlite installed the storm water pumps on concrete pads with integral concrete curbing for fuel and engine fluids containment. A wood framed and sheathed enclosure was built over the pumps to provide a weather enclosure to ensure longevity and protection of the pumps during severe storms. The enclosure has a door for access as well as intake openings for proper ventilation of the enclosure and cooling of the engine. The suction and discharge lines are installed so that they enter and exit the building while maintaining a weather-tight seal. The engine exhaust has been extended through the roof of the enclosure. The buildings have a heat source to keep the diesel engines warm during winter months as well as trickle chargers on the batteries.

Pump Operations

The pumps are operated in the following manner:

1. Prior to the onset of a storm event the pumps are maintained with a minimum of twelve hours' worth of fuel with necessary battery charge and engine winterization as required.
2. As part of pre-storm preparations the pump status is verified and the pumps started to ensure no issues as the storm approaches.
3. If the storm is delayed the pumps are shut back down and restarted as the storm arrives.
4. Experience has shown that the pump containment systems can hold most storm events as long as they are near empty at the onset of a storm event. Before the on-set of a storm event, the containment systems are emptied to ensure the full benefit of their volumes.
5. During a storm, the pumps are turned on once the containment levels reached half full and will remain on for the duration of the storm event. Norlite has installed wireless monitoring systems on the pumps which can be viewed in the kiln control rooms. A time stamped action item also is displayed on the kiln alarm screen and printout whenever the pumps are started and stopped. Should a pump fault and stop unexpectedly, a visual and audible alarm will be seen and heard outside of the kiln 1 burner floor. In addition to the visual and audible alarm, an alarm will also display on the kiln operators control screen in the control rooms.

6. At the conclusion of the storm, the pumps are shut down and refueled to place them in a ready state for the next event.
7. Routine maintenance of the pumps (i.e. oil/filter changes, etc.) is scheduled for periods of anticipated dry weather conditions to allow the maintenance to occur and the pumps to be returned to service within a timeframe that anticipates any forecasted storm event.
8. Personnel are on-site at all times, including nights and weekends. These personnel are trained for the proper activation of the pumps so that their continuous operation is ensured.

Rain Gardens

Since the rain gardens have no moving parts, their operation is simpler than the pump operations. Norlite ensures water can effectively enter the rain gardens without disruption so that treatment can occur. The rain gardens require very little maintenance to ensure proper operation. The drainage swales are kept free of debris and at proper depths to direct storm water to the rain gardens. The swales at the front of the grass filter strips are maintained at a depth to promote sheet flow across the grass filter strip. The grass filter strips themselves are mowed and kept free of debris. Absorbent booms are replaced when they become dirty with dirt and mud.

Inspection of Storm Water System

The facility storm water management system is inspected at least monthly as part of the Monthly BMP Inspection detailed in the BMP. The inspector will observe at a minimum the following:

1. Signs of damage to any of the equipment such as washouts in the rain gardens, or crumbling of the storm water pump containment systems.
2. Signs of sheens or stains from petroleum products in the containments or rain gardens.
3. Verification the wireless status system is functioning properly in the kiln control rooms.
4. Verify the base mounted pumps and backup pump are in a ready state of operation.
5. Verify the absorbent booms are installed and secure at each of the rain gardens
6. Note any needed maintenance such as cleaning if swales or catch basins.

Instrumentation

The only instrumentation associated with the storm water management system is the wireless monitoring system connected to the pumps which monitors pump operations. This system is self-checking in that if a problem occurs with a connection or wireless gate, and alarm is displayed on the kiln operator's screen in the control room. This allows the plant personnel to know there is a problem and notify the proper departments to troubleshoot the system and restore operation. During this time, the pump itself can still operate for storm events.

APPENDIX E
INSPECTION FORMS AND CHECKLISTS

**ABOVEGROUND PETROL STORAGE TANK
MONTHLY INSPECTION**
PURSUANT TO 6NYCRR 613.6
(Refer to reverse side for inspection requirements)

PERFORMED BY:
NORLITE CORPORATION
628 South Saratoga Street
Cohoes, NY 12047

INSPECTION DATE: _____
STORAGE ID #: 4-052574
RENEWAL DATE: _____

TANK #	PRODUCT	(1) TANK SHELL	(2) TANK LEVEL GAUGE	(3) TANK LEVEL	(4) LABELS	(5) CONDITION OF PIPING, VALVES, FITTINGS	(6) LEAK DETECTION	(7) STRUCTURAL INTEGRITY	(8) EVIDENCE OF: CRACKS, WEAR, CORROSION, OR THINNING?	(9) CONDITION OF SECONDARY CONTAINMENT	(10) MAINTENANCE AND OPERATING PRACTICES
F - 4	#2 Fuel Oil										
M - 1	Specification Used Oil										
M - 2	Specification Used Oil										
R - 1	Specification Used Oil										
R - 2	Specification Used Oil										
9	Kiln Oil (tank shell)										
9	Kiln Oil (piping)										
10	On-Road Diesel										
11	Off-Road Diesel										
12	Gasoline										
13	Garage Lubricating Oil (15W40)										
14	Garage Oil (SAE 30)										
15	Garage Hydraulic Oil										
16	Garage Transmission Fluid										
17	Garage Engine Oil (10W30)										
18	Fire Suppression Room #2 Fuel Oil										
19	Fuel Farm Utility Room #2 Fuel Oil										
20	Kiln Pony Motor Diesel Fuel										
22	Used Filter Oil										
23	Used Filter Oil										

COMMENTS: * REFER TO ATTACHED 'P.B.S. ITEMS' _____
INSPECTOR NAME: _____
INSPECTOR SIGNATURE: _____
*** tank taken out of service

("S" : Satisfactory, "I" : Intermediate, "U" : Unsatisfactory)

(1) TANK SHELL

Inspect exterior surfaces of tank for rust, chipped paint, corrosion, signs of degradation, etc.

(2) TANK LEVEL GAUGE

Ensure the tank level gauge is in place and operational.

(3) TANK LEVEL

Record level of product in the tank at time of inspection. Tank # 11: 1 hour = 1 foot (5 mins. = 1 inch)

(4) LABELS

Ensure labels are present and accurate (including: tank ID#, design capacity, working capacity, contents, associated hazards)

(5) CONDITION OF: PIPING, VALVES, FITTINGS

Check for leaks, wear, damage, labeling, etc.

(6) LEAK DETECTION DEVICE

With the exception of Tank # 9's underground double-walled fiberglass piping, all tank systems are entirely aboveground and leak detection is visually monitored. The underground double-walled fiberglass piping on Tank # 9 is electronically monitored via the "Pal-Alert" system. The map # being monitored at the time of inspection shall be noted. ("NVL" : No Visible Leaks, "LD" : Leak Detected) The interstitial space between Tank # 9's double wall containment is to be monitored by opening the 1" valve on the northern side.

(7) STRUCTURAL INTEGRITY

Inspect tank supports and tanks for evidence of settling, foundation weaknesses, etc.

(8) EVIDENCE OF: CRACKS, WEAR, CORROSION, AND THINNING

Inspect tank systems for cracks, areas of wear, corrosion, and thinning

(9) CONDITION OF SECONDARY CONTAINMENT

Inspect containment areas for wear, corrosion, cracking, blistering, debris or precipitation accumulation, joint condition, etc.

(10) MAINTENANCE AND OPERATING PRACTICES

Identify any poor maintenance or operating practices ("NI" : None Identified)

Tank #	Working Capacity	NFPA CODES			CAS #	In Svc. Date
		Health	Flam.	React.		
F4	1,800	1	2	0	68476-30-2	06/01/01
M1	19,200	1	3	0	N/A	08/01/98
M2	19,200	1	3	0	N/A	08/01/98
R1	19,200	1	3	0	N/A	08/01/98
R2	19,200	1	3	0	N/A	08/01/98
9	24,500	1	3	0	N/A	08/01/98
10	7,500	1	2	0	N/A	02/01/93
11	5,550	1	2	0	68334-30-5	circa 1996
12	490	1	3	0	68334-30-5	circa 1996
13	260	1	1	0	8006-61-9	circa 1996
14	260	1	1	0		prior to 12/95
15	260	1	1	0		prior to 12/95
16	160	1	1	0		prior to 12/95
17	160	1	1	0		prior to 12/95
18	110	1	2	0	68476-30-2	prior to 12/95
19	380	1	2	0	68476-30-2	prior to 12/95
20	45	1	2	0	68334-30-5	prior to 12/95
22	1000	1	1	0		prior to 12/95
23	275	1	1	0		11/01/07

**ABOVEGROUND PETROLEUM STORAGE TANK
MONTHLY INSPECTION**
PURSUANT TO 6NYCRR 613.6
(Refer to reverse side for inspection requirements)

PERFORMED BY:
NORLITE CORPORATION
628 South Saratoga Street
Cohoes, NY 12047

INSPECTION DATE: 8/8/2012
STORAGE ID #: 4-052574
RENEWAL DATE: 12/2/2016

TANK #	PRODUCT	(1) TANK SHELL	(2) TANK LEVEL GAUGE	(3) TANK LEVEL	(4) LABELS	(5) CONDITION OF: PIPING, VALVES, FITTINGS	(6) LEAK DETECTION	(7) STRUCTURAL INTEGRITY	(8) EVIDENCE OF: CRACKS, WEAR, CORROSION, OR THINNING?	(9) CONDITION OF SECONDARY CONTAINMENT	(10) MAINTENANCE AND OPERATING PRACTICES
F - 1	Off-Road Diesel	S	S	9.7	S	S	NVL	S	NO	*	NI
F - 2	Off-Road Diesel	S	S	17.0	S	S	NVL	S	NO	*	NI
F - 4	#2 Fuel Oil	S	S	3.8	S	S	NVL	S	NO	*	NI
M - 1	Specification Used Oil	*	S	12.0	S	S	NVL	S	NO	*	NI
M - 2	Specification Used Oil	*	S	1.5	S	S	NVL	S	NO	*	NI
R - 1	Specification Used Oil	*	S	23.0	S	S	NVL	S	NO	*	NI
R - 2	Specification Used Oil	*	S	18.2	S	S	NVL	S	NO	*	NI
9	Kiln Oil (tank shell)	S	S	4.0	S	S	NVL	S	NO	S	NI
9	Kiln Oil (piping)	n/a	n/a	1 map #5	S	S	1 map #5	S	NO	S	NI
10	On-Road Diesel	S	S	797.0	S	S	NVL	S	NO	S	NI
11	Off-Road Diesel	S	S	12h 47 min	S	S	NVL	S	NO	S	NI
12	Gasoline	S	S	3/4	S	S	NVL	S	NO	S	NI
13	Garage Lubricating Oil (15W40)	S	S	5/8	S	S	NVL	S	NO	S	NI
14	Garage Oil (SAE 30)	S	S	3/4	S	S	NVL	S	NO	S	NI
15	Garage Hydraulic Oil	S	S	Full	S	S	NVL	S	NO	S	NI
16	Garage Transmission Fluid	S	S	2/3	S	S	NVL	S	NO	S	NI
17	Garage Engine Oil (10W30)	S	S	1/4	S	S	NVL	S	NO	S	NI
18	Fire Suppression Room #2 Fuel Oil	S	S	7/8	S	S	NVL	S	NO	S	NI
19	Fuel Farm Utility Room #2 Fuel Oil	S	S	3/4	S	S	NVL	S	NO	S	NI
20	Kiln Pony Motor Diesel Fuel	S	S	3/8	S	S	NVL	S	NO	S	NI
22	Used Filter Oil	S	S	1/2	S	S	NVL	S	NO	S	NI
23	Used Filter Oil	S	S	Empty	S	S	NVL	S	NO	S	NI

COMMENTS: * REFER TO ATTACHED 'P.B.S. ITEMS'
** tank taken out of service

INSPECTOR NAME: Thomas Van Vranken
INSPECTOR SIGNATURE: _____

**ABOVEGROUND PETROLEUM STORAGE TANK
MONTHLY INSPECTION**
(Refer to reverse side for inspection requirements)

INSPECTION DATE:
STORAGE ID #:
RENEWAL DATE:

8/8/2012
4-052574
12/2/2016

PERFORMED BY:
NORLITE CORPORATION
628 South Saratoga Street
Cohoes, NY 12047

Transformer#	PRODUCT	(1) TANK SHELL	(2) TANK LEVEL GAUGE	(3) TANK LEVEL	(4) LABELS	(5) CONDITION OF: PIPING, VALVES, FITTINGS	(6) LEAK DETECTION	(7) STRUCTURAL INTEGRITY	(8) EVIDENCE OF: CRACKS, WEAR, CORROSION, OR THINNING?	(9) CONDITION OF SECONDARY CONTAINMENT	(10) MAINTENANCE AND OPERATING PRACTICES
Mian	Transformer Oil	S	NA	Full	S	S	NVL	S	NO	NA	NI
Kiln 1	Transformer Oil	S	NA	Full	S	S	NVL	S	NO	NA	NI
Finish Plant	Transformer Oil	S	NA	Full	S	S	NVL	S	NO	NA	NI

COMMENTS: * REFER TO ATTACHED 'P.B.S. ITEMS' _____ INSPECTOR NAME: Thomas Van Vranken _____
 _____ INSPECTOR SIGNATURE: _____

("S" : Satisfactory, "UN" : Unsatisfactory)

- (1) **TANK SHELL**
Inspect exterior surfaces of tank for rust, chipped paint, corrosion, signs of degradation, etc.
- (2) **TANK LEVEL GAUGE**
Ensure the tank level gauge is in place and operational.
- (3) **TANK LEVEL**
Record level of product in the tank at time of inspection. Tank # 11: 1 hour = 1 foot (5 mins. = 1 inch)
- (4) **LABELS**
Ensure labels are present and accurate (including: tank ID#, design capacity, working capacity, contents, associated hazards)
- (5) **CONDITION OF: PIPING, VALVES, FITTINGS**
Check for leaks, wear, damage, labeling, etc.
- (6) **LEAK DETECTION DEVICE**
With the exception of Tank # 9's underground double-walled fiberglass piping, all tank systems are entirely aboveground and leak detection is visually monitored. The underground double-walled fiberglass piping on Tank # 9 is electronically monitored via the "Pal-Alert" system. The map # being monitored at the time of inspection shall be noted. ("NVL" : No Visible Leaks, "LD" : Leak Detected)
The interstitial space between Tank # 9's double wall containment is to be monitored by opening the 1" valve on the northern side.
- (7) **STRUCTURAL INTEGRITY**
Inspect tank supports and tanks for evidence of settling, foundation weaknesses, etc.
- (8) **EVIDENCE OF: CRACKS, WEAR, CORROSION, AND THINNING**
Inspect tank systems for cracks, areas of wear, corrosion, and thinning
- (9) **CONDITION OF SECONDARY CONTAINMENT**
Inspect containment areas for wear, corrosion, cracking, blistering, debris or precipitation accumulation, joint condition, etc.
- (10) **MAINTENANCE AND OPERATING PRACTICES**
Identify any poor maintenance or operating practices ("NI" : None Identified)

Tank #	Working Capacity	NFPA CODES			CAS #	In Svc. Date
		Health	Flam.	React.		
F1	1,800	1	2	0	68476-30-2	06/01/01
F2	6,700	1	2	0	68476-30-2	06/01/01
F4	6,700	1	2	0	68476-30-2	06/01/01
M1	19,200	1	3	0	N/A	08/01/98
M2	19,200	1	3	0	N/A	08/01/98
R1	19,200	1	3	0	N/A	08/01/98
R2	19,200	1	3	0	N/A	08/01/98
9	24,500	1	3	0	N/A	02/01/93
10	7,500	1	2	0	68334-30-5	circa 1996
11	5,550	1	2	0	68334-30-5	circa 1996
12	490	1	3	0	8006-61-9	circa 1996
13	260	1	1	0		prior to 12/95
14	260	1	1	0		prior to 12/95
15	260	1	1	0		prior to 12/95
16	160	1	1	0		prior to 12/95
17	160	1	1	0		prior to 12/95
18	110	1	2	0	68476-30-2	prior to 12/95
19	380	1	2	0	68476-30-2	prior to 12/95
20	45	1	2	0	68334-30-5	prior to 12/95
22	1000	1	1	0		prior to 12/95
23	275	1	1	0		11/01/07

PETROLEUM BULK STORAGE ITEMS
 PURSUANT TO SPECTRA ENVIRONMENTAL GROUP AUDITS (NOV. AND DEC. 2002)

Date: _____

TANK #	ITEMS	ITEM / DATE CORRECTED
F-1, F-2, F-4	Cracks in secondary containment	
M-1	Cracks in secondary containment	
M-2	Cracks in secondary containment	
R-1	Cracks in secondary containment	
R-2	Cracks in secondary containment	
M1	Minor paint areas missing	
M2	Minor paint areas missing	
R1	Minor paint areas missing	
R2	Minor paint areas missing	

COMMENTS:

modified 11/09

Stormwater Control Inspection Log

Type of Inspection							Storm Event		Inspector Initials	
Pre-Construction	Weekly 1	Weekly 2	Storm Event	Temporary Shutdown	Final Construction	Operation & Maintenance	Inspection Date	Date		Precipitation (in), Type

NOTE: REFER TO SWPPP SECTION 5.1 FOR THE FREQUENCY OF EACH TYPE OF INSPECTION.

INSPECTION REPORT

To be used for the inspection prior to the start of construction, weekly inspections, post-precipitation inspections, and final construction inspection.

1. Weather and soil conditions (e.g. dry, wet, saturated) at time of inspection:

2. Record sediment accumulation in temporary erosion and sediment controls

- silt fence and haybales _____
- haybale inlet protection _____
- temporary diversion swale _____
- riprap outlet sediment trap _____

3. Are there

a. Rill or gully erosion occurring on slopes _____ yes _____ no

If yes, state where:

b. Discharges of sediment from the construction site _____ yes _____ no

If yes, state where:

c. Any erosion or sediment controls that need to be reinstalled or replaced _____ yes _____ no

If yes, state where:

4. Provide a description and sketch of areas that are disturbed and areas that have been stabilized since the last inspection.

Use area provided below for sketch:

5. Has construction begun on permanent stormwater controls? _____yes _____no

a. If yes, is construction in compliance with the SWPPP and the technical standards? _____yes _____no

6. Repair/Maintenance required:

"I certify under penalty of law that this document is true and accurate as observed by me and based on inquiry of person or persons who constructed the structures."

Title: _____ Name: _____

Date/Time: _____

Signature of Authorized Person

**POST CONSTRUCTION MAINTENANCE INSPECTION REPORT
FOR PERMANENT STORMWATER CONTROLS**
(See *Note for Schedule)

Permanent Structural Controls

Record sediment accumulation in (% or height):

Diversion swales: _____

Spillways: _____

Riprap energy dissipators: _____

Is erosion occurring in:

Diversion swales: Yes No

Spillways: Yes No

Riprap energy dissipators: Yes No

Describe stabilization measures that will be implemented to stop erosion and prevent additional erosion:

Diversion swales: _____

Spillways: _____

Riprap energy dissipators: _____

Vegetation

Most recent date of mowing on berm: _____

Is berm vegetation healthy? _____

Are there bare patches in the vegetation that need to be reseeded? Yes No

If yes, note location on Plate 5 and describe: _____

**POST CONSTRUCTION MAINTENANCE INSPECTION REPORT
FOR PERMANENT STORMWATER CONTROLS**

(See *Note for Schedule)

Permanent Structural Controls

Record sediment accumulation in (% or height):

Diversion swales: _____

Spillways: _____

Riprap energy dissipators: _____

Is erosion occurring in:

Diversion swales: Yes No

Spillways: Yes No

Riprap energy dissipators: Yes No

Describe stabilization measures that will be implemented to stop erosion and prevent additional erosion:

Diversion swales: _____

Spillways: _____

Riprap energy dissipators: _____

Vegetation

Most recent date of mowing on berm: _____

Is berm vegetation healthy? _____

Are there bare patches in the vegetation that need to be reseeded? Yes No

If yes, note location on Plate 5 and describe: _____

Berm Face

Are there rills, erosion, or animal burrows on the face of the berm? Yes No

If yes, note location on Plate 5 and describe measures to be taken to fix existing erosion and prevent additional erosion: _____

Name: _____

Position/Title: _____

Signature: _____

Date: _____

*NOTE: Quarterly during first year after construction. Annually starting at end of year two (2) after construction.

III. Monthly Summary of Site Inspection Activities

Name of Permitted Facility:	Today's Date:	Reporting Month:
Location:	Permit Identification #:	
Name and Telephone Number of Site Inspector:		

Date of Inspection	Regular / Rainfall based Inspection	Name of Inspector	Items of Concern

Owner/Operator Certification:

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that false statements made herein are punishable as a class A misdemeanor pursuant to Section 210.45 of the Penal Law."

Signature of Permittee or Duly Authorized Representative Name of Permittee or Duly Authorized Representative _____
Date

Duly authorized representatives must have written authorization, submitted to DEC, to sign any permit documents.

FUEL FARM OPERATOR'S PRE-SHIFT & DAILY INSPECTION REPORT

DATE: _____

INSPECTED BY: _____

ITEM	OK / YES	OK / NO	STATUS	ACTION NEEDED OR TAKEN
LOWER PAD				
Pump 3				
Pump 4				
Pump 5				
Pump 6				
Tank 3 Circulators				
Tank 4 Circulators				
Tank 5 Circulators				
Tank 6 Circulators				
Pipe, Valves, Fittings				
Drip Pans				
Fire Extinguisher (2)				
Housekeeping				
Tank Pressure-300				
Tank Pressure-400				
Tank Pressure-500				
Tank Pressure-600				
Lights				
Other Remarks:				
LGF STORAGE BUILDING				
Pump 100A				
Pump 100B				
Pump 100C				
Pump 200A			OPERATIONALLY	OUT OF SERVICE
Pump 200B				
Pump 200C				
Pipe, Valves, Fittings				
Sump Level				
Fire Extinguisher (2)-Upper Level				
Eye/Body Wash-Upper Level				
Fire blanket (1)-Upper Level				
Fire Extinguishers (2)-Lower Level				
Eye/Body Wash-Lower Level				

PRE-SHIFT INSPECTION - Fuel Farm Garage

DATE: _____ INSPECTOR: _____ SUPERVISOR: _____

AREA	CHECK MARK FOR OK OR NOTE DEFICIENCIES						
MAIN GARAGE AREA							
FLOOR FREE OF SLIP, TRIP HAZARDS							
BENCHES/FLOOR FREE OF FLAMMABLE MATERIALS							
FIRE EXT.'S/BLANKET ACCESSIBLE & OK							
ALL LEADS & HOSES COILED							
CYLINDERS SECURED-SEPARATED OR IN USE							
BENCH GRINDER TOOL REST 1/8" SPACE							
ALL LEADS IN GOOD CONDITION							
ALL ELECTRICAL PANELS HAVE CLEAR ACCESS							
CLEAR ACCESS OUT OF ALL DOORWAYS							
ALL CONTAINERS LABELED AND COVERED EQUIPMENT UNDER REPAIRS ARE TAGGED, CHOCKED, AND BLOCKED AS NECESSARY							
OUTSIDE AREAS							
CLEAR PATH TO ALL STORAGE TRAILERS							
TRAILER FLOORS ARE FREE FROM TRIP HAZARDS							
FLAMMABLE CYLINDERS-ALL SECURED							
OXYGEN STORAGE AREA-ALL SECURED							
ALL CONTAINERS, CLEAN AND COVERED							
NO SLIP, TRIP HAZARDS							
SPILL STATION ADEQUATELY STOCKED							

NOTES:

WEEKLY ENVIRONMENTAL (RCRA) INSPECTION REPORT

Date & Time: _____

Inspector(s): _____

T. Van Vranken

Area: _____

Fuel Farm

Supervisor(s): _____

David Glover

Attention Supervisor- You are required to review and correct this list. Completed form must be returned to the Compliance Dept. for filing (Permit Required).

ITEM	ACCEPTABLE ¹		STATUS (or OBSERVATION) ²			ACTION
	YES	NO				
A. PUMP PAD - TANKS 3 & 4						
A1. Secondary Containment	X					
A2. Drip Pans	X					
A3. Housekeeping	X					
A4. Pumps	X					
A5. Valves	X					
A6. Piping / Fittings	X					
A7. Fire Extinguisher (1)	X					
B. PUMP PAD - TANKS 5 & 6						
B1. Secondary Containment	X					
B2. Drip Pans	X					
B3. Housekeeping	X					
B4. Pumps	X					
B5. Valves	X					
B6. Piping / Fittings	X					
B7. Fire Extinguisher (1)	X					
C. TANKS 3-6 GROUND COVER						
C1. Vegetation	X					
C2. Erosion	X					
C3. Housekeeping	X					
D. SECURITY						
D1. Fencing	X					
D2. Signs and Locks	X					
E. CONTAINER STORAGE AREA						
E1. # of Non-haz drums	X		0	0		
E2. # of Haz Drums	X		0	0	4	
E3. (Max. 214 haz drums)	X					4
E4. Corrosion/Leakage	X					
E5. Drainage	X					
E6. Container Pad	X					
E7. Housekeeping	X					
E8. Signs / Labeling	X					
E9. Fire Extinguishers (3)	X					
F. TANKER UNLOADING AREA #1 (north)						
F1. Concrete Pad	X					
F2. Pumps	X					
F3. Piping / Fittings	X					
F4. Valves	X					
F5. Safety Shower (1)	X					
F6. Housekeeping	X					
Fa. TANKER UNLOADING AREA #2						
Fa1. Concrete Pad	X					
Fa2. Pumps	X					
Fa3. Piping / Fittings	X					
Fa4. Valves	X					
Fa5. Housekeeping	X					
G. TANKER STAGING AREA						
G1. Spills/Stains on Ground	X					
G2. Condition of Contained Water	X					
G3. Housekeeping	X					

¹ Note: If both YES and NO are checked, the item is considered to be marginally acceptable.

² If an item is acceptable (only YES checked) an entered observation does not imply a need for corrective action.

WEEKLY ENVIRONMENTAL (RCRA) INSPECTION REPORT

Date & Time: 1/0/1900 12:00 AM
Area: Fuel Farm

Inspector(s): T. Van Vranken
Supervisor(s): D. Glover

Attention Supervisor- You are required to review and correct this list. Completed form must be returned to the Compliance Dept. for filing (Permit Required).

ITEM	ACCEPTABLE ¹		STATUS (or OBSERVATION) ²	ACTION
	YES	NO		
H. ROLL-OFF CONTAINERS				
H1. Condition of Containers	X			
H2. Absence of Spills	X			
H3. Covered	X			
H4. Labels	X			
H5. Haz. Quantity (Max 160 cu yds)	X			
I. LGF STORAGE BUILDING				
I1. Tank 100A	X			
I2. Tank 100B	X			
I3. Tank 100C	X			
I4. Tank 200A	X			
I5. Tank 200B	X			
I6. Tank 200C	X			
I7. Pump 100A	X			
I8. Pump 100B	X			
I9. Pump 100C	X			
I10. Pump 200A	X			
I11. Pump 200B	X			
I12. Pump 200C	X			
I13. Grated Trench & Sump	X			
I14. Secondary Containment	X			
I15. Housekeeping	X			
I16. Pipes, Valves, & Fittings	X			
I17. Fire Extinguishers (5)	X			
I18. Safety Shower (outside bldg.)	X			
J. LGF PIPE BRIDGE & TUNNEL				
J1. Piping / Fittings	X			
J2. Fire Extinguishers (3)	X			
J3. Safety Showers (2)	X			
J4. Housekeeping	X			
K. FUEL OIL STORAGE TANK AREA				
K1. Physical Condition of Tank	X			
K2. Cracks, Corrosion, Thinning?	X			
K3. Pipes, Valves, & Pumps	X			
K4. Housing & Foundation Integrity	X			
K5. Housekeeping	X			
K6. Leak detection devices (located in utility building)	X			
K7. Fire Extinguishers (2)	X			
Ka. F, M, R TANKS				
Ka1. Condition of Tanks	X			
Ka2. Cracks, Corrosion, Thinning?	X			
Ka3. Pipes, Valves, & Pumps	X			
Ka4. Containment Condition	X			
Ka5. Housekeeping	X			

COMMENTS:

¹ Note: If both YES and NO are checked, the item is considered to be marginally acceptable.
² If an item is acceptable (only YES checked) an entered observation does not imply a need for corrective action.

WEEKLY ENVIRONMENTAL (RCRA) INSPECTION REPORT

Date & Time: _____
Area: Kiln Area

Inspector(s): T. Van Vranken
Supervisor(s): Andy Lessard

Attention Supervisor(s)- You form must be returned to the Compliance Dept. for filing. (Permit Required)

ITEM	ACCEPTABLE ¹				STATUS (or OBSERVATION) ²	ACTION
	YES		NO			
	K1	K2	K1	K2		
L. BAGHOUSE						
L1. Structure Integrity	X	X				
L2. Piping/Fittings	X	X				
L3. Housekeeping	X	X				
M. SCRUBBER BUILDING						
M1. Containment Area	X	X				
M2. Pumps	X	X				
M3. Piping/Fittings	X	X				
M4. Valves	X	X				
M5. Housekeeping	X	X				
N. KILN						
N1. Backend Seal	X	X				
N2. No Dust or Emissions?	X	X				
N3. Trunnions	X	X				
N4. Not Leaking Oil on Ground?	X	X				
N5. Drip Pans in use? (if needed)	X	X				
N6. Shell	X	X				
O. BURNER FLOOR AREA						
O1. Piping, Fittings, & Valves	X	X				
O2. Pumps	X	X				
O3. Fire Extinguishers (1 ea. area)	X	X				
O4. Safety Shower (removed)	X	X				
O5. Housekeeping	X	X				
P. EXTRUDER ROOM						
P1. Housekeeping		X				
P2. Piping/Fittings		X				
P3. Drums		X				
P4. Number of Haz. Drums		n/a				
P5. Number of Non-Haz Drums		n/a				
Q. EQUALIZATION TANKS						
Q1. Tank 101A		X				
Q2. Tank 101B		X				
Q3. Tank 102A		X				
Q4. Tank 102B		X				

COMMENTS:

weather:sunny/hot and humid
strong wind gust from variable directions
finish plant running
primary plant not running
water truck running

¹ Note: If both YES and NO are checked, the item is considered to be marginally acceptable.

² If an item is acceptable (only YES checked) an entered observation does not imply a need for corrective action.

WEEKLY ENVIRONMENTAL (RCRA) INSPECTION REPORT

Date & Time: _____
Area: Kiln Area

Inspector(s): T. Van Vranken
Supervisor(s): Andy Lessard

Attention Supervisor(s)- You are required to review and correct this list. Completed form must be returned to the Compliance Dept. for filing. (Permit Required)

ITEM	ACCEPTABLE ¹		STATUS (or OBSERVATION) ²	ACTION
	YES	NO		
R. EQUALIZATION AREA				
R1. Sump in Basement	X			
R2. Secondary Containment	X			
R3. Pumps & Valves	X			
R4. Safety Shower (1)	X			
R5. Piping/Fittings	X			
R6. Fire Extinguishers (4)	X			
R7. Housekeeping	X			
R8. Drum Storage Area (<55 gals.)	X		solids drum-1/2 full liquid-3/4 full	
S. TUNNEL FIRE/LEL/O2 MONITOR AND CONTROL SYSTEM (located in k1 control room)				
S1. Fire Protection Device	X			
S2. Smoke Detector	X			
S3. Oxygen and LEL Monitors	X			
S4. Automated AFFF System	X			
S5. Latest Calibration (Quarterly):	X			
T. KILN #1 GAS ROOM				
T1. Piping/Fittings	X			
T2. Housekeeping	X			
T3. Containment Pad	X			
U. WASTEWATER TREATMENT AREA				
U1. Pumps & Valves	X			
U2. Piping/Fittings	X			
U3. Containment Area	X			
U4. Fire Extinguisher (1)	X			
U5. Housekeeping	X			
V. DUST STORAGE SILOS				
V1. External Condition	X			
V2. Absence of Spills	X			
V3. Piping/Fittings	X			
V4. Bag Vent Functional	X			
COMMENTS:				

Date & Time: _____
Area: Laboratory

Inspector(s): T. Van Vranken
Supervisor(s): P. Knight

ITEM	ACCEPTABLE ¹		STATUS (or OBSERVATION) ²	ACTION
	YES	NO		
W. LABORATORY				
W1. Condition of Containers	X			
W2. Condition of Labels	X			
W3. Absence of Spills / Leaks	X			

Date & Time: _____
Area: Plant

Inspector(s): T. Van Vranken

ITEM	ACCEPTABLE ¹		STATUS (or OBSERVATION) ²	ACTION
	YES	NO		
X. UNIVERSAL WASTE STORAGE				
X1. Containers Labeled / Dated	X			
X2. Containers Closed	X			

¹ Note: If both YES and NO are checked, the item is considered to be marginally acceptable.

² If an item is acceptable (only YES checked) an entered observation does not imply a need for corrective action.

Production Manager _____
 Environmental Manager _____

Laboratory Manager _____
 Fuel Farm Manager _____

Kiln Supervisors Baghouse Pulse Log

KILN #:

Take Readings 2 times per shift at 10:00 and 4:00 (a.m. and p.m. as per shift schedule)

Date	Time	Name	Air Header Pressure

OVERALL		
DP	Lower Pulse	Upper Pulse
	Needle Setting	Needle Setting

Date	Time

MODULE A			
DP	Pulse Counter	ON Time	OFF Time
	Reading	Setting	Setting
			Outlet Temp

Date	Time

MODULE B			
DP	Pulse Counter	ON Time	OFF Time
	Reading	Setting	Setting
			Outlet Temp

Date	Time

MODULE C			
DP	Pulse Counter	ON Time	OFF Time
	Reading	Setting	Setting
			Outlet Temp

SUPERVISOR DAILY KILN INSPECTION

INSPECTIONS TO BE DONE TWICE A SHIFT

KILN # 1

DATE _____ TIME _____ OUTSIDE TEMP _____ Supv. Init. _____

Thrust Button Contact Uphill _____ Sec. Down Hill _____ Sec.

Thrust Button Housing Temp Uphill _____ Down Hill _____

Feed Pier Temperature SE _____ NE _____ SW _____ NW _____

Discharge Pier Temperature SE _____ NE _____ SW _____ NW _____

Shell Condition _____

Comments _____

INSPECTIONS TO BE DONE TWICE A SHIFT

KILN # 1

DATE _____ TIME _____ OUTSIDE TEMP _____ Supv. Init. _____

Thrust Button Contact Uphill _____ Sec. Down Hill _____ Sec.

Thrust Button Housing Temp Uphill _____ Down Hill _____

Feed Pier Temperature SE _____ NE _____ SW _____ NW _____

Discharge Pier Temperature SE _____ NE _____ SW _____ NW _____

Shell Condition _____

Comments _____

SUPERVISOR DAILY KILN INSPECTION

INSPECTIONS TO BE DONE TWICE A SHIFT

KILN # 2

DATE _____ TIME _____ OUTSIDE TEMP _____ Supv. Init. _____

Thrust Button Contact Uphill _____ Sec. Down Hill _____ Sec.

Thrust Button Housing Temp Uphill _____ Down Hill _____

Feed Pier Temperature SE _____ NE _____ SW _____ NW _____

Center Pier Temperature SE _____ NE _____ SW _____ NW _____

Discharge Pier Temperature SE _____ NE _____ SW _____ NW _____

Shell Condition _____

Other Observations _____

INSPECTIONS TO BE DONE TWICE A SHIFT

KILN # 2

DATE _____ TIME _____ OUTSIDE TEMP _____ Supv. Init. _____

Thrust Button Contact Uphill _____ Sec. Down Hill _____ Sec.

Thrust Button Housing Temp Uphill _____ Down Hill _____

Feed Pier Temperature SE _____ NE _____ SW _____ NW _____

Center Pier Temperature SE _____ NE _____ SW _____ NW _____

Discharge Pier Temperature SE _____ NE _____ SW _____ NW _____

Shell Condition _____

Other Observations _____

KILN FIELD OPERATORS SHIFT REPORT

NAME _____ DATE _____ SHIFT _____

SUPERVISORS SIGNATURE: _____

WATER READINGS AND SILO LEVELS

QUARRY/CITY WATER READINGS	START	END	GALLONS
KILN1 QUARRY/CITY WATER TOTALIZER			
KILN 1 CAUSTIC TOTALIZER			
KILN 2 QUARRY/CITY WATER TOTALIZER			
KILN 2 CAUSTIC TOTALIZER			
SODA ASH MAKE-UP TOTALIZER			
LIME SILO LEVEL	TIME		
SODA ASH SILO LEVEL	TIME		

KILN 1	OIL LEVEL OK	AMOUNT ADDED	SEAL OK	KILN 2	OIL LEVEL OK	AMOUNT ADDED	SEAL OK
PIER 1 NE				PIER 1 NE			
PIER 1 SE				PIER 1 SE			
PIER 1 NW				PIER 1 NW			
PIER 1 SW				PIER 1 SW			
PIER 2 NE				PIER 2 NE			
PIER 2 SE				PIER 2 SE			
PIER 2 NW				PIER 2 NW			
PIER 2 SW				PIER 2 SW			
NOTE PIER 1 IS DISCHARGE PIER				PIER 3 NE			
				PIER 3 SE			
				PIER 3 NW			
				PIER 3 SW			

DO OIL DRUMS NEED TO BE EMPTIED AT KILN 2?	PIER 1	PIER 2	PIER 3
KILN 1 PIERS CLEAN			
KILN 2 PIERS CLEAN			
KILN 1 TRUNNION DRIP TRAYS CLEAN			
KILN 2 TRUNNION DRIP TRAYS CLEAN			

BULL GEAR, PINNION GEAR AND DUST SEAL INSPECTIONS

	KILN 1	KILN 2	
KILN 1 BULL GEAR GREASED AND KILN 2 OIL LEVEL CHECKED			WAS OIL ADDED TO KILN2 GEAR
KILN 2 OIL LEVEL CHECKED			
PINION BEARINGS (EAST AND WEST) GREASED			
# OF FEED SEALS MISSING			
# OF DISCHARGE SEALS MISSING			
KILN 1 ANY MAINTENANCE REQUIRED IN THIS AREA			
KILN 2 ANY MAINTENANCE REQUIRED IN THIS AREA			

LIME FEEDERS, ROTARY VALVES AND BLOWER INSPECTION- RECORD ALL CHANGES

*USE ADDITIONAL SHEETS AS REQUIRED

FEEDING KILN	TIME	SETTING *NOT FROM WAP 2- ACTUAL SETTING*	LIME FEEDER	ROTARY VALVE	BLOWER SELECTED
KILN 1		_____ lbs./hr	1 2 3	ON OFF	A B C D
KILN 2		_____ lbs./hr	1 2 3	ON OFF	A B C D
KILN 1		_____ lbs./hr	1 2 3	ON OFF	A B C D
KILN 2		_____ lbs./hr	1 2 3	ON OFF	A B C D
KILN 1		_____ lbs./hr	1 2 3	ON OFF	A B C D
KILN 2		_____ lbs./hr	1 2 3	ON OFF	A B C D
KILN 1		_____ lbs./hr	1 2 3	ON OFF	A B C D
KILN 2		_____ lbs./hr	1 2 3	ON OFF	A B C D

ARE ALL LIME FEEDERS GUARDED- REPORT CONDITION
IS LIME SILO CLEAN AND FREE OF SPENT LIME- REPORT CONDITION
IS ANY MAINTENANCE REQUIRED IN THIS AREA

NAME: _____ DATE: _____ SHIFT: _____

SCRUBBER SYSTEM INSPECTION

		KILN 1			KILN 2		
		NORTH	OR	SOUTH	NORTH	OR	SOUTH
RECYCLE PUMP RUNNING		YES	OR	NO	YES	OR	NO
RECYCLE PUMP LEAKING		YES	OR	NO	YES	OR	NO
BLOWDOWN PUMP LEAKING		YES	OR	NO	YES	OR	NO
KILN 1 QUENCH WATER SETTINGS	1	2	3	4			
KILN 1 MIST PAD WATER SETTING	*NOTE-READINGS TO BE TAKEN AT CENTER OF FLOAT TOTAL QUENCH FLOW SHOULD BE 8 TO 10 GPM						
KILN 2 QUENCH WATER SETTINGS	1	2	3	4			
KILN 2 MIST PAD WATER SETTINGS							
KILN 1 QUENCH PUMP RUNNING	YES	OR	NO	KILN 1 EMERGENCY QUENCH VALVES OPEN			YES OR NO
KILN 2 QUENCH PUMP RUNNING	YES	OR	NO	KILN 2 EMERGENCY QUENCH VALVES OPEN			YES OR NO
KILN 1 SCRUBBER- IS ANY MAINTENANCE REQUIRED IN THIS AREA?							
KILN 2 SCRUBBER- IS ANY MAINTENANCE REQUIRED IN THIS AREA?							

SODA ASH BUILDING

				KILN 1	KILN 2	TIME	CONCENTRATION
NORTH PUMP FEEDING KILN	IS PUMP LEAKING	YES	NO				
SOUTH PUMP FEEDING KILN	IS PUMP LEAKING	YES	NO				
SODA ASH SCREW-REPORT CONDITION	ARE ALL COVERS IN PLACE	YES	NO				
	ARE ALL GUARDS IN PLACE	YES	NO				
SODA ASH MIXERS RUNNING- REPORT CONDITION							
IS ANY MAINTENANCE REQUIRED IN THIS AREA							

HEAT EXCHANGER FANS, PRIMARY AIR FANS, KILN 2 DRIVE AND SILO HEAT INSPECTION

KILN 1 UPPER HEAT EXCHANGER FAN GREASED	YES	NO	KILN 1 LOWER HEAT EXCHANGER FAN GREASED	YES	NO
KILN 2 HEAT EXCHANGER FAN GREASED	YES	NO	KILN 1 LOWER (OLD) FAN RUNNING	YES	NO
KILN 1 UPPER (NEW) FAN SETPOINT	HZ		KILN 2 MAIN DRIVE SETPOINT	HZ	
KILN 2 HEAT EXCHANGER SETPOINT	HZ		K1 SHALE SILO HEAT RUNNING	YES	NO
KILN 1 PRIMARY AIR FAN SETPOINT	HZ		IS ANY MAINTENANCE REQUIRED IN THESE AREAS?		
KILN 2 PRIMARY AIR FAN SETPOINT	HZ				

NAME: _____ DATE: _____ SHIFT: _____

RAW SHALE BELTS INSPECTION

	KILN 1 TOP	KILN 1 BOTTOM	KILN 2 TOP	KILN 2 MIDDLE	KILN 2 BOTTOM
SHALE BELTS AND SPLICES IN WORKING CONDITION	YES NO	YES NO	YES NO	YES NO	YES NO
ROLLERS AND RETURNS IN WORKING CONTITION	YES NO	YES NO	YES NO	YES NO	YES NO
WIPERS IN PLACE AND IN GOOD CONDITION	YES NO	YES NO	YES NO	YES NO	YES NO
HEAD PULLEYS AND TAIL PULLEYS GREASED	YES NO	YES NO	YES NO	YES NO	YES NO
KILN 1 ALL CONVEYOR COVERS AND GUARDS IN PLACE	YES NO	YES NO	YES NO	YES NO	YES NO
KILN 2 ALL CONVEYOR COVERS AND GUARDS IN PLACE			YES NO	YES NO	YES NO
ROTARY VALVE- SHALE FEED FOR KILN 1 REPORT CONDITION			ARE GUARDS IN PLACE	YES NO	
ROTARY VALVE- SHALE FEED FOR KILN 2 REPORT CONDITION			ARE GUARDS IN PLACE	YES NO	
ACCURATE FEEDER FOR KILN 1 REPORT CONDITION			ARE GUARDS IN PLACE	YES NO	
ACCDURATE FEEDER FOR KILN 2 REPORT CONDITION			ARE GUARDS IN PLACE	YES NO	
KILN 1 SHALE FEED- IS ANY MAINTENANCE REQUIRED IN THIS AREA					
KILN 2 SHALE FEED- IS ANY MAINTENANCE REQUIRED IN THIS AREA					

COOLER SYSYTEM AND COOLER FAN INSPECTION

COOLERS AND COOLER FANS

KILN 1

KILN 2

COOLER DRIVE SYSTEM GREASED	YES NO	YES NO
BARRON EXHAUST SYSTEM GREASED	YES NO	YES NO
EAST COOLER FAN GREASED	YES NO	YES NO
WEST COOLER FAN GREASED	YES NO	YES NO
KILN COOLER AREAS CLEANED	YES NO	YES NO
COOLER SCREWS RUNNING NORTH	YES NO	YES NO
COOLER SCREW RUNNING SOUTH	YES NO	YES NO
DUST DRUMS EMPTIED	YES NO	YES NO
KILN 1 COOLER- IS ANY MAINTENANCE REQUIRED IN THIS AREA		
KILN 2 COOLER- IS ANY MAINTENANCE REQUIRED IN THIS AREA		

NAME: _____

DATE: _____

SHIFT: _____

CLINKER BELTS AND TUNNEL INSPECTION

	KILN 1	KILN 2
BELTS AND SPLICES IN GOOD CONDITION	YES NO	YES NO
HEAD PULLEYS AND TAIL PULLEYS GREASED AND GUARDED	YES NO	YES NO
ROLLERS AND RETURN IN GOOD CONDITION AND GUARDED	YES NO	YES NO
WIPERS IN PLACE AND IN GOOD CONDITION	YES NO	YES NO
PUMP IN TUNNEL IN GOOD CONDITION	YES NO	YES NO
WAS PUMP CHANGED OUT ON YOUR SHIFT	YES NO	YES NO
CLINKER BELT WATER SPRAYS	ON OFF	ON OFF
CLINKER BELT HEAD BOX WATER SPRAYS	ON OFF	ON OFF
TUNNEL CLEAN AT START OF SHIFT	YES NO	YES NO
TUNNEL CLEAN AT END OF SHIFT	YES NO	YES NO
ALL CONVEYOR COVERS IN PLACE	YES NO	YES NO
KILN 1 – ANY MAINTENANCE REQUIRED IN THIS AREA		
KILN 2- ANY MAINTENANCE REQUIRED IN THIS AREA		

AIR COMPRESSORS AND PORTABLE AIR COMPRESSORS

	KILN 1	KILN 2
OIL LEVEL CHECKED	YES NO	YES NO
HOW MUCH OIL WAS ADDED		
AIR COMPRESSOR TEMP		
AIR DRYERS AND AFTERCOOLERS WORKING	YES NO	YES NO
DRYER RELIEF VALVE WORKING PROPERLY	YES NO	YES NO
PORTABLE COMPRESSOR RUNNING	YES NO	YES NO
FLUIDS CHECKED IN PORTABLE	YES NO	YES NO
PORTABLE RE-FUELED FOR NEXT SHIFT	YES NO	YES NO
ANY MAINTENANCE REQUIRED IN THIS AREA		

NAME: _____ DATE: _____ SHIFT: _____

KILN SHIFT SAFETY INSPECTION SHEET

Note OK or Deficiencies

DATE: _____

SHIFT: A B C D

INSPECTED BY: _____

LOCATION	GUARDING	WALKWAYS	EXTINGUISHER	HOUSEKEEPING
Soda Ash Bldg.			N/A	
Shale Silo				
Rear Feed Belts				
K 1 Trunnions			N/A	
K 1 Multiclone			N/A	
K 1 Heat Exchanger			N/A	
K 1 Scrubber			N/A	
K 1 Transformer	N/A		N/A	
K 1 MCC	N/A			
K 1 Compressor			N/A	
K 1 Baghouse				
K 1 Cooler				
K 1 Clinker Belt				
K 2 Clinker Belt				
K 2 Cooler				
K 2 Trunnions			N/A	
K 2 Multiclone			N/A	
K 2 Heat Exchanger			N/A	
K 2 Baghouse				
Lime Silo			N/A	
K 2 Compressor			N/A	
K 2 MCC				
K 2 Scrubber			N/A	
Water House	N/A		N/A	
Main Walkways	OK			
Lighting	OK			
Trunnion Room	Clean			

CRITERIA FOR GUARDS: SECURE, GOOD CONDITION, MOVING PARTS CANNOT BE REACHED

CRITERIA FOR WALKWAYS, LADDERS AND CATWALKS:

FREE OF MATERIALS, WATER, ICE, HOLES, TRIP HAZARDS

HANDRAILS & TOEBOARDS MUST BE PRESENT, NOT BROKEN

LADDERS MUST BE ACCESSIBLE, NOT BROKEN, BENT OR OBSTRUCTED

FIRE EXTINGUISHER PRESENT

SUPERVISOR SIGNATURE: _____

KILN DUST LEVEL INSPECTION LOG

KILN 1 BAGHOUSE	TIME 1	MOD A	MOD B	MOD C	TIME 2	MOD A	MOD B	MOD C	KILN 1 MULTICLONE	HOPPER LEVEL	HOPPER LEVEL
DIFFERENTIAL PRESSURE (IN MCC)									TIME 1	UPPER	LOWER
OUTLET TEMPERATURE (IN MCC)									TIME 2	UPPER	LOWER
SUCTION LEVEL LOW, MIDDLE, HIGH, NONE									ROTARY VALVE ON	YES OR NO	
ROTARY VALVE RUNNING									RV MAINT NEEDED	YES OR NO	
ROTARY VALVE ADJUSTMENT MADE									BLOWER SELECTED	EAST OR WEST	
VAC TRUCK LOADS TAKEN											
ROTARY VALVE MAINTENANCE NEEDED											
BAGHOUSE BLOWER SELECTED	NORTH OR SOUTH				NORTH OR SOUTH						
BAGHOUSE DUST LINES TO SILO-MAINTNENANCE NEEDED-											
MULTICLONE DUST LINES TO SILO-MAINTENANCE NEEDED-											

KILN 2 BAGHOUSE	TIME 1	MOD A	MOD B	MOD C	TIME 2	MOD A	MOD B	MOD C	KILN 2 MULTICLONE	HOPPER LEVEL	HOPPER LEVEL
DIFFERENTIAL PRESSURE (IN MCC)									TIME 1	UPPER	LOWER
OUTLET TEMPERATURE (IN MCC)									TIME 2	UPPER	LOWER
SUCTION LEVEL LOW, HIGH, NONE									ROTARY VALVE ON	YES OR NO	
ROTARY VALVE RUNNING									RV MAINT NEEDED	YES OR NO	
ROTARY VALVE ADJUSTMENT MADE									BLOWER SELECTED	EAST OR WEST	
VAC TRUCK LOADS TAKEN											
ROTARY VALVE MAINTENANCE NEEDED											
BAGHOUSE BLOWER SELECTED	NORTH OR SOUTH				NORTH OR SOUTH						
BAGHOUSE DUST LINES TO SILO- MAINTENANCE NEEDED-											
MULTICLONE DUST LINES TO SILO-MAINTENANCE NEEDED-											

WAS THE VAC TRUCK CLEAN AND READY FOR YOUR USE?
DID YOU EMPTY AND CLEAN VAC TRUCK AFTER YOUR USE?

WAS THE EQ ROOM CLEAN AT THE BEGINNING OF YOUR SHIFT ?	
DID YOU CLEAN FILTER BASKETS DURING YOUR SHIFT?	
LIQUID WASTE DRUM LEVEL ¼ ½ ¾ FULL	PPE WASTE DRUM LEVEL ¼ ½ ¾ FULL
IS EQ ROOM CLEAN AT END OF SHIFT ? ***	ARE DRUMS AND PAILS PROPERLY LABELED?
*** REQUIRES 1 EMPTY PAIL, DRIP PANS CLEAN AND NO USED PPE	

DATE _____ SHIFT _____ NAME _____ SUPERVISOR _____

NUKLIIE WASIEWAIAEK I KEAIMENI SHIFT REPORT

DATE: _____

SHIFT: A B C D

KILN # 1 BLOWDOWN		
TIME	BLOWDOWN FLOW, gpm	BLOWDOWN pH
7:00		
10:00		
1:00		
4:00		

FLOC TANK					
FLOC TK pH PROBE "A"	FLOC TK pH PROBE "B"	FLOC Dosage, gpm	FLOC PUMP SPEED	FLOC PUMP STROKE	FLOC WATER FLOW, gph

KILN # 2 BLOWDOWN		
TIME	BLOWDOWN FLOW, gpm	BLOWDOWN pH
7:00		
10:00		
1:00		
4:00		

CLARIFIER	
CLARIFIER SLUDGE LEVEL	CLARIFIER RAKE TORQUE %

EQUALIZATION TANK				
TIME	EQ TK PUMP A or B FLOW, gpm	EQ TK PUMP TOTALIZER	EQ TANK LEVEL	EQ TANK Ph
7:00				
10:00				
1:00				
4:00				

OVERFLOW COLLECTION TANK	
OFC TK PUMP A or B FLOW, gpm	OFC TANK TOTALIZER

OPERATOR SIGNATURE: _____

SUPERVISORS SIGNATURE: _____

NORLITE WASTEWATER TREATMENT SHIFT REPORT

DATE: _____

SHIFT: _____

A B C D

FILTER OPERATION DATA

TIME	CARBON FILTERS, F-4028 A & B				CARBON TOTALIZER 06A
	PRESSURE, psig		BACKWASHED Y or N	CARBON FLOW GPM, 06A	
	INLET	OUTLET			
7:00					
10:00					
1:00					
4:00					

QUARRY WATER SYSTEM	
QUARRY TANK LEVEL %	CLEAN WATER TANK LEVEL %

FILTER OPERATION DATA

TIME	SAND FILTER		POLISHING FILTERS	
	PRESSURE, psig		BACKWASHED Y or N	BACKWASHED Y or N
	INLET	OUTLET		
7:00				
10:00				
1:00				
4:00				

QUARRY WATER	
CLEAN WATER TOTALIZER	SAND FILTER BACKWASH (YES/NO)

EFFLUENT DATA

TIME	EFF TK PUMP A or B FLOW, gpm	EFFLUENT TOTALIZER (South Wallwtp)	EFFLUENT, pH PROBE "A" (All Sock Filters)	EFFLUENT, pH PROBE "B" (South Wall)	EFFLUENT pH (South Wall)	EFFLUENT "ORP" READING (South Wall)	EFFLUENT TEMP, F (South Wall)	EFFLUENT TANK "A" LEVEL, gallons	EFFLUENT TANK "B" LEVEL, gallons
7:00									
10:00									
1:00									
4:00									

OPERATOR SIGNATURE: _____

SUPERVISOR SIGNATURE: _____

NORLITE WASTEWATER TREATMENT SHIFT REPORT

DATE: _____ SHIFT: A B C D PAGE 3 of 5

EFFLUENT DATA								
TIME	HYDROGEN SULFIDE RESULTS	BLEACH ADDITION RATES/SETTINGS	RESIDUAL CHLORIDE ppm	EFFLUENT TANK "A" AIR RATE, cfm	EFFLUENT TANK "B" AIR RATE, cfm	EFFLUENT TANK DISCHARGED FROM A or B	EFFLUENT STOPPED Y or N	EFFLUENT CITY WATER OFF Y or N
7:00								
10:00								
1:00								
4:00								

FILTER PRESS		
SLUDGE PUMPED FROM CLARIFIER Y or N	SLUDGE TANK LEVEL	NUMBER OF CAKES MADE DURING SHIFT

INVENTORY	AMOUNT
Note: FeCl2 - Ferric Chloride	
START OF SHIFT INVENTORY	
CHEMICAL	
TOTES OF FeCl2	
BAGS OF IRON-40/PALLET	
DRUMS OF BLEACH	
DRUMS OF POLYMER	
AMPLE QUANTITY OF: Y OR N	
ALKA SELTZER	
HYDROGEN SULFIDE PAPER	
CHLORIDE TEST PACKET	
ACID TANK LEVEL	
LEVEL TO REFILL	ABOVE BELOW
CUASTIC TANK LEVEL	

IRON SULFATE		
TIME ADDED	TOTE OF FeCl2 (ON/OFF)	BAGS OF IRON ADDED
TOTAL:		

NOTES AND/OR REQUIRED MAINTENANCE

OPERATOR SIGNATURE: _____ SUPERVISORS SIGNATURE: _____

NORLITE WASTEWATER TREATMENT SHIFT REPORT

DATE: _____

SHIFT: A B C D

TRUNNION WATER FLOW TO EFFLUENT TANKS				
TIME	DISCHARGE TO "A" EFFLUENT TANK YES or NO	DISCHARGE TO "B" EFFLUENT TANK YES or NO	TRUNNION FLOW, gpm	TRUNNION TOTALIZER
7:00				
10:00				
1:00				
4:00				

PLANT (QUARRY) WATER TO EFFLUENT TANKS (See Note 2)				
TIME	FLOW TO "A" EFFLUENT TANK YES or NO	FLOW TO "B" EFFLUENT TANK YES or NO	PLANT WATER FLOW, gpm	PLANT WATER TOTALIZER
7:00				
10:00				
1:00				
4:00				

OPERATOR SIGNATURE: _____

SUPERVISORS SIGNATURE: _____

NORLITE WASTEWATER TREATMENT SHIFT REPORT

DATE: _____

SHIFT: A B C D

TRUNNION WATER FLOW TO OVERFLOW COLLECTION TANK (O6B) (See Note 1)			
TIME	START TIME:	START TOTALIZER:	END TIME:
	FLOW TO OFC YES or NO	TRUNNION FLOW gpm	TRUNNION TOTALIZER
7:00			
10:00			
1:00			
4:00			
TIME SAMPLE TAKEN AT O6A:		TRUNNION FLOW, gpm	CARBON FLOW (O6A) gpm
		TRUNNION TOTALIZER	CARBON TOTALIZER (O6A)

NOTE 1:

- a) Only complete this table if Trunnion water is being discharged to the Overflow Collection Tank, except to always complete box labeled "Flow to OFC, Yes or No".
- b) Only complete Start and End Information if the Start and/or End of Flow to Overflow Collection Tanks occurs on your shift.
- c) If the laboratory takes a sample at O6A while the Trunnion water is being discharged to the Overflow Collection Tank, record the sample time and flow data.

NOTE 2: Awaiting for Operating Procedure.

OPERATOR SIGNATURE: _____

SUPERVISORS SIGNATURE: _____

PRIMARY PRE-SHIFT & DAILY REPORT

Operator: _____ Date: _____

Supervisor: _____ Date: _____

Feed Conditions: Wet Dry Water Sprays: On Off

Hours to Silo: _____ Hours to Stock: _____ Hours Stock to Silo: _____

Downtime Hours: _____ Silo Full: Yes No

Criteria for guarding: All pinch points guarded, guards secure and in good condition.

Criteria for walkways: Free of hazards, handrails present and in good condition, ladders accessible and in good condition.

Criteria for fire extinguishers: Extinguishers in proper location, properly charged and tagged, pin installed and tagged.

Criteria for berms: Berm in place, mid-axle height of equipment.

<i>AREA</i>	<i>YES</i>	<i>NO</i>	<i>COMMENTS</i>
Jaw Crusher			
Are all moving parts adequately guarded	<input type="checkbox"/>	<input type="checkbox"/>	
Walkways free of hazards and in satisfactory condition	<input type="checkbox"/>	<input type="checkbox"/>	
Area guarding in place and secure	<input type="checkbox"/>	<input type="checkbox"/>	
Jaw Crusher Ramp			
Berm of adequate height and construction	<input type="checkbox"/>	<input type="checkbox"/>	
Cone Plant			
Are all moving parts adequately guarded	<input type="checkbox"/>	<input type="checkbox"/>	
Walkways free of hazards and in satisfactory condition	<input type="checkbox"/>	<input type="checkbox"/>	
Area guarding in place and secure	<input type="checkbox"/>	<input type="checkbox"/>	
#4 Belt/Tunnel			
Are all moving parts adequately guarded	<input type="checkbox"/>	<input type="checkbox"/>	
Walkways free of hazards and in satisfactory condition	<input type="checkbox"/>	<input type="checkbox"/>	

PRIMARY PRE-SHIFT & DAILY REPORT (cont'd)

<i>AREA</i>	<i>YES</i>	<i>NO</i>	<i>COMMENTS</i>
#5 Belt			
Are all moving parts guarded adequately	<input type="checkbox"/>	<input type="checkbox"/>	
Walkways free of hazards and in Satisfactory condition	<input type="checkbox"/>	<input type="checkbox"/>	
Control Room			
Are non-conductive mats in place	<input type="checkbox"/>	<input type="checkbox"/>	
Housekeeping inside & outside acceptable	<input type="checkbox"/>	<input type="checkbox"/>	
MCC Room			
Are non-conductive mats in place	<input type="checkbox"/>	<input type="checkbox"/>	
Housekeeping inside & outside acceptable	<input type="checkbox"/>	<input type="checkbox"/>	
Are floors free of hazards	<input type="checkbox"/>	<input type="checkbox"/>	
Are doorways accessible	<input type="checkbox"/>	<input type="checkbox"/>	
General			
Are all cylinders secured and upright	<input type="checkbox"/>	<input type="checkbox"/>	
Are all cylinders located outside tunnels	<input type="checkbox"/>	<input type="checkbox"/>	
Fire Extinguishers			
Control Room	<input type="checkbox"/>	<input type="checkbox"/>	
Jaw Transfer Belt	<input type="checkbox"/>	<input type="checkbox"/>	
#4 Belt Tunnel	<input type="checkbox"/>	<input type="checkbox"/>	
#4 Tunnel Entrance	<input type="checkbox"/>	<input type="checkbox"/>	
Under #5 Belt	<input type="checkbox"/>	<input type="checkbox"/>	

Comments/Notes

PORTABLE SCREEN WEEKLY REPORT

	SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
DATE							
LOADER							
OPERATOR							
ENGINE OIL LEVEL (Added)							
FUEL LEVEL							
START-UP TIME							
SHUT-DOWN TIME							
HOURS OPERATED							
# OF BUCKETS RECLAIMED							
DELAYS							
ENGINE GUARDING IN PLACE							
SCREEN- DECK CONDITION							
FIRE EXTINGUISHER							

PORTABLE CRUSHER WEEKLY REPORT

LOADER: _____

OPERATOR: _____

	SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
DATE							
CRUSHER OIL LEVEL (Added)							
START-UP TIME (Delays)							
SHUT- DOWN TIME							
HOURS OPERATED (Delays)							
# OF BUCKETS							
GUARDING							
CHAINS UP DENYING ACCESS							
START-UP ALARM							
FIRE EXT. PRESENT							
HOUSE- KEEPING							

BURNER SHIFT SAFETY INSPECTION

NOTE OK OR DEFICIENCIES

KILN: _____

DATE: _____ SHIFT: A B C D INSPECTED BY: _____

LOCATION	MON	TUES	WED	THURS	FRI	SAT	SUN
CONTROL ROOM							
- EYE WASH							
- FIRE BLANKET							
- EXTINGUISHER							
- HOUSEKEEPING							
BURNER FLOOR							
- SAFETY SHOWER							
- FIRE BLANKET							
- EXTINGUISHER							
- HOUSEKEEPING							
- SAFETY CLIPS							
GAS ROOM KILN #1							
- HOUSEKEEPING							
EQUALIZATION							
- EXTINGUISHERS							
- HOUSEKEEPING							

Main Walkways	OK	
Lighting	OK	
Stairways	OK	

CRITERIA:

SHOWER:	<input type="checkbox"/>	<i>MUST BE ACCESSIBLE, NOT OBSTRUCTED</i>
EYE WASH BOTTLES:	<input type="checkbox"/>	<i>PRESENT, EXPIRATION DATE CHECKED</i>
FIRE BLANKET:	<input type="checkbox"/>	<i>PRESENT</i>
FIRE EXTINGUISHER:	<input type="checkbox"/>	<i>PRESENT</i>
HOUSEKEEPING:	<input type="checkbox"/>	<i>FREE OF FLAMMABLE MATERIALS AND TRASH</i>
WALKWAYS:	<input type="checkbox"/>	<i>FREE OF MATERIALS, WATER, ICE, HOLES, TRIP HAZARD</i>

SUPERVISOR SIGNATURE: _____

BURNER OPERATORS LOG

BURNER

KILN

SHIFT A B C D

DATE / /

TIME	KILN										COOLER					BAGHOUSE					HEAT EXCHANGER/MC															
	CLINKER WT LBS	FEEDER SETTING TPH	STONE TEMP °F	FLAME TEMP °F	BACKEND TEMP °F	KILN HOOD PRESSURE "WC	LG FAN GPM	WASTE OIL GPM	WATER GPM	NATURAL GAS PSI	ATOM AIR PSI	COOLER SPEED	EAST COOLER FAN	WEST COOLER FAN	FRONT BARRON SPEED	FRONT BARRON AMPS	CO	OXYGEN %	DIFF PSI	INLET TEMP °F	I.D. FAN AMPS	I.D. FAN SPEED	DUCON D.P. "WC	VENTURI D.P. "WC	RECYCLE FLOW GPM	PH	QUENCH TEMP °F	LIME FEED ON/OFF	HX D.P. "WC	HX EXIT TEMP	M.C. DIFF "WC	DILUTION DAMPER %				
7:00																																				
8:00																																				
9:00																																				
10:00																																				
11:00																																				
12:00																																				
13:00																																				
14:00																																				
15:00																																				
16:00																																				
17:00																																				
18:00																																				

KILN RAW SHALE	END		GAS	AVERAGE WEIGHT		REMARKS
	START	TOTAL		START	TOTAL	

BURNER OPERATORS LOG

KILN

BURNER

SHIFT A B C D

DATE / /

TIME	KILN										COOLER									
	CLINKER WT LBS	FEEDER SETTING TPH	STONE TEMP °F	FLAME TEMP °F	BACKEND TEMP °F	KILN HOOD PRESSURE "WC	LGF GPM	WASTE OIL GPM	WATER GPM	NATURAL GAS PSI	ATOM AIR PSI	COOLER SPEED	EAST COOLER FAN	WEST COOLER FAN	FRONT BARRON SPEED	FRONT BARRON AMPS				
19:00																				
20:00																				
21:00																				
22:00																				
23:00																				
0:00																				
1:00																				
2:00																				
3:00																				
4:00																				
5:00																				
6:00																				
TIME	SCRUBBER										BAGHOUSE						PEAT EXCHANGER/WC			
	QUENCH TEMP °F	RECYCLE FLOW GPM	VENTURI D.P. "WC	DUCON D.P. "WC	I.D.FAN AMPS	I.D.FAN SPEED	INLET TEMP °F	DIFF PSI	OXYGEN %	LIME FEED ON/OFF	CO HRA PPM	HX D.P. "WC	HX EXIT TEMP	M.C. DIFF PSI	DILUTION DAMPER %					
19:00																				
20:00																				
21:00																				
22:00																				
23:00																				
0:00																				
1:00																				
2:00																				
3:00																				
4:00																				
5:00																				
6:00																				
KILN RAW SHALE	END		GAS		END		AVERAGE		REMARKS											
	START	TOTAL	START	TOTAL	START	TOTAL	WEIGHT													

**NORLITE, LLC TITLE V COMPLIANCE CERTIFICATION
DAILY VISIBLE EMISSIONS**

DATE: _____

EMISSION UNIT	EMISSION POINT	EMISSION POINT DESCRIPTION	OBSERVER INITIALS	TIME	WEATHER CONDITIONS ¹	VE > 20%		CORRECTIVE ACTION	METHOD 9 CONDUCTED?
						YES	NO		
K-ILNSG	00001	Kiln #1 Stack							
	00002	Kiln #2 Stack							
	00003A	Kiln #1 Cooler							
	00003B	Kiln #2 Cooler							
M-ISCES	00018	Unloading Pad Carbon Unit - FF							
	00046	# 2 Belt Baghouse - FP							
	00047	Oversize Baghouse - FP							
	00048	Stationary Belt Baghouse - FP							
	00049	Radial Stack Baghouse - FP							
	00050	Finish Plant Main Baghouse							
S-TANKS	00019	LGF Bldg Vent System Carbon Unit							

Weather Conditions: **F** = Favorable, **A** = Adverse (Fog, Rain, Snow)

COMMENTS:

FUEL FARM SHIFT REPORT

DATE: _____ SHIFT: _____ OPERATOR: _____

TIME				
I. TANK LEVELS				
TK 3 (INCHES)				
TK 4 (INCHES)				
TK 5 (INCHES)				
TK 6 (INCHES)				
TK 100A (GAL)				
TK 100B (GAL)				
TK 100C (GAL)				
TK 200A (GAL)				
TK 200B (GAL)				
TK 200C (GAL)				
K" N OIL TANK (FEET-INCHES)				
II. SWITCHED TANKS	TIME	FROM	TO	FEED PUMP PRESSURE (PSIG)
III. OTHER TANKS				
FIRE DAY TK LEVEL				
NITROGEN TK LEVEL				
HEATER DAY TK LEVEL				
COMMENTS: (ANY LEAKS, ODD NOISES, HIGH PRESSURES, PROBLEMS, ETC.)				

SUPERVISORS SIGNATURE: _____

FINISH PLANT WIND LOG

DATE: _____

OPERATOR: _____

hour	temperature	wind direction	wind speed

COMMENTS:

APPENDIX F

TRADEBE SUPERVISOR'S INCIDENT REPORT



TRADEBE
Environmental Services, LLC™

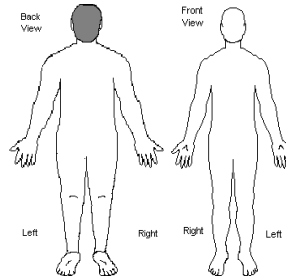
Tradebe – Supervisor’s Incident Report

SUPERVISOR’S INVESTIGATION	
Employee Name:	
Date and Time of Incident:	
Location of the Incident:	
When was the Incident Reported?	
THE FOLLOWING SECTIONS ARE TO BE COMPLETED WITHIN 48 HOURS OF THE INCIDENT.	

TYPE OF INCIDENT

Injury:	First Aid	Medical Treatment
Accident:	Property Damage	Vehicle/Equipment
Incident:	Near Miss	Potential Hazard
		Fire Spill

What Body Part was Affected (if applicable)?



Draw a Diagram of the Scene and Attach Photographs

UNSAFE CONDITIONS – check all that apply

- Inadequately guarded
- Unguarded
- Defective tools, equipment or substance
- Design or construction
- Illumination inadequate for task
- Ventilation inadequate for task
- PPE incorrect for task
- Housekeeping deficient
- Other:

UNSAFE ACTS

- Operating without authority
- Operating at unsafe speed
- Making safety devices inoperative
- Unsafe loading, placing or mixing
- Taking an unsafe position
- Working on moving equipment
- Distraction, teasing, horseplay
- Failure to use PPE
- Other:



TRADEBE

Environmental Services, LLC™

EVENTS

Describe the events leading up to the incident. _____

Explain any unsafe acts or conditions: _____

Why did the unsafe condition exist (if applicable)? _____

What action(s) have been taken to prevent this incident from occurring in the future? _____

CORRECTIVE ACTION (S)– based on the causes checked above, the following corrective actions (s) are to be taken immediately:

UNSAFE ACT

- Verbal Warning
- Written Warning
- Review/update hazard assessment
- Retrain all affected employees
- Documented follow-up

UNSAFE CONDITION

- Remove unsafe condition
- Replace guard (s)
- Housekeeping addressed
- Repaired

REPORT FORWARDED TO

- Trans. Mgr. /Plant Mgr.
- Review Committee
- Safety Manager
- Maintenance

Supervisor Name (please print)

Supervisor's Signature

Date



Medical Treatment Request/Refusal

Medical Treatment Request

I acknowledge that the company has offered me the Panel of Physician's below and I have selected the Physician _____ or one of his associates at _____ (clinic) for medical treatment for the incident which I have described on my incident report dated _____.

I authorize release of medical documents related to this incident to Tradebe and to Tradebe's Workers Compensation insurance carrier.

Date: _____

Name: _____

Signature: _____

Medical Treatment Refusal

I acknowledge that Tradebe has offered me the opportunity to receive medical evaluation regarding the incident I reported on _____. I am declining medical evaluation at this time.

If treatment is needed in the future, I understand that I must contact Health and Safety or other Tradebe Manager for approval.

I understand that I may be required to submit to a drug/alcohol screen even though I am refusing treatment.

Date: _____

Name: _____

Signature: _____



TRADEBE
Environmental Services, LLC™

SECTION B: ENVIRONMENTAL RELEASE

If material was released from a drum fill out the following information:

Bar Code Number	
Process Code	
Did material leave the property?	

If material was released from a tank, tank car, or railcar fill out the following information:

Tank Number, or Car Number	
Type of material	
Did material leave the property?	

WHAT MATERIALS WERE UTILIZED IN CLEAN UP/ CONTAINMENT?

Oil Dry		Wipes	
Booms		Fire Extinguisher	
Overpack		Neutralizer	
Visqueen		Saw Dust	
Number of the Spill Kit Utilized			



TRADEBE
Environmental Services, LLC™

Tradebe – Employee’s Incident Statement

Check One: Witness Involved or Injured Party

Incident Date: _____

Please complete all sections.

TYPE OF EVENT – Please Check:	
Injury:	<input type="checkbox"/> First Aid <input type="checkbox"/> Medical Treatment
Accident:	<input type="checkbox"/> Property Damage <input type="checkbox"/> Vehicle Equipment
Incident:	<input type="checkbox"/> Near Miss <input type="checkbox"/> Potential Hazard <input type="checkbox"/> Fire <input type="checkbox"/> Spill

Name: _____

Position: _____ Date of Hire _____

Address: _____ City: _____

State: _____ Zip Code: _____ Phone #: _____

What Happened? (complete on the back if necessary)

Why do you think it happened?

What do you think we should do differently?

PPE Used (please list)? _____

Signature _____

Date _____



TRADEBE
Environmental Services, LLC™

Tradebe – Employee’s Incident Statement

Check One: Witness Involved or Injured Party

Incident Date: _____

Please complete all sections.

TYPE OF EVENT – Please Check:	
Injury:	<input type="checkbox"/> First Aid <input type="checkbox"/> Medical Treatment
Accident:	<input type="checkbox"/> Property Damage <input type="checkbox"/> Vehicle Equipment
Incident:	<input type="checkbox"/> Near Miss <input type="checkbox"/> Potential Hazard <input type="checkbox"/> Fire <input type="checkbox"/> Spill

Name: _____

Position: _____ Date of Hire _____

Address: _____ City: _____

State: _____ Zip Code: _____ Phone #: _____

What Happened? (complete on the back if necessary)

Why do you think it happened?

What do you think we should do differently?

PPE Used (please list)? _____

Signature _____

Date _____

APPENDIX G
CONTACT LIST

EMERGENCY RESPONSE CONTACT LIST

To be posted near every phone

Attachment 1

INCIDENT COORDINATOR	Verizon Phone	HOME	PLANT
Tim Lachell (Plant Manager) (Primary) 31 Cooks Court, Waterford, NY 12188	(518) 857-9164	(518) 373-9569	x.4014
Tom Van Vranken (Envir Manager) (Alternate) 104 Gordon Road, Schenectady, NY 12306	(518) 365-2443	(518) 393-3787	x.4038
Ken O'Brien (Aggregate Manager) (Alternate) 30 Squire Road, Schenectady, NY 12304	(518) 376-8634	(518) 395-3344	x4021
David Glover (Alternate) 1 Winnie Place, Glenmont, NY 12077	(518) 857-4606	(518) 488-3112	x4041
Security Gate (Elm Street)			x.4084
PLANT MANAGERS	Verizon Phone	HOME	PLANT
Darrell Monk (Plant Manager - In Training)	(518) 852-3876		x4044
Prince Knight (Lab Manager)	(518) 857-2969	(518) 861-5870	x.4049
Kiln Supervisors	(518) 857-5737		x.4073

FOR PLANT EMERGENCIES - FIRE - POLICE - EMS DIAL 911

LOCAL FIRES	PHONE NUMBER
Cohoes Colonie*	Emergency: (518) 765-2352, Other: 237-1241 783-2744
LOCAL POLICE	PHONE NUMBER
Cohoes Colonie*	Emergency: (518) 765-2352, Other: 237-5333 783-2744
SPILL RESPONSE	PHONE NUMBER
West Central Environmental CHEMTREC NYSDEC Spill Hotline LOCAL EMERGENCY PLANNING COMMITTEE EPA NATIONAL RESPONSE CENTER	272-6891 (800) 424-9300 457-7362 765-2351 (800) 424-8802
DOCTORS	PHONE NUMBER
Access Health 776A Watervliet Shaker Road Latham, NY 12110 St. Mary's Hospital	782-2200 FAX 786-1875 (518) 268-5697
MISCELLANEOUS	PHONE NUMBER
SimplexGrinnell MSHA National Grid	952-6040 489-0573 356-6471

*West of the power lines

9/15/2014

NORLITE, 628 SOUTH SARATOGA STREET, COHOES, NEW YORK 12047 235-0401

APPENDIX H
LGF TANK AND STAGING AREA DRAWINGS

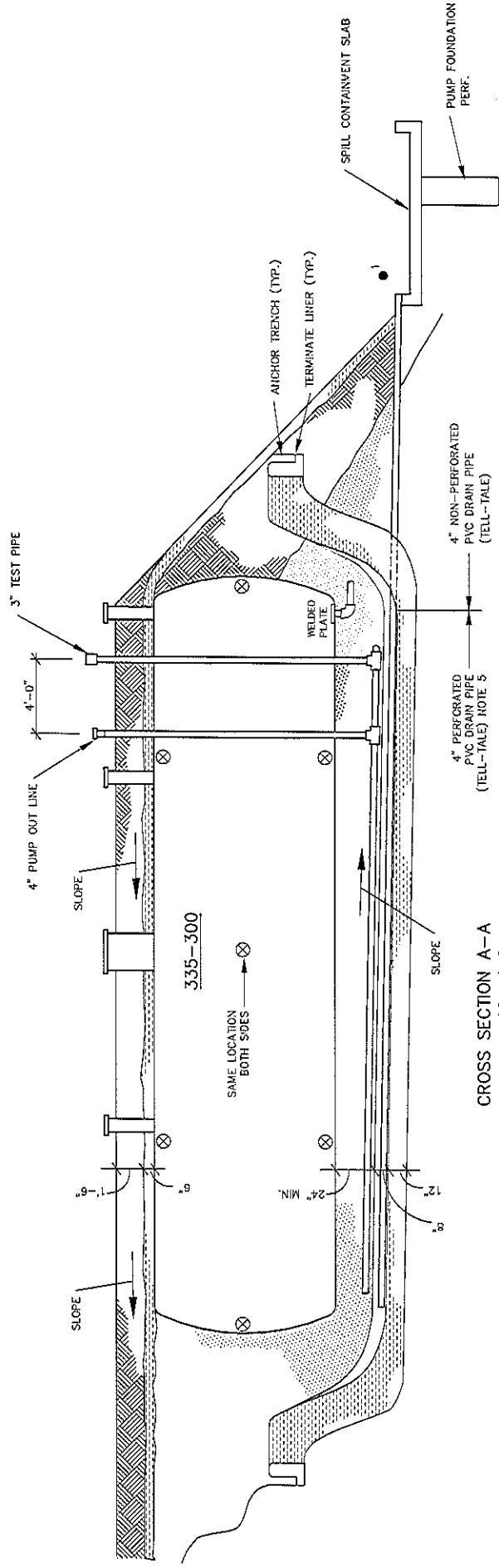
● REVISION TO LINER SYSTEM (7/24/85)

THE CONSTRUCTION SEQUENCE IS AS FOLLOWS:

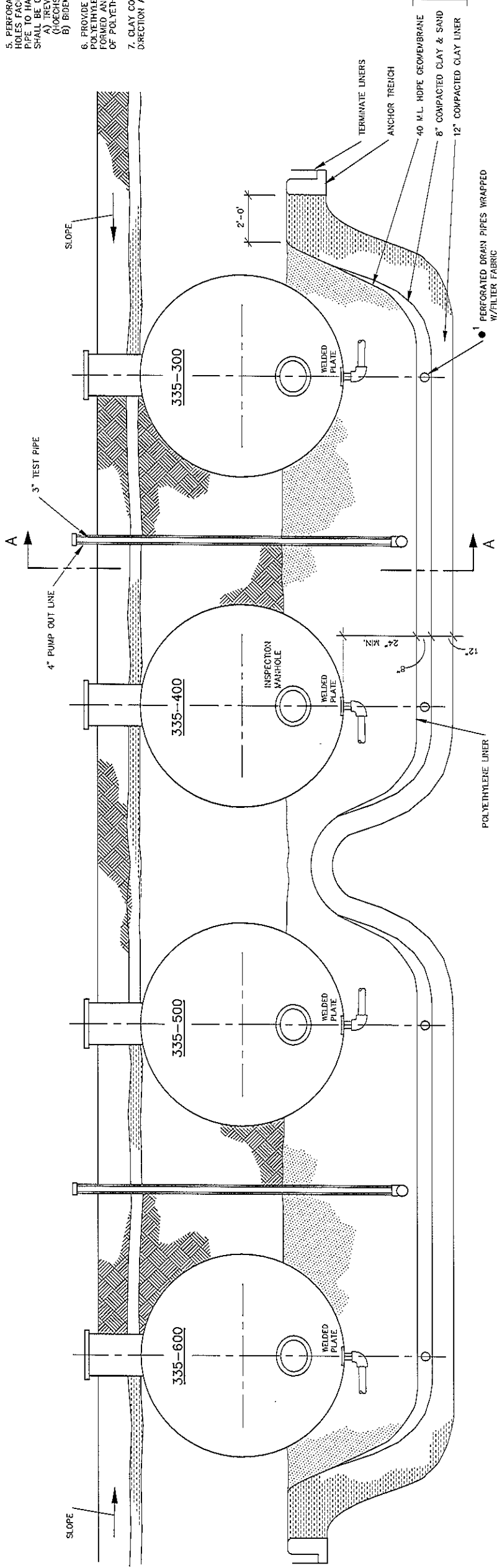
1. SCALP MOST OF THE SAND NOW RESTING ON THE GEOMEMBRANE, AND ALL OF THE CLAY ALONG THE SLOPE SLOPES. STOCKPILE AS MUCH OF THE SAND AS POSSIBLE FOR LATER USE. A THIN LAYER OF SAND SHOULD REMAIN OVER THE CLAY TO PROVIDE A CLEAR FIRM WORKING SURFACE.
2. LOWER THE GRADE OF THE EXISTING COLLECTION PIPE BY HAND TRENCHING.
3. MOSTEN AND COMPACT THE SOILS INTO A SMOOTH, UNIFORMLY THICK LAYER. SAND MAY BE ADDED TO THE SURFACE TO SUPPLEMENT THAT WHICH IS LOST IN THE CLAY Voids.
4. INSTALL THE UPPER 40 M.L. GEOMEMBRANE, AND ANCHOR BOTH THE MEMBRANES INTO THE DIKES IN ACCORDANCE WITH PERMIT SPECIFICATIONS.
5. LAY A COLLECTION PIPE ON TOP OF THE GEOMEMBRANE. THE PIPE WILL BE WRAPPED IN GEOTEXTILE FILTER FABRIC.
6. TRENCH BOTH PIPES THROUGH THE IMPOUNDMENT SIDE SLOPES, AND INSTALL A SEEPAGE COLLAR AT THE MEMBRANE PENETRATIONS IN ACCORDANCE WITH GEOMEMBRANE MANUFACTURER RECOMMENDATIONS. RECOMPACT DIKE MATERIALS TO SPECIFIED DENSITY.
7. COVER THE UPPER MEMBRANE WITH TAMPED SAND UP TO FINAL DESIGN GRADE.

NOTES:

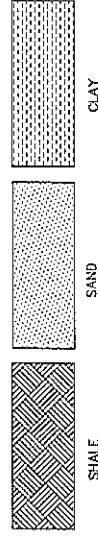
1. EXCAVATION, CLAY LINER AND POLYETHYLENE LINER TO BE SLOPED 1/4" PER FT. IN DIRECTION AS SHOWN.
 2. ⊙ THICKNESS TEST LOCATIONS (8).
 3. POLYETHYLENE LINER CONTIGUOUS UNDER FOUR TANKS 335-300, 335-400, 335-500 & 335-600.
 4. THE SECONDARY CONTAINMENT WITHIN THE POLYETHYLENE LINER IS 30,415 GAL.
- REQUIRED CONTAINMENT:
100% LARGEST TANK VOLUME = 27,903 GALS.
5. PERFORATED DRAIN PIPE TO BE INSTALLED WITH HOLES SPACING 30" ON CENTER. PERFORATED PIPE TO HAVE GEOTEXTILE WRAP FILTER FABRIC SHALL BE ONE OF THE FOLLOWING FABRICS:
A) TREVIA SPUNBOND S115
(HOECHST FIBERS INDUSTRIES)
B) BIDEN C22 (MONSANTO TEXTILE CO.)
 6. PROVIDE ANCHOR TRENCHES AROUND EDGES OF POLYETHYLENE LINER. TRENCHES TO BE PROPERLY FORMED AND COMPACTED TO PREVENT SLIPPAGE OF POLYETHYLENE LINER.
 7. CLAY COVER TO BE SLOPED 1/4" PER FT. IN DIRECTION AS SHOWN.



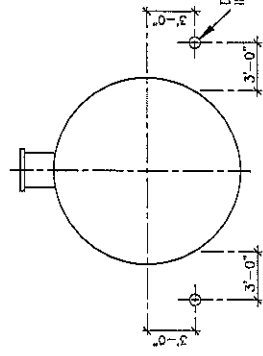
CROSS SECTION A-A
SCALE: 1/4" = 1'-0"



LEGEND



ELEVATION LOOKING WEST
SCALE: 3/8" = 1'-0"



ANODE LOCATION DETAIL
(TYPICAL)

DRAWING REFERENCE:
THIS DRAWING IS TAKEN FROM THE ORIGINAL DESIGN DRAWINGS FOR THE LCF TANKS. THE ORIGINAL DRAWINGS FOR THIS DESIGN OF TANKS 335-300 THROUGH 335-600 REPRESENT TYPICAL PLACEMENT BUT DO NOT PRESENT ACCURATE FINAL PIPING OR TANK MODIFICATION DETAILS. REFER TO APPROPRIATE DRAWINGS AND PIPING AND INSTRUMENTATION DRAWINGS FOR CURRENT DETAILS.

NO.	DESCRIPTION	DATE	BY	CHECKED
10	FINAL CONFIGURATION	07/08/84	JMB	JMB
9	REFERENCE NOTE ADDED	4/28/84	JMB	JMB
8	UPDATED CONFIGURATION	7/17/82	JMB	JMB
7	WELD. NOTES ADDED	07/26/83	JMB	JMB
6	LINER MODIFICATION	07/26/83	JMB	JMB
5	REVISED LINER	07/26/83	JMB	JMB
4	REVISED LINER	07/26/83	JMB	JMB
3	LINER MODIFICATION	07/26/83	JMB	JMB
2	LINER MODIFICATION	07/26/83	JMB	JMB
1	LINER MODIFICATION	07/26/83	JMB	JMB
REV.	DESCRIPTION	DATE	BY	CHECKED
1	REVISION TO LINER SYSTEM	07/29/85	JMB	JMB

FOR PERMIT PURPOSES ONLY

CLIENT APPROVAL: _____ DATE: _____

HARVEY M. KING, P.E.
ENVIRONMENTAL ENGINEERS & SCIENTISTS
4 SPINY BROOK DRIVE, EXPOSD, STY YORK 12148-1579

NOVITE CORPORATION - CORDES, NY
LCF TANKS
SECONDARY CONTAINMENT
DESIGN DETAILS

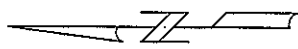
DATE: 04/29/82
SCALE: 1/4" = 1'-0"
PROJECT: NY003-5430

DRAWING REFERENCE:
DRAWING #3 "LCF (LOW GRADE) SYSTEM TANK FOUNDATION"
DATED 02/24/84, LAST REVISED 10/10/85.



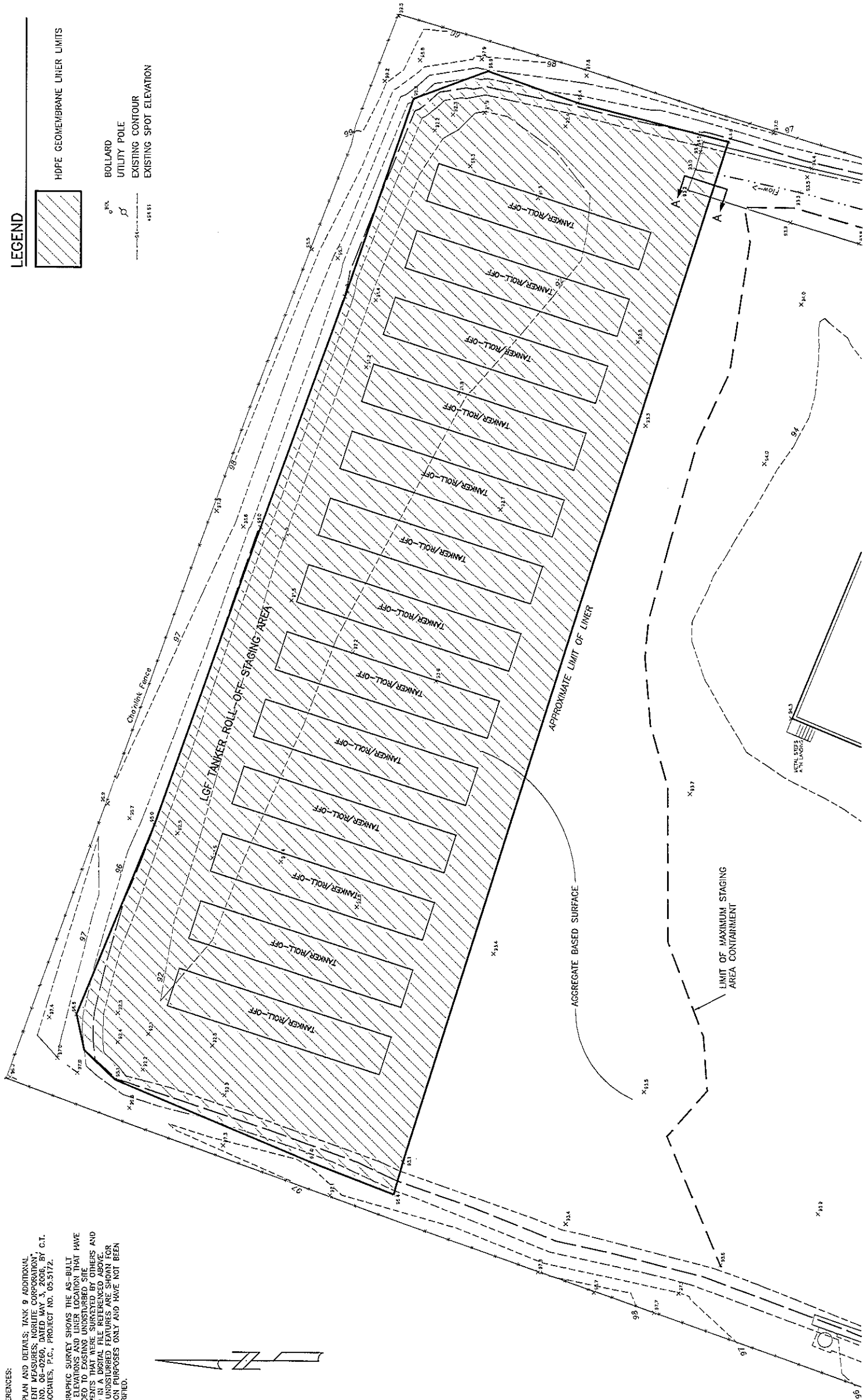
MAP REFERENCES:

1. "SITE PLAN AND DETAILS: TANK 9 ADDITIONAL CONTAINMENT MEASURES; NORLITE CORPORATION, DRAWING NO. 06-0260, DATED MAY 3, 2006, BY C.T. MALE ASSOCIATES, P.C., PROJECT NO. 05-5172.
2. TOPOGRAPHIC SURVEY SHOWS THE AS-BUILT CONTOURS OF THE SITE. THE CONTOURS THAT HAVE BEEN ADDED TO EXISTING UNDISTURBED SITE IMPROVEMENTS THAT WERE SURVEYED BY OTHERS AND PROVIDED IN A DIGITAL FILE REFERENCED ABOVE. EXISTING UNDISTURBED FEATURES ARE SHOWN FOR ORIENTATION PURPOSES ONLY AND HAVE NOT BEEN FIELD VERIFIED.

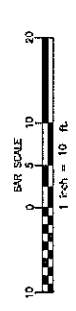


LEGEND

- HDPE GEOMEMBRANE LINER LIMITS
- BOLLARD
- UTILITY POLE
- EXISTING CONTOUR
- EXISTING SPOT ELEVATION



SITE PLAN



NOTE:
 POTENTIAL STORAGE (13 TANKERS): 13 X 5500 GAL. (TYPICAL SIZE) = 71,500 GAL.
 REQUIRED CONTAINMENT = 100% OF LARGEST TANKER OR 6000 GAL. (MAXIMUM TANKER SIZE)
 DESIGN CONTAINMENT CAPACITY: 60'W X 14.0' X 20.0' = 21,600 C.F. X 7.48 GAL. = 161,268 GAL.
 ACTUAL CONTAINMENT WILL VARY BASED ON TOPOGRAPHY OF COVER MATERIAL PROTECTING THE HDPE LINER.

CLIENT APPROVAL: _____ DATE: _____

HARVEY M. KING, P.E.
 ENVIRONMENTAL ENGINEERS & SCIENTISTS
 90 SEE SEE CENTER PLACE, SUITE 100
 NORLITE CORPORATION - COHOES, NY

LGf TANKER/ROLL-OFF STAGING AREA
 - RECORD DRAWING -

DATE:	02/09/2014
FILE NAME:	15MC-003-3319
DRAWN BY:	JK
CHECKED BY:	JK
DATE:	02/03/14
FILE NAME:	15MC-003-3319

NO.	DESCRIPTION	DATE	BY
1	STAGING AREA UPDATED	1/8	JK
	CONSTRUCTION	1/8	JK



APPENDIX I
FACILITY FLOW DIAGRAMS

Norlite Fugitive Dust Emission Points

Area	Source ID	Source Name
Quarry	QA1	Drilling
Quarry	QA2	Blasting
Quarry	QA3	Quarried stone pile
Quarry	QA4	Load stone into truck
Quarry	QA5	Overburden stripping
Quarry	QA6	Load overburden into truck
Primary	PR1	Loading onto shot rock pile (Canal)
Primary	PR2	Shot rock pile (Canal)
Primary	PR3	Unloading shot rock pile
Primary	PR4	Loading onto shale stockpile
Primary	PR5	Shale stockpile
Primary	PR6	Unloading shale stockpile
Primary	PR7	Drop point, raw shale drop to jaw crusher
Primary	PR8	Jaw crusher
Primary	PR9	Drop point, jaw crusher to crusher belt
Primary	PR10	Crusher belt
Primary	PR11	Drop point, crusher belt to screen belt
Primary	PR12	Screen belt
Primary	PR13	Drop point, screen belt to primary double deck screen
Primary	PR14	Primary double deck screen
Primary	PR15	Drop point, primary double deck screen to primary cone crusher
Primary	PR16	Primary cone crusher
Primary	PR17	Drop point, primary cone crusher to primary double deck screen
Primary	PR18	Drop point, primary double deck screen to shale conveyor
Primary	PR19	Shale conveyor
Primary	PR20	Drop point, shale conveyor to kiln feed pile
Primary	PR21	Kiln feed pile
Primary	PR22	Drop point, double deck screen to shale fines conveyor
Primary	PR23	Shale fines conveyor
Primary	PR24	Drop point, shale fines conveyor to shale fines pile
Primary	PR25	Shale fines pile
Primary	PR26	Loading from shale fines pile to trucks
Kiln Feed	KF1	Drop point, shale pile to #4 conveyor
Kiln Feed	KF2	Drop point, loader to #4 conveyor
Kiln Feed	KF3	#4 conveyor
Kiln Feed	KF4	Drop point, #4 conveyor to #5 conveyor

Area	Source ID	Source Name
Kiln Feed	KF5	#5 conveyor
Kiln Feed	KF6	Drop point, #5 conveyor to shale storage pile
Kiln Feed	KF7	Kiln feed storage pile
Kiln Feed	KF8	Drop point, shale storage pile to kiln 1 feeder belt
Kiln Feed	KF9	Kiln 1 feeder belt
Kiln Feed	KF10	Drop point, kiln 1 feeder belt to kiln 1 lower belt
Kiln Feed	KF11	Kiln 1 lower belt
Kiln Feed	KF12	Drop point, kiln 1 lower belt to kiln 1 top belt
Kiln Feed	KF13	Kiln 1 top belt
Kiln Feed	KF14	Drop point, kiln 1 top belt to kiln 1 feed
Kiln Feed	KF15	Kiln 1 feed (AccuRate feeder)
Kiln Feed	KF16	Kiln 1 rear chamber system (rim seal)
Kiln Feed	KF17	Kiln 1 front seal
Kiln Feed	KF18	Drop point, shale storage pile to kiln 2 feeder belt
Kiln Feed	KF19	Kiln 2 feeder belt
Kiln Feed	KF20	Drop point, kiln 2 feeder belt to kiln 2 lower belt
Kiln Feed	KF21	Kiln 2 lower belt
Kiln Feed	KF22	Drop point, kiln 2 lower belt to kiln 2 middle belt
Kiln Feed	KF23	Kiln 2 middle belt
Kiln Feed	KF24	Drop point, kiln 2 middle belt to kiln 2 top belt
Kiln Feed	KF25	Kiln 2 top belt
Kiln Feed	KF26	Drop point, kiln 2 top belt to kiln 2 feed
Kiln Feed	KF27	Kiln 2 feed (AccuRate feeder)
Kiln Feed	KF28	Kiln 2 rear chamber system (rim seal)
Kiln Feed	KF29	Kiln 2 front seal
Kiln Feed	KF30	Opening of kiln rim seals for cleaning
Kiln Feed	KF31	Removal of bag house plug (vacuum truck unloading)
Kiln	KL1	Drop point, kiln 1 to kiln 1 clinker cooler
Kiln	KL2	Kiln 1 clinker cooler
Kiln	KL3	Drop point, kiln 1 clinker cooler to kiln 1 clinker belt
Kiln	KL4	Kiln 1 clinker belt
Kiln	KL5	Drop point, kiln 1 clinker belt to kiln 1 clinker pile
Kiln	KL6	Kiln 1 clinker pile
Kiln	KL7	Drop point, kiln 2 to kiln 2 clinker cooler
Kiln	KL8	Kiln 2 clinker cooler
Kiln	KL9	Drop point, kiln 2 clinker cooler to kiln 2 clinker belt
Kiln	KL10	Kiln 2 clinker belt

Area	Source ID	Source Name
Kiln	KL11	Drop point, kiln 2 clinker belt to kiln 2 clinker pile
Kiln	KL12	Kiln 2 clinker pile
Kiln	KL13	Transfer kiln 2 clinker pile to kiln 1 clinker pile
Kiln	KL14	Muck pile
Kiln	KL15	Loading onto muck pile
Kiln	KL16	Unloading muck pile
Finish Plant	FP1	Drop point, kiln 1 clinker pile to transfer to #1 conveyor
Finish Plant	FP2	#1 conveyor
Finish Plant	FP3	Drop point, #1 conveyor to grizzly
Finish Plant	FP4	Grizzly on lightweight aggregate feed platform
Finish Plant	FP5	Drop point, grizzly to grizzly pile
Finish Plant	FP6	Grizzly reject pile
Finish Plant	FP7	Drop point, grizzly to #2 conveyor
Finish Plant	FP8	#2 conveyor
Finish Plant	FP9	Drop point, #2 conveyor to triple deck finish mill screen
Finish Plant	FP10	Triple deck finish mill screen
Finish Plant	FP11	Drop point, triple deck finish mill screen to 3/4" discharge conveyor
Finish Plant	FP12	3/4" discharge conveyor
Finish Plant	FP13	Drop point, 3/4" discharge conveyor to 3/4" to stockpile conveyor
Finish Plant	FP14	3/4" to stockpile conveyor
Finish Plant	FP15	Drop point, 3/4" to stockpile conveyor to 3/4" short term storage pile
Finish Plant	FP16	3/4" short term storage pile
Finish Plant	FP17	Drop point, triple deck finish mill screen to 3/8" discharge conveyor
Finish Plant	FP18	3/8" discharge conveyor
Finish Plant	FP19	Drop point, 3/8" discharge conveyor to 3/8" to stockpile conveyor
Finish Plant	FP20	3/8" to stockpile conveyor
Finish Plant	FP21	Drop point, 3/8" stockpile conveyor to 3/8" short term storage pile
Finish Plant	FP22	3/8" short term storage pile
Finish Plant	FP23	Drop point, triple deck finish mill screen to oversize discharge conveyor
Finish Plant	FP24	Oversize discharge conveyor
Finish Plant	FP25	Drop point, oversize discharge conveyor to oversize hopper
Finish Plant	FP26	Oversize hopper
Finish Plant	FP27	Drop point, oversize hopper to El Jay crusher speed conveyor

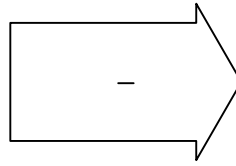
Area	Source ID	Source Name
Finish Plant	FP28	El Jay crusher speed conveyor
Finish Plant	FP29	Drop point, El Jay crusher speed conveyor to El Jay crusher
Finish Plant	FP30	El Jay crusher
Finish Plant	FP31	Drop point, El Jay crusher to El Jay discharge conveyor
Finish Plant	FP32	El Jay discharge conveyor
Finish Plant	FP33	Drop point, El Jay discharge conveyor to #2 return conveyor
Finish Plant	FP34	#2 return conveyor
Finish Plant	FP35	Drop point, #2 return conveyor to #2 conveyor
Finish Plant	FP36	Drop point, triple deck finish mill screen to fines to silo conveyor
Finish Plant	FP37	Fines to silo conveyor
Finish Plant	FP38	Drop point, fines to silo conveyor to enclosed fines storage pile
Finish Plant	FP39	Enclosed fines storage pile
Finish Plant	FP40	Open fines storage pile
Finish Plant	FP41	Baghouse dust silo 1
Finish Plant	FP42	Drop point, baghouse dust silo 1 to shipping belt
Finish Plant	FP43	Baghouse dust silo 2
Finish Plant	FP44	Drop point, baghouse dust silo 2 to shipping belt
Finish Plant	FP45	Shipping belt
Finish Plant	FP46	Drop point, shipping belt to stationary belt
Finish Plant	FP47	Stationary belt
Finish Plant	FP48	Drop point, stationary belt to radial stacker
Finish Plant	FP49	Radial stacker
Finish Plant	FP50	Drop point, radial stacker to block mix short term storage pile 1
Finish Plant	FP51	Block mix short term storage pile 1
Finish Plant	FP52	Block mix short term storage pile 2
Finish Plant	FP53	Block mix short term storage pile 3
Finish Plant	FP54	Block mix short term storage pile 4
Finish Plant	FP55	Block mix short term storage pile 5
Finish Plant	FP56	Block mix short term storage pile 6
Finish Plant	FP57	3/4" long term storage pile 5
Finish Plant	FP58	Loading 3/4" onto trucks
Finish Plant	FP59	Loading 3/8" onto trucks
Finish Plant	FP60	Loading clinker onto trucks
Finish Plant	FP61	Loading block mix onto piles
Finish Plant	FP62	Loading block mix onto trucks
Fines Processing	FN1	8 X 0 long term storage pile
Fines Processing	FN2	4 X 0 fines feed pile

Area	Source ID	Source Name
Fines Processing	FN3	Loading of block mix into Cedarapids feed hopper (surge bin)
Fines Processing	FN4	Cedarapids feed hopper (surge bin)
Fines Processing	FN5	Drop point, Cedarapids feed hopper to feeder belt
Fines Processing	FN6	Feeder belt
Fines Processing	FN7	Drop point, feeder belt to screen feed belt
Fines Processing	FN8	Screen feed belt
Fines Processing	FN9	Drop point, screen feed belt to Astec 2618 fines screen
Fines Processing	FN10	Astec 2618 fines screen
Fines Processing	FN11	Drop point, fines screen to #4s belt
Fines Processing	FN12	#4s belt
Fines Processing	FN13	Drop point, #4s belt to 4 mesh reject pile
Fines Processing	FN14	4 mesh reject pile
Fines Processing	FN15	Drop point, fines screen to fines #8s belt
Fines Processing	FN16	#8s belt
Fines Processing	FN17	Drop point, #8s belt to fines 8 X 0 pile
Fines Processing	FN18	8 X 0 pile
Fines Processing	FN19	3/4" long term storage pile 6
Fines Processing	FN20	Loading screened fines onto trucks (8 X 0, 4 X 0, 4 mesh reject)
Block Mix	BM1	Block mix long term storage pile 1
Block Mix	BM2	Block mix long term storage pile 2
Block Mix	BM3	Block mix long term storage pile 3
Block Mix	BM4	Block mix long term storage pile 4
Block Mix	BM5	Loading block mix into portable screen
Block Mix	BM6	Astec 710T
Block Mix	BM7	Reade screen
Block Mix	BM8	Loading onto temporary block mix pile
Block Mix	BM9	Temporary block mix pile for customer pickup
Block Mix	BM10	Loading block mix onto trucks
Block Mix	BM11	Loading onto block mix pile
Island	IS1	3/4" long term storage pile 1
Island	IS2	3/4" long term storage pile 2
Island	IS3	3/4" long term storage pile 3
Island	IS4	3/4" long term storage pile 4
Island	IS5	3/8" long term storage pile
Island	IS6	Block mix long term storage pile 5
Island	IS7	Loading onto 3/4" pile
Island	IS8	Loading 3/4" onto trucks

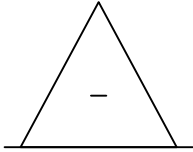
Area	Source ID	Source Name
Island	IS9	Loading onto 3/8" pile
Island	IS10	Loading 3/8" onto trucks
Boneyard	BY1	Boneyard shale pile 1
Boneyard	BY2	Boneyard shale pile 2
Boneyard	BY3	Loading shale fines onto boneyard shale piles
Boneyard	BY4	Loading boneyard shale piles onto trucks
Overburden Storage	OS1	Bulldozing
Overburden Storage	OS2	Receiving overburden from quarry
Overburden Storage	OS3	Wind erosion in overburden storage area
Road	RD1	Transport of stone from quarry to primary
Road	RD2	Transfer of overburden from quarry to overburden storage area
Road	RD3	Transport of shales fines to boneyard
Road	RD4	Transport of product off-site by truck
Road	RD5	Travel of LGF delivery trucks
Road	RD6	Maintenance traffic
Road	RD7	Passenger vehicle traffic
Road	RD8	Transport of shale fines to overburden storage area
Road	RD9	Water truck movement
Road	RD10	On-site product movement via front end loader



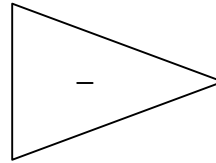
OPERATION



TRANSPORTATION



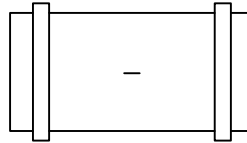
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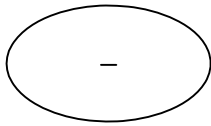
FRONT END LOADER



SCREEN



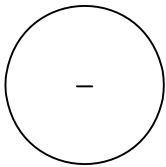
KILN



VEHICLES



BAGHOUSE



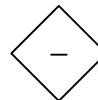
SILO



CLINKER COOLER



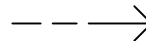
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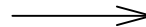
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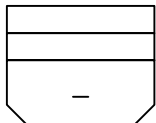
CRUSHER



AIR EMISSIONS



MATERIAL FLOW



MULTICLONE



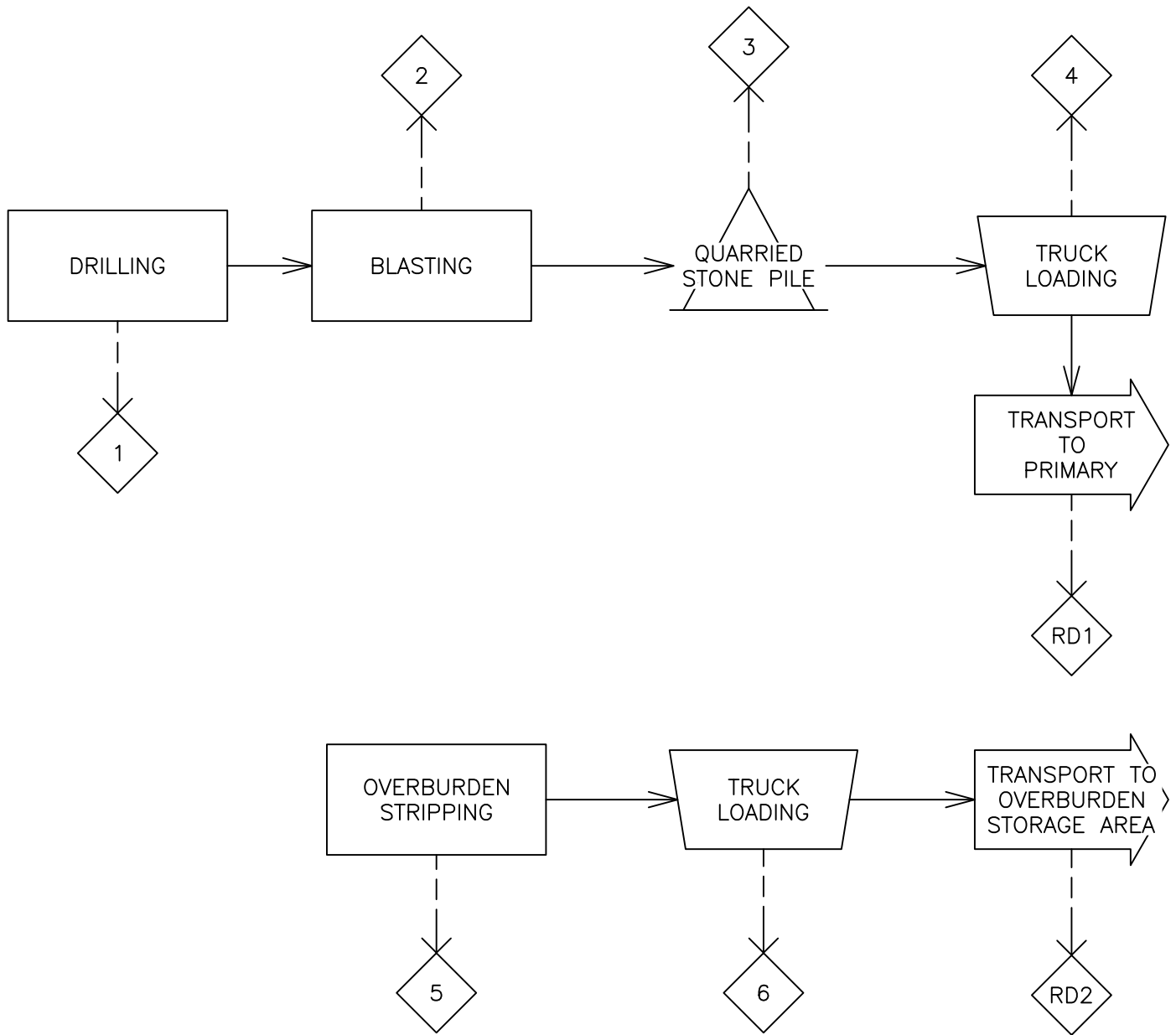
CONVEYOR

CLIENT: NORLITE, LLC
SITE: COHOES QUARRY
TITLE: LEGEND
JOB #: 13-094
SHEET #: 1



SPEC
ENGINEERING, PLLC
349 NORTHERN BOULEVARD
ALBANY, NY 12204
PHONE: 518.438.6809
FAX: 518.438.8527

PREPARED BY:
DATE:
REVIEWED BY:
DATE:

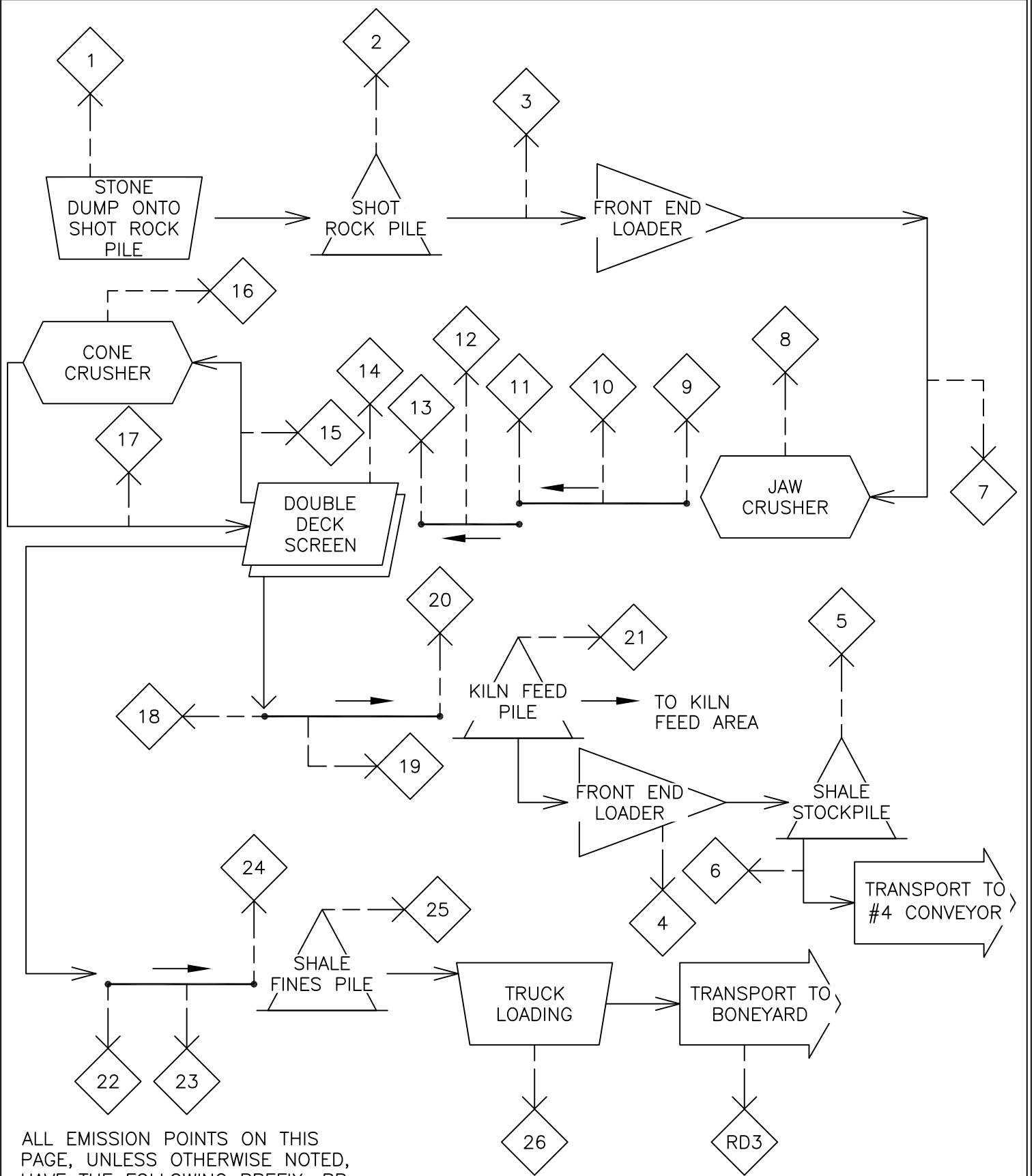


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 SITE: COHOES QUARRY
 TITLE: QUARRY
 JOB #: 13-094
 SHEET #: 2



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 DATE:
 REVIEWED BY:
 DATE:

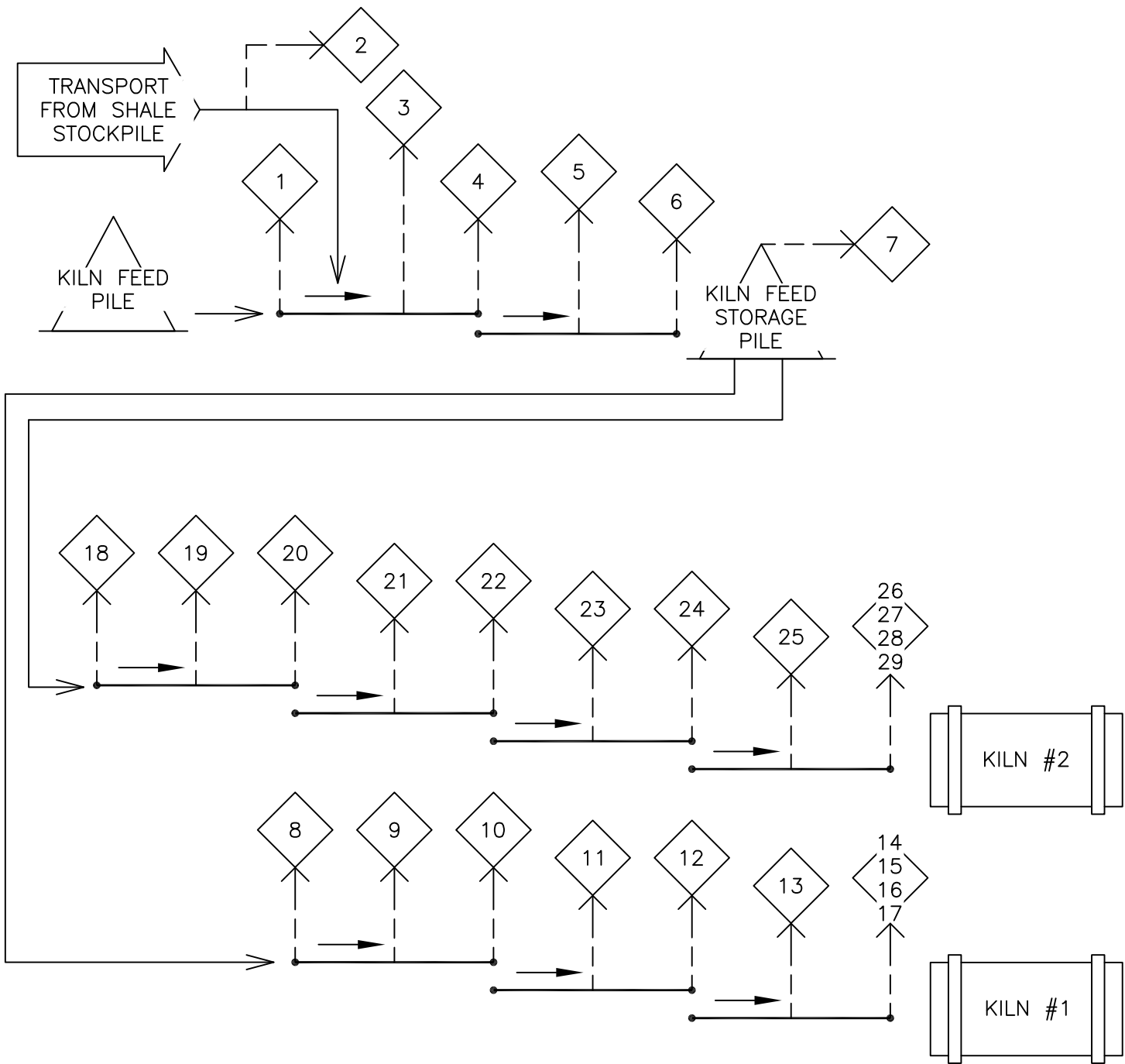


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CLIENT: NORLITE, LLC
 SITE: COHOES QUARRY
 TITLE: PRIMARY
 JOB#: 13-094
 SHEET#: 3



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 DATE:
 REVIEWED BY:
 DATE:

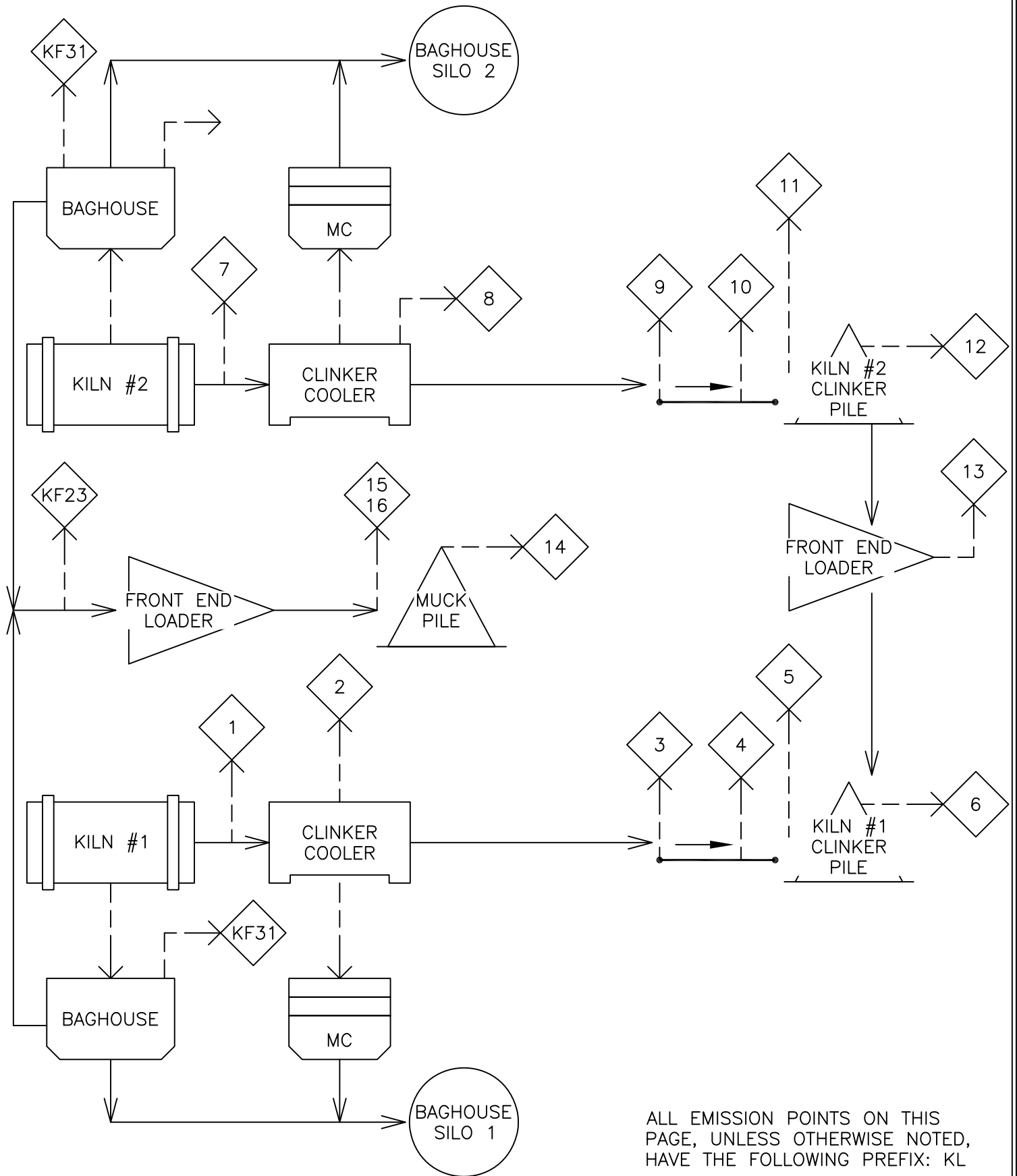


ALL EMISSION POINTS ON THIS PAGE, UNLESS OTHERWISE NOTED, HAVE THE FOLLOWING PREFIX: KF

CLIENT: NORLITE, LLC
 SITE: COHOES QUARRY
 TITLE: KILN FEED
 JOB#: 13-094
 SHEET#: 4



PREPARED BY:
 DATE:
 REVIEWED BY:
 DATE:

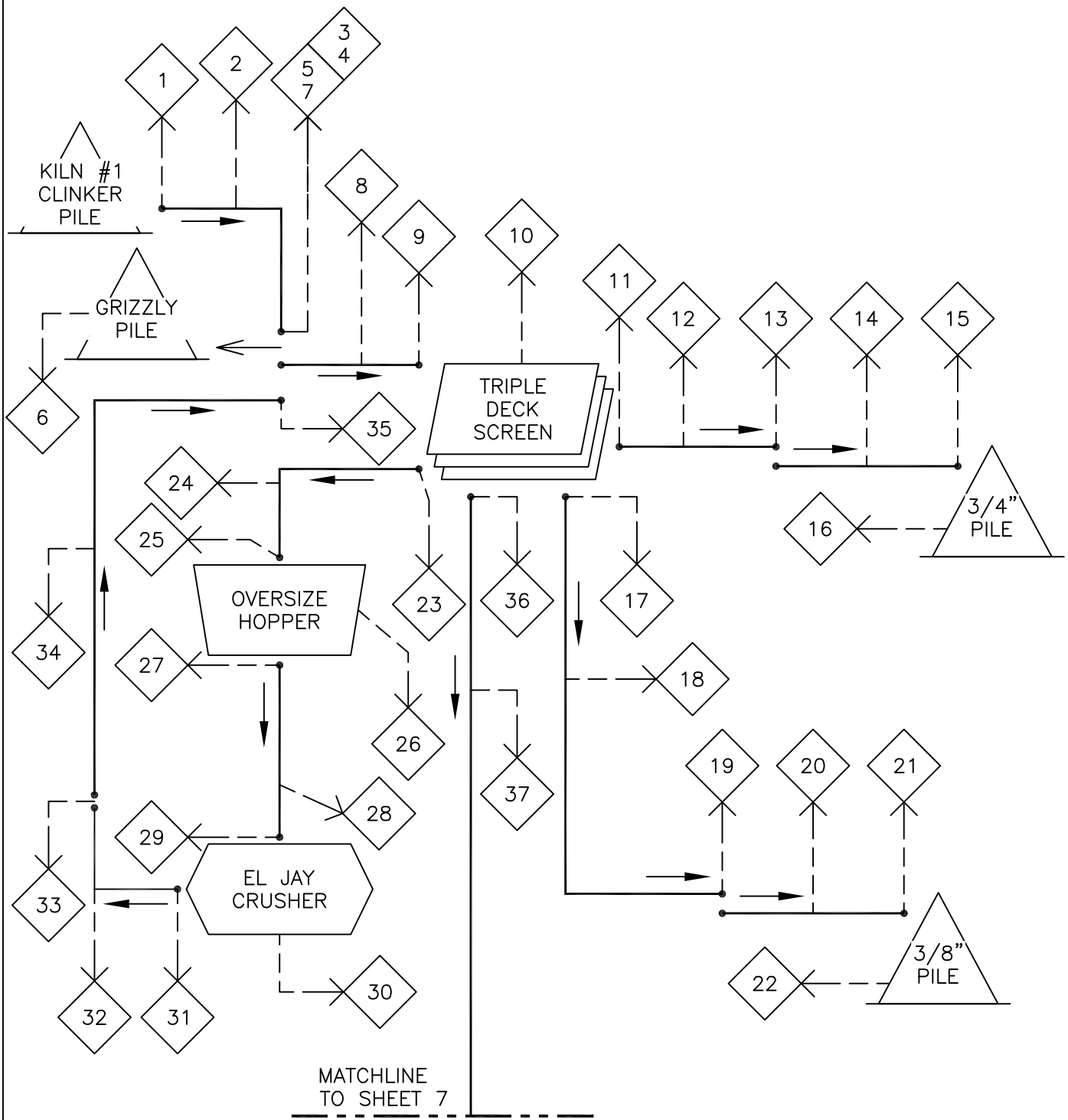


CLIENT: NORLITE, LLC
 SITE: COHOES QUARRY
 TITLE: KILN
 JOB#: 13-094
 SHEET#: 5



SPEC
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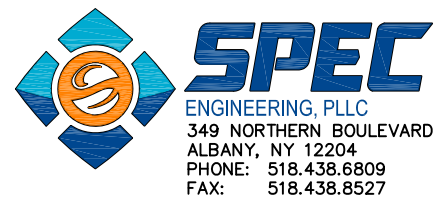
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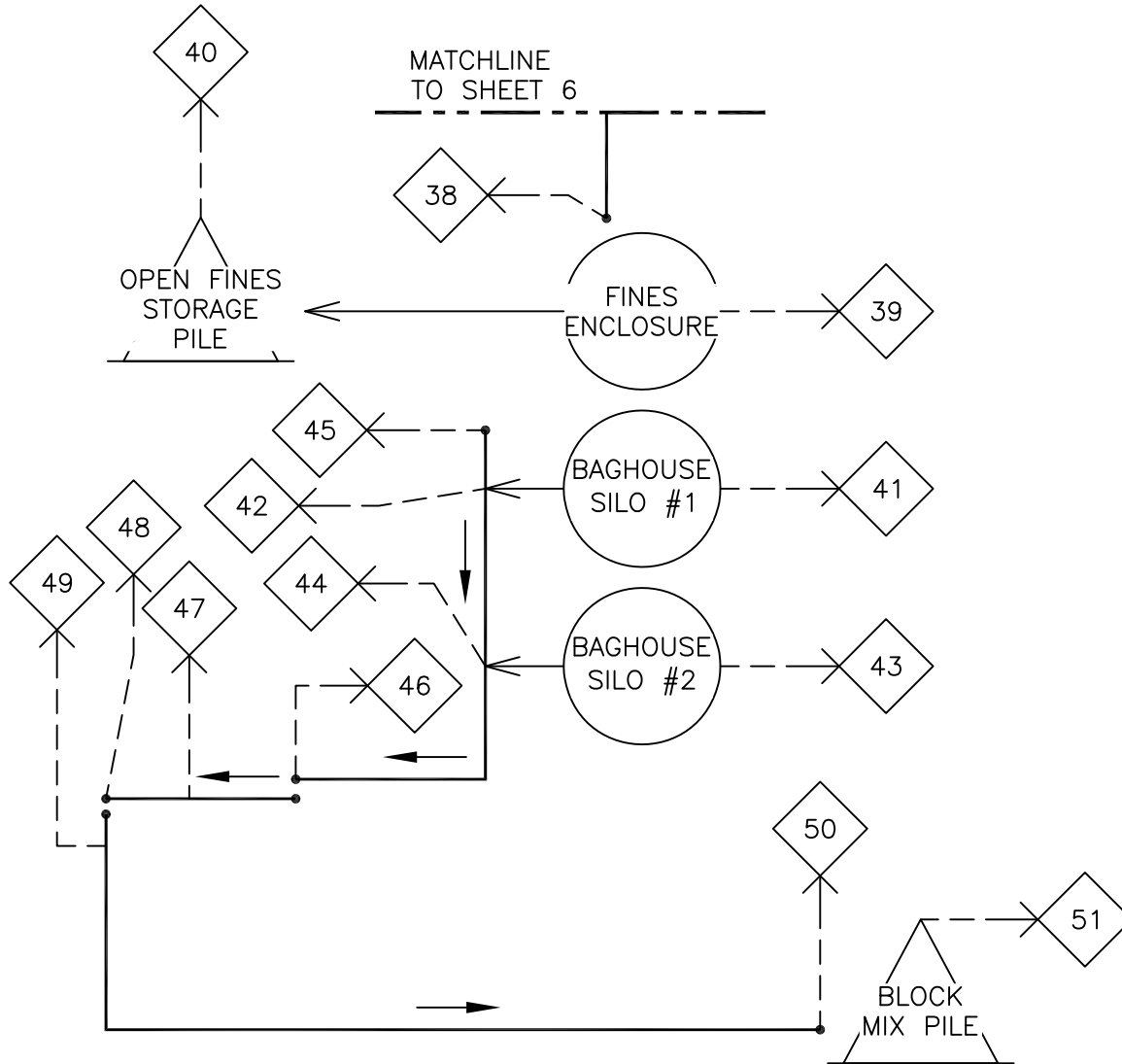
MATCHLINE
TO SHEET 7

ALL EMISSION POINTS ON THIS PAGE, UNLESS OTHERWISE NOTED, HAVE THE FOLLOWING PREFIX: FP

CLIENT: NORLITE, LLC
 SITE: COHOES QUARRY
 TITLE: FINISHING PLANT
 JOB#: 13-094
 SHEET#: 6



PREPARED BY:
 DATE:
 REVIEWED BY:
 DATE:



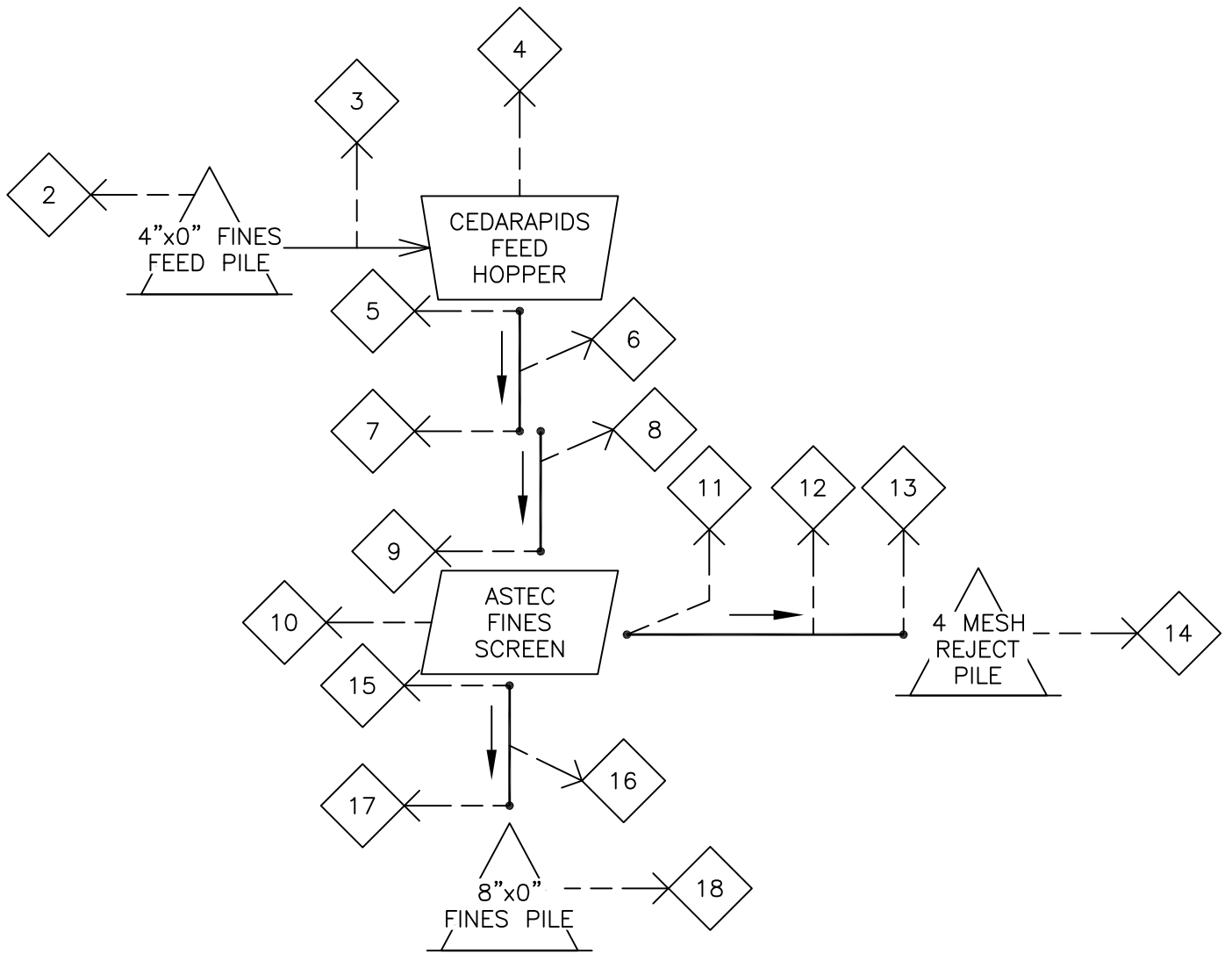
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CLIENT: NORLITE, LLC
 SITE: COHOES QUARRY
 TITLE: FINISHING PLANT
 JOB#: 13-094
 SHEET#: 7



SPEC
 ENGINEERING, PLLC
 349 NORTHERN BOULEVARD
 ALBANY, NY 12204
 PHONE: 518.438.6809
 FAX: 518.438.8527

PREPARED BY:
 DATE:
 REVIEWED BY:
 DATE:

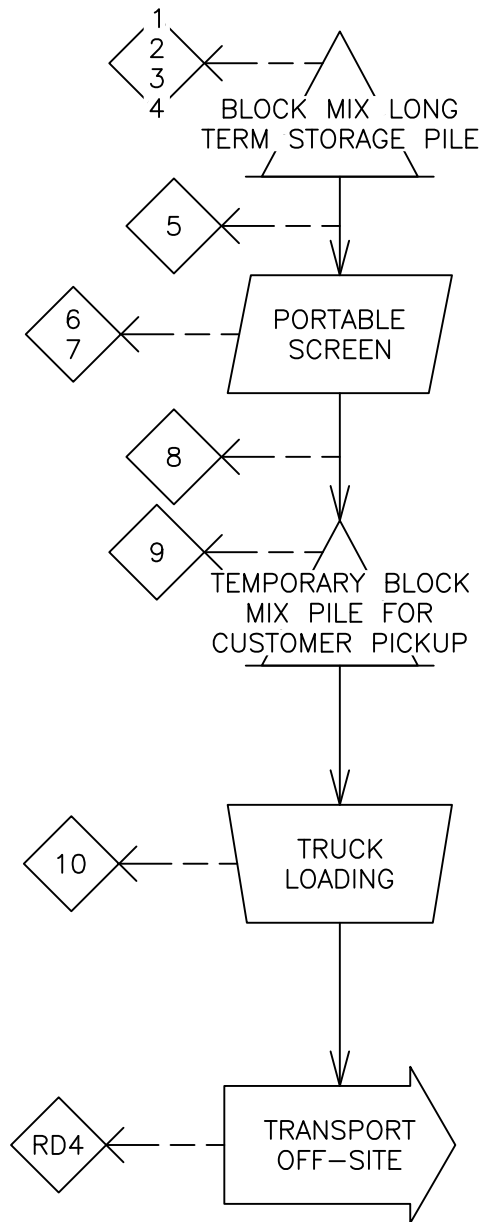


ALL EMISSION POINTS ON THIS PAGE, UNLESS OTHERWISE NOTED, HAVE THE FOLLOWING PREFIX: FN

CLIENT: NORLITE, LLC
 SITE: COHOES QUARRY
 TITLE: FINES PROCESSING AREA
 JOB#: 13-094
 SHEET#: 8



PREPARED BY:
 DATE:
 REVIEWED BY:
 DATE:

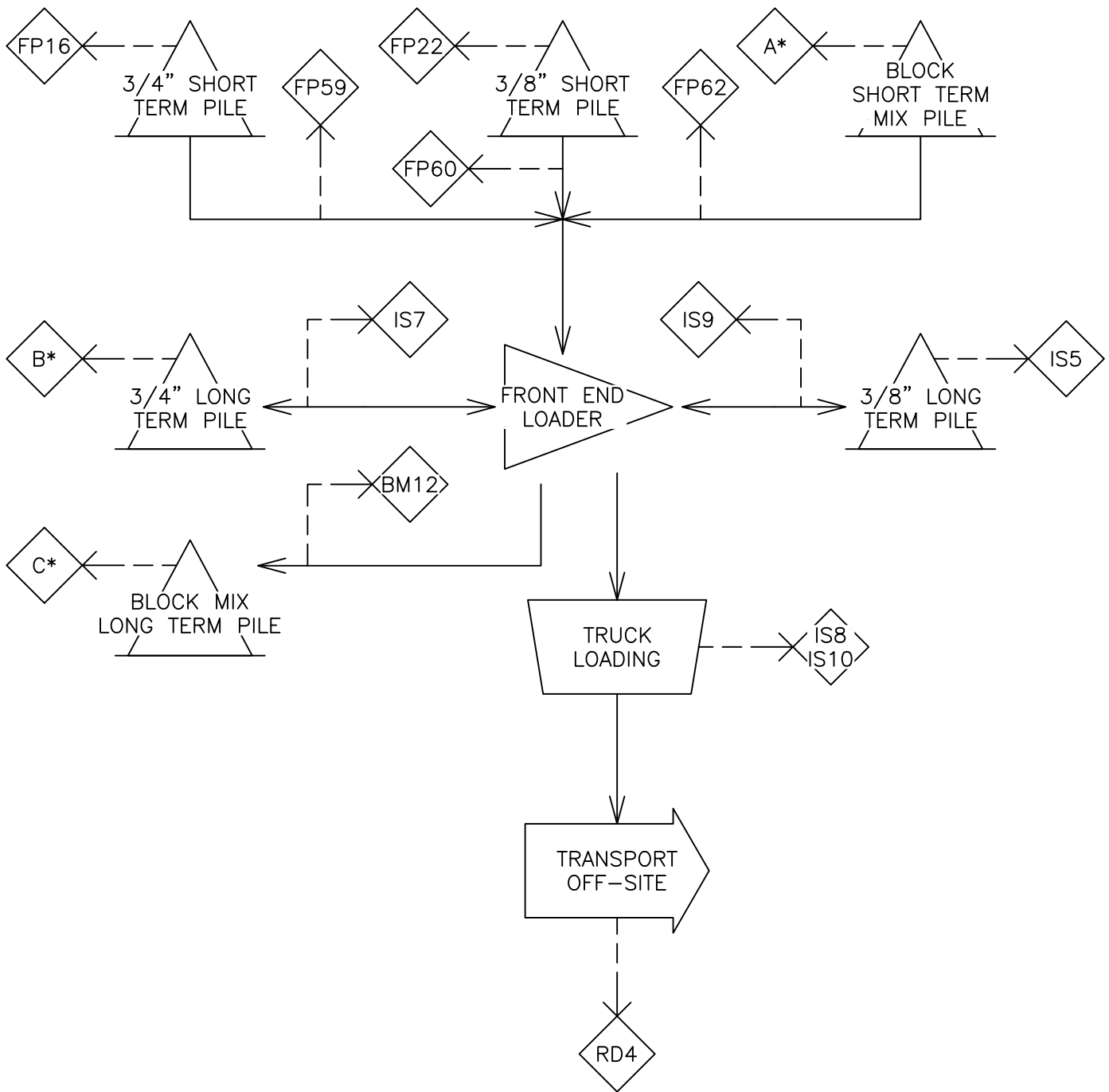


ALL EMISSION POINTS ON THIS PAGE, UNLESS OTHERWISE NOTED, HAVE THE FOLLOWING PREFIX: BM

CLIENT: NORLITE, LLC
 SITE: COHOES QUARRY
 TITLE: BLOCK MIX STORAGE AREA
 JOB#: 13-094
 SHEET#: 9



PREPARED BY:
 DATE:
 REVIEWED BY:
 DATE:

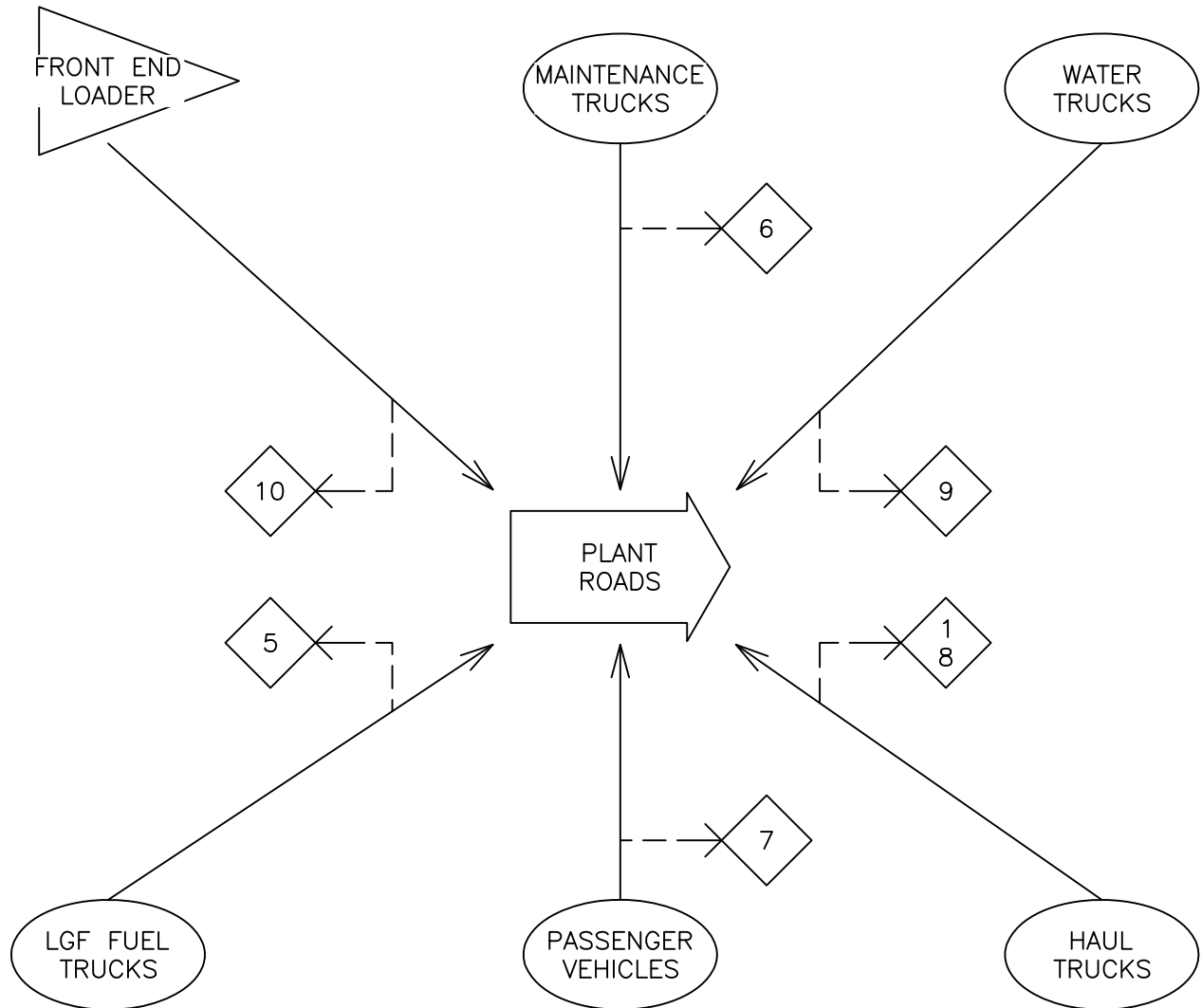


A* - FP51, 52, 53, 54, 55, 56
 B* - FP57, IS1, 2, 3, 4
 C* - BM1, 2, 3, 4, IS6

CLIENT: NORLITE, LLC
 SITE: COHOES QUARRY
 TITLE: PRODUCT SHIPPING
 JOB#: 13-094
 SHEET#: 10



PREPARED BY:
 DATE:
 REVIEWED BY:
 DATE:



ALL EMISSION POINTS ON THIS PAGE, UNLESS OTHERWISE NOTED, HAVE THE FOLLOWING PREFIX: RD

CLIENT: NORLITE, LLC
 SITE: COHOES QUARRY
 TITLE: MISCELLANEOUS TRAFFIC
 JOB #: 13-094
 SHEET #: 11



PREPARED BY:
 DATE:
 REVIEWED BY:
 DATE:

APPENDIX J
MONTHLY BMP INSPECTION FORM

Monthly BMP Inspection

Norlite LLC Cohoes, New York			Permit ID: NY0004880		
Inspector's Name and Title:					
Date of Inspection:					
Quarter (circle one): January-March April-June July-September October-December					
Area/Equipment	Sediment Depth	Sheen	Integrity	Erosion	Spills/Leaks
1. Vehicles and Mobile Equipment					
2. Quarry					
3. Northern Overburden Storage Area					
4. Southern Overburden Storage Area					
5. Fuel Farm					
6. Truck Staging Area					
7. Landfill & Leachate System					
8. Office, Labs, Parking					
9. Primary & Stockpiles Conveyor covers					
10. Kiln Feed Conveyor covers					
11. Kilns					
12. Finish Plant Conveyor covers					
13. Island					
14. Garage & Maintenance					
15. Bone Yard					
16. Shale Fines					
17. Scale and Stockpiles					
18a. Lower Stormwater Basin Pumps Piping Pump I&E I&E Corrosion					
18b. Upper Stormwater Pond					
19. Rain Gardens Swales Catch basins Manholes					
Detail all features and areas that require corrective measures and/or maintenance:					
Status of corrective measures and/or maintenance identified in previous Inspection Report Forms:					
Inspector's Signature:					

APPENDIX K
ANNUAL FACILITY REVIEW FORM

Facility Review Form

Norlite, LLC

Special Condition #3 of SPDES Permit No. NY 000 4880 states, “The permittee shall review all facility components or systems (including but not limited to material storage areas; in-plant transfer, process and material handling areas; loading and unloading operations; storm water, erosion, and sediment control measures; process emergency control systems; and sludge and waste disposal areas) where material or pollutants are used, manufactured, stored or handled to evaluate the potential for the release of pollutants to the water of the State. In performing such an evaluation, the permittee shall consider such factors as the probability of equipment failure or improper operation, cross-contamination of storm water by process materials, settlement of facility air emissions, the effects of natural phenomena such as freezing temperatures and precipitation, fires, and the facility’s history of spills and leaks. The relative toxicity of the pollutant shall be considered in determining the significance of potential releases.”

Date of Facility Review: _____

Name of Person(s) who conducted the Facility Review: _____

Attached to this Form are:

Comprehensive Site Compliance Evaluation, date completed: _____

Petroleum Bulk Storage Monthly Tanks Inspection Form, date completed: _____

Annual Chemical Bulk Storage Tank Systems Inspection, date completed: _____

APPENDIX L
BMP PLAN REVIEW SHEET

BMP Plan Review Sheet

Norlite, LLC

The BMP Plan must be reviewed annually, after completion of the Facility Review, to ensure that the BMPs implemented at the site are sufficient to prevent pollutants from entering storm water discharges. All BMP Plan revisions must be submitted to the NYSDEC Region 4 Regional Water Engineer within 30 days of the annual review.

Date of Facility Review: _____

Name of Person who conducted the Facility Review: _____

Date of BMP Plan Review: _____

Pollution Prevention Team members who conducted BMP Plan review:

Are the current BMPs sufficient to prevent or mitigate pollution from industrial activities occurring onsite? Yes No

If no, please describe areas that may require additional structural and/or non-structural BMPs to improve pollutant control.

Does the current BMP Plan accurately describe site conditions, site activities, structural BMPs, and non-structural BMPs? Yes No

If no, attach a list of the discrepancies between the plan and the site conditions, site activities, structural BMPs, and non-structural BMPs.

Signature of Reviewer(s): _____

APPENDIX M

STANDARD EROSION AND SEDIMENT CONTROL DETAILS

**Figure 5A.17
Grass Outlet Sediment Trap: ST-II**

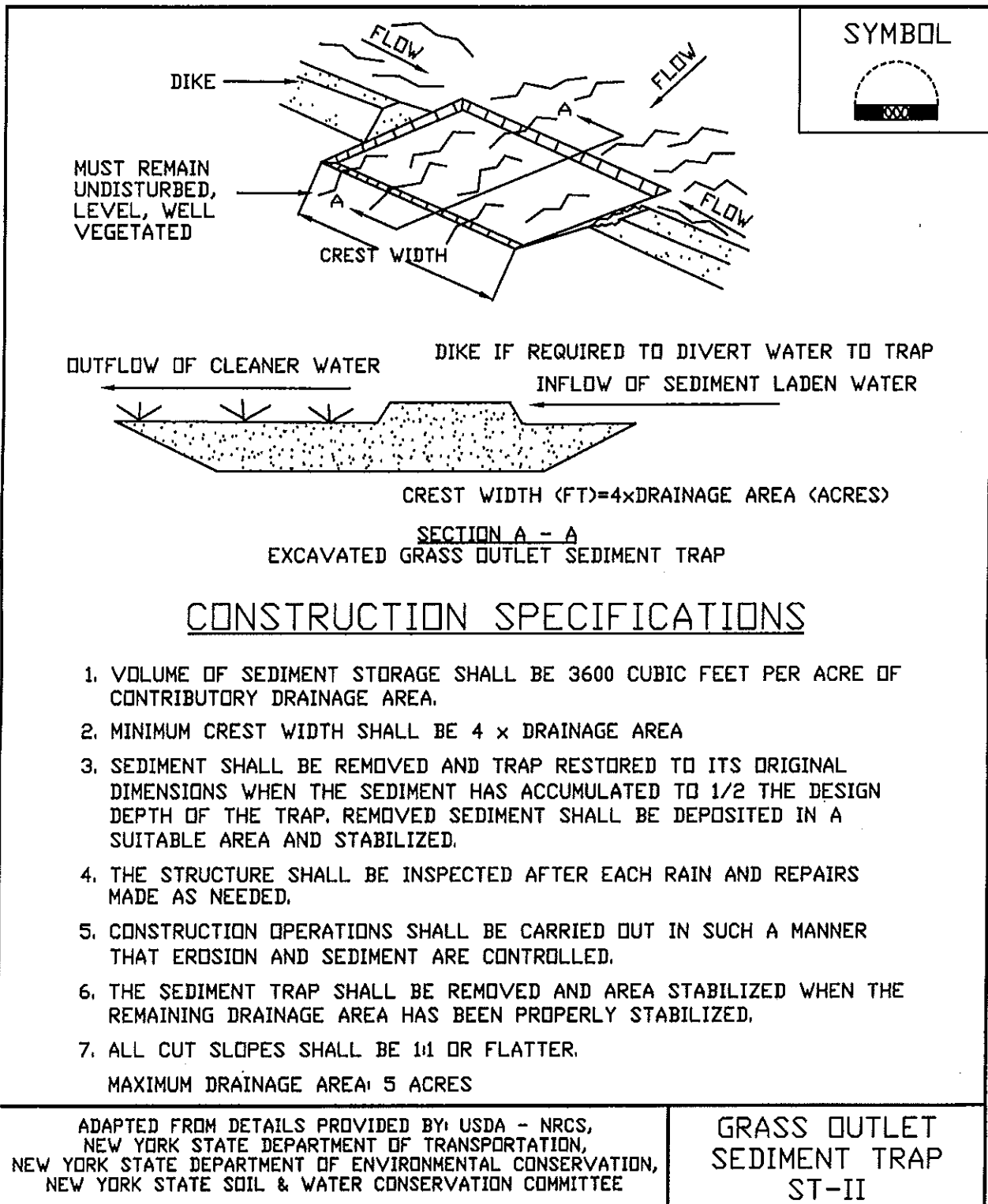


Figure 5A.20(1)
Riprap Outlet Sediment Trap: ST-V

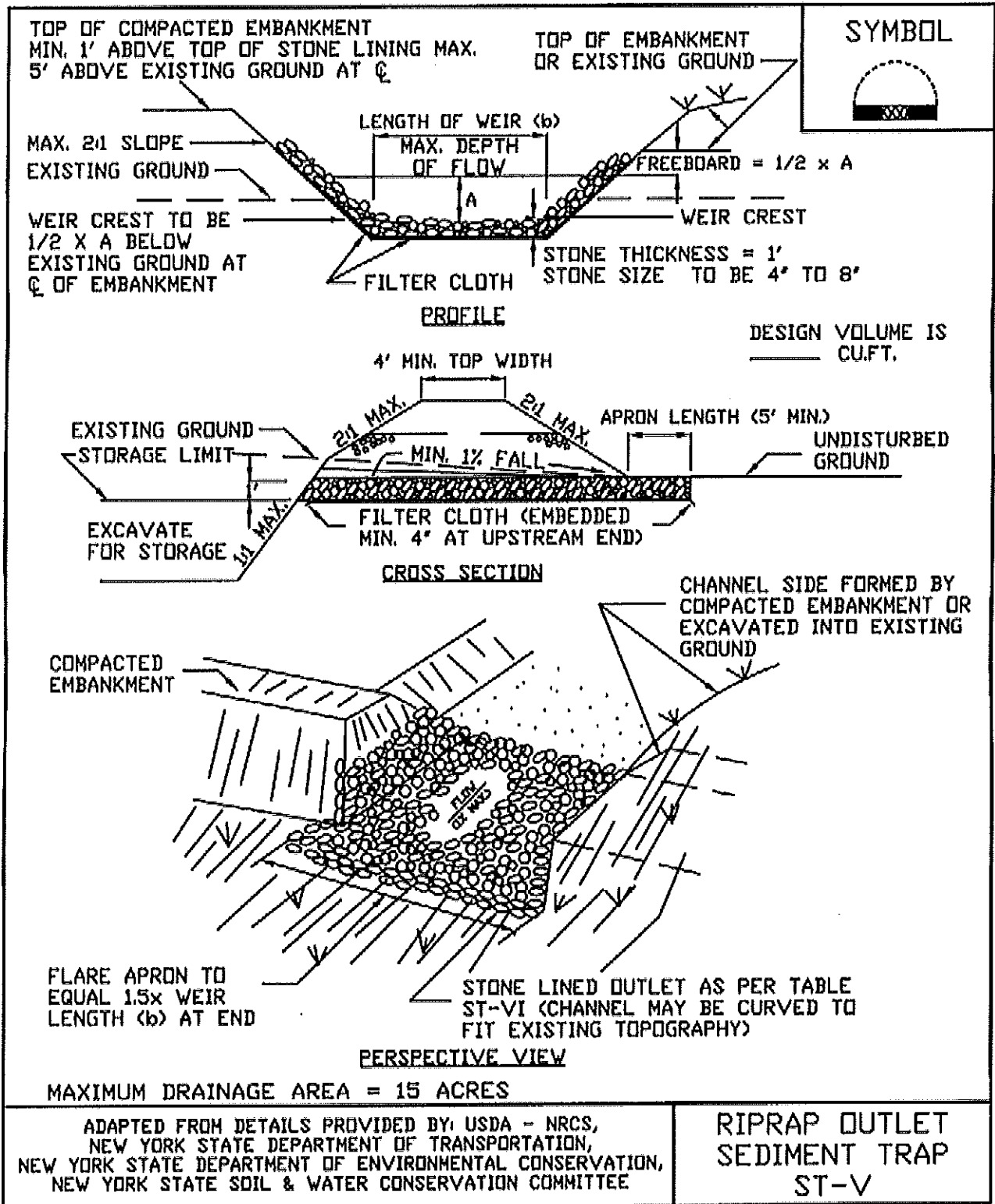


Figure 5A.9
Check Dam

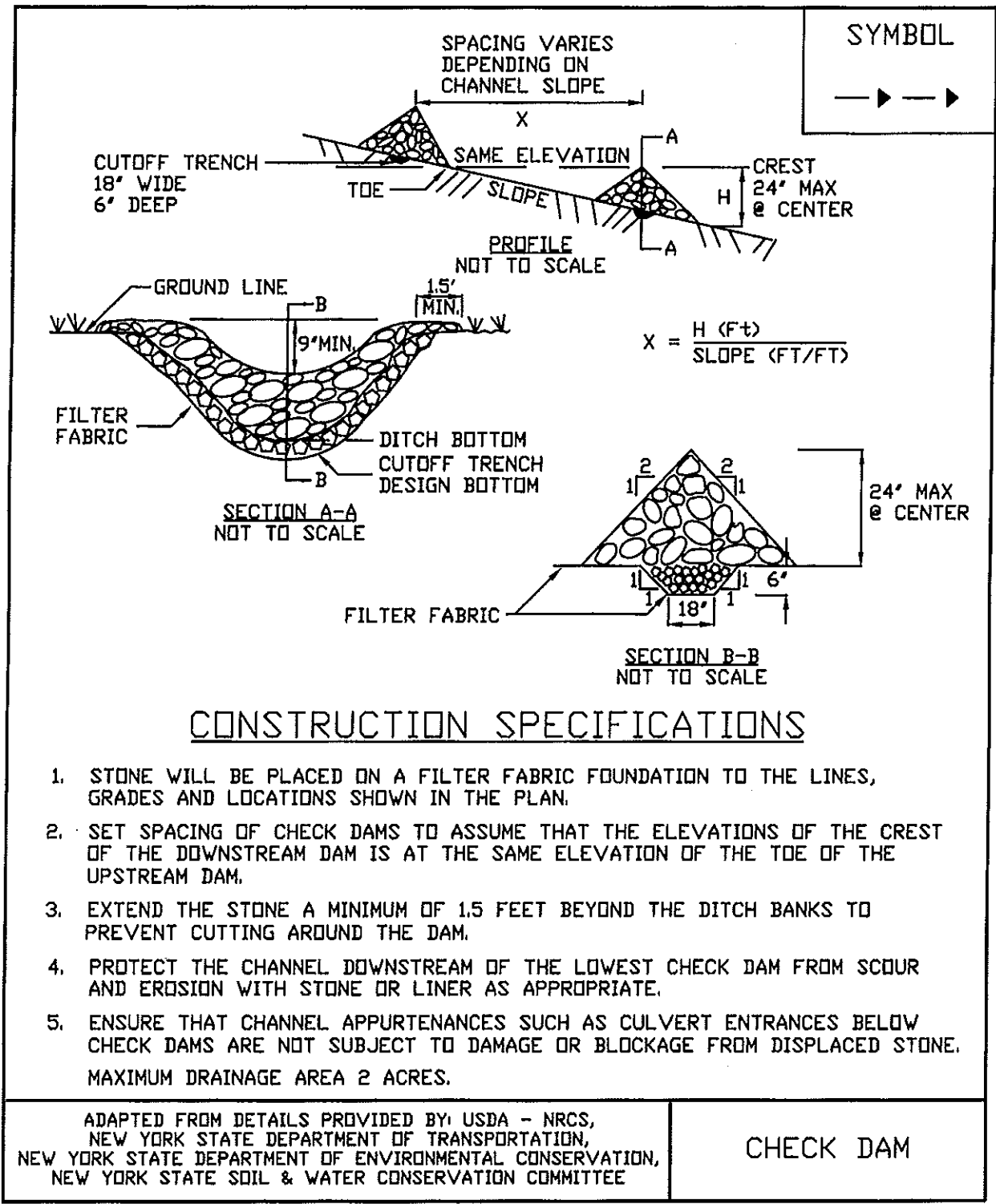
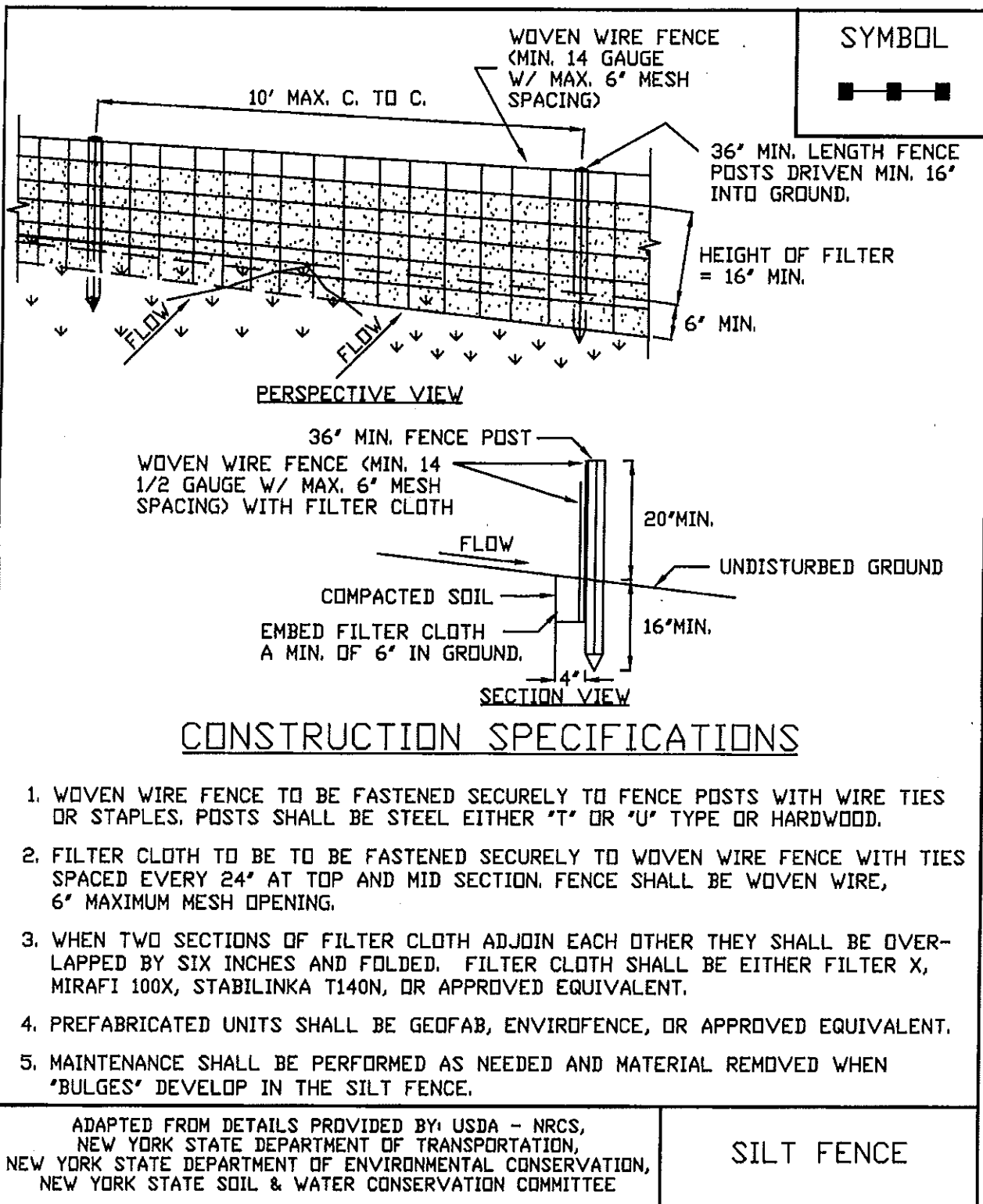
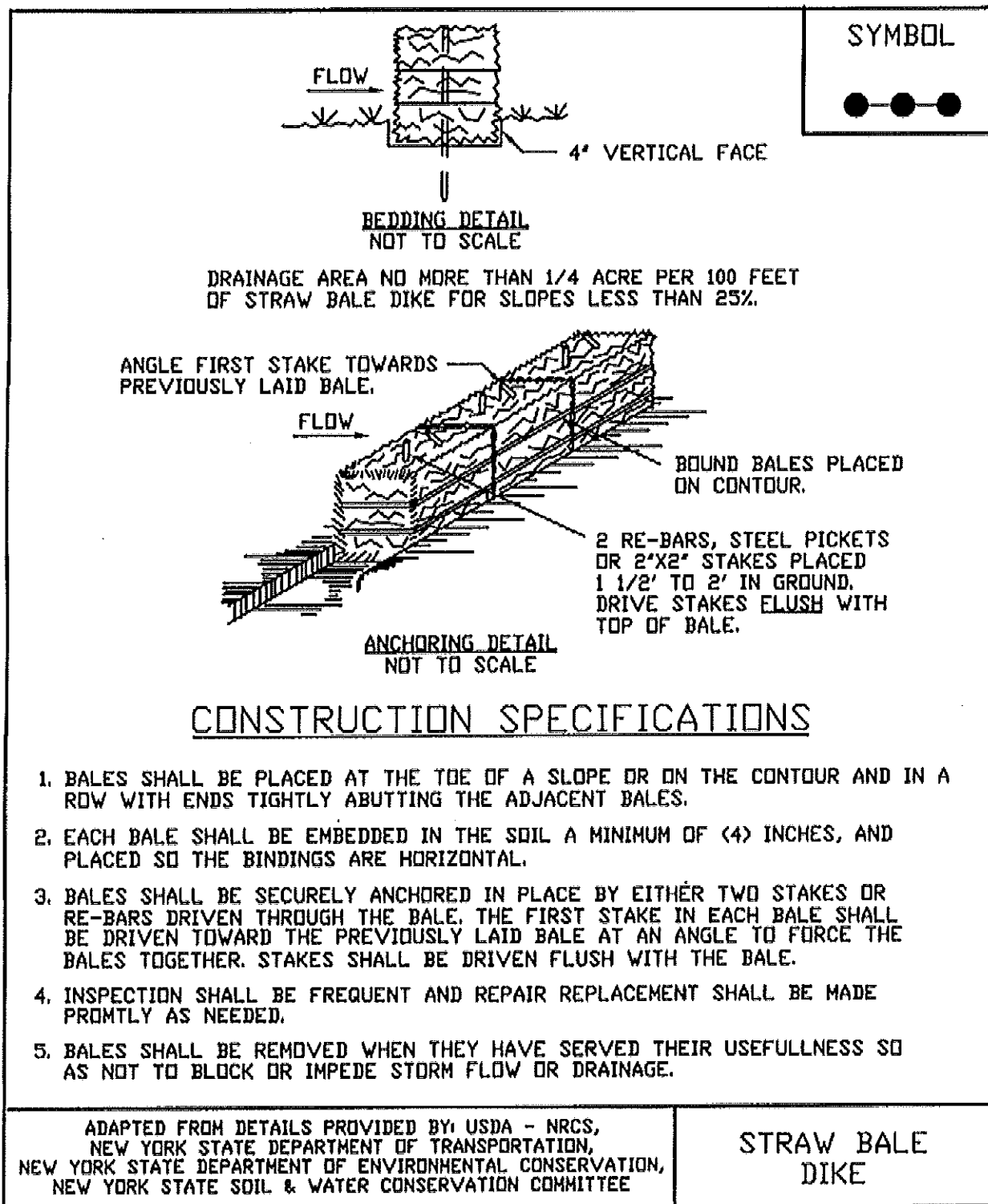


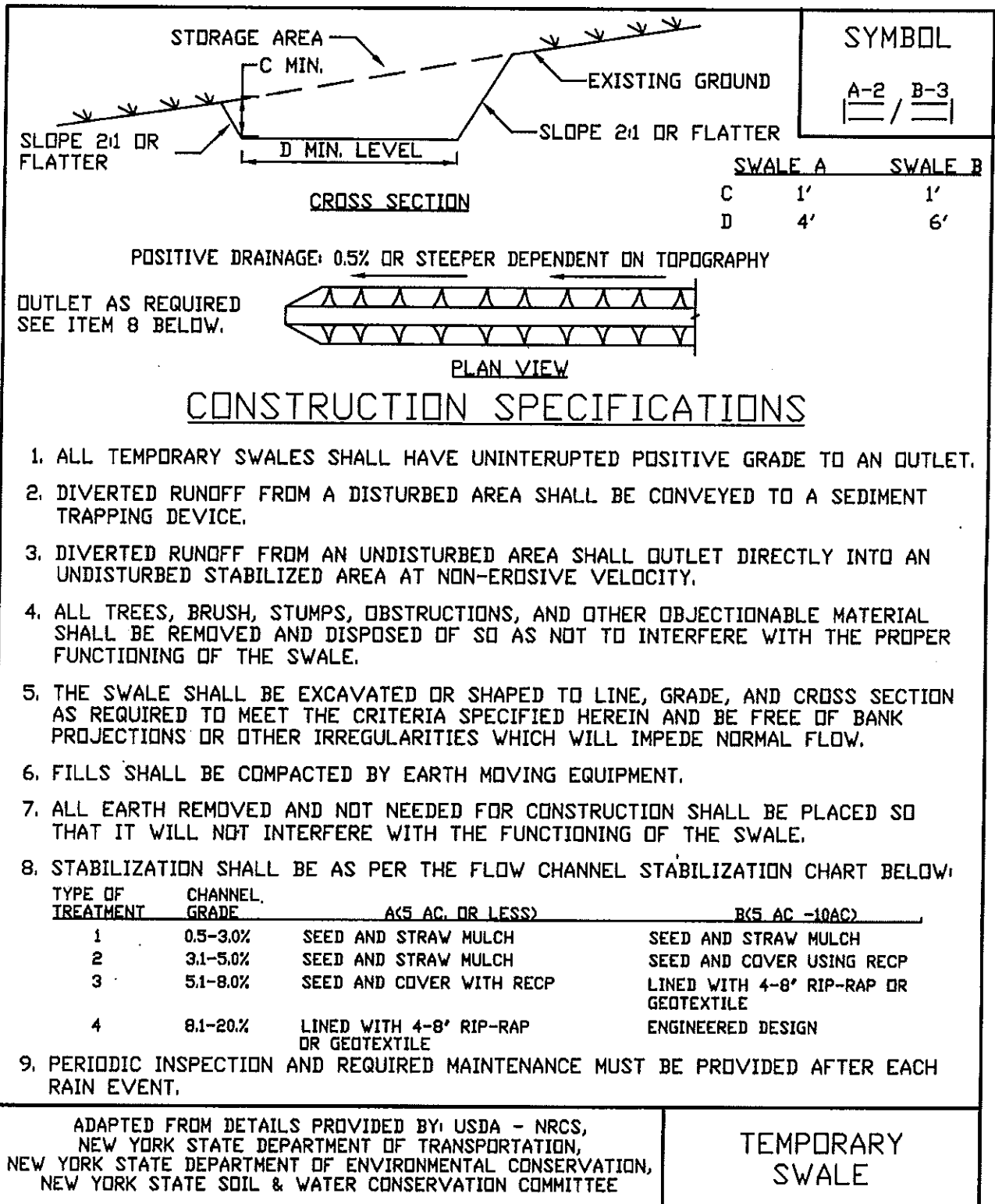
Figure 5A.8
Silt Fence



**Figure 5A.7
Straw Bale Dike**



**Figure 5A.2
Temporary Swale**



APPENDIX N

PBS AND CBS REGISTRATION CERTIFICATES



PBS Number
4-052574

New York State Department of Environmental Conservation
PETROLEUM BULK STORAGE CERTIFICATE

625 Broadway, 11th Floor, Albany, NY 12233-7020 Phone: 518-402-9553

Region 4 NYSDEC - PBS Unit
1130 North Westcott Road
Schenectady, NY 12306
(518) 357-2045

TANK NUMBER	TANK LOCATION	DATE INSTALLED	TANK TYPE	PRODUCT STORED	CAPACITY (GALLONS)	DATE LAST TESTED	TESTING DUE DATE
10	Aboveground - No Contact (on saddles, legs, rack, cradle, etc.)	01/01/1996	Steel/Carbon Steel/Iron	Diesel	8,000		*
11	Aboveground - No Contact (on saddles, legs, rack, cradle, etc.)	01/01/1996	Steel/Carbon Steel/Iron	Diesel	5,600		*
12	Aboveground - No Contact (on saddles, legs, rack, cradle, etc.)	01/01/1996	Steel/Carbon Steel/Iron	Gasoline	500		*
13	Aboveground - No Contact (on saddles, legs, rack, cradle, etc.)	12/01/1995	Steel/Carbon Steel/Iron	Lube Oil	275		*
14	Aboveground - No Contact (on saddles, legs, rack, cradle, etc.)	12/01/1995	Steel/Carbon Steel/Iron	Lube Oil	270		*
15	Aboveground - No Contact (on saddles, legs, rack, cradle, etc.)	12/01/1995	Steel/Carbon Steel/Iron	Hydraulic Oil	270		*
16	Aboveground - No Contact (on saddles, legs, rack, cradle, etc.)	12/01/1995	Steel/Carbon Steel/Iron	Transmission Fluid	170		*
17	Aboveground - No Contact (on saddles, legs, rack, cradle, etc.)	12/01/1995	Steel/Carbon Steel/Iron	Motor Oil	170		*
18	Aboveground - No Contact (on saddles, legs, rack, cradle, etc.)	12/01/1995	Steel/Carbon Steel/Iron	#2 Fuel Oil	120		*

OWNER:
NORLITE, LLC
628 SOUTH SARATOGA ST
COHOES, NY 12047

ON-SITE OPERATOR: ROBERT O'BRIEN
(518) 235-0401
PRIMARY OPERATOR:
EMERGENCY ROBERT O'BRIEN
CONTACT: (518) 235-0401

ISSUED BY: Commissioner
Joe Martens
PBS NUMBER: 4-052574
DATE ISSUED: 12/05/2011
EXPIRATION DATE: 12/02/2016
FEE PAID: \$500.00

SITE:
NORLITE, LLC
628 SOUTH SARATOGA STREET
COHOES, NY 12047

MAILING CORRESPONDENCE:
THOMAS VAN VRANKEN
NORLITE, LLC
628 SOUTH SARATOGA ST
P.O. BOX 694
COHOES, NY 12047

As an authorized representative of the above named facility, I affirm under penalty of perjury that the information displayed on this form is correct to the best of my knowledge. Additionally, I recognize that I am responsible for assuring that this facility is in compliance with all sections of 6 NYCRR Parts 612, 613 and 614, and applicable sections of 6 NYCRR Subpart 374-2 (used oil tanks only), not just those cited below:

- The facility must be re-registered if there is a transfer of ownership.
- The Department must be notified within 30 days prior to adding, replacing, reconditioning, or permanently closing a stationary tank.
- The facility must be operated in accordance with the code for storing petroleum, 6 NYCRR Part 613.
- Any new facility or substantially modified facility must comply with 6 NYCRR Part 614.
- This certificate must be signed and posted on the premises at all times. Posting must be at the tank, at the entrance of the facility, or the main office where the storage tanks are located.
- Any person with knowledge of a spill, leak or discharge must report the incident to DEC within two hours (1-800-457-7362).

Signature of Representative/Owner: Thomas M. Van Vranken Date: 5/3/13
Name and Title of Authorized Representative/Owner (Please Print): THOMAS M. VAN VRANKEN / ENV. MANAGER



PBS Number
4-052574

New York State Department of Environmental Conservation
PETROLEUM BULK STORAGE CERTIFICATE

625 Broadway, 11th Floor, Albany, NY 12233-7020 Phone: 518-402-9553

Region 4 NYSDEC - PBS Unit
1130 North Westcott Road
Schenectady, NY 12306
(518) 357-2045

TANK NUMBER	TANK LOCATION	DATE INSTALLED	TANK TYPE	PRODUCT STORED	CAPACITY (GALLONS)	DATE LAST TESTED	TESTING DUE DATE
19	Aboveground - No Contact (on saddles, legs, rack, cradle, etc.)	12/01/1995	Steel/Carbon Steel/Iron	#2 Fuel Oil	400		*
20	Aboveground - No Contact (on saddles, legs, rack, cradle, etc.)	12/01/1995	Steel/Carbon Steel/Iron	Diesel	50		*
22	Aboveground - No Contact (on saddles, legs, rack, cradle, etc.)	01/01/1996	Steel/Carbon Steel/Iron	Waste Oil/Used Oil	1,000		*
23	Aboveground - No Contact (on saddles, legs, rack, cradle, etc.)	11/01/2007	Steel/Carbon Steel/Iron	Waste Oil/Used Oil	275		*
24	Aboveground - No Contact (on saddles, legs, rack, cradle, etc.)	02/01/1993	Steel/Carbon Steel/Iron	Waste Oil/Used Oil	25,000		*
25	Aboveground - No Contact (on saddles, legs, rack, cradle, etc.)	08/01/1999	Steel/Carbon Steel/Iron	Diesel	2,000		*
26	Aboveground - No Contact (on saddles, legs, rack, cradle, etc.)	08/01/1999	Steel/Carbon Steel/Iron	Diesel	2,000		*
27	Aboveground - No Contact (on saddles, legs, rack, cradle, etc.)	08/01/1999	Steel/Carbon Steel/Iron	#2 Fuel Oil	2,000		*
28	Aboveground - in contact with impervious barrier	08/01/1998	Steel/Carbon Steel/Iron	Waste Oil/Used Oil	20,000		*

OWNER:
NORLITE, LLC
628 SOUTH SARATOGA ST
COHOES, NY 12047

ON-SITE OPERATOR: ROBERT O'BRIEN
PRIMARY OPERATOR: (518) 235-0401
EMERGENCY OPERATOR: ROBERT O'BRIEN
CONTACT: (518) 235-0401

ISSUED BY: Commissioner Joe Martens
PBS NUMBER: 4-052574
DATE ISSUED: 12/05/2011
EXPIRATION DATE: 12/02/2016
FEE PAID: \$500.00

SITE:
NORLITE, LLC
628 SOUTH SARATOGA STREET
COHOES, NY 12047

MAILING CORRESPONDENCE:

THOMAS VAN VRANKEN
NORLITE, LLC
628 SOUTH SARATOGA ST
P.O. BOX 694
COHOES, NY 12047

As an authorized representative of the above named facility, I affirm under penalty of perjury that the information displayed on this form is correct to the best of my knowledge. Additionally, I recognize that I am responsible for assuring that this facility is in compliance with all sections of 6 NYCRR Parts 612, 613 and 614, and applicable sections of 6 NYCRR Subpart 374-2 (used oil tanks only), not just those cited below:

- The facility must be re-registered if there is a transfer of ownership.
- The Department must be notified within 30 days prior to adding, replacing, reconditioning, or permanently closing a stationary tank.
- The facility must be operated in accordance with the code for storing petroleum, 6 NYCRR Part 613.
- Any new facility or substantially modified facility must comply with 6 NYCRR Part 614.

-- **This certificate must be signed and posted on the premises at all times.**
Posting must be at the tank, at the entrance of the facility, or the main office where the storage tanks are located.

-- Any person with knowledge of a spill, leak or discharge must report the incident to DEC within two hours (1-800-457-7362).

Signature of Representative/Owner: Thomas M. Van Vranken Date: 5/3/13

Name and Title of Authorized Representative/Owner: THOMAS M. VAN VRANKEN ENV. MANAGER (Please Print)



PBS Number
4-052574

New York State Department of Environmental Conservation
PETROLEUM BULK STORAGE CERTIFICATE

625 Broadway, 11th Floor, Albany, NY 12233-7020 Phone: 518-402-9553

Region 4 NYSDEC - PBS Unit
1130 North Westcott Road
Schenectady, NY 12306
(518) 357-2045

<u>TANK NUMBER</u>	<u>TANK LOCATION</u>	<u>DATE INSTALLED</u>	<u>TANK TYPE</u>	<u>PRODUCT STORED</u>	<u>CAPACITY (GALLONS)</u>	<u>DATE LAST TESTED</u>	<u>TESTING DUE DATE</u>
V1-2	Aboveground - in contact with impervious barrier	08/01/1998	Steel/Carbon Steel/Iron	Waste Oil/Used Oil	20,000		*
R-1	Aboveground - in contact with impervious barrier	08/01/1998	Steel/Carbon Steel/Iron	Waste Oil/Used Oil	20,000		*
R-2	Aboveground - in contact with impervious barrier	08/01/1998	Steel/Carbon Steel/Iron	Waste Oil/Used Oil	20,000		*

* Aboveground tanks require monthly visual inspections and may need documented internal inspections as described in 6 NYCRR Part 613

OWNER:
NORLITE, LLC
628 SOUTH SARATOGA ST
COHOES, NY 12047

ON-SITE OPERATOR: ROBERT O'BRIEN
(518) 235-0401

PRIMARY OPERATOR: EMERGENCY ROBERT O'BRIEN
CONTACT: (518) 235-0401

ISSUED BY: Commissioner
Joe Martens

PBS NUMBER: 4-052574

DATE ISSUED: 12/05/2011

EXPIRATION DATE: 12/02/2016

FEE PAID: \$500.00

SITE:
NORLITE, LLC
628 SOUTH SARATOGA STREET
COHOES, NY 12047

MAILING CORRESPONDENCE:
THOMAS VAN VRANKEN
NORLITE, LLC
628 SOUTH SARATOGA ST
P.O. BOX 694
COHOES, NY 12047

As an authorized representative of the above named facility, I affirm under penalty of perjury that the information displayed on this form is correct to the best of my knowledge. Additionally, I recognize that I am responsible for assuring that this facility is in compliance with all sections of 6 NYCRR Parts 612, 613 and 614, and applicable sections of 6 NYCRR Subpart 374-2 (used oil tanks only), not just those cited below:

- The facility must be re-registered if there is a transfer of ownership.
- The Department must be notified within 30 days prior to adding, replacing, reconditioning, or permanently closing a stationary tank.
- The facility must be operated in accordance with the code for storing petroleum. 6 NYCRR Part 613.
- Any new facility or substantially modified facility must comply with 6 NYCRR Part 614.
- This certificate must be signed and posted on the premises at all times. Posting must be at the tank, at the entrance of the facility, or the main office where the storage tanks are located.
- Any person with knowledge of a spill, leak or discharge must report the incident to DEC within two hours (1-800-457-7362).

Thomas M. Van Vranken 5/3/13
Signature of Representative/ Owner Date

THOMAS M. VAN VRANKEN ENV. MANAGER
Name and Title of Authorized Representative/Owner (Please Print)



CBS Number
4-000198

New York State Department of Environmental Conservation
CHEMICAL BULK STORAGE CERTIFICATE
625 Broadway, 11th Floor, Albany, NY 12233-7020 Phone: 518-402-9553

Region 4
1130 North Westcott Road
Schenectady, NY 12306
(518) 357-2045

TANK NUMBER	DATE INSTALLED	TANK LOCATION AND TYPE	CAPACITY (GALLONS)	HAZARDOUS SUBSTANCE	% HAZ SUBST	CHEMICAL ABSTRACT #
4630	12/01/2003	AST - Steel/Carbon Steel/Iron	6,700	ETHYLENE GLYCOL	47.00	107-21-1
4640	12/01/2004	AST - Steel/Carbon Steel/Iron	10,163	METHANOL	100.00	67-56-1
4650	10/17/2005	AST - Steel/Carbon Steel/Iron	12,400	METHANOL	100.00	67-56-1
TK-4609	09/01/1995	AST - Steel/Carbon Steel/Iron	7,900	CAUSTIC SODA	50.00	1310-73-2
TK-4620	09/01/1995	AST - Fiberglass Reinforced Plastic (FRP)	8,655	MURIATIC ACID	34.00	7647-01-0

OWNER: NORLITE, LLC.
PO BOX 694
COHOES, NY 12047

OPERATOR: ROBERT O'BRIEN
(518) 235-0401

EMERGENCY CONTACT: ROBERT O'BRIEN
(518) 235-0401

ISSUED BY: Commissioner
Joe Martens

CBS NUMBER: 4-000198

DATE ISSUED: 07/19/2013

EXPIRATION DATE: 07/18/2015

FEE PAID: \$ 625.00

SITE:
NORLITE, LLC.
628 SOUTH SARATOGA STREET
COHOES, NY 12047

MAILING CORRESPONDENCE:

THOMAS M. VANVRANKEN
NORLITE, LLC
PO BOX 694
628 SOUTH SARATOGA STREET
COHOES, NY 12047

As an authorized representative of the above named facility, I hereby certify that the information on this form is true and correct. Additionally, I recognize that I am responsible for assuring that this facility is in compliance with all sections of ECL Article 40 and 6 NYCRR Parts 595, 596, 597, 598, and 599, not just those cited below:

- The facility must be re-registered if there is a transfer of ownership.
- The facility has maintained its requirements relating to daily, monthly, annual and five year inspections as required by Part 598.7 and has had it's SPR annually updated as required by Part 598.1(k).
- The Department must be notified within 3 business days prior to adding, replacing, reconditioning, or permanently closing a stationary tank.
- This certificate must be signed and posted on the premises at all times. Posting must be at the tank, at the entrance of the facility, or the main office where the storage tanks are located.
- Any person with knowledge of a spill, leak or discharge must report the incident to DEC within two hours (1-800-457-7362).

Thomas M. VanVranken 7/19/13
Signature of Representative/Owner Date
THOMAS M. VANVRANKEN / ENVIRONMENTAL MANAGER
Name and Title of Authorized Representative/Owner (Please Print)

APPENDIX O

NORLITE SALT KILL STREAM INSPECTION FORM

Norlite Salt Kill Stream Inspection Form

Date & Time: _____ Inspector: _____

Weather Conditions: _____ Flood Warning Level: _____

Depth Stage: _____

Location: Culverts West of Route 32 (Norlite Access Road Entrance)

As Found:
Actions Taken:

Location: Railroad Stream Crossing

As Found:
Actions Taken:

Location: Area of Outfall 007 and Outfall 004 (Next to Norlite front Access Gate)

As Found:
Actions Taken:

Location: Salt Kill Headwall North of Kiln 2

As Found:
Actions Taken:

Location: Salt Kill Entrance to Aqueduct Located North of Primary Plant

As Found:
Actions Taken:
Additional Comments:

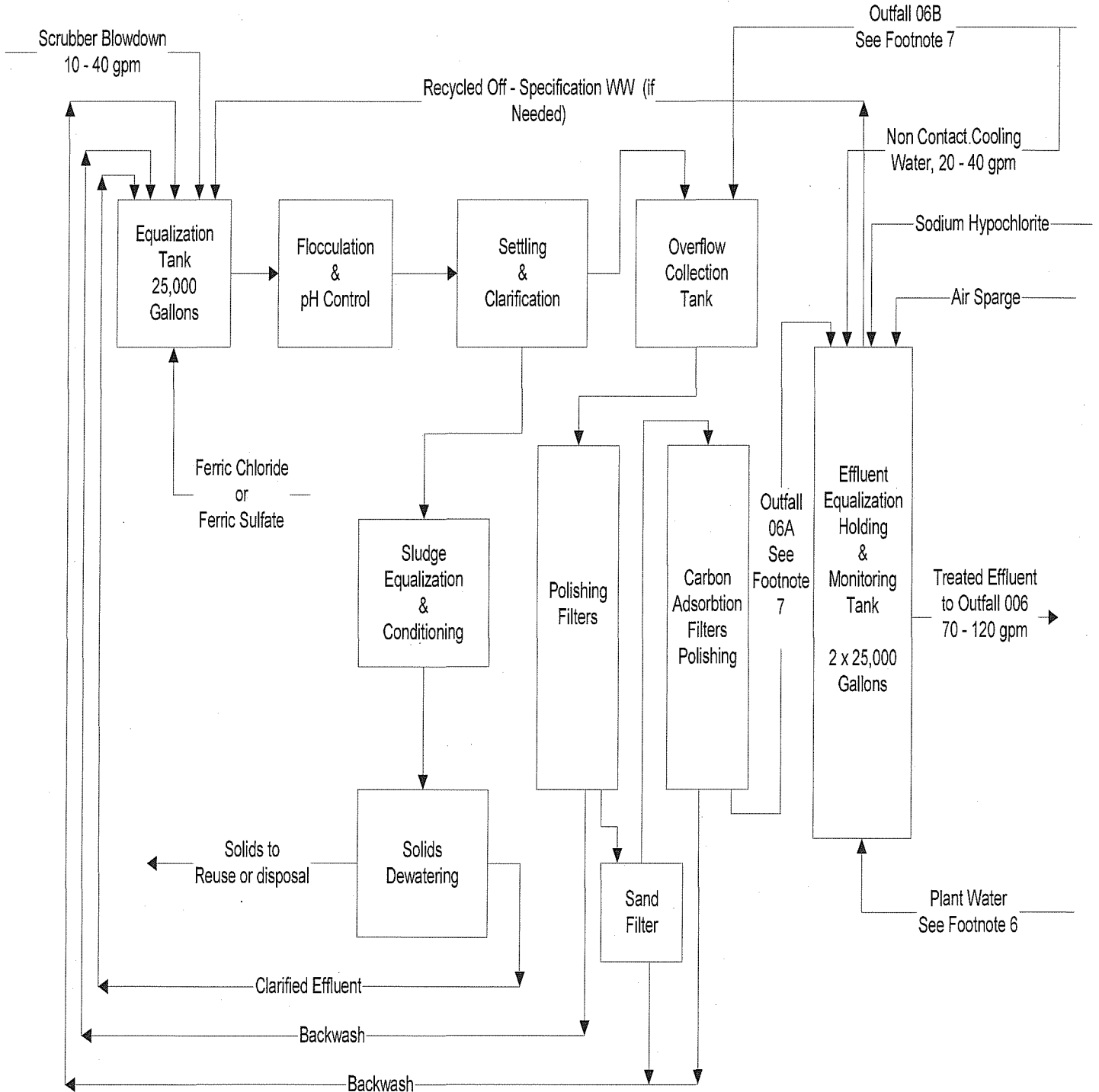
APPENDIX P

WASTEWATER TREATMENT PLANT FLOW DIAGRAM

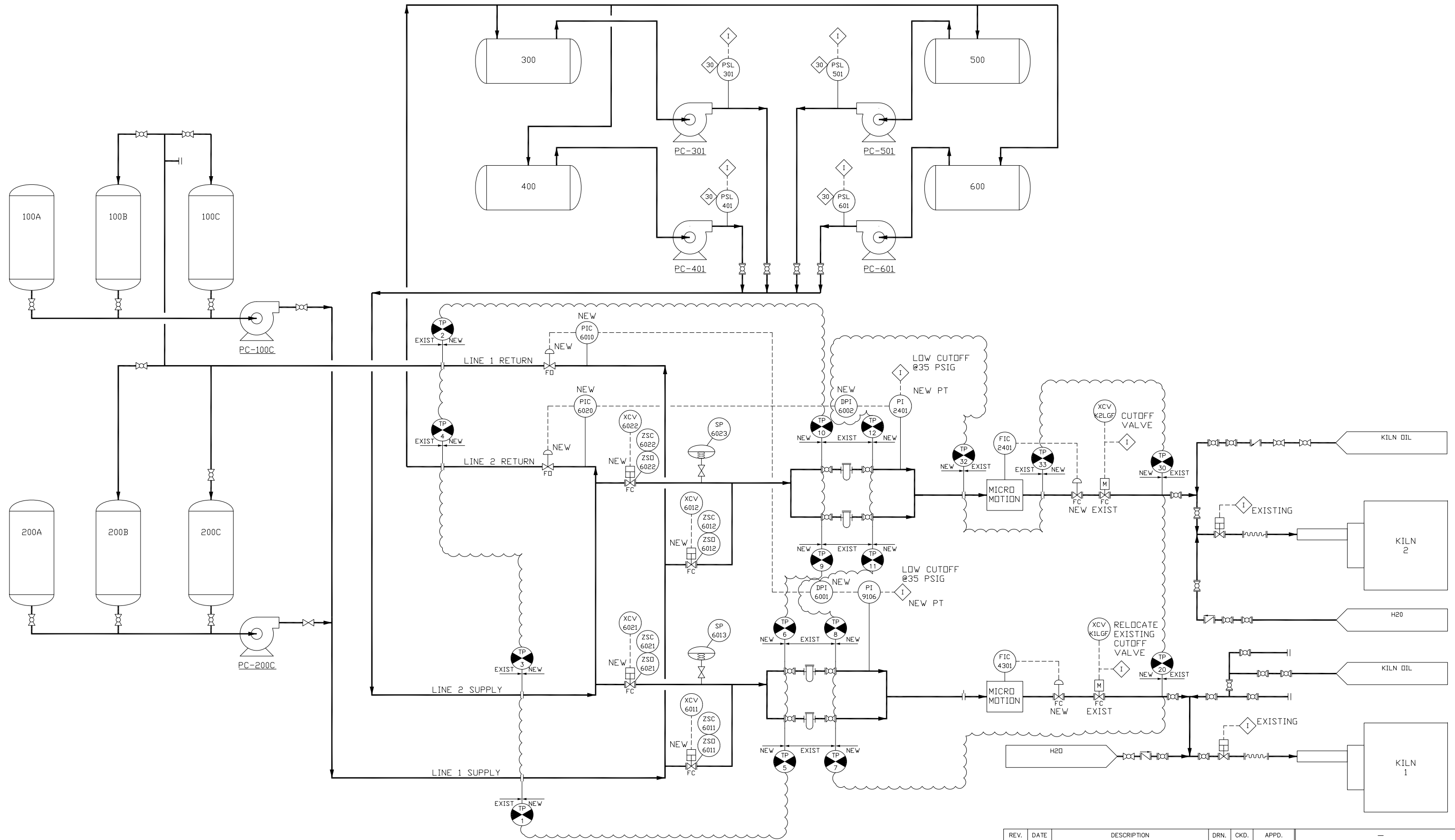
MONITORING LOCATIONS, CONTINUED

WASTEWATER TREATMENT PLANT GENERAL PROCESS FLOW DIAGRAM

The permittee shall take samples and measurements, to comply with the monitoring requirements specified in this permit, at the location(s) specified below:



APPENDIX Q
FACILITY IMPROVEMENTS



= NEW ON THIS DRAWING

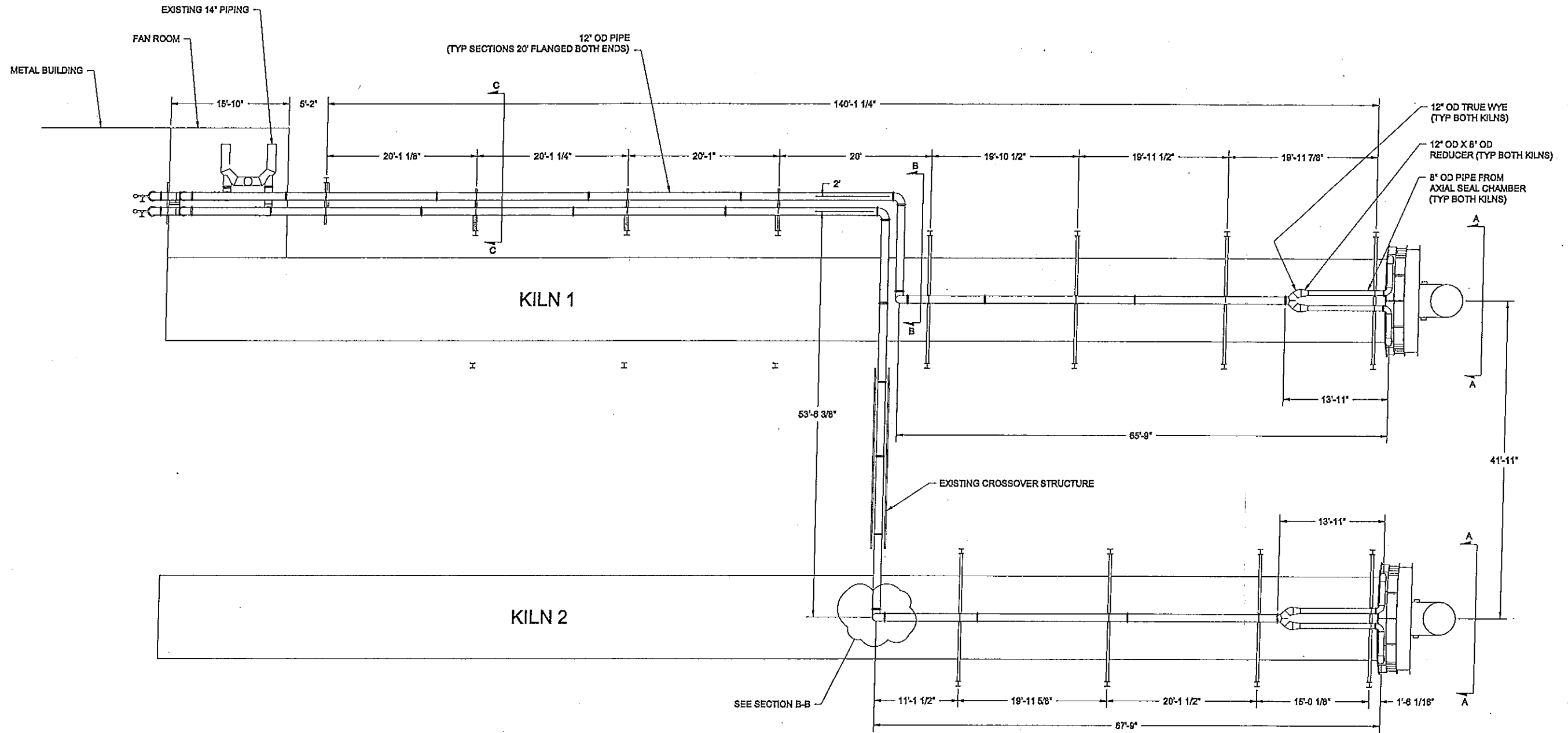


REV #	DESCRIPTION	DATE
5	ADD EXPANSION PAD	8-21-14
4	UPDATES	4-1-14
3	TIEPOINTS	3-27-14
2	PID UPDATES	3-10-14
1	PROJECT SCOPE	2-21-14
0	PROPOSED	2-14-14

REV.	DATE	DESCRIPTION	DRN.	CKD.	APPD.
0		LGf AUTOMATION	-	-	-

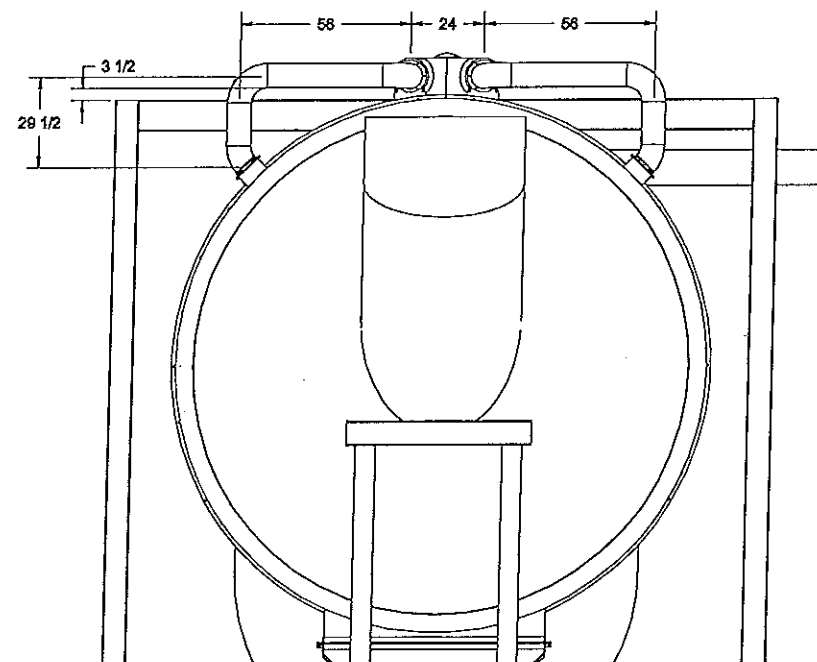
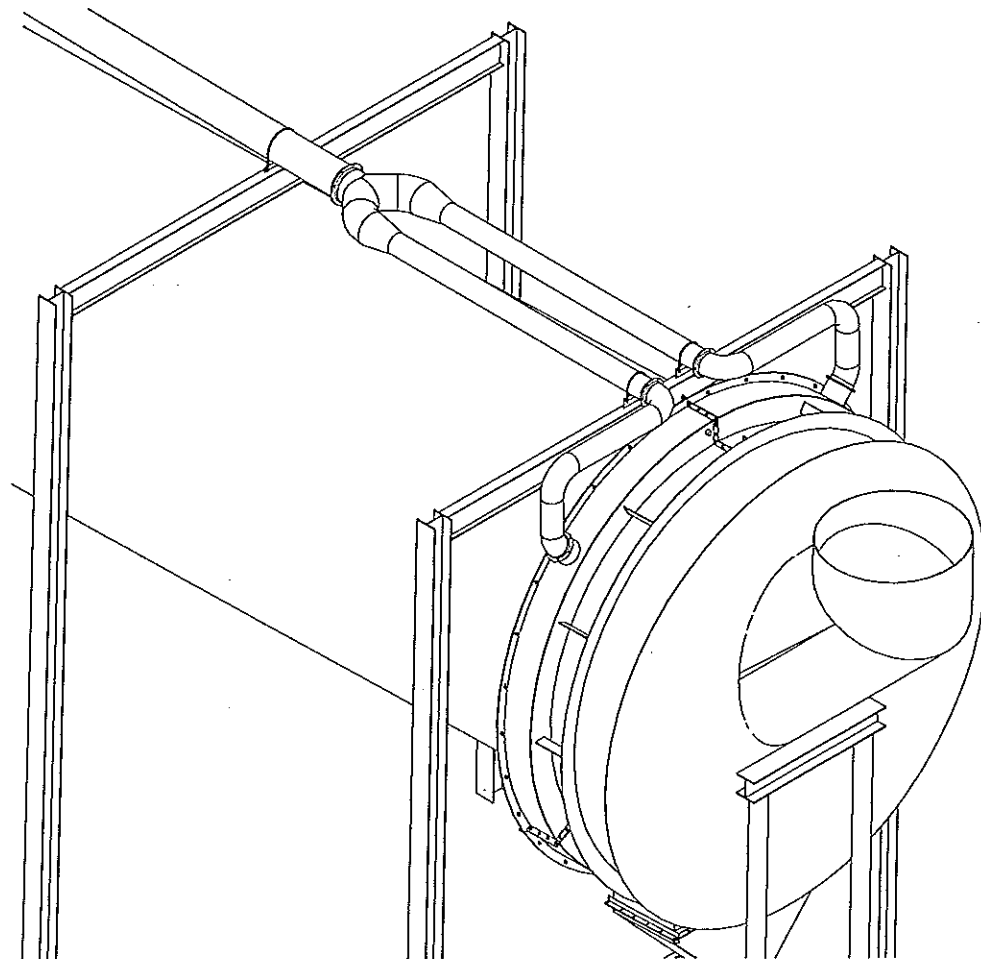
NORLITE KILN FUEL SYSTEM
FUEL OIL FEED SYSTEM
AUTOMATION
LGf SYSTEM

SCALE: NTS DATE: 2/13/14
DWG. NO.: 13-093-01

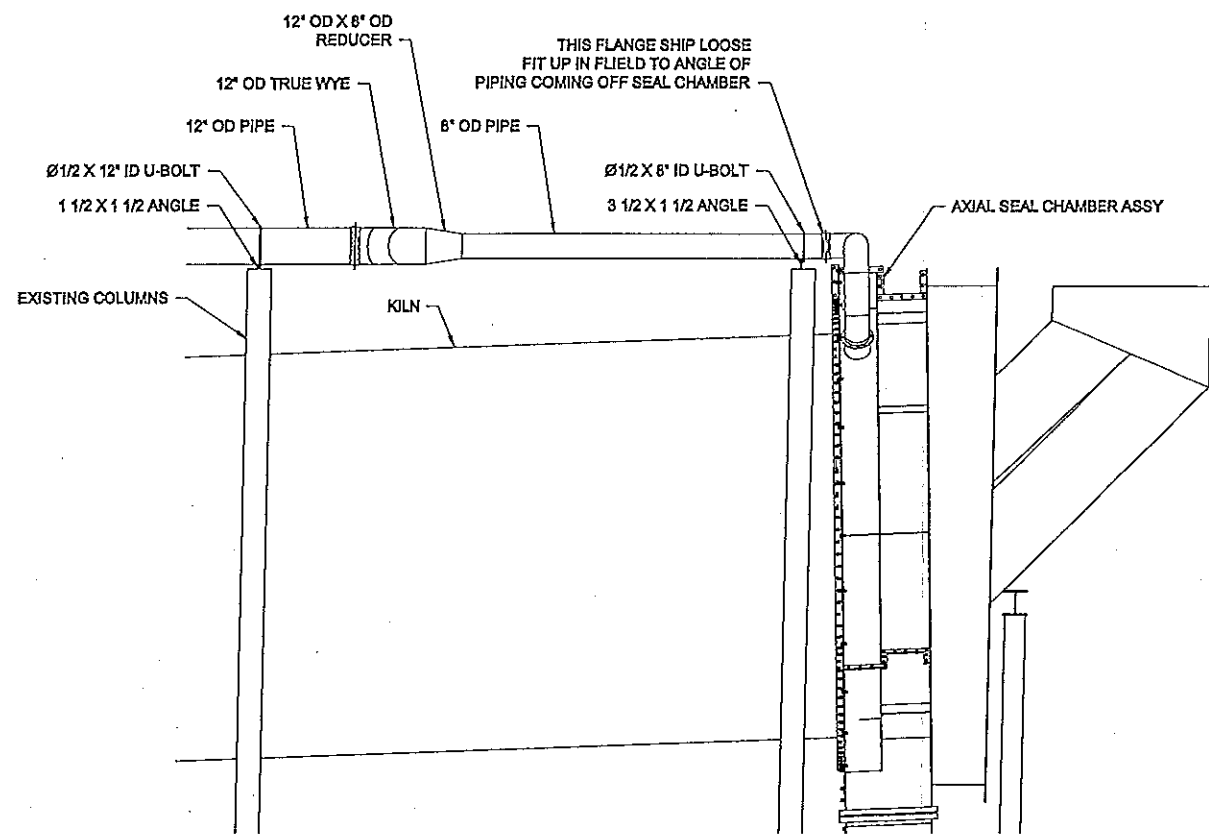
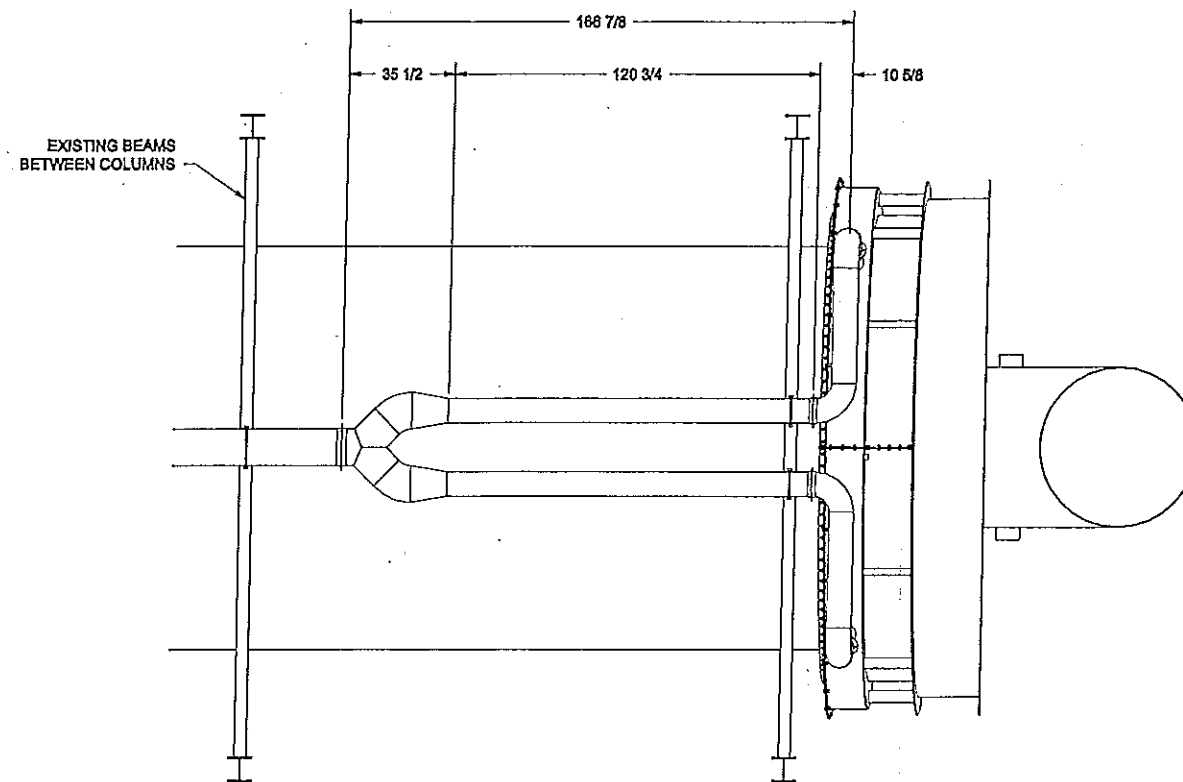


PLAN VIEW

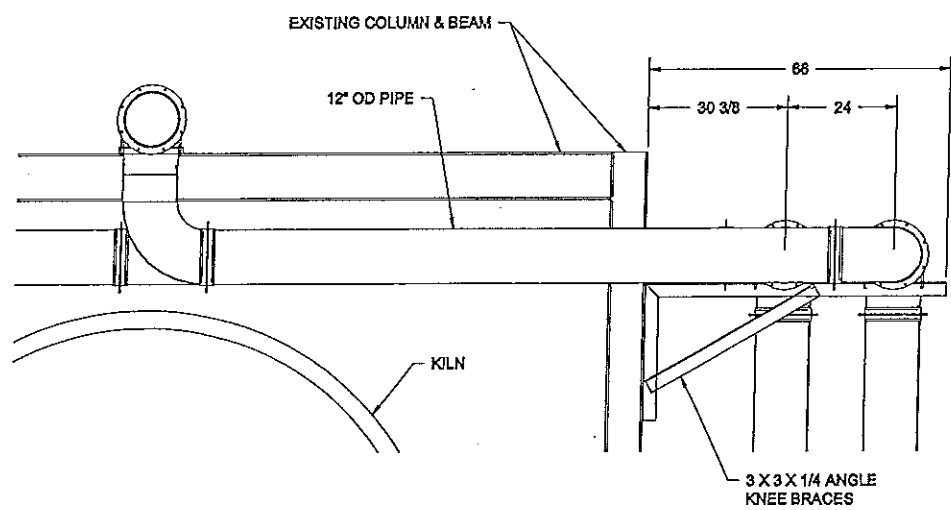
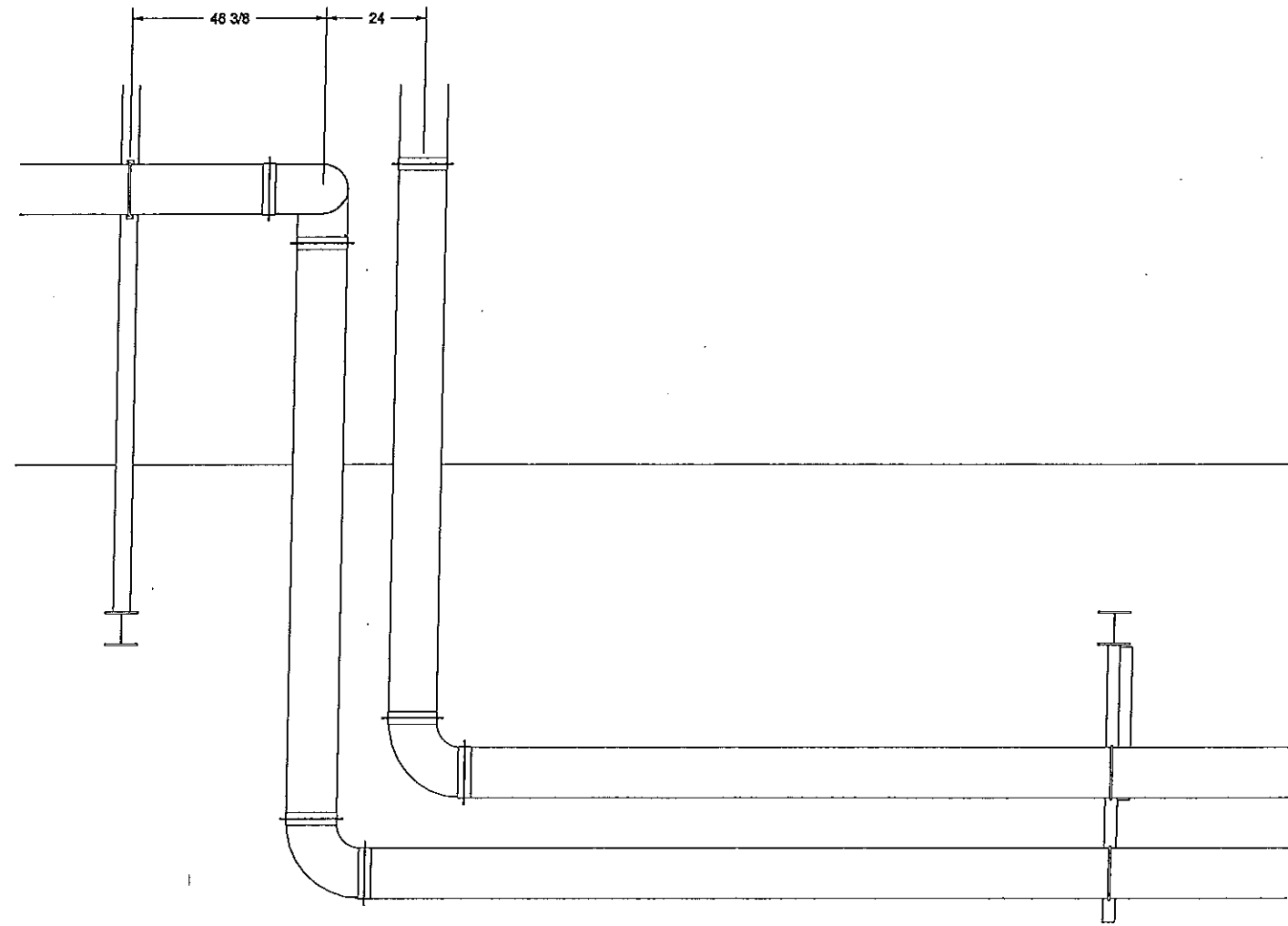
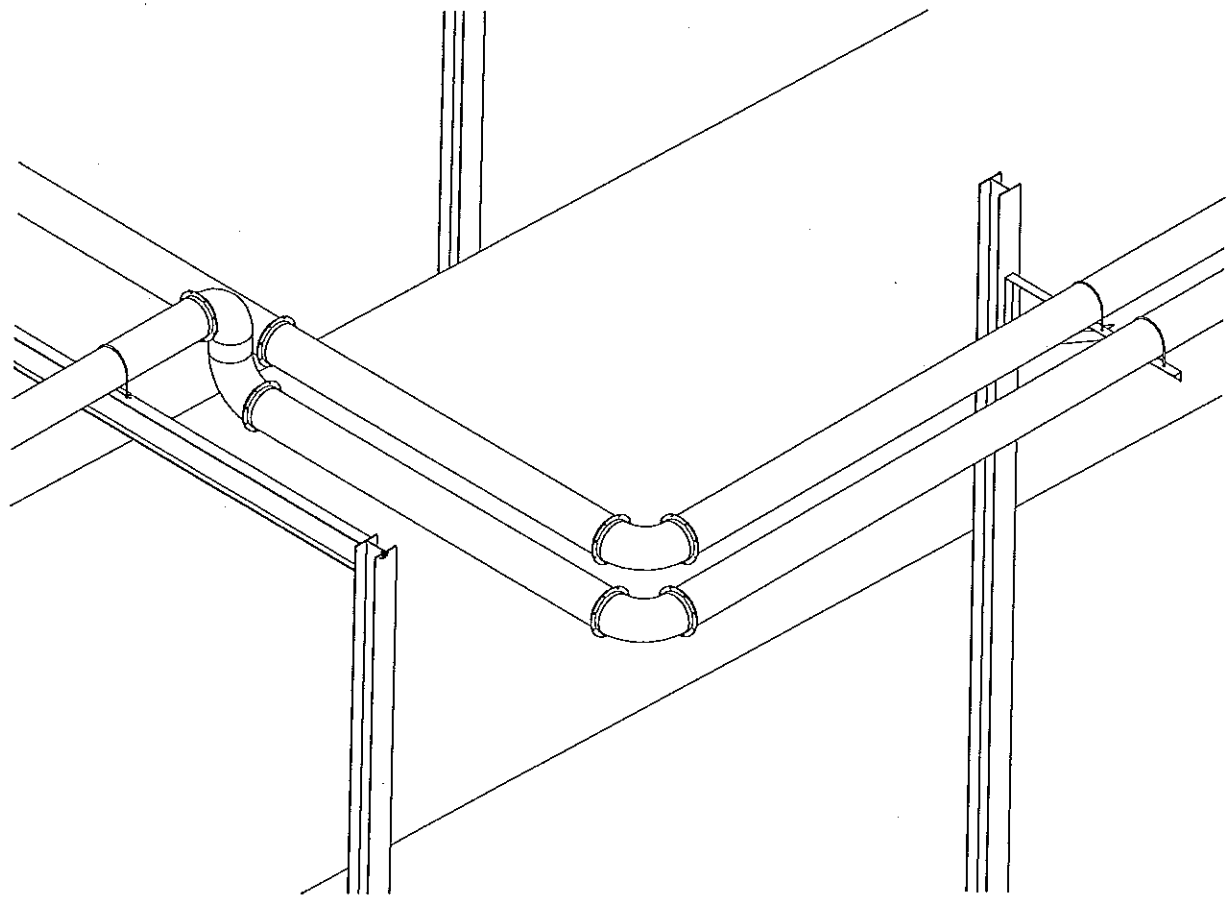
<p>WELDING WORKS WILSON, CONNECTICUT</p>	DRAWN BY JAR	DRAWING TITLE PIPING FOR AXIAL SEAL CHAMBER
	APPROVED BY	CUSTOMER NORLITE COHOES, NY
	DATE 6/21/10	SCALE NONE
TOLERANCES FRACTIONS & 1/16 DECIMALS & 0-12 HOLD & 0-12	WORK ORDER QUOTE	SIZE D
		DWG 17840
		SH 1 OF 4
		REV -



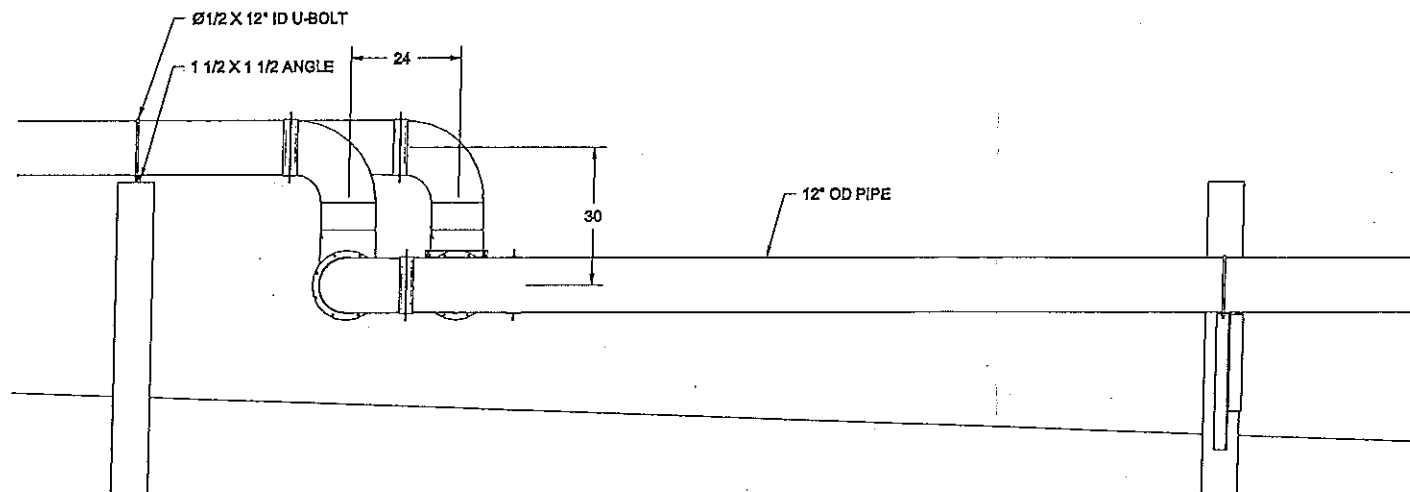
SECTION A-A



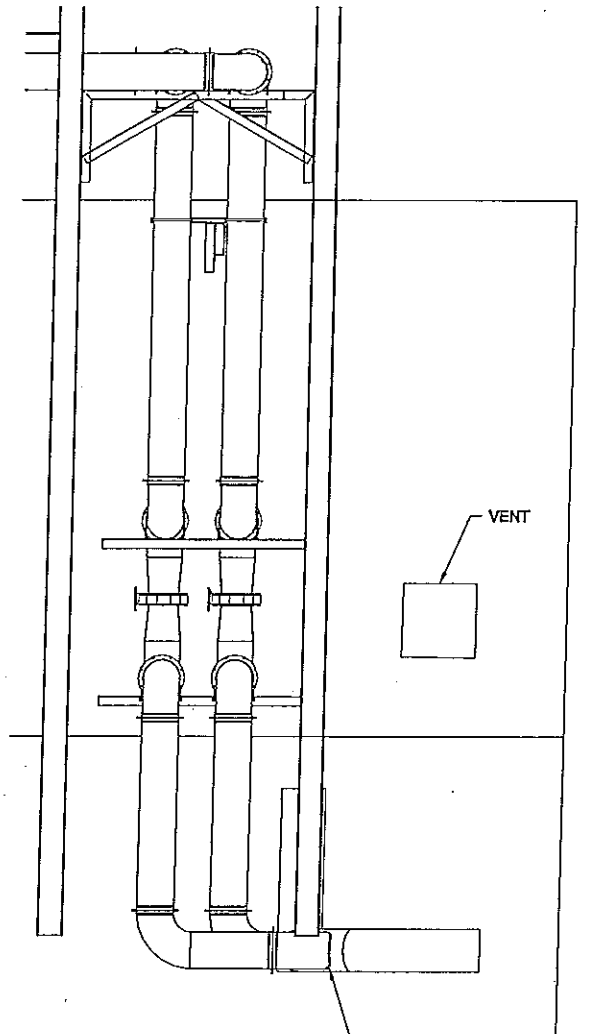
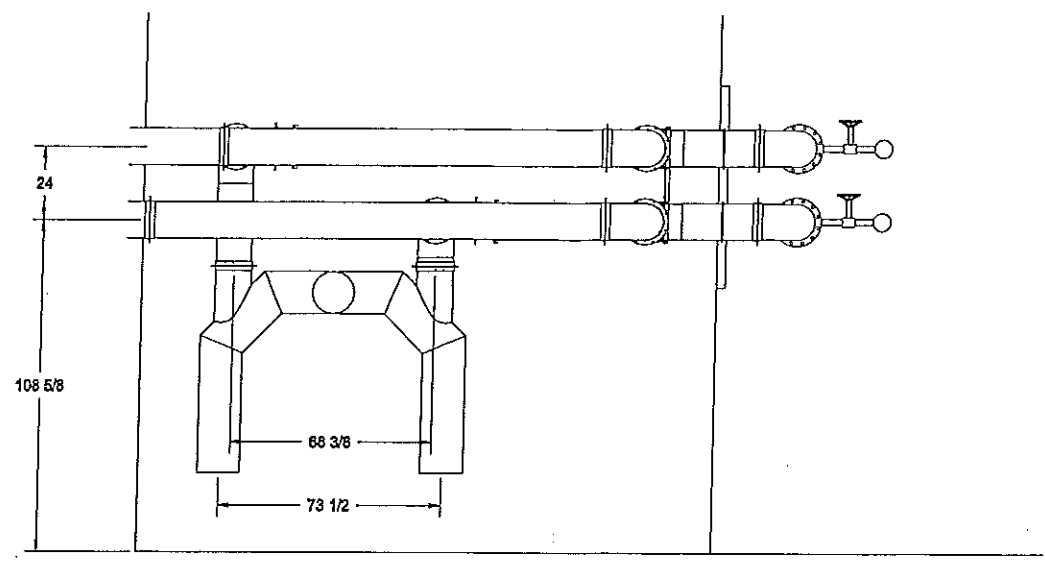
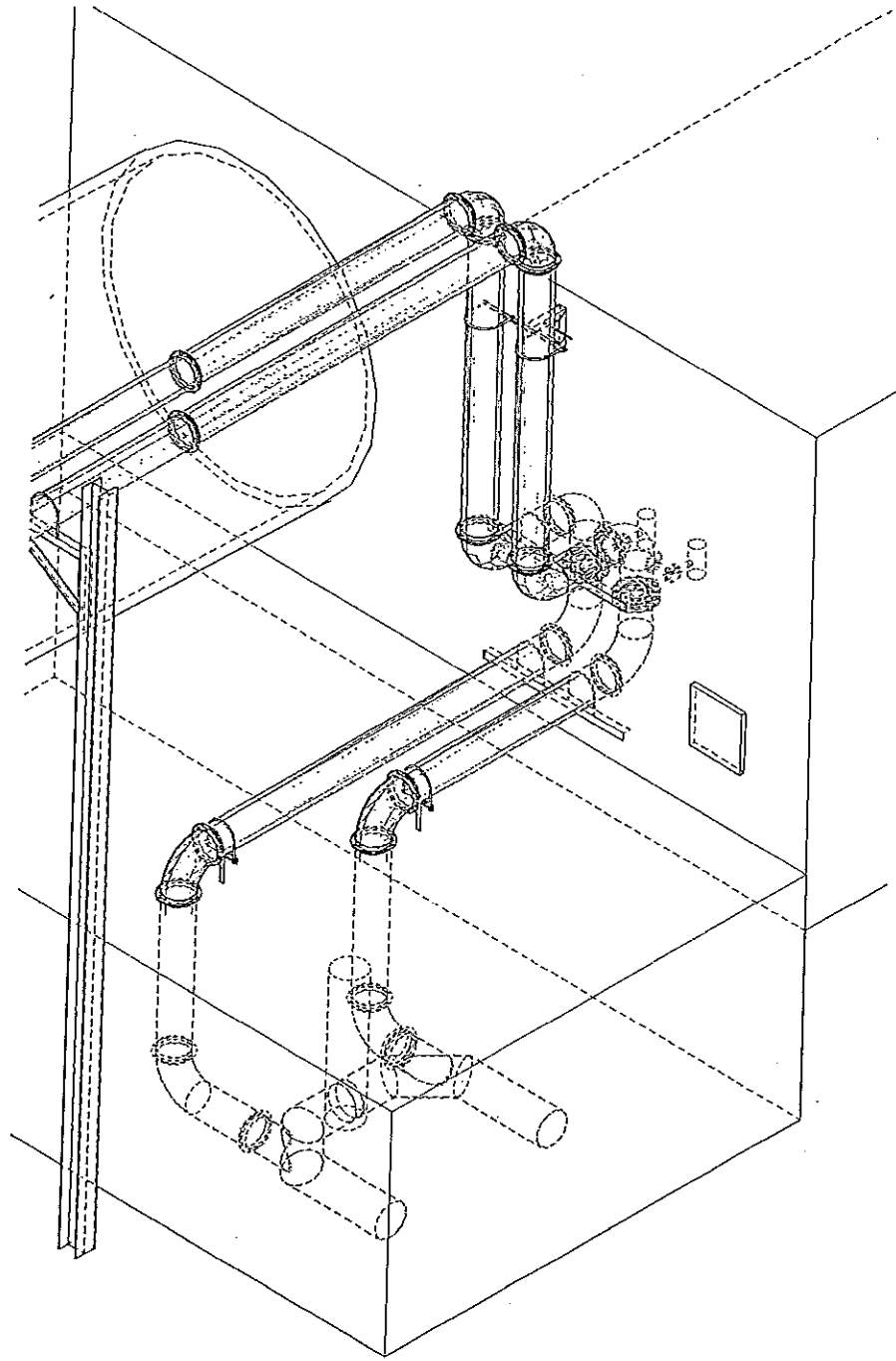
 <small>WALTON CONNECTICUT</small>	<small>DRAWN BY</small> JAR	<small>DRAWING TITLE</small> PIPING FOR AXIAL SEAL CHAMBER		
	<small>APPROVED BY</small> 	<small>CUSTOMER</small> NORLITE COHOES, NY		
	<small>DATE</small> 8/21/10	<small>SCALE</small> NONE		
	<small>TOLERANCES</small> <small>FRACTIONS & 1/16</small> <small>DECIMALS</small> <small>ANGLES & 0-15</small>	<small>WORK ORDER</small> QUOTE	<small>SIZE</small> D	<small>DWG</small> 17840



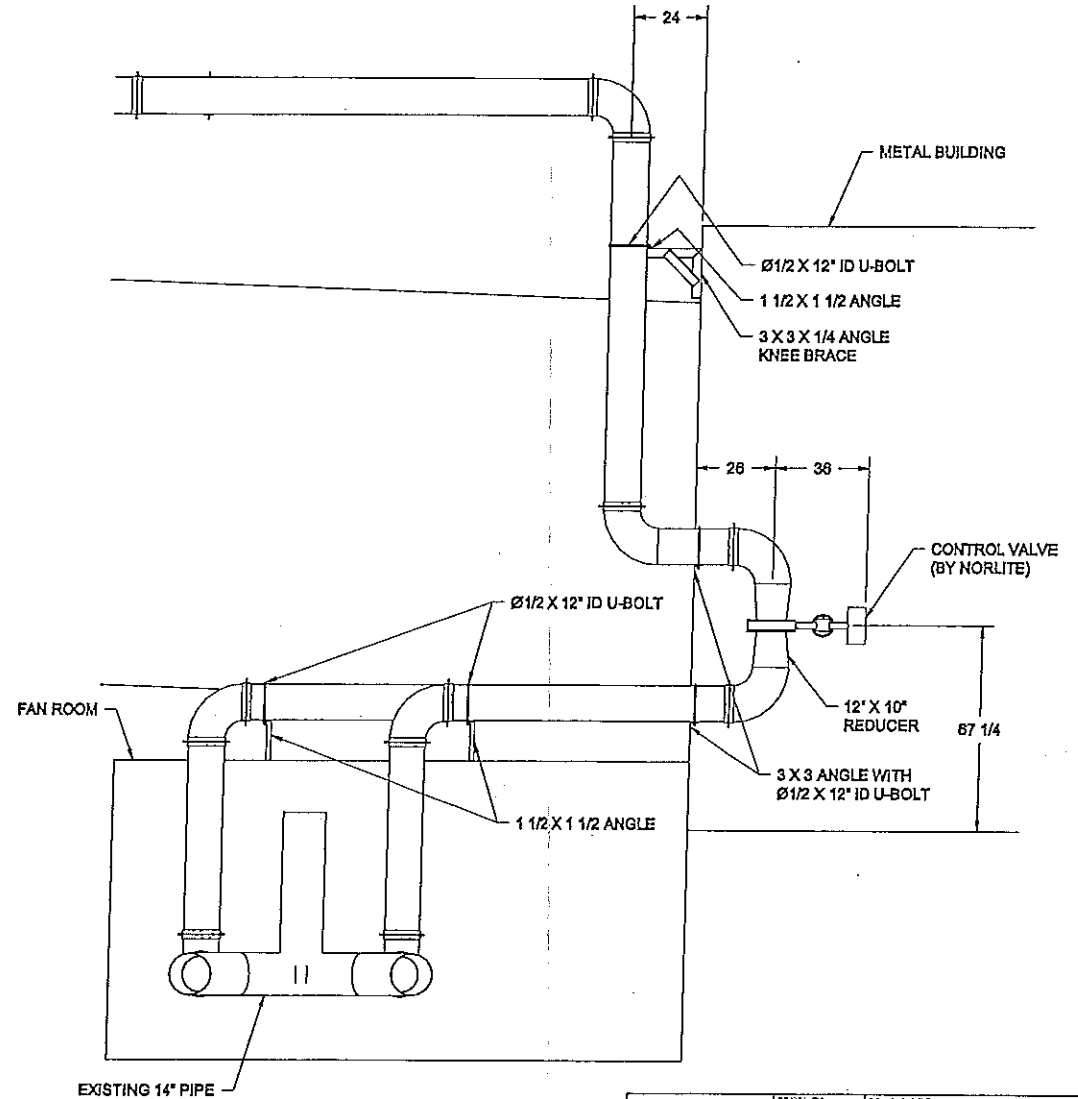
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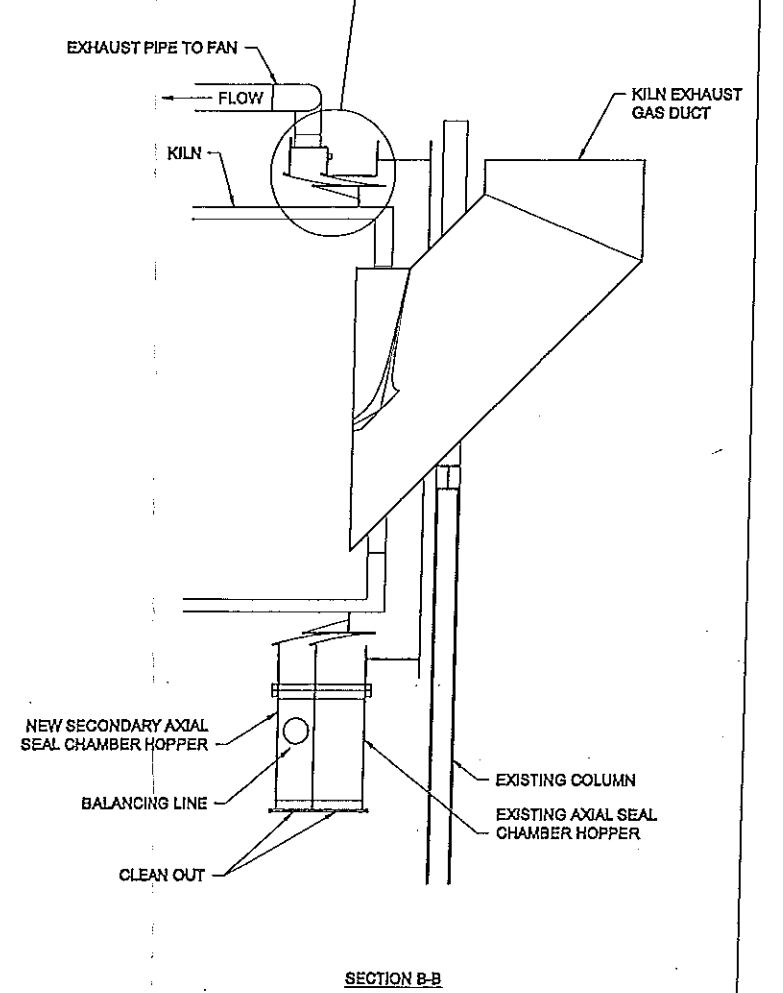
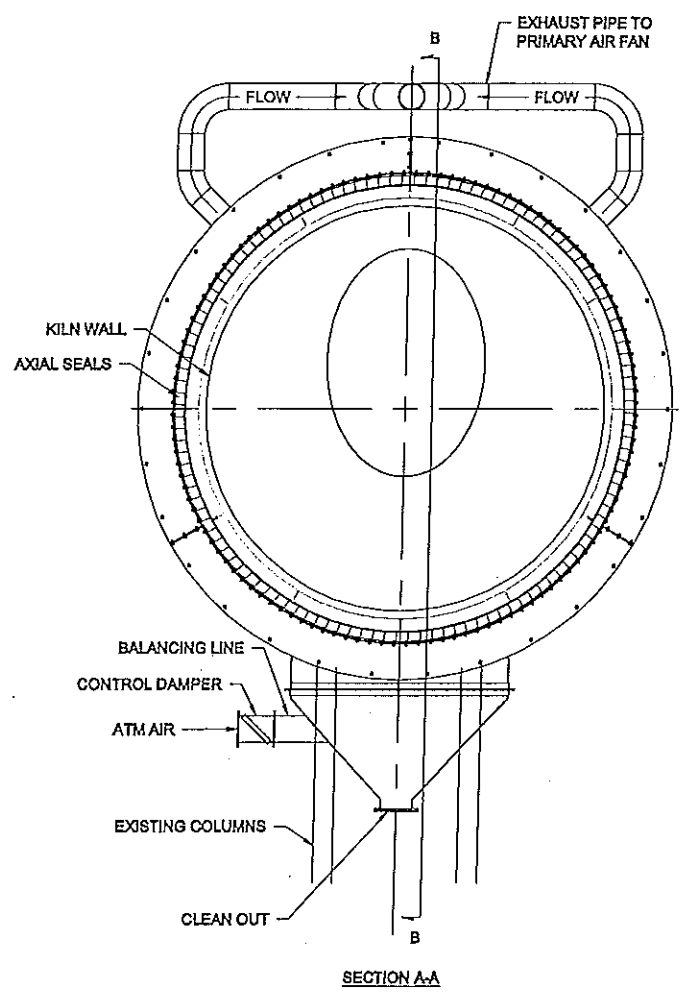
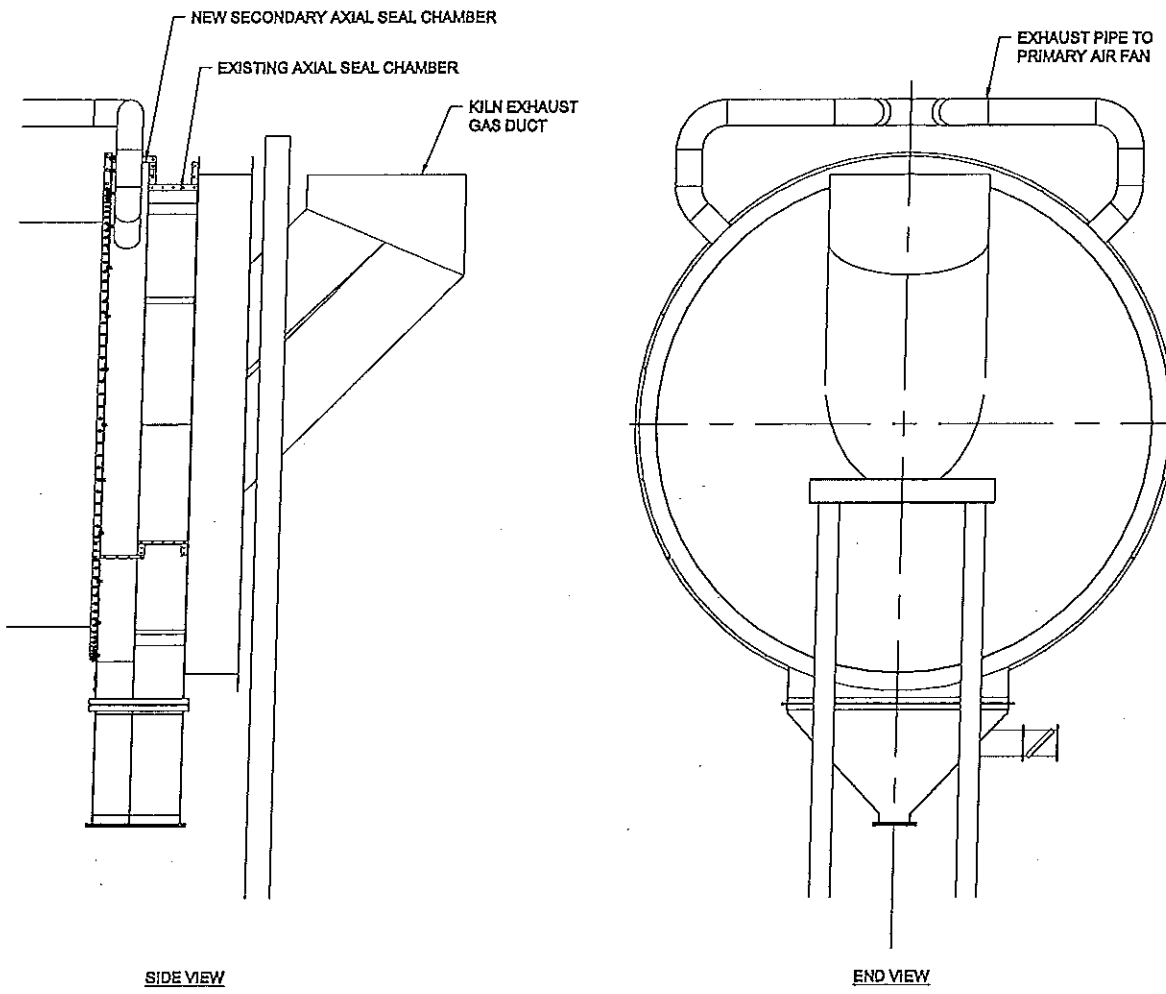
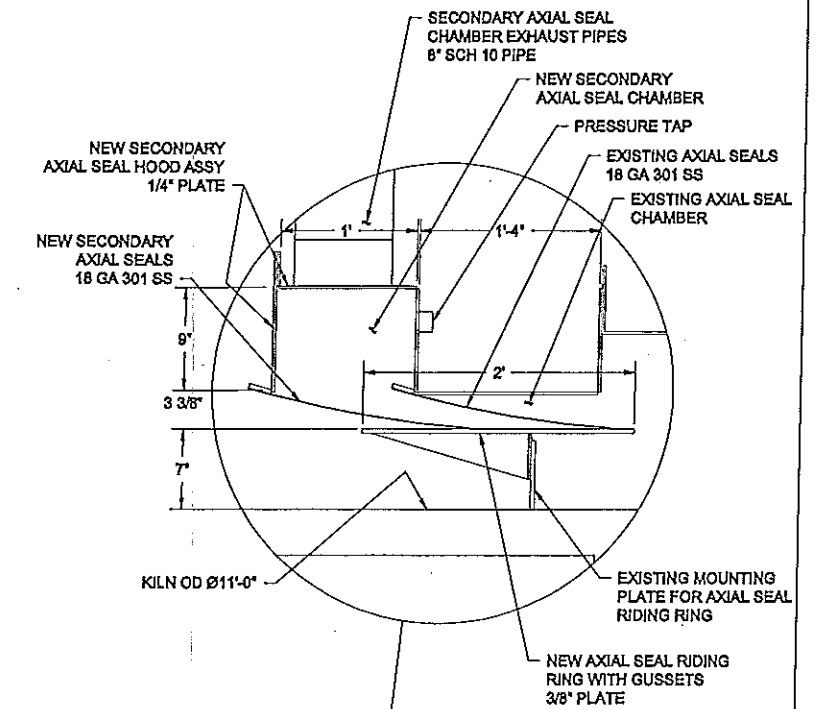
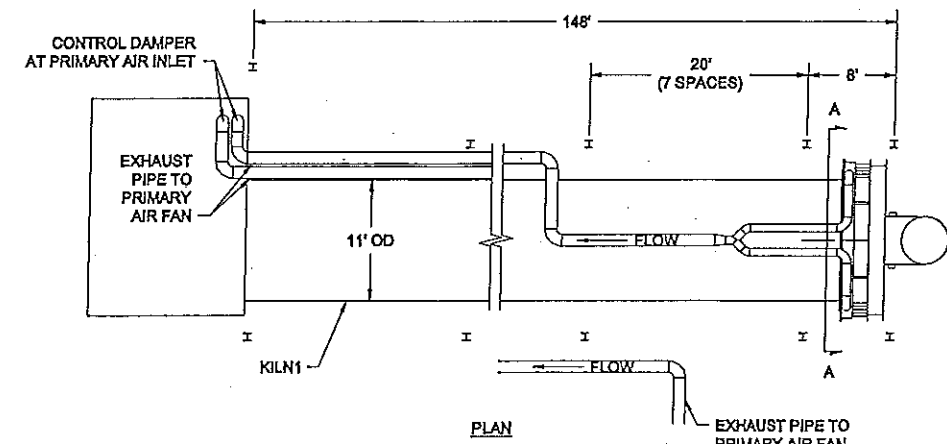
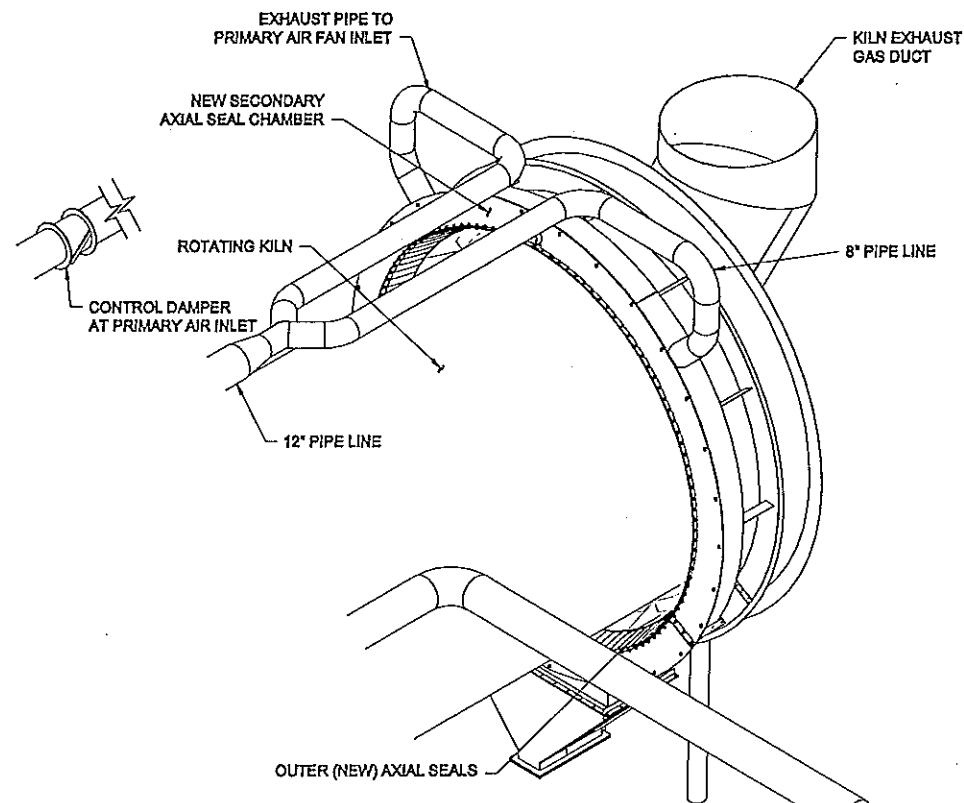
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	<small>APPROVED BY</small> 	<small>CUSTOMER</small> NORLITE COHOES, NY
<small>DATE</small> 8/21/10	<small>SCALE</small> NONE	<small>SIZE</small> D
<small>TOLERANCES</small> <small>FRACTIONS & 1/16</small> DECIMALS <small>ANGLES & R-1/4</small> AS SHOWN	<small>WORK ORDER</small> QUOTE	<small>NO. OF SHEETS</small> 17640 SH 3 OF 4



SECTION C-C

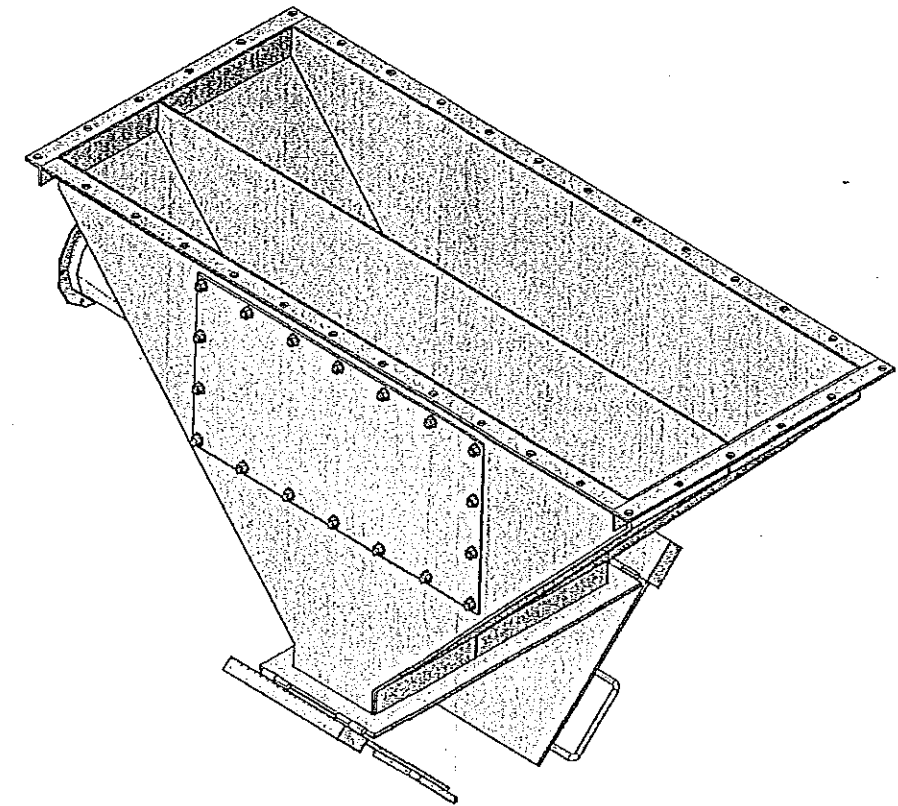
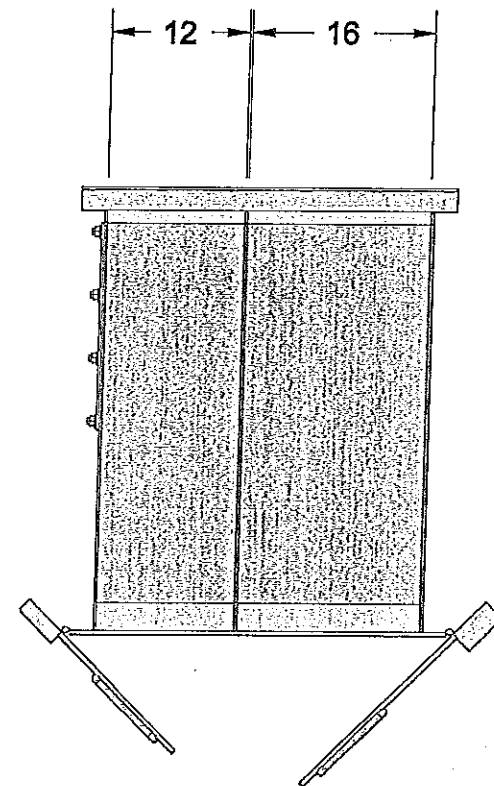
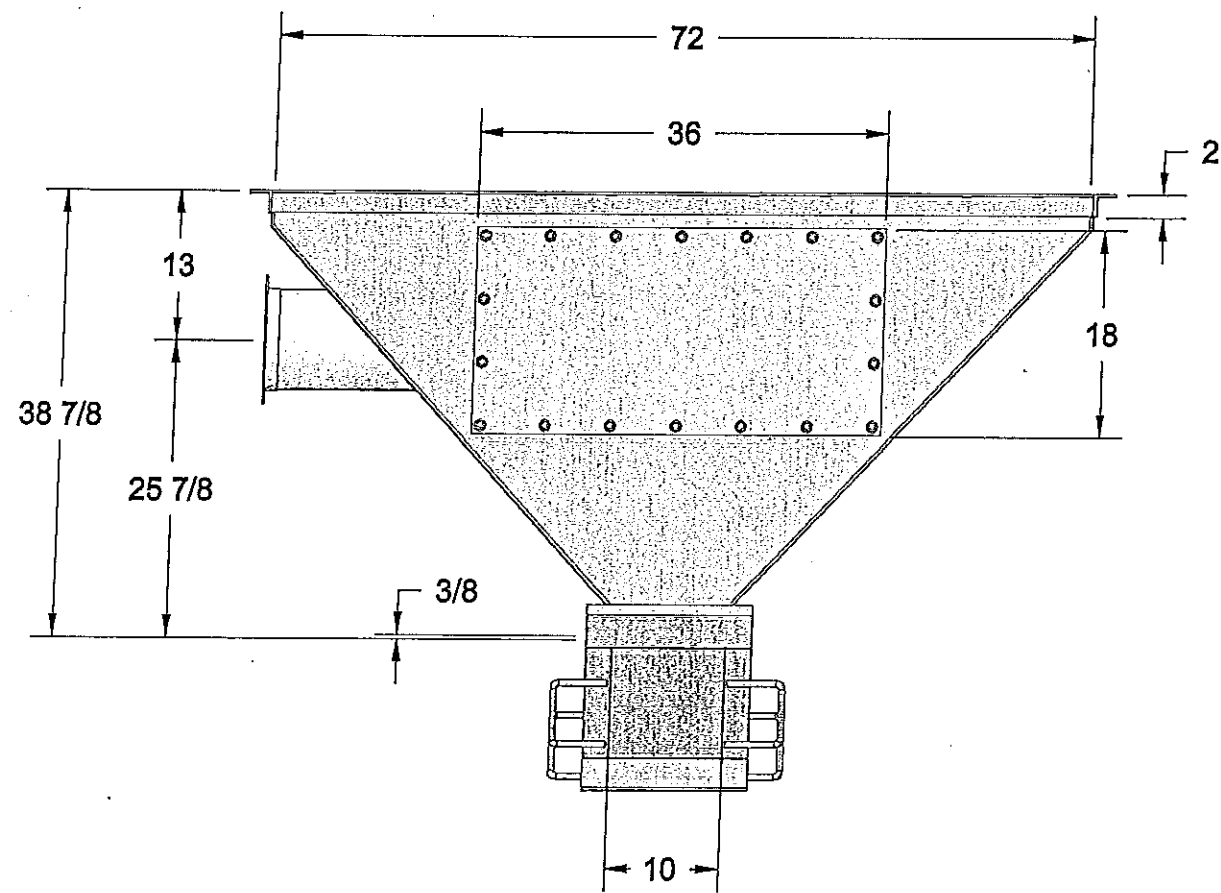


WELDING WORKS HADSON CONNECTICUT <small>TOLERANCES UNLESS OTHERWISE SPECIFIED FINISHES AS SHOWN ANGLES & R-VALUES</small>	DRAWN BY JAR	ISSUING TITLE PIPING FOR AXIAL SEAL CHAMBER
	APPROVED BY JAR	CUSTOMER NORLITE COHOES, NY
	DATE 8/21/10	WORK ORDER QUOTE
TOLERANCES UNLESS OTHERWISE SPECIFIED FINISHES AS SHOWN ANGLES & R-VALUES	SIZE D	DWG 17640 SH 4 OF 4
		REV.




 WELDING WORKS WADSWORTH CONNECTICUT	DRAWN BY JAR	DRAWING TITLE GENERAL LAYOUT FOR KILN 1, & KILN 2
	APPROVED BY 	DATE 8/14/09
TOLERANCES FRACTIONS & 1/16" DETAILS DECIMALS & 1/32" 1/8" & 1/16"	WORK ORDER 17261	CUSTOMER NORLITE COHOES, NY
REV. BY A JAR	DATE 5/4/10	DESCRIPTION HOPPER/PIPING
SIZE D	DWG 17261-A	SHEET SH 1 OF 1

REV. BY	DATE	DESCRIPTION	TOLERANCES	WORK ORDER	SIZE	DWG	SHEET	REV.
A JAR	5/4/10	HOPPER/PIPING	FRACTIONS & 1/16" DETAILS DECIMALS & 1/32" 1/8" & 1/16"	17261	D	17261-A	SH 1 OF 1	A



1 REQ'D
APPROX WEIGHT =
900#

 MADISON CONNECTICUT	DRAWN BY JAR	DRAWING TITLE	
	APPROVED BY	CLEAN OUT HOPPER	
	DATE 11/16/09	CUSTOMER NORLITE	
	SCALE NONE	WORK ORDER 17261	SIZE B
TOLERANCES FRACTIONS ± 1/16 DECIMALS XX ± .01 ANGLES ± 0°-15' XXX ± .005	REV. -		

APPENDIX R
LIST OF TERMS AND ACRONYMS

Norlite BMP Plan List of Terms and Acronyms

Term	Definition
29 CFR	Title 29 of the Code of Federal Regulations
30 CFR	Title 30 of the Code of Federal Regulations
40 CFR	Title 40 of the Code of Federal Regulations
49 CFR	Title 49 of the Code of Federal Regulations
6 NYCRR	Title 6 of the New York Codes, Rules and Regulations
amsl	above mean sea level
APC	Air Pollution Control
API	Application Programming Interface
ASTM	American Society for Testing and Materials
BMP	Best Management Practices
CBS	Chemical Bulk Storage
CEM DAS	Continuous Emissions Monitoring and Data Acquisition System
CfPT	Confirmatory Performance Test
CFR	Code of Federal Regulations
cm/sec	centimeters per second
CPR	CardioPulmonary Resuscitation
CPT	Comprehensive Performance Test
DEC	Department of Environmental Conservation
DOT	United States Department of Transportation
FEMA	Federal Emergency Management Agency
FRP	fiberglass reinforced plastic
GC	Gas Chromatography
GP	General Permit
gph	gallons per hour
gpm	gallons per minute
HAZWOPER	HAZardous Waste OPerations and Emergency Response
HCl	hydrogen chloride
HDPE	high-density polyethylene
HM	Hazardous Materials
I&E	Instrumentation and Electrical
ICP	Integrated Contingency Plan
ICP	Inductively Coupled Plasma
ICS	Incident Command System
LEL	lower explosive limit
LGF	Low Grade Fuel
LLC	Limited Liability Company
LSWB	Lower Stormwater Basin
MACT	Maximum Achievable Control Technology
mph	miles per hour
MS	Mass Spectroscopy
MSDS	Material Safety Data Sheet

MSHA	Mine Safety and Health Administration
NaOH	sodium hydroxide
NIIMS	National Integrity Incident Management System
NuKEM Corp.	NuKEM Corporation
NWS	National Weather Service
NY	New York
NYS	New York State
NYSDEC	New York State Department of Environmental Conservation
O ₂	oxygen
OSHA	Occupational Safety and Health Administration
P&ID	pipng and instrumentation diagram/drawing
PBS	Petroleum Bulk Storage
PLC	programmable logic controller
POTW	Publicly Owned Treatment Works
PPE	Personal Protective Equipment
ppm	parts per million
PPT	Pollution Prevention Team
PVC	polyvinyl chloride
RCRA	Resource Conservation and Recovery Act
Rev.	Revision
SCBA	Self-Contained Breathing Apparatus
SDS	Safety Data Sheet
SOP	Standard Operating Procedure
SPCC	Spill Prevention Control and Countermeasures
SPDES	State Pollution Discharge Elimination System
SPR	Spill Prevention Report
SWPPP	StormWater Pollution Prevention Plan
TDS	Time, Distance, and Speed
USEPA	United States Environmental Protection Agency
VOC	volatile organic compounds
wt. %	weight percent
WWT	WasteWater Treatment
Y2K	Year 2000

APPENDIX S

NORLITE SAFETY TRAINING PROGRAM

Exhibit A

A. Outline for Introductory Training Program

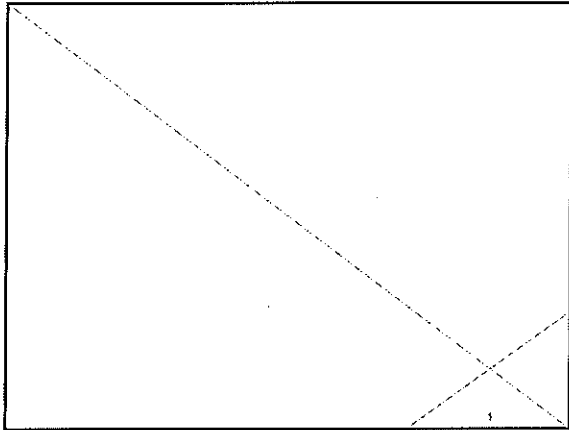
- a. **Occupational Safety and Health Administration(OSHA) HAZardous Waste Operations and Emergency Response (HAZWOPER) (40-hour course)**
 - i. Worker protection regulations (OSHA 1910.120)
 - ii. Safety Considerations/Principles
 - iii. Hazard Recognition and Evaluation
 - iv. Chemical Hazards
 - v. Terminology
 - vi. Toxicology
 - vii. Hazard Communication
 - viii. Personal Protection Equipment
 - 1. Levels of protection
 - 2. Respiratory protection
 - 3. Protective clothing
 - ix. Drum Handling Procedure
 - x. Emergency Response
- b. **Resource Conservation and Recovery Act (RCRA)**
 - i. Regulatory History
 - ii. Laws and Regulations Governing Hazardous Waste Management
 - iii. Hazardous Waste Identification
 - 1. Listings
 - 2. Characteristic codes
 - 3. State codes
 - iv. Paperwork Requirements
- c. **Manifest Training**
 - i. History and Purpose
 - ii. Manifest Fields
 - iii. Discrepancies and Rejections
 - iv. Distribution Summary
 - v. Profile Sheets (Lab Pack and Containerized Waste)
 - vi. Packing Slips
 - vii. Land Disposal Restrictions (LDRs)
 - viii. Exception Reporting
 - ix. Recordkeeping
- d. **United States Department of Transportation (DOT) Hazardous Materials (HazMat) General Awareness**
 - i. Training Requirements
 - 1. Hazmat Employees
 - 2. Training Frequency
 - ii. Hazard Class Definitions
 - iii. Shipping Names
 - iv. Packaging
 - v. Marking/Labeling
 - vi. Shipping Papers

- vii. Placarding
- viii. Loading/Segregation
 - 1. Segregation chart
 - 2. Exemptions
 - 3. Handling, loading, unloading, securing and storing hazardous materials
- ix. Operating a HazMat vehicle
 - 1. Reporting issues
 - 2. Contingency plan
- e. **Hazardous Materials Security General Awareness**
- f. **DOT HazMat Security Plan-In-Depth**
 - i. Regulatory Requirements
 - ii. Vulnerability Assessment
 - iii. Risks
 - 1. Theft
 - 2. Hijacking
 - 3. Materials stored at the facility
 - iv. Personnel Security
 - v. Unauthorized Access
 - vi. En Route Security
 - vii. Sensitive Communications
- g. **Facility Orientation**
 - i. Facility History and Permits
 - 1. History of the facility
 - 2. Part 373 Permit
 - 3. Toxic Substances Control Act (TSCA) authorization
 - ii. Waste Acceptance Procedures
 - 1. Work sheets
 - 2. Paperwork approval
 - 3. Quality Assurance/Quality Control (QA/QC) of waste
 - 4. Resolution of Discrepancies
 - iii. Storage of Materials within the Facility
 - 1. Rack storage
 - 2. Vault storage for ignitable and reactive wastes
 - 3. Segregation of incompatible wastes
 - 4. Liquid propane (LP) storage
- h. **Safety Orientation**
 - i. Safety Orientation
 - 1. Introduction
 - 2. Facility rules
 - 3. Emergency Action and Fire Prevention Plan
 - 4. Fire extinguisher awareness
 - 5. Incident/injury investigation and reporting
 - ii. Personal Protective Equipment (PPE)
 - 1. Eye and face protection
 - 2. Head protection

3. Foot protection
4. Hand protection
5. Hearing protection
6. Personal protection levels
- iii. Respiratory Protection
- iv. Blood borne Pathogens
- v. HAZard COMMunication Program (HAZCOM)
 1. Purpose of HAZCOM
 2. Material Safety Data Sheets (MSDSs)
 3. Vendor safety
 4. Labeling
 5. Review of chemicals at facility
- vi. Back Safety
- vii. Contingency Plan
 1. Emergency and evacuation procedures
 - a. Response to fires or explosions
 - b. Response to groundwater contamination incidents
 - c. Shutdown of operations
 - d. Key parameters for automatic waste feed cutoff systems
 2. Location of emergency equipment and PPE
 3. Procedures for using, inspecting, repairing, and replacing facility emergency and monitoring equipment
 4. Emergency Coordinators and notification numbers

B. Outline for Continuing Education Program

- a. **OSHA 8-Hour Refresher (this course is required annually)**
 - i. Regulatory Update
 - ii. Hazard Recognition and Evaluation
 - iii. Review of Levels of Personal Protection
 1. Chemical protective clothing
 2. Respiratory protection
 3. Selection and use
- b. **Facility Refresher (this course is required annually)**
 - i. Waste Characterization and Identification, Waste Acceptance Procedures, Commingling Wastes, Segregation of Incompatible Wastes
 - ii. Emergency Response Procedures / Integrated Contingency Plan Review
 - iii. Mock Emergency Drill
- c. **RCRA (this course is required annually)**
 - i. Regulatory Updates
 1. Laws and regulations governing hazardous waste management and disposal
 - ii. Hazardous Waste Identification
 1. Listings
 2. Characteristic codes
 3. State codes
 - iii. Paperwork Requirements



**ANNUAL
RCRA/MACT/MINING/SPDES/SPILL/WASTE
HANDLING
REFRESHER TRAINING
December 2013**

Topics To Cover

- Name Change
- Consent Order
- Permits Status
- Facility Compliance Plans
- Miscellaneous
- Storm Water Management System Training

New Ownership

- In January of 2013, Tradebe changed Norlite's name from Norlite Corporation to Norlite, LLC.
- Because of the name change all of the operating permits had to be transferred to Norlite, LLC.

Consent Order

- The consent order which was signed in 2010 is almost closed with the completion of the storm water systems which have been put into place

Consent Order Summary

- The DEC issued a Consent Order to Norlite on 07/16/09.
- The fine on the original Consent Order was \$1,000,000.
- Norlite spent almost a full year negotiating with the DEC to reduce the fine and state our case.

Consent Order Summary

- Final Consent Order stated there were no violations of the Clean Air Act.
- What was left in the order was a collection of minor items which would normally not trigger a consent order

7

Consent Order Summary

- The remaining items in the order were reporting errors, the flood of 2009, a couple of missing subpart bb tags
 - > Norlite completely redid the Subpart BB program. Instead of using tags, drawings with specific numbers as well as color coded piping is used.
- Final fine was \$90,000 and \$35,000 to the environmental benefit fund.

8

Consent Order Summary

- Norlite has completed the following plant improvements
 - > Installation of rear chamber systems on each kiln
 - > Upgrades to the CEM data collection system
 - > Installation of a data server to collect data and provide it over the web
 - > Gave the DEC a direct connection to data over the web, they can see historical data that is only seconds old

9

Consent Order Summary

- Plant Improvement continued:
 - > Norlite was able to negotiate time delays for kiln pressure cutoffs because of new chamber system
 - > Conducted a 100-year flood plain determination which showed the facility is outside of a 500-year flood plain
 - > Update the BMP to include a Salt Kill Stream Inspection & Cleaning program

10

Consent Order Summary

- Plant Improvement continued:
 - > Completed the MACT CfPT testing in January 2011
 - > Gained approval to use the Kiln Alarm log to calculate LGF downtime
 - > Rebuilt the retention wall and certified it could withstand the same type of rain event as 2009

11

Consent Order Summary

- Plant Improvement continued:
 - > Upgraded the fuel delivery system at the kilns – this is still on going
 - > Approval for the Salt Kill Flood Response Plan
 - > Completed a facility wide storm water management system

12

Future Consent Order

- The NYSDEC conducted a paper review of all the operations, permits, facility plans, and reports
- The NYSDEC alleges to have found many significant deficiencies which they are going to address with another consent order

13

Future Consent Order

- It should be noted that the NYSDEC has not issued any violations for these alleged finds. Unfortunately this is how the NYSDEC does business
- The NYSDEC alleged to have found the following deficiencies:
 - > Cutoff reports being reported late
 - > Cutoff reports not containing sufficient information

14

Future Consent Order

- The NYSDEC alleged to have found the following deficiencies continued:
 - > Pre-shift inspections not listing maintenance items or having inconsistencies
 - > Best Management Plan allegedly not updated

15

Future Consent Order

- The NYSDEC alleged to have found the following deficiencies continued:
 - > Failure to install an Air Monitoring Station
 - > Fugitive Dust Plan allegedly not updated
 - > Failure to provide a public outreach website for the community
 - > A used box containing used light bulbs was not completely closed

16

Future Consent Order

- The DEC conducted an inspection in March 2012 and took until May 2013 to tell us they were going to issue a consent order
- Norlite meet with the DEC in June to discuss the issues at hand & was able to get some items removed
- Since the meeting, Norlite has not received anything from the DEC

17

Future Consent Order

- Norlite believes that at some point the NYSDEC will issue a new consent order which will carry a fine and corrective actions
- Norlite is working to resolve the issues originally brought up to try to prevent this
 - > Reports are more complete
 - > The BMP & Fugitive Dust Plans are being updated

18

Future Consent Order

- Norlite is working to resolve the issues continued:
 - > A public outreach website has been constructed
 - > Work is being done to help improve the pre-shift inspection forms and how they are completed

19

Norlite Permit Status (Refresher/Update)

- a. RCRA Permit
- b. MACT Compliance
- c. Mining Permit
- d. SPDES Permit
- e. Title V Air Quality Permit

20

RCRA Permit

- Permit renewal application was submitted on 01/12/12.
- Norlite and the DEC have met several times to discuss some of the issues and changes for the new application
 - > So far, the permit renewal process has been very slow which could delay Norlite from getting a new permit anytime soon

21

RCRA Permit

- In the spring of this year, the NYSDEC decided to change the format of the RCRA permit
- This required the entire permit application to be rewritten and submitted to the NYSDEC for comment
- The final revised permit application was submitted on 11/01/13

22

RCRA Permit

- New Kiln Pressure Cutoff Limits
 - > Frontend at -0.05 with 3 second delay
 - > Frontend at 0.0 with 1 second delay
 - > Rear Chamber at -0.08 HRA
 - > Rear Chamber at 0.0 with 1 second delay
 - > Front & Rear Chamber at 0.0 at same time, instantaneous
- Norlite is going to attempt to get the RCRA and MACT limits to match so two different programs are not needed for compliance.

23

OPL Comparisons

Parameter	Current	New Permit
LGF Flow Rate	10.3	10.6
Metals Input	All Feed to Kiln	All Feed to Kiln
Back End Temp. HRAs	< 895 °F hra	< 895 °F hra > 890 °F HRA
CO - LGF	100	100
CO - Used Oil	600	500
Stack Gas Flow	WFCC - 45,000 HRA	WFCC - 45,025 HRA
Hood Pressure	Limits on previous slide	Limits on previous slide
Baghouse DP	5.1 " w.c.	< 5.1 " w.c. hra
Scrubber Recirc.	< 180 gpm	< 171 gpm
Heat Exchanger	> 453 °F	> 438 °F
Baghouse Inlet Temp	400 F	> 383 F
Shale Feed	22 tph	22.8 TPH
Lime Feed	3.2 lbs Air per lb OI	278
Scrubber pH	7.9 ph	8.0 pH
Venturi DP	2.9 hra	6.1 hra
Duxon DP	1.6	3.7 " w.c.
Scrubber Blowdown	18.2	< 14.1 gpm
LGF Line Pressure	< 35 psig	< 35 psig
LGF Atom Air	< 62 psia	< 36 psia

Metals Feed Rate-Per Kiln (all feeds fed) -- WFCO's

METALS	Current RCRA PERMIT Lbs/hr on 12 Hour RA	METALS	New Limits
Antimony	0.31	Antimony	0.31
Arsenic	1.08	Arsenic	8.4 ⁽¹⁾
Barium	12.17	Barium	12.17
Beryllium	0.099	Beryllium	8.4 ⁽¹⁾
Cadmium	0.36	Cadmium	8.52 ⁽²⁾
Chromium (T)	7.78	Chromium (T)	8.4 ⁽¹⁾
Copper	13.12	Copper	12.42
Lead	6.36	Lead	8.52 ⁽²⁾
Mercury	0.0081	Mercury	0.0141
Nickel	7.05	Nickel	8.93
Selenium	0.17	Selenium	0.17
Silver	0.18	Silver	0.18
Thallium	0.35	Thallium	0.35
Zinc	25.61	Zinc	23.66
Chlorine	<82.3	Chlorine	<119.2

RCRA Permit

- ⦿ The new RCRA permit comes much closer to matching the MACT Regulations for limiting things like metals feed limits
- ⦿ The NYSDEC used the 2010 CPT testing data to set the new limits
- ⦿ We still have to work out a couple of items like the Venturi D.P limit and LLGF Line Pressure requirement

RCRA Permit

- ⦿ The new permit also has several conditions which Norlite is trying to change:
 - > Having to conduct a new Environmental Risk Assessment
 - > Having open ended language which affects who units are closed at the facility
 - > Not allowing TVs, DVD players, or other activities unrelated to kiln operations in the control rooms
 - > Kiln operators are to remain in or near the control rooms at all times

RCRA Permit SOPs

- ⦿ 2-001 Routine Scrubber Maintenance
- ⦿ 4-004 Sample Collection of Loads Received
- ⦿ 4-005 Compat. Of LGF loads and tank transfers
- ⦿ 4-007 Sample Collection from storage tanks
- ⦿ 4-009 Procedure for Incineration of blends containing high levels of Hal., BTUs, and metals
- ⦿ 4-010 Waste Approval Procedure
- ⦿ 4-011 Drum Waste Management Plan
- ⦿ 4-012 Determination of Density and Sp. G.
- ⦿ 4-013 Determination of BTU Content in LGF
- ⦿ 4-014 Total Hal. Determination by filtration

SOPs Continued

- ⦿ 4-016 Determination of Metals Content of LGF
- ⦿ 4-017 Extraction and Clean-up of LGF for PCBs
- ⦿ 4-018 Analysis for PCB content
- ⦿ 4-023 Mercury Analysis by Cold Vapor Atomic Absorption
- ⦿ 4-031 Microwave Digestion of Shale for ICP Analysis
- ⦿ 4-032 Preparation of Shale for Chlorine Analysis
- ⦿ 4-045 Mercury Digestion of LGF, Oil, Sludge
- ⦿ 4-047 Mars Microwave Digestion
- ⦿ 4-048 Automatic Flash Point Analysis

SOPs Continued

- ⦿ 4-049 Bottom Sediments
- ⦿ 5-011 Config. & Mainten. Control Proced. for Kiln Control & CEMs
- ⦿ 6-001 Transfer station scenarios at Norlite
- ⦿ 6-004 LGF building sump clean-out
- ⦿ 6-005 Blending SLGF into LLGF in drum room
- ⦿ 6-006 Tanker unloading operation
- ⦿ Must submit changes to DEC for review

Contingency Plan

- ⦿ The current contingency plan has been incorporated into a new Integrated Contingency Plan which covers regulations covered at the facility
- ⦿ It now includes language which covers not just catastrophic events but simple things like spills and leaking equipment
- ⦿ It is still required under 6NYCRR Part 373 1.5 and 2.4

31

Contingency Plan

- ⦿ The new plan follows closer the OSHA Emergency Action Plan regulations of 29 CFR 1910.38(a), 1910.119, 1910.120.
- ⦿ There is still an Incident Commander but now others, such as the kiln supervisors, who are called out as Emergency Coordinators
- ⦿ We meet these regulations already because of the Haz WOPER training.

32

Contingency Plan

- ⦿ The Emergency Coordinators will be the first to determine type and magnitude of situation and conduct initial response
- ⦿ The Emergency Coordinator still is responsible for contacting the Incident Commander
- ⦿ The Incident Commander will contact any outside services if assistance is needed

33

Contingency Plan

- ⦿ An Incident Commander **MUST** be notified of all spill, fires, & emergencies
- ⦿ All spills, fires, & emergencies **MUST** be documented on an incident event form, even if it is a near miss!!
- ⦿ The incident event forms are needed so necessary information is collected so closeout letters can be completed and filed with the state agencies

34

Contingency Plan

- ⦿ The plan still covers the following:
 - ⦿ Major spills which cannot be contained or cleaned up on site
 - ⦿ Fire/Explosion that could threaten health of employees or the environment
 - ⦿ Natural Disaster
 - ⦿ If Site evacuation is needed
 - Three minute horn blast, portable radios, telephone system, cell phones. Proceed to Security gate cross wind, wait to be accounted for.

35

Contingency Plan

Response Procedures

- Contact Site management
- Identify material/situation
- Info. & Resource coordination
- Hazard & risk assessment
- Select PPE & equipment
- Control & containment
- Decontamination
- Termination

36

Summary of Changes to the Operations & Maintenance Plan

- ⦿ The O&M Plan utilizes SOP's, maintenance procedures and inspections schedules for each of the operating units (kiln 1 and kiln 2) within the facility.
- ⦿ The O & M Plan has not been updated since 2005.
- ⦿ The SOP's in the O&M will be changed if the procedures change or if there is an additional OPL added.

43

Summary of Changes to the Startup, Shutdown & Malfunction (SSMP) Program

- ⦿ The SSMP describes how process and Hazardous Air Pollutant (HAP's) emission control systems will operate so as to minimize HAP emissions during periods of S, S & M.
- ⦿ All procedures described in SSMP must be consistent with real actions, if not, SOP's must be revised.

44

Changes to the Continuous Monitoring System Control Program Plan (CMS QC)

- ⦿ The CMS QC Program Plan covers a variety of instruments, transmitters, monitoring devices and associated systems that continuously monitor and record critical information for ensuring continued compliance with the regulations.
- ⦿ The CMS Plan was recently updated to include the emissions capturing system.

45

Title V Air Quality Permit

- ⦿ Permit renewal update
- ⦿ Inspection update

46

Title V Air Quality Permit

- ⦿ Norlite submitted a renewal application to the DEC on 12/06/11
- ⦿ The DEC started working on the renewal but has not done anything with it in at least 18 months. Norlite has been contesting it's Title V permit since 2002
- ⦿ DEC is behind on issuing renewed Title V permit to the whole state. Upwards to 80% of all Title V permits have expired.

47

Title V Air Quality Permit

- ⦿ Norlite conducted Particulate Matter testing on the Clinker Coolers in January 2012
 - > The standard is 0.05 gr/dscf of filterable particulate
 - > Kiln 1 was 65% and kiln 2 was 89% of the standard
- ⦿ The last NYSDEC Air Inspection was on June 27, 2012 with no citations.

48

Mining Permit

- ⦿ Permit update
- ⦿ Update on Southern Overburden Storage Area Construction
- ⦿ Inspection Results

49

Mining Permit

- ⦿ Norlite received a new mining permit in March 2013 and is good for another 5 years.
- ⦿ The new permit still allows for the operation of the Southern Overburden Storage Area.
- ⦿ The next renewal application for the Mine permit will be due in December 2017.
- ⦿ At this time there are no modifications planned

50

Mining Permit

- ⦿ The Overburden Storage Area is still potentially a 3-7 year project.
- ⦿ Since 2008, Norlite has removed about 1.0 million yards of overburden from the quarry. There is still approximately 1,50,000 yards left.
- ⦿ Just finished berm 2 of 6. Will spend the winter placing fill for berm 3.
- ⦿ Spent a total of \$4.8 million since 2008

51

Mining Permit

- ⦿ The NYSDEC conducted a mine inspection on 04/26/13
 - > Inspection went very well. The DEC considers our mining operation to be the best in the region
 - > The DEC inspector has retired so not sure how future inspections will go
- ⦿ The Town of Colonie also inspects the overburden storage area several times a year and has found no major problems

52

SPDES Permit

- ⦿ Permit Update
- ⦿ Consent Order projects update
- ⦿ Water projects not directly related to the SPDES permit or Consent Order

53

SPDES Permit

- ⦿ Norlite has been contesting the current SPDES received 08/17/07
- ⦿ Norlite submitted a SPDES renewal application on July 27, 2011, this legally protects us while permit negotiations are occurring
- ⦿ The DEC still has not issued a draft permit. Norlite expects a draft permit within the next couple of months now that the storm water projects are completed

54

SPDES Permit

- ⊙ Norlite expects the draft permit to be mostly acceptable. There are still concerns regarding lower mercury limits
 - > Norlite has started looking at options to help remove mercury from the water to help us meet the new lower limits we will be facing.
 - > Currently looking at an additive that is injected into the scrubber which will make mercury easier to precipitate out of the water

55

Consent Order

- ⊙ At one point, Norlite had 5 different designs to try to address the storm water issues at Outfall 007
- ⊙ A design in which the facility was divided into 5 different sections was followed
 - > Norlite has designed a system of rain gardens, diversion swales, and retention ponds with high volume pumps to control storm water at the facility
 - > System will handle rain fall for well over a 100 year storm event

56

Consent Order

- ⊙ Due to unexpected design requests by the NYSDEC, the overall start of the project was delayed to a point in which construction completion was 1 year behind.
- ⊙ Norlite has completed 3 rain gardens, installed 2 water retention basins, underground piping and manholes, and complete drainage swales.
- ⊙ Total cost is approximately \$1.5 million.

57

Other Water Projects

- ⊙ Outfall 006
 - > Norlite has tried several times to gain access to the ACSD for process water discharge but has been denied
 - > Norlite has tried working with Cohoes on an easement to install new piping around the Mohawk Paper building for 006
 - > Gaining an easement from the Cohoes for a pipeline route has proven fruitless
 - > Norlite is exploring one more possibility for a new pipe route

58

Other Water Projects

- ⊙ Sanitary Sewer Line Replacement
 - > This project has taken longer than expected because of the lack of drawings
 - > We had to hunt for the lines to find them
 - > Shortly we will be conducting a test bore to determine what conditions we will be drilling through
 - > Norlite is still hoping to have this project completed by the Spring of 2014

59

Other Water Projects

- ⊙ Sanitary Sewer Line Replacement
 - > There is a lot of pressure by the NYSDEC to get this project completed, especially after the recent line breakage event.
 - > An out of service broke earlier in the year but was not an issue
 - > When installing the blacktop the vibrations caused dirt and paper debris to break free and come out in the Salt Kill
 - > Norlite assume worst case and reported the release as sewage

60

Other Water Projects

- ⊙ Sanitary Sewer Line Replacement
 - > The railroad has been the major hold up on completing the project.
 - > The railroad wants a large section of the pipe jacketed with a metal pipe
 - > It has been difficult finding a contractor who could do this
- ⊙ If there are no further delays, we could have this project completed by the spring of 2014

61

Norlite Plant Plans

Refresher/Update

- ⊙ Best Management Practice (BMP)
- ⊙ Storm Water Pollution Prevention Plan (SWPPP)
- ⊙ Spill Prevention Control & Countermeasure Plan (SPCC)
- ⊙ Spill Notification and Reporting
- ⊙ Fugitive Dust Plan
- ⊙ DOT Security Plan/DOT Training
- ⊙ Noise Control Plan
- ⊙ Attorney General Plan
- ⊙ Salt kill Flood Response Plan (New)

62

Best Management Practices Plan (BMP)

- ⊙ BMP addresses areas where storm water has potential to come in contact with hazardous materials/areas (in conjunction with SWPPP)
- ⊙ BMP is in place to negate/minimize contact of hazardous materials to the environment
- ⊙ Identifies fuel handling procedures and drawings

63

Best Management Practices Plan (BMP)

- ⊙ Also identifies non fuel handling activities such as: activities that could cause water pollution such as excess silt or air pollution such as excess dust
- ⊙ Changes have been made to address Flood Response Plans and storm water management systems
- ⊙ The BMP is currently being rewritten to address comments by the NYSDEC and make the document more modern

64

Storm Water Pollution Prevention Plan (SWPPP)

- ⊙ SWPPP is designed to negate/minimize pollution to the waters of the state
- ⊙ The plan addresses the amount of sediment leaving the facility from the Overburden Construction
- ⊙ The plan also has measures for minimizing the contact of storm water to hazardous materials and activities

65

Storm Water Pollution Prevention Plan (SWPPP)

- ⊙ Norlite has a SWPPP for each type of construction activity going on at the facility
 - > The is a general overall plant wide SWPPP
 - > A SWPPP for the Overburden Storage Area
 - > A SWPPP for the Stormwater Management Construction work
 - > Norlite must get a general construction permit whenever disturbing 1 acre of land or more

66

Spill Prevention Control & Countermeasure Plan (SPCC)

- ⊙ Federally Mandated
- ⊙ Purpose of Plan:
 - > Prevent petroleum spills/releases to waters and to minimize exposure to personnel/community
 - > Applies to Petroleum products stored on site or being delivered like diesel, gasoline, oils, transmission fluid, etc....
- ⊙ All petroleum tanks are registered with NYSDEC and inspected monthly.

67

Spill Prevention Control & Countermeasure Plan (SPCC)

- ⊙ Report all spills and tank problems to a supervisor or environmental manager
- ⊙ SPCC must be updated every 5 years and signed by an official of the company. Any major changes need to be signed by an engineer
- ⊙ The NYSDEC conducted a CBS/PBS inspection on August 09, 2012 which covers SPCC Plans

68

Spill Reporting Procedures

- ⊙ **Spill:** any escape of a substance from its container during the normal course of storage, transfer, processing, or use
- ⊙ Internal notification is required for all spills, to any on-site supervisor or environ. manager. The on-site supervisor should let me know of all spills regardless of location. Put responsibility on me!
- ⊙ Notification to the DEC as outlined in Spill Notification Plan.

69

SECTION 6
ENVIRONMENTAL INCIDENT EVENT REPORT FORM

Date and time of event _____
 Date and time event reported _____
 Location of event _____
 Reported by _____ Reported to _____

TYPE OF SPILL			
Oil	Gasoline	Other Petroleum	Other
_____	_____	_____	_____
_____	_____	_____	_____

Number each of containers, use a separate sheet of paper

Internal Spill Report

Was incident contained? Yes No _____
 Was it cleaned? Yes No _____
 Employee Signature _____ Date _____
 Supervisor Signature _____ Date _____
 Event Report # _____

70

Reportable Spill Incident Report			
Date	Name of Report	Name of Reporter	Reporting Company
Name & Type of Spill (Product)	Location of Spill		
Name of the Spill Containing Tank	Type of Spill		
Quantity, the Volume of the Spill (If Unknown, Tank or Source of Discharge)	Location of Discharge		
Material Released or Spill	Weather Conditions at Time of Spill		
Completed	Reported	By Supervisor	Spill Date
_____	_____	_____	_____
Approved on the Local Spill Notification Plan by: _____			
Approved by: _____			
Signature, Printed Name, Company Title			

Date: _____			
Time: _____			

Spill Report to DEC

71

Spill Reporting Procedures

- ⊙ You can also use the Tradebe Incident reporting form
- ⊙ You can even write the details down on a piece of paper as long as it is put in my mailbox
- ⊙ Writing the details of a spill down does not take the place of calling me; **all spill must be reported when found!**

72

Spill Notification Plan

- ⊙ Substances covered:
 - > Hazardous materials (HCL, NaOH, solvents, etc..)
 - > Hazardous Waste – any waste identified by 373 Haz. Waste Permit
 - > Petroleum products (gas, diesel, lube oil)
 - > Substances of unknown origin or composition
 - > liquids, other than water, stored in tanks greater than 1100 gallons.
 - > Exempt substances/circumstances

73

Spill Notification Plan

- ⊙ Depending on amount and type of material spilled, it may need to be reported to the DEC, each spill is given an ID number
- ⊙ There are different criteria for whether spills are in or out of secondary containment, whether they are on-land, and how fast they have been discovered and cleaned up
- ⊙ Each supervisor should contact an incident coordinator which has access to the spill notification plan for reference for each spill. I must be notified.

74

Spill Notification Plan

- ⊙ The Spill Notification Plan can also be used for releases other than liquid
- ⊙ When the Sanitary sewer line leaked in the Salt Kill, the release was considered an unknown substance and reported to the NYSDEC spill line
- ⊙ When Tank 100C reacted on July 31st. The NYSDEC spill line was called for the release to the atmosphere with a known substance but unknown quantity

75

Fugitive Dust Plan

- ⊙ Plan identifies sources of potential fugitive dust and what control measures are used to minimize dust
- ⊙ Plan has been required by NYSDEC
- ⊙ Record Hourly Wind Speed and have action levels for each.
- ⊙ Plan also details specific features for dust suppression such as water spray, dust seals, and dust handling procedures.

76

Fugitive Dust Plan

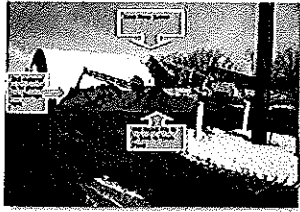
- ⊙ Examples of fugitive emissions are: conveyor drop points, material piles, roads, kiln seals, loader activities
- ⊙ Examples of control measures are: water truck, conveyor covers, sprinklers, working piles a certain way, etc..

77

Fugitive Dust Plan

- ⊙ Fugitive Dust Plan has been updated in response to the 2010 consent order
- ⊙ The new fines storage building has been added and listed as a mitigation tool for dust generation
- ⊙ Examples of Fugitive Dust Plan Updates are as follows:

78



69 FUGITIVE DUST CONTROL PLAN being reviewed along the Lake Forest Street

79



80 This site is working very hard. This is a temporary sign that the dust is not in the area. It is located in the North corner. Some signs in the area where a dust monitor is approximately 200' SW.

80



81 NO IDLE around the top line

81



82 This is a work site during the day. The dust monitor is located at the top of the hill and you are not a sign. The dust monitor is on the side of the road. If you are not a sign, you are not a sign. It is on a sign of the road at which a sign is made for the sign.

82

Fugitive Dust Plan

- ⦿ The NYSDEC is requiring the Fugitive Dust Plan to be completely rewritten into a more modern format which is easier for them to read and follow
- ⦿ Also while being rewritten, some of the calculations will be verified to ensure more extensive fugitive dust control methods aren't needed

83

DOT Security Plan

- ⦿ Plan is required because we are part of the Tradebe family which has trucking
- ⦿ Must report suspicious activities such as people trying to gain access to the plant or equipment or loitering
- ⦿ If suspicious person is found, contact supervisor or call 911 if needed
- ⦿ For employment Norlite is required to do background check, have a signed application, and proof of citizenship or right to work (green card)

84

DOT Training Refresher

- ⦿ Hazardous Waste must be in proper, undamaged container. If container is leaking, an over-pack must be used
- ⦿ Materials can only be shipped with proper hazardous waste manifest to an approved facility
- ⦿ Once the hazardous waste has been received, must follow the facilities written SOPs for handling

65

DOT Training Refresher

- ⦿ Containers with Hazardous Waste must be labeled properly with:
 - Accumulation start date
 - EPA ID Number
 - Proper waste codes and DOT Shipping name
 - Generator name and address
- ⦿ An example of a proper label is this:

66

DOT Training Refresher

67

Noise Control Plan

- ⦿ Plan deals with all sounds generated at the facility
- ⦿ The different backup alarms and strobe lights at night are part of the Noise Control Plan
- ⦿ According to previous Noise Impact Study conducted fall of 2008, all plant sounds are well within acceptable limits for day and night activities

68

Noise Control Plan

- ⦿ NYSDEC has applied Part 360 limits to the facility at it's property line
- ⦿ Noise limits for Norlite are for an urban setting
 - > From 7:00 AM to 10:00 PM is 67 dBA
 - > From 10:00 PM to 7:00 AM is 57 dBA
- ⦿ We can defend against a noise compliant by measuring the sound levels ourselves

69

Attorney General Plan

- ⦿ Plan was created as part of the May 2002 Compliance Agreement between the NYSOAG and Norlite
- ⦿ Plan states that within 90 days of starting, any new fuel farm operators need to have specific training
- ⦿ States there must be a V.P. of regulatory affairs involved with the facility
 - > Bill Morris use to have this title, now Tifa LaGrimas hold the title

70

Attorney General Plan

- ⊙ Plan covers topics such as facility permits, contingency plan, BMP, fugitive dust plan, LGF handling SOPs, Drum handling SOPs, specific Part 373 RCRA permit section review, and review of inspection forms
- ⊙ Much of the Attorney General Plan is covered annual with this annual refresher training. This helps demonstrate compliance.

51

Salt Kill Flood Response Plan

- ⊙ Once a flood warning has been issued by National Weather Service, Norlite will start monitoring the Salt Kill Stream Level
- ⊙ There are different actions for different stream levels
 - > In general, the higher the stream level goes the more frequent we will check it. It may also trigger equipment and vehicles to be moved to different locations

52

Salt Kill Flood Response Plan

- ⊙ Norlite has agreed that after any rain events greater than 1.0", that Norlite will conduct an inspection of the Salt Kill stream on the Norlite property
- ⊙ Norlite has also agreed to periodically remove debris out of the Salt Kill to keep it clear
- ⊙ If a flood does occur, Norlite has agreed to take direction from the city for clean up efforts

53

Salt Kill Flood Response Plan

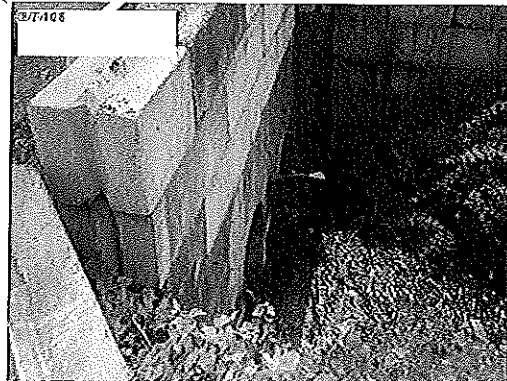
- ⊙ The Flood plan was enacted for Tropical Storms Irene and Lee 2 years ago
 - > Norlite moved vehicles, closed doors, and ensured there were no loose items
 - > Tim Lachell and the Supervisors monitored the Salt Kill depth at the Kiln 2 headwall so that proper notification could be given to the City if a flood was going to occur

54

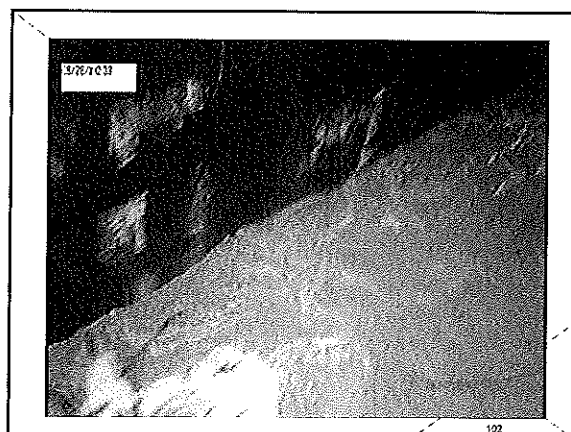
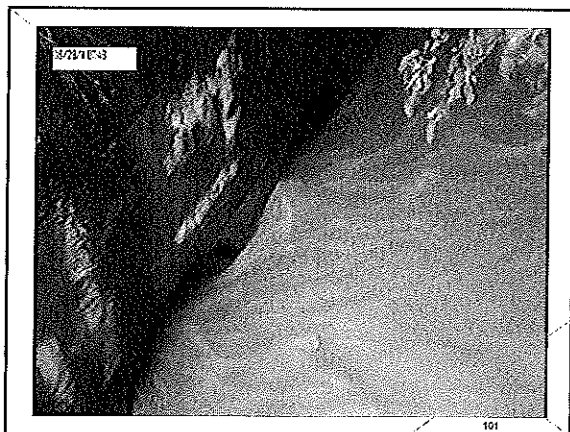
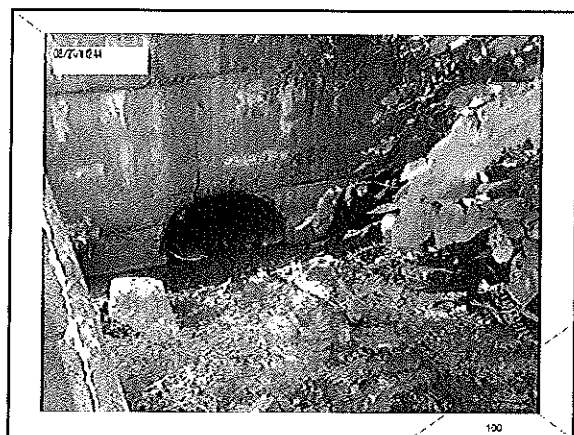
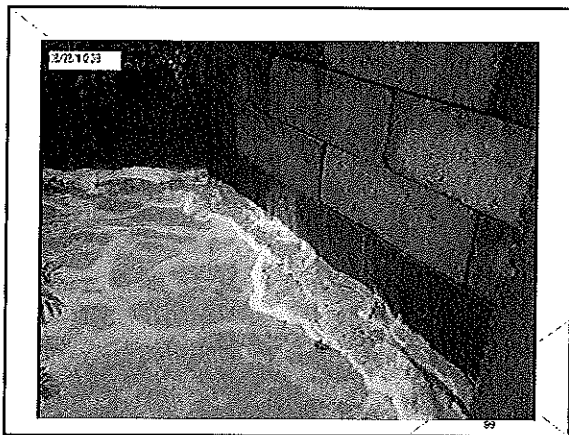
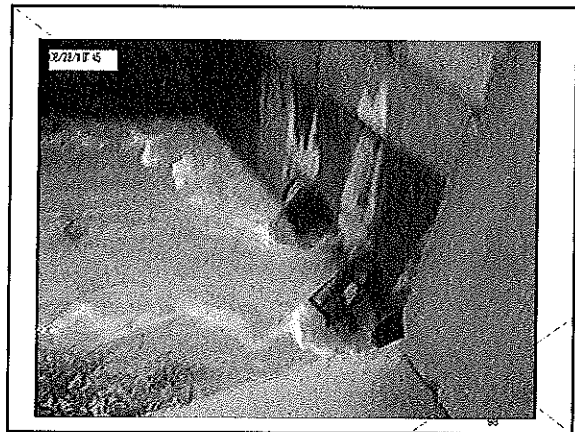
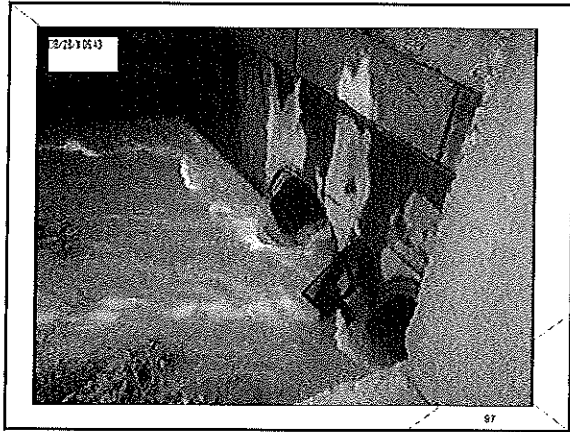
Salt Kill Flood Response Plan

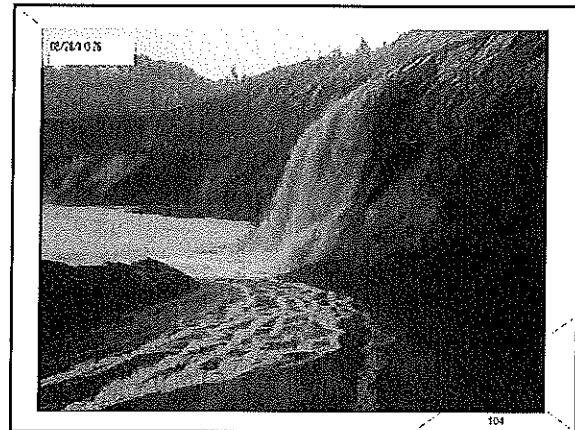
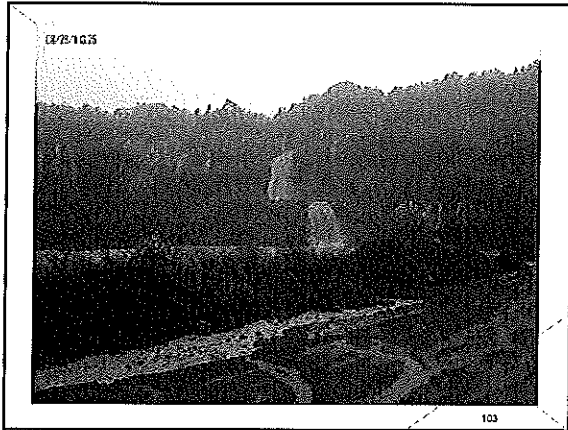
- ⊙ By following the Flood Plan and taking extra measure like ensuring the streambed and culverts were clear, no flooding occurred
 - > Norlite was able to demonstrate to the DEC that the Flood plan works during extreme rain events and did not have to move the clinker pile
 - > Pictures of the storms:

55



55





Salt Kill Flood Response Plan

- ⊙ Fortunately we have not had anything as strong as Irene and Lee but must always be prepared.
- ⊙ The new storm water management system which has been put in place will go a long way to protecting Norlite from future flooding issues

105

Miscellaneous Topics

- ⊙ Neighborhood Issues
- ⊙ Universal Wastes
- ⊙ Plant Modifications

106

Neighborhood Issues

- ⊙ As you all know, Norlite recently held an open house for the residents of Cohoes and Green Island
 - › There were 40 people who attended with interest from many others for the next open house
 - › Overall, all the residents who attended were very impressed with the operations and the employees of the facility.
 - › The event has set the stage for improved communications with the community

107

Neighborhood Issues

- ⊙ The open house was in response to the Tank 100C incident which occurred on July 31, 2013
 - › Norlite had been handling this material for over 10 years without incident
 - › This particular load contained a high concentration of the monomer methyl methacrylate (MMA) which is used in many products
 - › The MMA reacted with itself and generated high heat and pressure in the tank which blew the rupture disk

108

Neighborhood Issues

- Tank 100C Incident continued:
 - > The pressure was mainly caused by the heat vaporizing the water in the waste.
 - > The final result as a release of 158 pounds or 0.006% of the MMA in the tank being released into the atmosphere which caused an odor
 - > Luckily, MMA is not a harmful compound from a health or environmental standpoint
 - > Norlite has told the NYSDEC and the City of Cohoes that this waste stream will no longer be accepted at the facility

109

Neighborhood Issues

- Dimethyl Disulfide Odor Issues in January & February 2013:
 - > Norlite was accepting a waste which contained low concentrations of dimethyl disulfide
 - > Dimethyl disulfide has a very low odor threshold with a very rotten egg & sewage like smell
 - > Norlite's closed vapor control equipment was not capable of containing the odor & ended up causing a lot of odor complaints throughout Cohoes & Green Island

110

Neighborhood Issues

- As Norlite's RCRA permit renewal application nears completion, the community issues just discussed may become an issue because the application will go out for public comment followed by a public meeting for residents to voice their concerns
- The public comment and meet will most likely occur sometime mid-2014

111

Universal Waste Handling

- Fluorescent lamps
- Cell phones & batteries
- Car/machine batteries
- Accumulate for up to one year and then send offsite for recycling
- Lamps go in computer room and are labeled "Universal Waste"



112

Additional Recycling

- Waste Management has expanded capabilities for recycling. Items such as plastics, newspaper, junk mail, aluminum cans, etc. can be placed in the cardboard recycling dumpster
- Norlite recycles used office paper, junk mail, and cardboard already
- Norlite also recycles used electronics such as computers, photocopies and even used CEM analyzers

113

Additional Recycling

- Waste Management is also being contracted to recycle the used light bulbs.
- At this point there is not a collection point for used electronics. Please do not just leave things in my office, particularly on my desk where I work and eat. Thank you.
- A new location will be found soon.

114

Plant Modifications

- ⦿ Kiln 2 is tentatively scheduled for the Fall of 2014 for shell upgrades like Kiln 1
- ⦿ Norlite is working with engineers to completely redesign the fuel delivery systems at the kilns
- ⦿ Should have new sanitary sewer lines installed in 2014
- ⦿ Should have a new process water discharge line installed in 2014
- ⦿ Completed the locker room upgrades

115

Plant Modifications

- ⦿ Will have new stack gas measuring technology in place on kiln 1 by end of January 2014 with Kiln 2 being done by March 2014
- ⦿ Working on upgrading the entire kiln network to address hardware and software issues currently going on
- ⦿ Working on installing new heated lines for the carbon monoxide line for both kilns

116

Stormwater Training

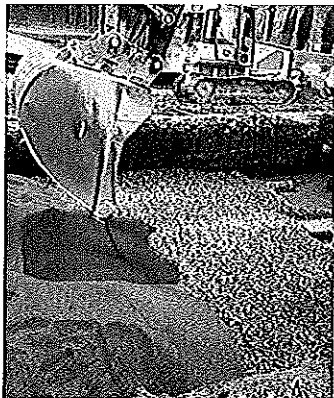
- ⦿ As stated previously, Norlite installed 3 rain gardens, 2 large water retention basins, drainage swales, and several high volume pumps to send water to the quarry
- ⦿ As part of the agreement with the NYSDEC, Norlite must train key personnel on the overall storm water management system as well as train them on the operation of the pumps.
- ⦿ There will be a few minute discussion followed by a trip to the field

117

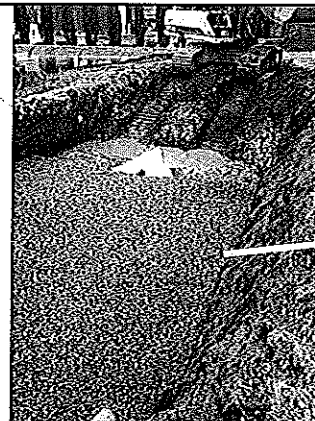
Stormwater Training

- ⦿ Rain Gardens:
 - > Essentially large filter beds which uses Norlite's lightweight aggregate as the media.
 - > Since installing them, Norlite has treated almost 2 million gallons of storm water before it entered the Salt Kill.
 - > The next couple of slides will show the construction of the gardens and what they look like finished.

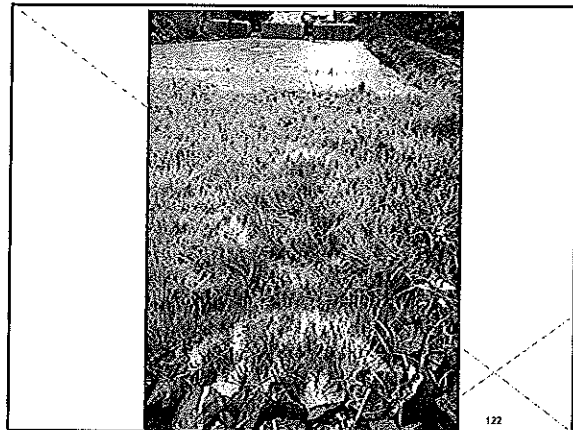
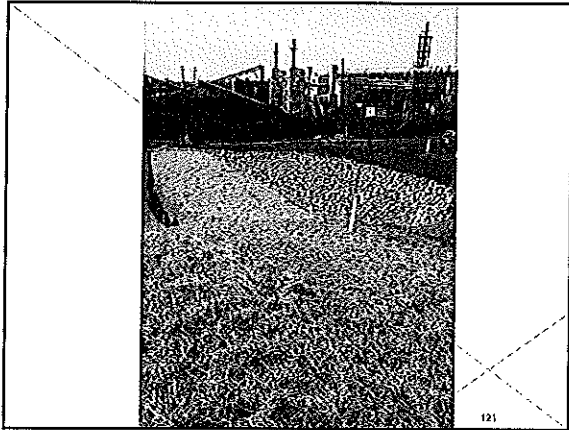
118



119



120

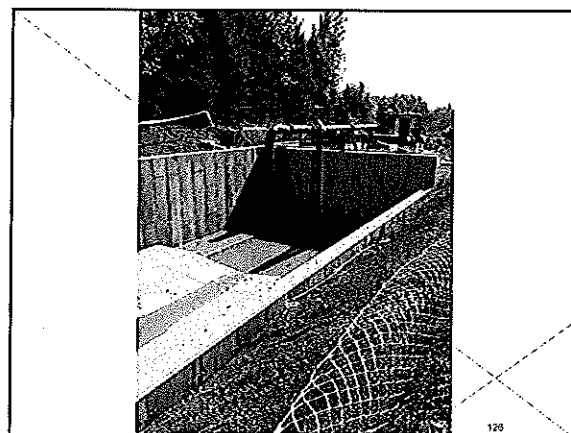
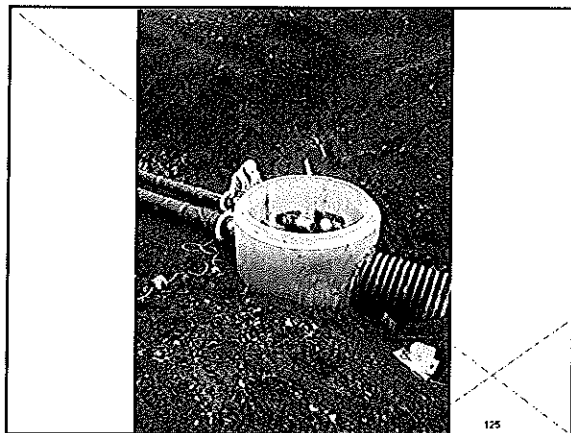
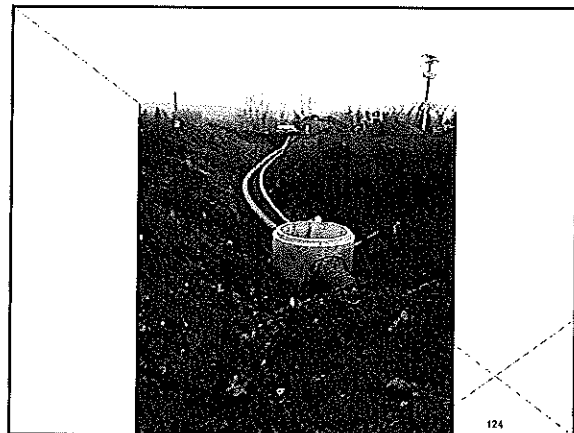


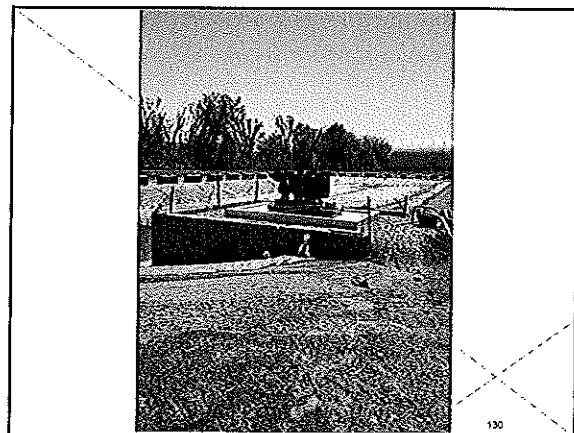
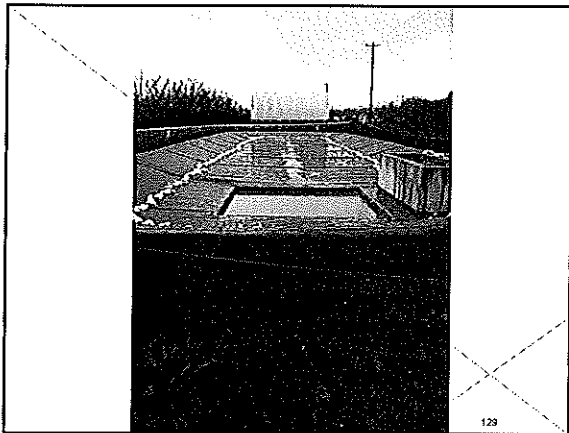
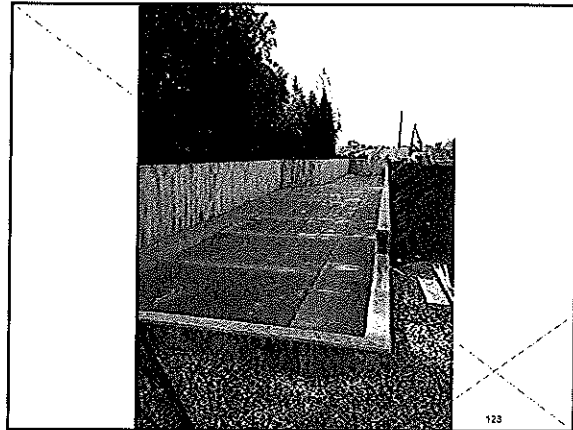
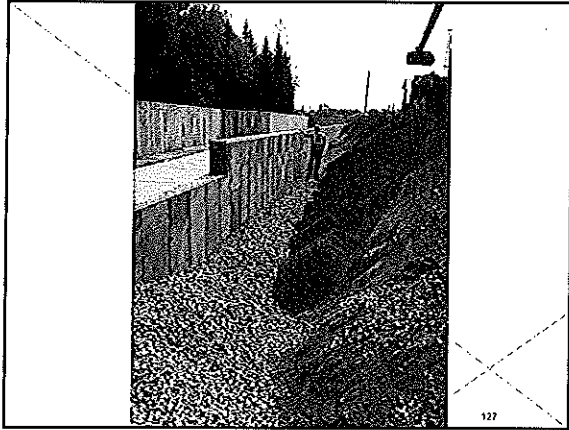
Stormwater Training

Retention Basins:

- > Large concrete or poly lined structure meant to hold anywhere from 150,000 to 250,000 gallons of water
- > The smaller basin has a 6 inch diesel driven pump with a 3,000 gpm pumping capacity
- > The large basin has a 6" & 12" pump with a combine pump capacity of 7,000 gpm
- > Each basin has a pipeline which connects to a shared manhole with an outlet pipe that is 36" on diameter and discharges to the quarry

123





Holiday Time

- ⦿ Please remember to bring in an unwrapped toy to Dale or Becky by December 13
- ⦿ It will go a long way to helping a family have a good Holiday season
- ⦿ You can also give cash to Dale or Becky by December 12th and they will do the shopping.

131

**THAT CONCLUDES TODAYS
REFRESHER TRAINING. HAVE A
GOOD DAY.**

132

APPENDIX T

NORLITE SPILL NOTIFICATION PLAN (2005)

Norlite Spill Notification Plan

1) *What is a Spill?*

A spill is defined as any escape of a substance from the containers employed in the normal course of storage, transfer, processing or use (Source: 6 NYCRR Part 595.1 (c)(16)).

2) *Internal Notification.*

Any person with knowledge of an on-site spill is required immediately, upon knowledge of the spill, to notify an on-site supervisor of the spill.

The on-site supervisor that has been notified of a spill is to notify an Incident Coordinator as described in the plan below.

3) *Agency Notification.*

Spills required to be reported to the New York State Department of Environmental Conservation as specified in this plan shall be reported to the DEC Spill Hotline at (518) 457-7362, except as otherwise noted below.

4) *Types of Substances Covered by Plan.*

This Plan covers the following Types of Substances that require spill notification:

- A) Hazardous materials.
 - 1) Hydrochloric acid stored in Tank 4609 at the Wastewater Treatment Plant (WWTP).
 - 2) Sodium Hydroxide stored in Tank 4620 at the WWTP.
 - 3) Methanol stored in Tank 4640 and Tank 4650 at the WWTP.
 - 4) Ferric Chloride stored in 55 gallon drums at the WWTP.
 - 5) Ferrous Sulfate stored in 50 lbs. bags at the WWTP.
 - 6) Sodium Hypochlorite (Bleach) stored in 55 gallon drums at the WWTP.
 - 7) Ethylene Glycol stored in Tank 4630 at the WWTP.
 - 8) Toluene Based Solvent Cleaner stored at the Fuel Farm in Tank F-3.
 - 9) Other hazardous substances identified in 6 NYCRR Part 597.

- B) Hazardous waste.
 - 1) Any incoming substance to be processed into the Hazardous Waste Treatment Program defined by Norlite's 373 Permit whether the substance is hazardous or non hazardous, in bulk or in drums.
 - 2) Any outgoing substance originating from the Hazardous Waste Treatment

Norlite Spill Notification Plan

Program defined by Norlite's 373 Permit destined for off-site disposal and labeled as hazardous or non hazardous, liquid or solid, stored in bulk, drums, or roll offs.

- 3) Petroleum products.
Any liquid petroleum material including, but not limited to, diesel fuel, gasoline, lubricating oils, hydraulic fluid, mineral spirits, and used oil.
- 4) Liquids other than water or those listed above stored in tanks with a total capacity greater than 1,100 gallons.
- 5) Substances of unknown origin or composition.
- 6) Exempt substances.

5) *Hazardous Materials.*

Reportable Quantity (RQ). (Source: 6 NYCRR 597.2)

Hydrochloric Acid: 100 lbs (approximately 10 gallons).

Sodium Hydroxide: 100 lbs (approximately 10 gallons).

Methanol: 1.0 lbs - land/water; 5000 - air (approximately 1 gallon - land/water; approximately 4000 gallons - air).

Ferric Chloride: 100 lbs. (approximately 10 gallons).

Ferrous Sulfate: 100 lbs.(approximately 10 gallons).

Sodium Hypochlorite (Bleach): 100 lbs (approximately 10 gallons).

Ethylene Glycol (Antifreeze): 1.0 lb (approximately 1 gallon) - land/water; 1.0 lb - air

Toluene Based Solvent Cleaner: 1 lb (approximately 16 fluid ounces).

NOTE: In the event of releases of substances other than those listed above, the Incident Coordinator will review the list of hazardous substances contained in 6 NYCRR Part 597 to determine if the substance is included in the list and the applicable RQ.

A) ***Potential for Off-Site Injury to Persons or Property.*** (Source: 6 NYCRR 595.3(a)(2))

The on-site supervisor that has been notified of a spill must immediately notify an Incident Coordinator if the spill results or may result in a fire, an explosion, or a harmful vapor that may cause injury to persons or property off-site. The reporting requirement applies regardless of the quantity spilled or whether the spill is in secondary containment.

Norlite Spill Notification Plan

The Incident Coordinator shall provide instruction to remediate the spill.

The Incident Coordinator must report the spill to the DEC Spill Hot Line within 2 hours of initial discovery.

B) *Spills to Secondary Containment.* (Source: 6 NYCRR 595.3(a)(4))

- 1) If the spill is **below the RQ**, the on-site supervisor that has been notified of the spill shall remediate the spill.

There is no requirement to notify the DEC Spill Hotline

- 2) If the spill is **equal to or above the RQ**, the on-site supervisor that has been notified of the spill shall immediately notify the Incident Coordinator.

The Incident Coordinator shall provide instruction to remediate the spill and file a completed internal Incident Report.

There is no requirement to notify DEC Spill Hotline if (i) there is control over the spill and it is completely contained within 24 hours and (ii) the total volume of the spill is recovered or accounted for. If these conditions are not met, the DEC Hotline must be notified of the spill within 24 hours of its occurrence.

C) *Spills Outside of Secondary Containment.* (Source 6 NYCRR 595.3(a)(2))

- 1) If the spill is **below the RQ**, the on-site supervisor that has been notified of the spill shall remediate the spill and file a completed internal Incident Report prior to the end of the work shift.

There is no requirement to notify DEC Spill Hotline.

- 2) If the spill is **equal to or above the RQ**, the on-site supervisor that has been notified of the spill shall immediately notify the Incident Coordinator.

The Incident Coordinator shall provide instruction to remediate the spill.

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The Incident Coordinator must report the spill to DEC Spill Hotline within 2 hours of initial discovery.

6) *Hazardous Waste.*

Reportable Quantity (RQ). (Source: 6 NYCRR 371)

The reportable quantity (RQ) for any waste shall be 1 lb (approximately 16 fluid ounces).

A) Potential for Off-Site injury to persons or property. (Source: 6 NYCRR 373-3.4(g))

The on-site supervisor that has been notified of a spill must immediately notify an Incident Coordinator if the spill results or may result in a fire, an explosion, or a harmful vapor that may cause injury to persons or property off-site. This reporting requirement applies regardless of the quantity spilled or whether the spill is in secondary containment.

The Incident Coordinator shall provide instruction to remediate the spill.

The Incident Coordinator must report the spill immediately to the DEC Spill Hotline.

B) Spills to Permitted Hazardous Waste Secondary Containment Areas. (Source: Norlite Part 373 Permit Application and 6 NYCRR 373-2.10(g)(4))

Permitted Secondary Containment Areas

LGF Tank Storage Building
Unloading Area # 1
Unloading Area # 2
Drum Storage Building
LGF Pipe Tunnel
Equalization Building
LGF Tanker Staging Area
Lower LGF Pump Pad

- 1) If the spill is **below the RQ**, the on-site supervisor that has been notified of the spill shall remediate the spill.

There is no requirement to notify the DEC Spill Hotline.

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- 2) If the spill is **equal to or above the RQ**, the on-site supervisor that has been notified of the spill shall immediately notify the Incident Coordinator.

The Incident Coordinator shall provide instruction to remediate the spill.

There is no requirement to notify the DEC Spill Hotline.

C) ***Spills Outside of Secondary Containment.*** (Source: 6 NYCRR 373-2.10(g)(4))

- 1) If the spill is **below the RQ**, the on-site supervisor that has been notified of the spill shall remediate the spill and file a completed internal Incident Report prior to the end of the work shift.

There is no requirement to notify DEC Spill Hotline unless the spill is not immediately contained and cleaned up.

- 2) If the spill is **equal to or above the RQ**, the on-site supervisor that has been notified of the spill shall immediately notify the Incident Coordinator.

The Incident Coordinator shall provide instruction to remediate the spill.

The Incident Coordinator must report the spill to DEC Spill Hotline within 2 hours of initial discovery.

7) ***Petroleum Products.*** (Source: N.Y. Navigation Law 172)

- 1) Spills that satisfy all of the criteria below are not required to be reported to DEC under DEC's de minimis spill policy:

- 2)

- 1) Less than 5 gallons of petroleum is released **AND**
- 2) The spill is contained and controlled **AND**
- 3) The spill has not reached land or water **AND**
- 4) The spill is remediated within 2 hours.

Source: DEC, *Technical Field Guidance: Spill Reporting and Initial Notification Requirements* (May 1, 1996).

- 3) If any of the criteria above are not met, the on-site supervisor that has been notified of the spill shall immediately notify the Incident Coordinator.

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The Incident Coordinator shall provide instruction to remediate the spill.

The Incident Coordinator must report the spill to DEC Spill Hotline within 2 hours of initial discovery.

8) ***Non Listed Liquids Stored in Tanks With a Total Capacity Over 1,100 Gallons*** (Source: ECL 17-1743).

If the spill involves any substance (other than water) stored in tanks with a capacity greater than 1,100 gallons and the spilled substance has left secondary containment and/or entered the environment, the on-site supervisor that has been notified of the spill shall immediately notify the Incident Coordinator.

The Incident Coordinator shall provide instruction to remediate the spill.

The Incident Coordinator must immediately report the spill to the DEC Spill Hotline.

9) ***Exempt Substances or Circumstances.***

Unless and until Norlite receives instructions from the New York State Department of Environmental Conservation to the contrary, Norlite will not report the following spills. All such spills must be remediated. In order to be exempt from reporting under this paragraph 9, the spill must not pose the potential to cause contamination of surface water or groundwater. The spill must be less than one gallon and the impact area [i.e., the discolored spot] must be less than 18 inches in diameter. The spill must also be cleaned up within 24 hours of discovery:

- 1) Petroleum spots on land that are from engine driven units. This shall include, but is not limited to, cars, trucks, and heavy equipment. Generally these spots are from drips and weeps associated with engine oil, brake fluid, hydraulic fluid, antifreeze, and the like. The drips and weeps shall be from the standard operating systems accompanying the equipment and do not include a storage vessel on the equipment if so equipped (i.e. the tank portion of a tanker trailer).
- 2) Petroleum spots on land that are from maintenance activities involving routine lubrication activities of engine driven equipment and mechanical plant equipment. All liquid and paste type lubricants are included.
- 3) Petroleum spots on land that are from maintenance activities involving routine fluid top off activities of engine driven equipment and mechanical plant equipment. The fluids are, but not limited to, engine oil, hydraulic fluid, brake

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fluid, transmission fluid and the like. This exemption includes refueling activities for gasoline and diesel fuel.

Norlite believes the above spills do not pose a risk of groundwater or surface contamination and would, if reported, cause the reporting program to lose its credibility and effectiveness.

10) Substances of unknown origin or composition.

Any person that discovers the presence of a liquid that has reached land or water on the facility site that is of unknown quantity, origin, or composition shall immediately notify an on-site supervisor of the circumstances.

The on-site supervisor that has been notified of the condition will attempt to classify the condition into one of the categories above. If the on-site supervisor can classify the condition, he (she) shall respond accordingly. If the on-site supervisor can not classify the condition, he (she) shall immediately notify the Incident Coordinator.

The Incident Coordinator shall provide instruction to the on-site supervisor. If the Incident Coordinator cannot classify the condition, the Incident Coordinator shall immediately report the condition to the DEC Spill Hotline.

11) Contingency Plan and Agency Phone Numbers.

If the Incident Coordinator implements Norlite's Contingency Plan the Incident Coordinator shall make the following immediate notifications:

- 1) DEC Spill Hotline (457-7362)
- 2) National Spill Response Center (1-800-424-8802)
- 3) Cohoes Fire Department (237-2211 or 911)
- 4) Local Emergency Planning Commission (Albany County) (447-5679)

APPENDIX U
BUCKET LOADER OPERATOR PROCEDURES

ATTACHMENT B BUCKET LOADER OPERATOR PROCEDURES

Purpose:

Provide guidelines to bucket loader operators for moving aggregate type materials to minimize dust "boil-up" to prevent offsite migration of dust during material transfer activities consistent with the principals of the fugitive dust plan.

Weather Conditions and Product Moisture Content :

Bucket loader operators need to maintain awareness at all times of product moisture content, and current wind conditions via visible sightings such as, but not limited, to stack plumes, wind socks, and/or anemometer stations. Bucket loader operators need to alter operations accordingly as wind conditions and product moisture content change up to and including cessation of operations. If the bucket loader operator is creating dust "boil-up" conditions which migrate offsite, the following steps will be taken:

1. Discontinue moving product, or
2. Increase product moisture by adding enough water to product to eliminate offsite migration.

Work Area:

Bucket loader operators need to maintain awareness at all times of visible moisture content of the travel areas in their work area. Bucket loader operators need to alter operations accordingly, to the extent practical, as moisture conditions change.

Material Movement:

As a general work practice, bucket loader operators should follow the good operating procedures described below:

Pile to Pile:

Bucket loader operators should approach stockpiles at ground level with a level bucket. When the bucket has achieved maximum depth into the stockpile, the bucket loader operator will perform a full "roll-back" of the loaded bucket before extracting from the stockpile. While transporting materials, the loaded bucket will be held at the lowest practical point until reaching the receiving stockpile. At the receiving stockpile the bucket loader operator will work at a minimum height to the pile to allow material to "roll-out" of the bucket and onto the pile to minimize dust generation.

Pile to Container:

Containers include, but are not limited to, truck bodies, railcars, feeders, hoppers, etc. Bucket loader operators should approach stockpiles at ground level with a level bucket. When the bucket has achieved maximum depth into the stockpile, the bucket loader operator will perform a full "roll-back" of the loaded bucket before extracting from the stockpile. Bucket loader operators will approach a container with the loaded bucket at the lowest practical point during travel and lift in a fashion as to maintain an even operating plane with the container. Bucket loader operators will achieve a minimum height to allow the material to "roll-out" into the container to minimum dust generation.

The above-described practices are proposed operating procedures to minimize the generation of dust to prevent offsite migration during the movement of the bucket loader and the movement of aggregate type materials. These practices are to be implemented with common sense to minimize the generation of dust.