Former Consolidated Edison Manufactured Gas Plant (Hunts Point Site D)

Bronx, NY 10474

STORMWATER POLLUTION PREVENTION PLAN AND SOIL EROSION CONTROL PLAN

January 6, 2020

Prepared for:

New York City Economic Development Corporation

One Liberty Plaza

New York, NY 10006

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Phone: (718) 545-0474

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STORMWATER POLLUTION PREVENTION PLAN AND SOIL EROSION CONTROL PLAN

Hunts Point Site D

Bronx, NY 10474

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Responsibilities

Applicant and Project Owner:

New York City Economic Development Corporation (NYCEDC)
One Liberty Plaza
New York, NY 10006
(212) 312-3752

General Contractor:

The Contractor responsible for SWPPP implementation is:

Entact LLC
150 Bay Street, Suite 806
Jersey City, NJ 07305
(630) 433-0653

Professional Engineer:

The Engineer responsible for the preparation of this SWPPP is AMC Engineering, PLLC. The Professional Engineer is Ariel Czemerinski.

Ariel Czemerinski, PE
AMC Engineering PLLC
18-36 42nd Street
Astoria, NY 11105
(718) 545-0474

PRIME CONTRACTOR AND SUBCONTRACTOR CERTIFICATION

I certify under penalty of law that I understand and agree to comply with the terms and conditions of the Storm Water Pollution Prevention Plan (SWPPP) for the construction site identified in such plan as a condition of authorization to discharge storm water. I also understand that we must comply with the terms and conditions of New York State Pollutant Discharge Elimination Systems (SPDES) general permit for storm water discharges associated with industrial activities and that it is unlawful for any person to cause or contribute to a violation of water quality standards.

PRIME CONTRACTOR

Contractor's Name _____

Signature _____ Date _____

EXECUTIVE SUMMARY

Project Background

This Stormwater Pollution Prevention Plan is prepared on behalf of the New York City Economic Development Corporation (NYCEDC) for remediation activities at the Former Consolidated Edison Manufactured Gas Plant, also known as the Hunts Point Site D in The Bronx, NY. The Site is enrolled into the New York State Department of Environmental Conservation's (NYSDEC) Brownfield Cleanup Program (BCP) under Site # C203100 The purpose of this Stormwater Pollution Prevention Plan is to establish Best Management Practices (BMPs) by addressing, identifying, reducing, eliminating, or preventing potential sources of pollution, sediment, and erosion that can negatively impact the surrounding environment.

Site Description

The Site is located on Food Center Drive in The Bronx, NY (**Figure 1**) in the City of New York and Borough of The Bronx (Bronx County). The work area is on the northeastern section of Block 2781 and Lot 500 and Heavy Manufacturing District (Low Performance), M3-1. The Site covers 6.7 acres in area with 4.5 acres being the remediation footprint and is bounded by the Bronx River to the east, Food Center Drive to the west, Krasdale Foods Inc to the south, and The Chefs Warehouse to the north.

STORMWATER POLLUTION PREVENTION PLAN

1.0 INTRODUCTION

This Storm Water Pollution Prevention Plan (SWPPP) has been prepared for remediation activities occurring under the NYSDEC BCP (Site# C203100) at the Hunts Point Site D. The objective of this SWPPP is to address pollution, erosion and sedimentation control, to protect any receiving sewers, potential water bodies, and other sensitive receptors.

1.1 STORMWATER MANAGEMENT OBJECTIVES

This Stormwater Pollution Prevention Plan (SWPPP) has been prepared to meet the requirements of the NYSDEC State Pollutant Discharge Elimination System (SPDES) General Permit for Stormwater Discharges associated with Construction Activity Permit Number GP-0-15-002.

Furthermore, this SWPPP contains the following information:

- Relevant background information regarding the project and scope;
- A Sediment and Erosion Control Plan during remediation activities;
- Best Management Practices for mitigating stormwater contamination from run-off locations;
- Proposed stormwater management activities during operation;
- Analysis of stormwater runoff conditions from pre- and post-development;
- Description of temporary stormwater management practices
- Final stormwater collection and control will include a detention basin and surface swales that collect stormwater from areas within the outside of the stabilization area as shown in Figure 2. Stormwater for the Site will be controlled by these mechanisms that will be constructed as part of the remedy. Following construction of the permanent stormwater controls, the temporary controls will be removed.
- A description of final capping and stabilization as depicted in Figure 3
- Post construction stormwater management practices will be instituted to limit pollutants in stormwater discharges including providing notice to NYSDEC for any post construction disturbance on the Site by NYCEDC; and
- A plan outlining site maintenance of control measures to be practiced by a qualified professional and directed by an engineer.

This SWPPP represents the minimum acceptable level of stormwater control measures for compliance.

1.2 Project Description

The project site is currently identified as Block 2781, Lot 500 in the Bronx, NY 10474 and is part of the Brownfield Cleanup Program as Site No. C203100. The Site has a total area of 6.7 acres, which will be utilized during construction activities. Additionally, the Railroad Right of Way (RR ROW) directly adjacent to the site and Krasdale Foods will be utilized as a laydown and staging area.

The Best Management Practices (BMPs) detailed in this SWPPP are intended to protect the health of sensitive receptors, the city's storm sewer, and the nearby surface water body Bronx River from potential pollution, soil erosion, and sedimentation generated during remediation activities as a result of run-off. The proposed actions are described here to provide the basis for this assessment. If the scope of work changes, the SWPPP will be revised to reflect the new activities.

The Scope of this submittal is to address immediate concerns at the Site.

1.3 DESCRIPTION OF SURROUNDING PROPERTY

The property is currently zoned M3-1 (manufacturing district). The land use immediately surrounding the Site is primarily food distribution. Industrial facilities are located to the north, west, and south of the property, giving the area a M1-1 and M3-1 zoning. The Bronx River is found on the eastern border of this property.

2.0 STORMWATER MANAGEMENT SYSTEM

The measures outlined below are meant to be implemented immediately in the work area. Typical stormwater management systems (SWMS) include 9" straw wattle or hay bales (or equivalent) along the perimeter of the construction site. It also contains a stabilized construction entrance which slopes back to the site to prevent stormwater sediment run-off. During construction, the SWMS will be supplemented by added measures for pollution and sediment control. These measures ensure that receiving bodies of water are protected from sediment runoff originating from remediation activities.

2.1 POLLUTION PREVENTION MEASURES

2.1.1 Litter Prevention

The Contractor shall adhere to the following criteria for litter prevention:

- The contractor shall provide and assure easy access to dumpsters is available to those working the site. Check dumpsters daily to see that top and side doors are closed. This prevents scavengers from spreading trash on the ground.
- Cover all open loads on trucks leaving the site.
- Site will be non-smoking within work areas and designated smoking areas will be established outside of the 6.7 acre lot.
- Contractor shall educate workers about the importance of individual responsibility for a clean and safe working environment.

2.1.2 Spill Prevention Practices

The Contractor shall adhere to the following criteria for spill prevention:

- All materials will be stored in neat, orderly areas in appropriate containers as recommended by the product manufacturers. Whenever possible a secure, roofed structure will be used for such storage.
- Unused materials will be kept in the original manufacturer's containers.
- Original material package safety and instruction labels shall be retained.
- Mixing materials will only be done as recommended by the manufacturer.

- Mixing areas (batch plant) and storage areas will have the following items for spill control to isolate and address spills from stormwater runoff:
  - Sorbent pads;
  - Sorbent booms;
  - Oil-Dri;
  - Spill kits;
  - Over-pack drums;
  - Shovels;
  - Sand stockpile(s) and unfilled sandbags to cover all solid material stockpiles;
  - Poly sheeting (10-mil, minimum);
- When possible, all of a product will be used prior to disposing the container.
- Manufacturer's instructions for proper use and disposal will be followed.
- A contractors' designee will be responsible for daily inspection of use and disposal of materials on site.
- Controlled loading, unloading, and dispensing operations will be performed in designated areas and qualified personnel will be assigned to oversee these operations.
- A dewatering treatment system, capable of handling 500 gallons per minute, will be installed at the job site. A flowmeter will be installed after a throttling valve on the discharge hose or pipe. The meter's reading will be taken at the beginning and end of each work day. The schematic of the current proposed treatment train can be found in Attachment C. Water that has been treated on-site will be tested at the effluent end of the treatment train to verify the quality of the water satisfies NYCDEP acceptance limits. The water will then be discharged to an off-site sanitary sewer manhole for transfer to the local POTW. A valid NYCDEP Discharge Permit will be obtained prior to any discharge.
- Secondary containment (portable spill berms) will be installed under all components of this system. A cutsheet of the berm can be found in **Attachment B**.
- Perimeter air monitoring for volatile organic compounds (VOCs), hydrogen sulfide (H_2S), hydrogen cyanide (HCN), and dust (PM-10) will be performed throughout the duration of the remediation by others as part of the Community Air Monitoring Plan (CAMP). In the event of a spill, or during any remedial activity, this monitoring will determine whether the chemicals of concern are volatilizing or releasing dust into the air at the site perimeter and alerts will be received if an action level has been reached or exceeded as specified in the CAMP.

2.2 EROSION AND SEDIMENT CONTROL PRACTICES

All erosion and sediment control measures shall follow the "New York State Standards and Specifications for Erosion and Sediment Control" (NYSSSESC).

The perimeter fence (i.e. chain link fence) will be equipped with typical privacy screen that will assist with fugitive dust migration. 9" straw wattle (or hay bales or equivalent) will be installed immediately in front of the perimeter fence. The perimeter fence and straw wattle will be installed around the entire 6.7 acre site, and will be maintained throughout the duration of the project.

This Soil Erosion and Sediment Control plan and details have been created according to the standards referenced above. The implementation of the soil erosion and control plans will be performed by the contractor. Erosion and sediment control measures must be implemented at **potential run-off locations.**

2.2.1 Construction Sequence

Listed below is a summary of the construction sequence for the sediment and erosion control measures and major activities associated with the project:

1. Delineate the work area, staging areas, and parking areas by installing a construction limit fence. Traffic flow patterns will also be established inside and outside of the site. The support zone, contamination reduction zone (CRZ), and work area will be established. The locations of these zones can be found in Figure 1.
2. Install 9" straw wattle (or equivalent) around the entire 6.7 acre site, immediately in front of the construction limit fence. Wattle will also be installed around areas where granular fill will be placed. Privacy screen will also be installed on all perimeter fencing which will not require heavy equipment within the Con Ed easement.
3. Establish Survey control and layout pertinent limits (i.e. sheet pile wall alignment).
4. Complete "Clearing and Grubbing" activities and clear any obstructions/debris. Only clearing to within 1' of existing grade will be completed until an approved SWPPP is obtained and all material will remain on site.
5. Install a stabilized truck entrance and wheelwash station for all construction movement into and off-site. The stabilized truck entrance includes an aggregate pad underlain with filter cloth. The construction entrance will be at least 30' wide, 6" thick, and 20' long. A truck wheelwash station will be installed within the exclusion zone. The wheelwash will be Polystar CAMEL Tri-Star Max (or equal), which is a drive-over dry ramp system

designed to prevent the spread of construction debris. The locations of the wheelwash and stabilized truck entrance can be found in Figure 1.

6. Spreading of the on-site pile of fill material (approximately 4,200 CY) over the Rail Road ROW to protect the rail lines and prepare staging areas. Additional material needed for staging and to cover the placed fill will be imported following submittal and approval of source and applicable sampling/sieve data to NYSDEC for approval prior to importation.
7. Complete borings along the sheet pile alignment to determine the depth to glacial till so proper sheet pile lengths can be ordered. Wells will also be installed along the northern and eastern wall alignment in order to collect soil and groundwater samples to be analyzed for the Emerging Contaminants.
8. Complete borings along the sheet pile alignment to determine depth to clay to be used to determine depth of Bentonite/Pond Fill Replacement.
9. Review and Approval of SWPPP by NYSDEC.
10. Install a "Bentonite/Pond Fill Replacement" wall around the sheet pile alignment.
11. Install the sheet pile wall, which will act as an additional erosion control for the remaining duration of the site remediation activities. The sheet pile wall (with interlocks) will be installed along the perimeter of the proposed remedial footprint. This wall will be water tight, and serve as a barrier to prevent contamination migration.
12. Stockpiles are expected during remedial activities, and will be managed in the following manner:
    a. Stockpiling activities will be kept at a minimum, especially impacted soil, purified waste, and coal tar solids;
    b. Stockpiles will be segregated by waste material type. Waste materials will be stockpiled separately from all other materials;
    c. Stockpile size will not exceed the typical daily hauling volume;
    d. All stockpiles (impacted and non-impacted), must be covered with poly sheeting (minimum 10-mil) or tarps, and secured with sandbags or 9" straw wattle (or equivalent) overnight and when not in use. This applies during and outside of work hours.
    e. Any deficiencies found in the tarp / cover will be corrected, and secured with sandbags or straw wattle.
    f. All stockpiled impacted material will be handled in a matter that will protect Site personnel, the public, and the environment in accordance with all applicable Federal, State, and local laws and regulations and to prevent cross contamination.

13. During remediation activities, VOCs, H2S, HCN, and PM-10 levels will be monitored as part of the Community Air Monitoring.
    a. If fugitive dust generation activities are performed, soils will be wetted to control dust emissions. A tarp and/or cover system will be utilized to minimize the extent of fugitive dust emissions from stockpiles and/or batch plant operations.
    b. If odors and emissions are generated during MGP impacted soil management, foaming units will be utilized to address the emissions.
    c. If any readings are observed above permissible levels even after engineering controls have been implemented, the source of the readings will be identified and that activity will immediately cease.
    d. Personal DataRAMs (PDRs) will be utilized at the batch plant location to ensure operations do not exceed permissible limits.

14. In-situ stabilization of waste material as per the RAWP

15. Following all stabilization, placement of a four foot cap over the area of stabilization (within sheeting) and construction of stormwater collection systems, liner, and detention basin.

16. Stormwater swale construction for direction of surface water outside of the steel sheeting to the detention basin will be completed prior to or following the capping of the Con Ed easement area.

17. Placement of insulation material outside of the steel sheeting up to the limit of stabilized material in order to effectively insulate this from frost. This will be performed on the north and east boundaries. Material may be placed against the west and south boundary as a temporary measure.

2.3 INSPECTION AND MAINTENANCE

2.3.1 Inspections and Reporting

The inspections of the stormwater and soil erosion and control measures shall meet the GP-0-15-002 requirements of one inspection every seven days throughout the duration of the project, or after a rainfall event` of 0.5", whichever comes first. Inspections will continue once per week (minimum) and be reported throughout the project until the Site is properly capped (even during periods of no work).

All inspections shall be performed by a qualified inspector and all findings shall be recorded in an Inspection Report to be available at the construction site. Inspection reports will include information regarding:

- Construction phase and progress of work;
- General conditions – weather, temperature, time;
- Description of natural surface water and storm sewer conditions;
- Identifying control measures that need maintenance and repair;
- Photographs chronicling the condition of each control measure;

A sample inspection report can be found in **Attachment A.**

If the inspections indicate that the contractor requires the modification or implementation of additional practices to assure water quality, these needs will be met immediately.

The above-mentioned Best Management Practices (BMP) has been chosen based on existing site conditions. As the project progresses and the site elements change, the inspection of these installations will be crucial to ensure that the control measure is preventing soil erosion and sediment runoff. If the measures are not meeting the minimum standards set forth in the NYS SESC, the BMP shall be modified with a compliant standard.

2.3.2 Operation and Maintenance

Listed below is a summary of operation and maintenance activities for stormwater measures:

1. **Construction limit fences** should be constructed of high visibility polyethylene fabric. The fence is secured by posts installed at least 2' below grade with no more than 6' between anchors. The fence should extend at least 4' above grade and will be reinforced with straw wattle.
2. **Steel sheeting** (sheet pile wall) with interlocks will be installed around the remedial area, as shown in **Figure 1** (and Drawing C105 of the Bid Documents). This wall will extend to 10' above grade. Sealant will be applied to all interlocks, which will create a water tight barrier around the entire site. The sheet pile wall will be installed prior to any ISS remediation work performed onsite.
3. **9" straw wattles** (or hay bales, or equivalent) will be installed along the perimeter of the Site, as described in Section 2.2.1. The wattle will be installed prior to any intrusive work and will serve as the erosion control, while the site is prepared for sheet pile wall installation. All installed wattle will be staked and overlapped to prevent any runoff from occurring and sediment buildup will be removed. Additionally, if the wattle becomes damaged or ineffective, they will be replaced on an as-needed basis. This determination will be made by the SWPPP inspector, who will relay the information to the Contractor through their inspection reports.
4. **Stabilized construction entrances** must be underlain with stone anti-tracking pads which will be installed at each access point to the work area to prevent the off-site transport of sediment by construction vehicles. The construction entrance will be at least 30' wide and 20' long with a 6" thick layer of crushed stone (1.5" to 2.5" in diameter). A 1' berm is included to prevent run-off. Trucks leaving the site will be hosed down by an onsite operator to prevent the spread of construction debris.
5. Measures to address airborne dust and odors are described in Section 2.2.1.
6. All nearby inlets will be protected with an inlet protection as specified by the "Blue Book". The contractor must submit specifications to the Engineer for review before use for any protection most suitable for the situation. Accumulated sediments must be removed and either reused at the site or disposed of at a suitable offsite location.

7. Stockpiles will be created as described in Section 2.2.1, above. Straw wattles or hay bales will be installed around each stock pile, and must be replaced when no longer effective.

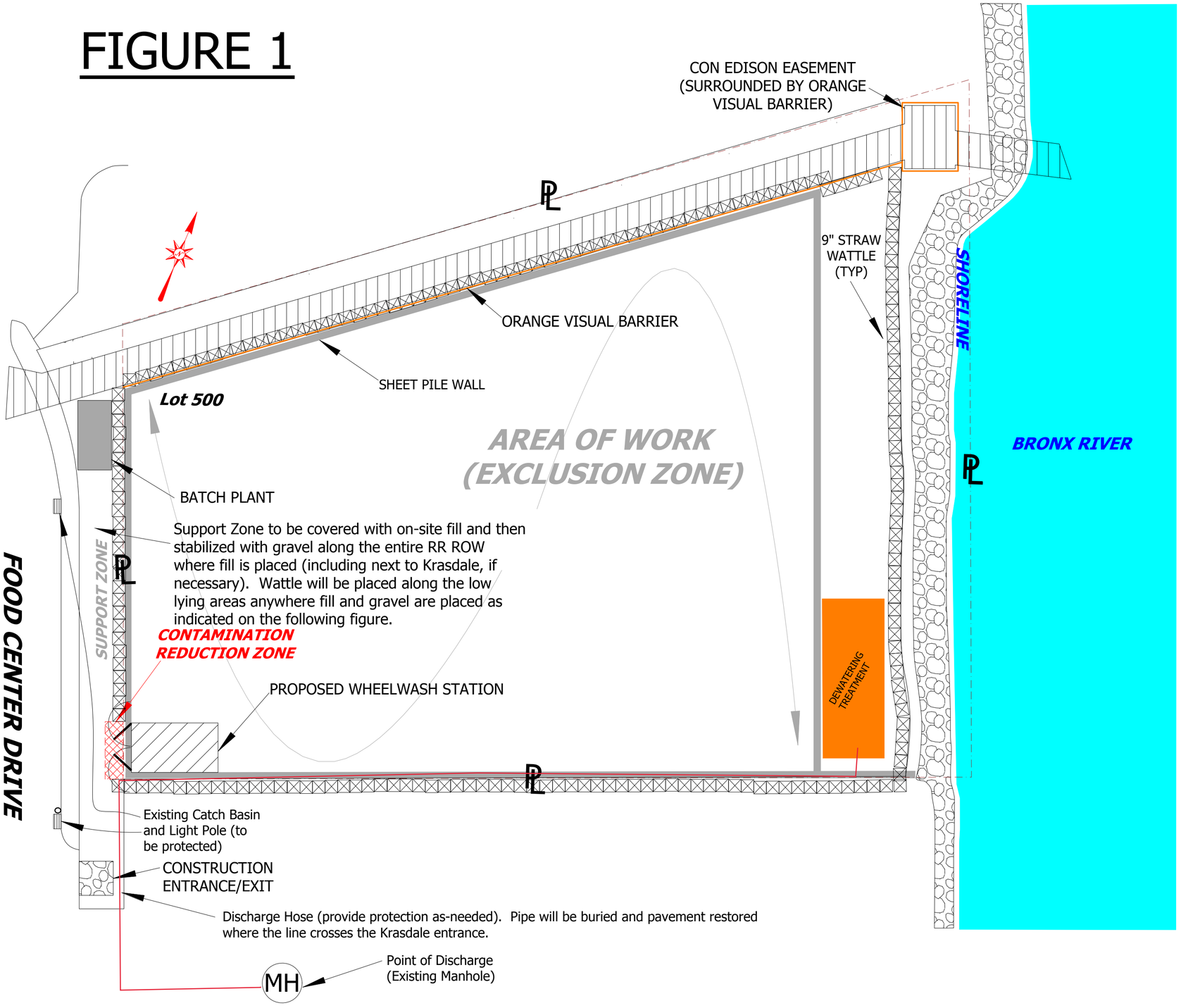
2.3.3 Revising the SWPPP

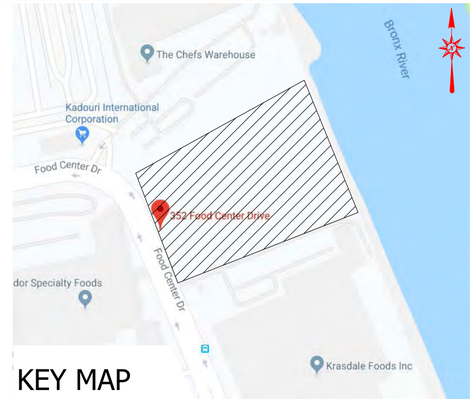
The SWPPP is considered a "living" document and should be revised when the information is no longer current. The SWPPP should be revised when:

- Stormwater controls are no longer effective in preventing pollution and sedimentation in runoff;
- Additional stormwater controls are suggested;
- Site designs have been altered and have the potential to generate additional pollution;
- Additional work locations have been added;
- Site officers, contracting company, or construction timelines have changed.

FIGURES

FIGURE 1





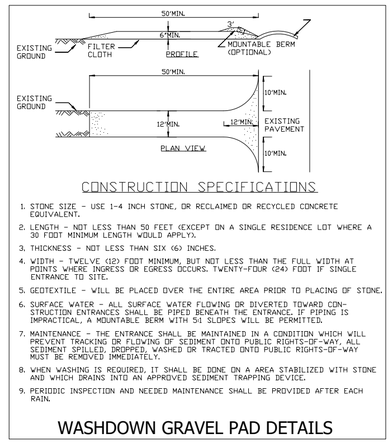
KEY MAP

SHEET PILE WALL
(TERMINATE 10' ABOVE GRADE)

CONSTRUCTION FENCE (CF)

STRAW WATTLE (OR EQUAL)

DETAIL OF STRAW WATTLE INSTALLATION



CONSTRUCTION SPECIFICATIONS

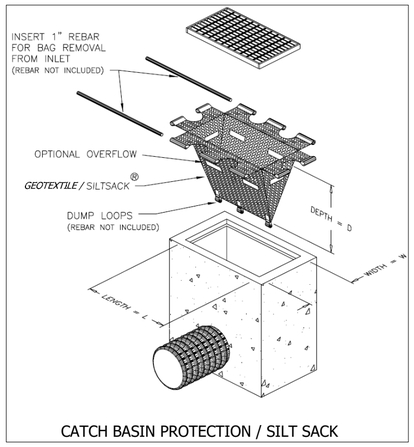
1. STONE SIZE - USE 1-4 INCH STONE, OR RECLAIMED OR RECYCLED CONCRETE EQUIVALENT.
2. LENGTH - NOT LESS THAN 50 FEET (EXCEPT ON A SINGLE RESIDENCE LOT WHERE A 30 FOOT MINIMUM LENGTH WOULD APPLY).
3. THICKNESS - NOT LESS THAN SIX (6) INCHES.
4. WIDTH - TWELVE (12) FOOT MINIMUM, BUT NOT LESS THAN THE FULL WIDTH AT POINTS WHERE INGRESS OR EGRESS OCCURS. TWENTY-FOUR (24) FOOT IF SINGLE ENTRANCE TO SITE.
5. GEOTEXTILE - WILL BE PLACED OVER THE ENTIRE AREA PRIOR TO PLACING OF STONE.
6. SURFACE WATER - ALL SURFACE WATER FLOWING OR DIVERTED TOWARD CONSTRUCTION ENTRANCES SHALL BE PIPED BENEATH THE ENTRANCE, IF PIPING IS IMPRACTICAL, A MOUNTABLE BERM WITH 5:1 SLOPES WILL BE PERMITTED.
7. MAINTENANCE - THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHTS-OF-WAY. ALL SEDIMENT SPILLED, DROPPED, WASHED OR TRACTED ONTO PUBLIC RIGHTS-OF-WAY MUST BE REMOVED IMMEDIATELY.
8. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON A AREA STABILIZED WITH STONE AND WHICH DRAINS INTO AN APPROVED SEDIMENT TRAPPING DEVICE.
9. PERIODIC INSPECTION AND NEEDED MAINTENANCE SHALL BE PROVIDED AFTER EACH RAIN.

WASHDOWN GRAVEL PAD DETAILS

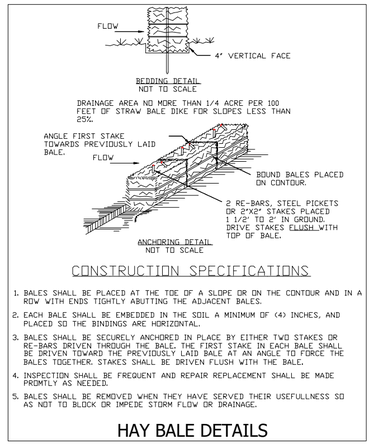
LEGEND

9" STRAW WATTLE (OR EQUAL)

WASHDOWN GRAVEL PAD: SLOPED 1/8' PER 1 FT TRUCK TIRES TO BE WASHED/ BROOMED ON PAD PRIOR TO LEAVING SITE.



CATCH BASIN PROTECTION / SILT SACK



CONSTRUCTION SPECIFICATIONS

1. BALES SHALL BE PLACED AT THE TOE OF A SLOPE OR ON THE CONTOUR AND IN A ROW WITH ENDS TIGHTLY ABUTTING THE ADJACENT BALES.
2. EACH BALE SHALL BE EMBEDDED IN THE SOIL A MINIMUM OF (4) INCHES, AND PLACED SO THE BINDINGS ARE HORIZONTAL.
3. BALES SHALL BE SECURELY ANCHORED IN PLACE BY EITHER TWO STAKES OR RE-BARS DRIVEN THROUGH THE BALE. THE FIRST STAKE IN EACH BALE SHALL BE DRIVEN TOWARD THE PREVIOUSLY LAID BALE AT AN ANGLE TO FORCE THE BALES TOGETHER. STAKES SHALL BE DRIVEN FLUSH WITH THE BALE.
4. INSPECTION SHALL BE FREQUENT AND REPAIR REPLACEMENT SHALL BE MADE PROMTLY AS NEEDED.
5. BALES SHALL BE REMOVED WHEN THEY HAVE SERVED THEIR USEFULLNESS SO AS NOT TO BLOCK OR IMPEDE STORM FLOW OR DRAINAGE.

HAY BALE DETAILS

9" STRAW WATTLE (TYP)

AMC ENGINEERING PLLC
18-36 42nd Street
Astoria, NY 11105
Office: 718-545-0474

PROJECT:
Hunts Point Site D (Former Consolidated Edison Manufactured Gas Plant)

DATE: 10/17/2019

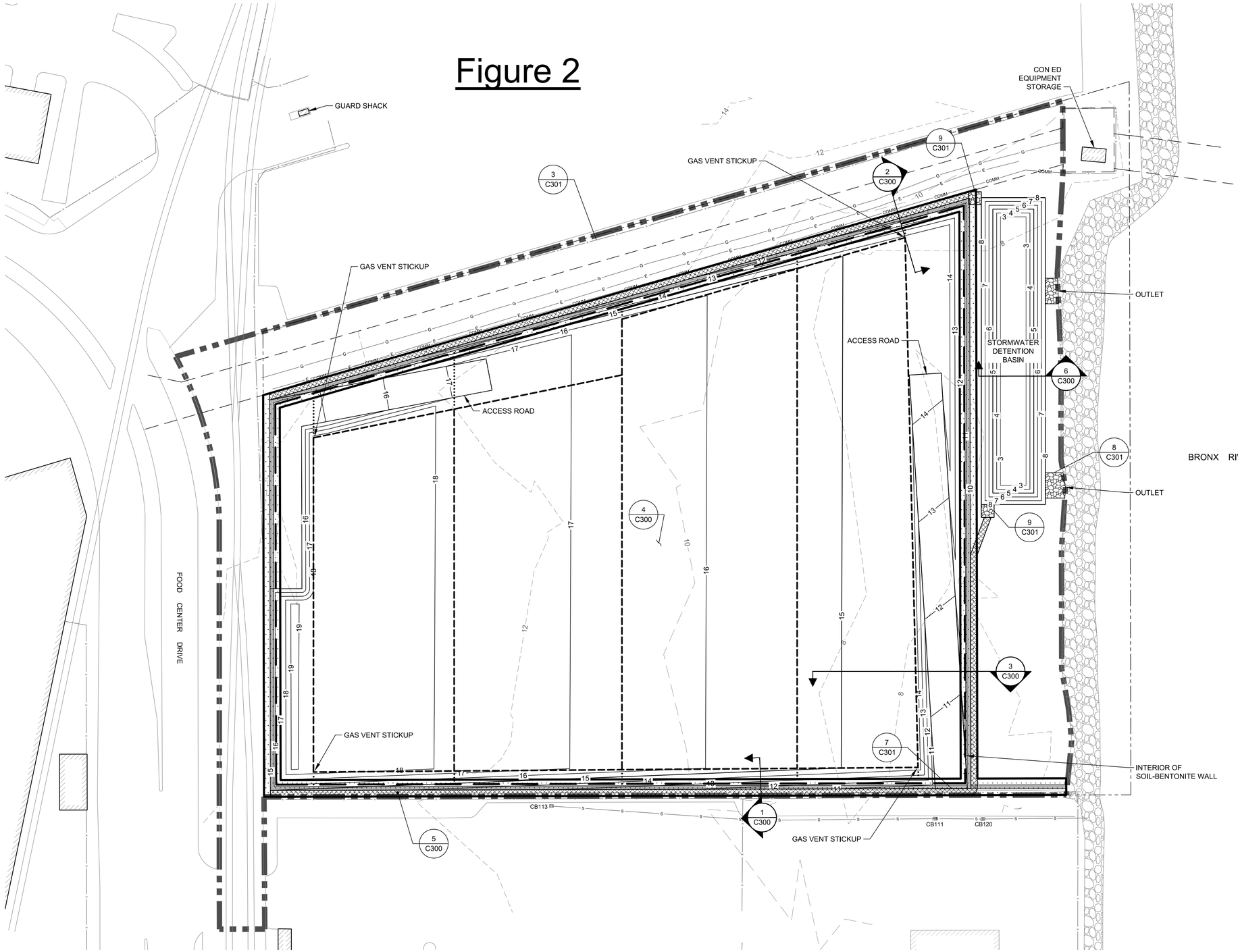
DRAWING BY: AS

Hunts Point Site D
SWPPP Measures

FIGURE 1A


Food Center Dr
Hunts Point Co-Op Market
Straw Wattle To Be Placed On Low Side of RR ROW Where Clean Fill Will Be Placed
700 ft
© 2015 Google
Google earth

Figure 2



LEGEND:

- PROPOSED GRADE
- PROJECT LIMIT
- PROPERTY BOUNDARY
- UTILITY EASEMENT
- EXISTING GROUND SURFACE CONTOUR
- STABILITY CORRIDOR
- SOIL-BENTONITE WALL
- STORMWATER CHANNEL
- STORMWATER CHANNEL OUTLET
- GAS PIPING
- LIQUID PIPING
- LIQUID/GAS CONNECTOR

NOTES:

1. STORMWATER CHANNELS MUST BE INSTALLED AT NO LESS THAN 1% SLOPE TO PROVIDE SUFFICIENT DRAINAGE.
2. FINAL GRADES ARE BASED ON AN ASSUMED 15 FT. TREATMENT DEPTH AND 25% ISS SWELL. GRADES MAY BE REVISED BY GEI DURING THE REMEDY TO REFLECT ACTUAL SWELL ENCOUNTERED.
3. GAS AND LIQUID PIPING ARE NOT DRAWN TO SCALE.

0 40 80
SCALE: 1" = 40'

For Bid

Attention:

0 1"

If this scale bar does not measure 1" then drawing is not original scale.

NO.	DATE	ISSUE/REVISION	APP
2		90% ISSUED FOR BID	GR
1	2/27/2019	65% ISSUED FOR CLIENT REVIEW	GR

GEI Consultants
GEI CONSULTANTS OF NORTH CAROLINA, P.C.
4000 CENTREGREEN WAY
SUITE 180
CARY, NC 27513
(919)322-8700

Designed:	GW
Checked:	JW
Drawn:	PH
Approved By:	GR

NYC Economic Development Corporation
New York, New York

GEI Project 1705341

Hunts Point
Bronx, New York

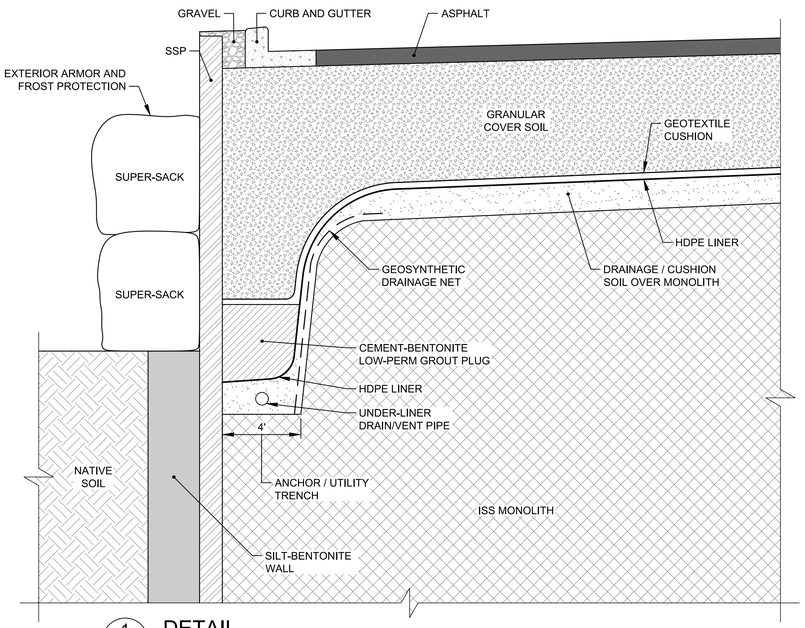
RESTORATION PLAN

DWG. NO.
C111

SHEET NO.
14 OF 16

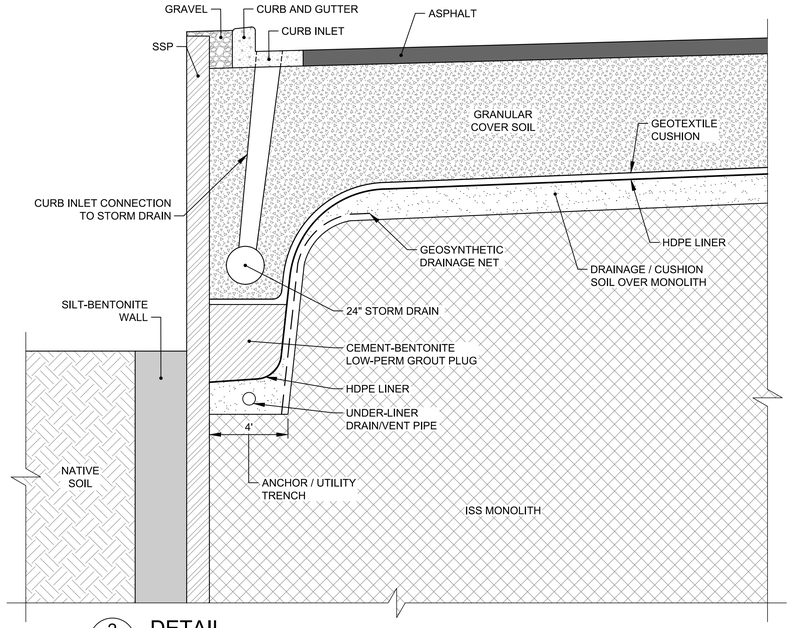
\\geiconsulta B:\Working\NYCEDC\1705341 Hunts Point - Site DI\00_CAD\Design\Working\1705341_C111_REST_C3D.DWG - 3/11/2019

Figure 3



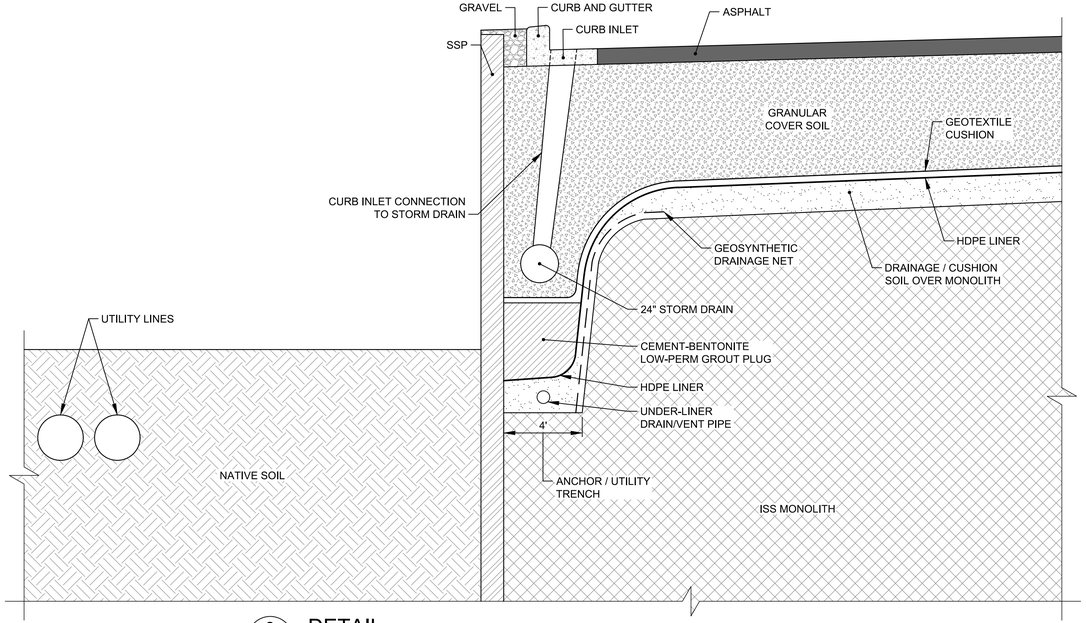
1 - DETAIL
ISS COVER - EASTERN EDGE

SCALE: N.T.S.



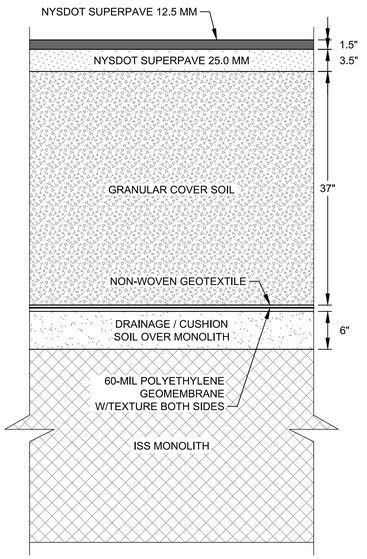
2 - DETAIL
ISS COVER - SOUTHERN EDGE

SCALE: N.T.S.



3 - DETAIL
ISS COVER - NORTHERN EDGE

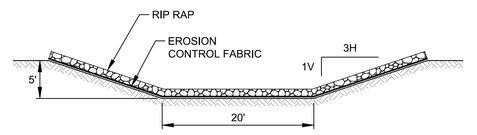
SCALE: N.T.S.



NOTE:
COMPACTED FILL MUST MEET NYSDEC COMMERCIAL STANDARDS.

4 - DETAIL
TYPICAL PAVEMENT CROSS SECTION

SCALE: N.T.S.



5 - DETAIL
POND CROSS SECTION

0 10 20
SCALE: 1" = 10'

For Bid

NO.	DATE	ISSUE/REVISION	APP
2	10/25/2019	90% REVISED BARRIER WALL ALIGNMENT	GR
1	2/27/2019	65% ISSUED FOR CLIENT REVIEW	GR

Attention:

0 1"

If this scale bar does not measure 1" then drawing is not original scale.

GEI Consultants
GEI CONSULTANTS OF NORTH CAROLINA, P.C.
4000 CENTREGREEN WAY
SUITE 180
CARY, NC 27513
(919)322-8700

Designed:	GW
Checked:	JW
Drawn:	PH
Approved By:	GR

NYC Economic Development Corporation
New York, New York

GEI Project 1705341

Hunts Point
Bronx, New York

DETAILS (1 OF 2)

DWG. NO.
C300

SHEET NO.
16 OF 17

\\geiconsulta \\geiconsultants.com\data\Data_Storage\Working\NYCEDC\1705341 Hunts Point - Site D\00_CAD\Design\Working\1705341_C300-1_DETL.dwg - 10/21/2019

ATTACHMENT A

Sample Inspection Form

AMC Engineering, PLLC
18-36 42nd Street
Astoria, NY 11105
718-545-0474
Fax 516-706-3214

SWPPP INSPECTION

Date: _____ Entry Time: _____ Exit Time: _____

Project Name / Location: _____

Project Rep: _____

Name/Title of Inspector: _____

Weather Conditions (sunny, raining, windy, etc.) _____

Precipitation Record (in inches)

SPDES Permit #: _____ Copy of NOI posted? (Y/N): _____
Copy of SWPPP onsite? (Y/N): _____
Copy of Permit onsite? (Y/N): _____

Soil/Road Conditions: Dry Wet Saturated

Comments:_____
_____

Record Keeping: Are previous inspection reports onsite and available? (Y/N): _____

Visual Observations:

1. Condition of runoff at all points of discharge. Identify any discharge of sediment. Include discharge from conveyance systems (pipes, culverts, ditches, etc.) and overland flow.

_____
_____
_____
_____

2. Identify erosion and sediment control practices that need to be repaired, maintained, reinstalled or replaced.

	Repair	Maintain	Reinstall	Replace
Silt Fence/Curtain				
Street Sweeping				
Tree Guards				
Catch Basin Protection				
Stockpiles (Impacted)				
Stockpiles (Non-Impacted)				
Soil Stabilization				
Dust Control				
Temperature Stabilization				

Straw Wattle / Hay Bales				
Stabilized Construction Entrance				

3. Corrective action(s) that must be taken to install, repair, replace or maintain erosion and sediment control practices.

_____
_____
_____
_____

4. Identify pollution prevention measures that need to be repaired, maintained, reinstalled or replaced.

	No Issues	Needs Repair	Replace
Secondary Containment at Dewatering System			
Spill Control Elements at Batch Plant			

5. Corrective action(s) that must be taken to install, repair, replace or maintain pollution prevention measures.

_____
_____
_____
_____

6. Corrective action(s) that were identified in past reports: Indicate if they were implemented, by whom, when, and if satisfactory.

_____
_____
_____
_____
_____

7. Additional Notes:

_____
_____
_____
_____

Signed:

(Signed by SWPPP Inspector)

Indicate areas that are disturbed at the time of inspection and areas that have been stabilized (temporary and/or permanent) since last inspection.

Affix / Paste Map /Plan here identifying area of inspection

ATTACHMENT B

SWPPP Protection Specifications

SILTSACK®

(U.S. Patent #5,575,925)

Catch Basin Sediment Capture Device

Keeping catch basins free of silt!

Now Available in High Visibility Yellow

Versatile

Available in 2 styles to meet your needs:

- High flow
- Regular flow

And It's Simple

- Remove drain grate
- Insert Siltsack
- Replace grate to hold Siltsack in position
- Siltsack traps silt
- Remove filled Siltsack easily
- Clean and reuse or simply discard and replace

Are you looking for a cost-effective, easy way to stop silt and sediment from entering catch basins on construction site? Siltsack is the simple and economical solution to prevent clogging of catch basins.

Siltsack is a sediment control device used to prevent silt and sediment from entering your drainage system by catching the silt and sediment while allowing water to pass through freely. Siltsack can be used as a primary or secondary sediment control device to prevent failure of your drainage system due to clogging. It must be maintained on a regular basis to function properly.

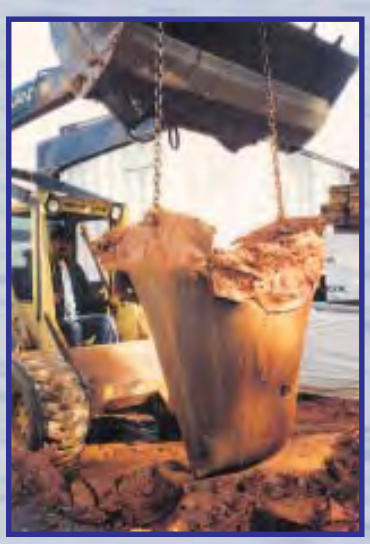
Siltsack is available in both high-flow or regular flow. A modified Siltsack is also available with a curb opening deflector attached to prevent sediment and debris from entering through curb openings. Constructed with properties shown on the Specifications page, Siltsack is a quality product designed to save time and money.

Routine inspection of a Siltsack's collected sediment level is important to prevent "ponding" around storm drains. We recommend the following maintenance schedule:

- Each Siltsack should be inspected after every major rain event.
- If there have been no major events, Siltsack should be inspected every 2-3 weeks.
- The yellow restraint cord should be visible at all times. If the cord is covered with sediment, the Siltsack should be emptied.

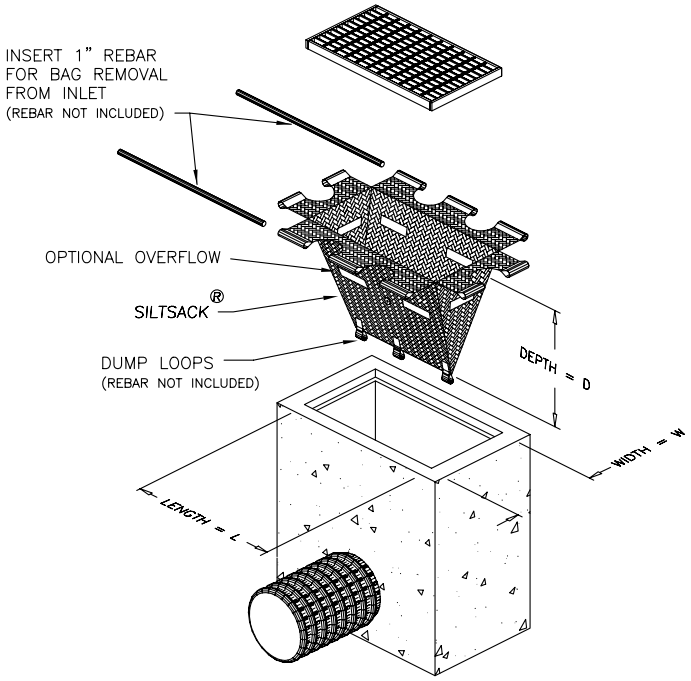
Typical Siltsack® Construction

installed Siltsack held in place by grate.

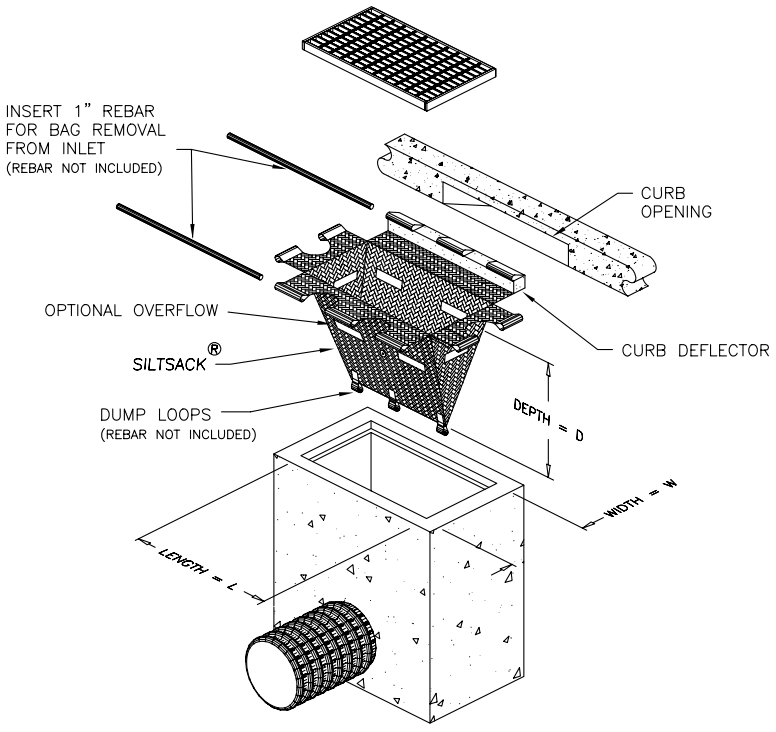


Sediment captured by Siltsack® can easily be removed from the site.

Type A



Type B



STANDARD AND SPECIFICATIONS FOR STABILIZED CONSTRUCTION ENTRANCE

Definition

A stabilized pad of aggregate underlain with geotextile located at any point where traffic will be entering or leaving a construction site to or from a public right-of-way, street, alley, sidewalk, or parking area.

Purpose

The purpose of stabilized construction entrance is to reduce or eliminate the tracking of sediment onto public rights-of-way or streets.

Conditions Where Practice Applies

A stabilized construction entrance shall be used at all points of construction ingress and egress.

Design Criteria

See Figure 5A.35 on page 5A.76 for details.

Aggregate Size: Use a matrix of 1-4 inch stone, or reclaimed or recycled concrete equivalent.

Thickness: Not less than six (6) inches.

Width: 12-foot minimum but not less than the full width of points where ingress or egress occurs. 24-foot minimum if there is only one access to the site.

Length: As required, but not less than 50 feet (except on a single residence lot where a 30 foot minimum would apply).

Geotextile: To be placed over the entire area to be covered with aggregate. Filter cloth will not be required on a single-family residence lot. Piping of surface water under entrance shall be provided as required. If piping is impossible, a mountable berm with 5:1 slopes will be permitted.

Criteria for Geotextile

The geotextile shall be woven or nonwoven fabric consisting only of continuous chain polymeric filaments or yarns of polyester. The fabric shall be inert to commonly encountered chemicals, hydro-carbons, mildew, rot resistant, and conform to the fabric properties as shown:

Fabric Properties[3]	Light Duty[1] Roads Grade Subgrade	Heavy Duty[2] Haul Roads Rough Graded	Test Method
Grab Tensile Strength (lbs)	200	220	ASTM D1682
Elongation at Failure (%)	50	60	ASTM D1682
Mullen Brust Strength (lbs)	190	430	ASTM D3786
Puncture Strength (lbs)	40	125	ASTM D751 modified
Equivalent Opening Size	40-80	40-80	US Std Sieve CW-02215
Aggregate Depth	6	10	--

[1]Light Duty Road: Area sites that have been graded to subgrade and where most travel would be single axle vehicles and an occasional multi-axle truck. Acceptable materials are Trevira Spunbond 1115, Mirafi 100X, Typar 3401, or equivalent.

[2]Heavy Duty Road: Area sites with only rough grading, and where most travel would be multi-axle vehicles. Acceptable materials are Trevira Spunbond 1135, Mirafi 600X, or equivalent.

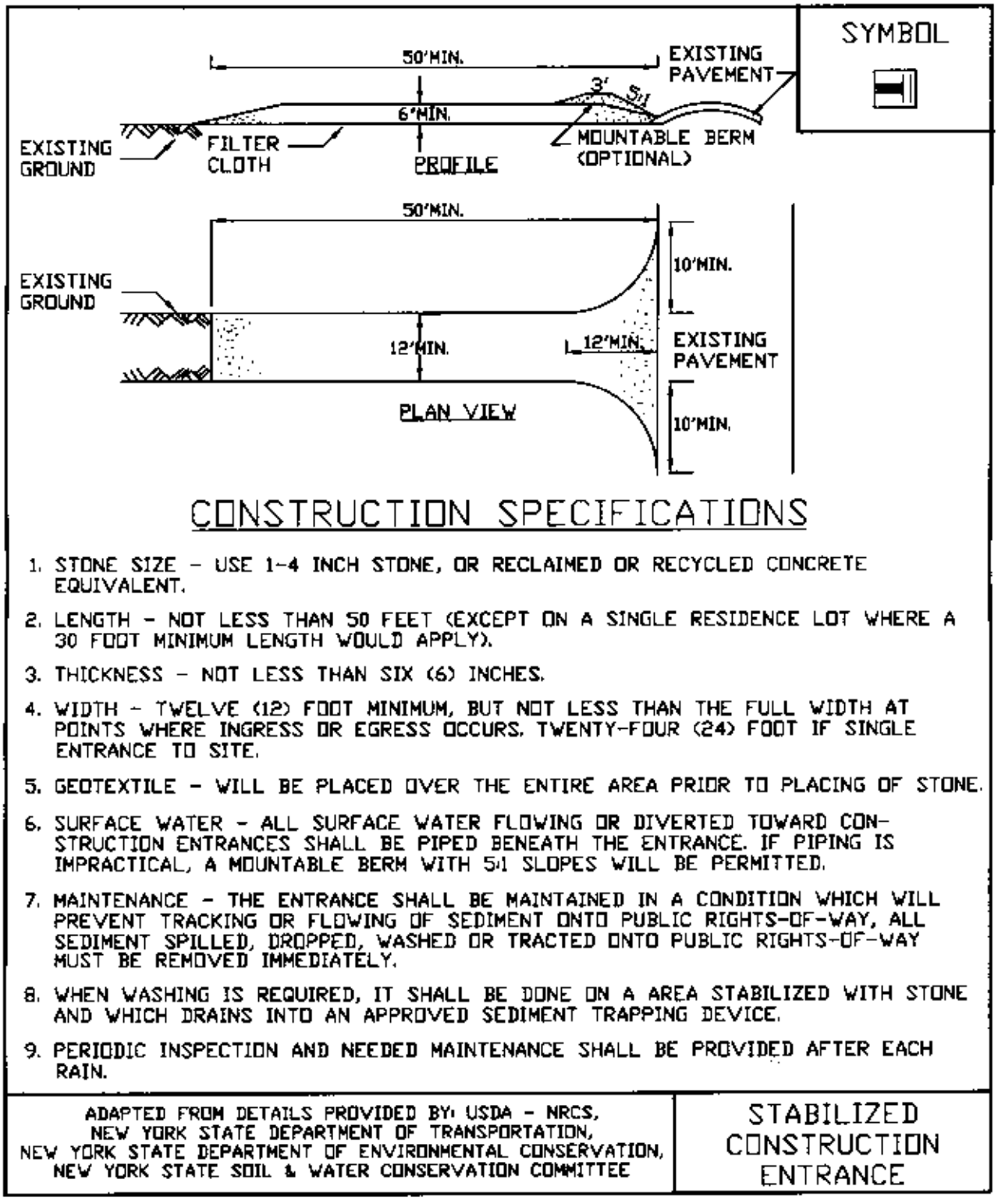
[3]Fabrics not meeting these specifications may be used only when design procedure and supporting documentation are supplied to determine aggregate depth and fabric strength.

Maintenance

The entrance shall be maintained in a condition which will prevent tracking of sediment onto public rights-of-way or streets. This may require periodic top dressing with additional aggregate. All sediment spilled, dropped, or washed onto public rights-of-way must be removed immediately.

When necessary, wheels must be cleaned to remove sediment prior to entrance onto public rights-of-way. When washing is required, it shall be done on an area stabilized with aggregate, which drains into an approved sediment-trapping device. All sediment shall be prevented from entering storm drains, ditches, or watercourses.

Figure 5A.35
Stabilized Construction Entrance



CONSTRUCTION SPECIFICATIONS

1. STONE SIZE - USE 1-4 INCH STONE, OR RECLAIMED OR RECYCLED CONCRETE EQUIVALENT.
2. LENGTH - NOT LESS THAN 50 FEET (EXCEPT ON A SINGLE RESIDENCE LOT WHERE A 30 FOOT MINIMUM LENGTH WOULD APPLY).
3. THICKNESS - NOT LESS THAN SIX (6) INCHES.
4. WIDTH - TWELVE (12) FOOT MINIMUM, BUT NOT LESS THAN THE FULL WIDTH AT POINTS WHERE INGRESS OR EGRESS OCCURS. TWENTY-FOUR (24) FOOT IF SINGLE ENTRANCE TO SITE.
5. GEOTEXTILE - WILL BE PLACED OVER THE ENTIRE AREA PRIOR TO PLACING OF STONE.
6. SURFACE WATER - ALL SURFACE WATER FLOWING OR DIVERTED TOWARD CONSTRUCTION ENTRANCES SHALL BE PIPED BENEATH THE ENTRANCE. IF PIPING IS IMPRACTICAL, A MOUNTABLE BERM WITH 5:1 SLOPES WILL BE PERMITTED.
7. MAINTENANCE - THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHTS-OF-WAY, ALL SEDIMENT SPILLED, DROPPED, WASHED OR TRACTED ONTO PUBLIC RIGHTS-OF-WAY MUST BE REMOVED IMMEDIATELY.
8. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON A AREA STABILIZED WITH STONE AND WHICH DRAINS INTO AN APPROVED SEDIMENT TRAPPING DEVICE.
9. PERIODIC INSPECTION AND NEEDED MAINTENANCE SHALL BE PROVIDED AFTER EACH RAIN.

ADAPTED FROM DETAILS PROVIDED BY: USDA - NRCS,
NEW YORK STATE DEPARTMENT OF TRANSPORTATION,
NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION,
NEW YORK STATE SOIL & WATER CONSERVATION COMMITTEE

STABILIZED CONSTRUCTION ENTRANCE

Rhino Ecoramp®

High performance dry ramp system

The Rhino Ecoramp® is a simple, drive-over dry ramp system designed to prevent the spread of site dirt and debris on to public highways. It is our most environmentally friendly wheel cleaning system because it requires no power or water plus it's virtually maintenance-free. It works on the vibration effect created by the vehicle tyres driving over inverted steel angle.


Safety barriers

The system comprises robust mobile road in 4m long horizontal sections and low profile 3m inclined entry and exit ramps, all made from heavy duty steel. Each section is fittedwith traffic barriers to provide a visual guide to drivers. Twin interlocks at both ends ensure fast installation and improved security of attachment. Spacer bars positioned at intervals between the two ramps provide additional rigidity.


Complete system

The 18m Rhino Ecoramp® is suitable for vehicles up to 8 wheelers, the 22m version for articulated vehicles. Due to its modular format, any length of Ecoramp can be supplied to suit your space, usage and budget requirements.

Vehicles mount the entry ramps and drive slowly over steel angle for 5.5 and 6.5 wheel revolutions respectively. This motion flexes open the tyre treads enabling dirt and debris to fall to the ground. The ramps' component parts are easily lifted with site plant to enable access for removing accumulated dirt.

The system is perfect for remote locations or for sites where there are no services available. It is delivered on a Hiab truck and is easy to install and relocate. Ecoramp systems are available for sale and hire.


4m additional sections

Ecoramp

Safety barriers with legs	3600mm x 2000mm x 2mm 120kg
Ramps**	3000mm x 1100mm x 380mm 450kg (each)
Mobile Road**	4000mm x 1100mm x 380mm 657kg (each)
Image shows 18m Rhino Ecoramp system	

Additional Information / Customer Requirements

- Clear lifting zone for offloading with Hiab
- Flat and compacted level hardcore or concrete / tarmac

How to contact us...

+44 (0)1270 214886

sales@wheelwash.com

www.wheelwash.com

* All weights are approximate dry weights. Wheelwash Limited reserves the right to change detailed specifications from time to time. Drawings are to show indicative layouts only and are not to scale. Specifications are based on supply within the UK, please ask for details outside of this location. Specifications may vary when systems supplied as rental units.
** Optional

WATTLE9X25 9" x 25' Straw Wattle Burlap Roll

Item No: 258810

$19.99 /ea

This product is only available for delivery in AZ, CA, CO, ID, NM, NV, OR, UT, & WA

Quantity - 1 +

Email

or

Pick Up In Store

NOT AVAILABLE

Not Available For **Pickup**

Delivery

ADD TO CART

Available To Ship

pecifications

Back to To

Specifications

Manf Part Number	WATTLE9X25
Condition	New
Weight	40.0000
Prop 65 Warning	 **Warning** This product can expose you to a chemical (or chemicals) that are known to the State of California to cause cancer or reproductive harm. For more information go to www.P65Warnings.ca.gov
Skid Count	12

Our Promise Means More®

Need help? Please call us at **1-800-745-6735**

STRAW WATTLES

UV-8 & UV-12 Straw Wattle™

The UV-8 and UV-12 Straw Wattles™ are manufactured from rice straw or other specified straw, and are wrapped in a tubular plastic netting. The netting has a strand thickness of 0.03 inch, and a knot thickness of 0.055 and a weight of 0.35 ounce per foot (each +/- 10%) and is made from 85% high density polyethylene, 14% ethyl vinyl acetate and 1% color for UV inhibition.

The UV-8 Straw Wattles™ are 8 inches in diameter (+/- one inch), and have a density weight of approximately 1.8 pounds per foot (+/- 10%). Maximum length is 25 feet long (+/- 0.5 feet).

The UV-12 Straw Wattles™ are 12 inches in diameter (+/- one inch), and have a density weight of approximately 4 pounds per foot (+/- 10%). Maximum length is 12 feet long (+/- 0.5 feet).

Bio-8 & Bio-12 Straw Wattle™

The Bio-8 and Bio-12 Straw Wattles™ are manufactured from rice straw or other specified straw, and are wrapped in a 100% biodegradable tubular 7 oz. Plain Burlap. The burlap is Medium Weight Natural Burlap with a 8 X 8 Warp & Fill, and weigh 7 oz. per square yard.

The Bio-8 Straw Wattles™ are eight inches in diameter (+/- one inch), and have a density weigh of

IECA MEMBER

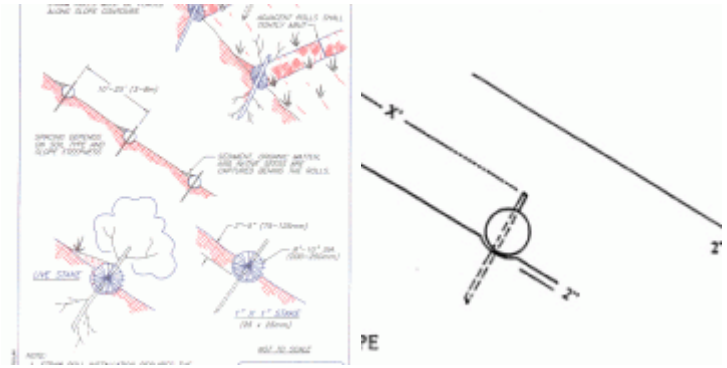
Proud to be an Emerald Member of the International Erosion Control Association

BUSINESS CREDIT

To expedite the Credit Application process, please download the Business Credit Applcation, fill it out, and fax it to:
530-476-2554
Cal-Vista Business Credit Application

approximately 1.6 pounds per foot (+/- 10%). Maximum length is 25 feet (+/- 0.5 feet).

The Bio-12 Straw Wattles™ are twelve inches in diameter (+/- one inch), and have a density weigh of approximately 3.8 pounds per foot (+/- 10%). Maximum length is 12 feet (+/- 0.5 feet).



This page used with permission from California Straw Works.

Call (800) 235-7421 Toll Free

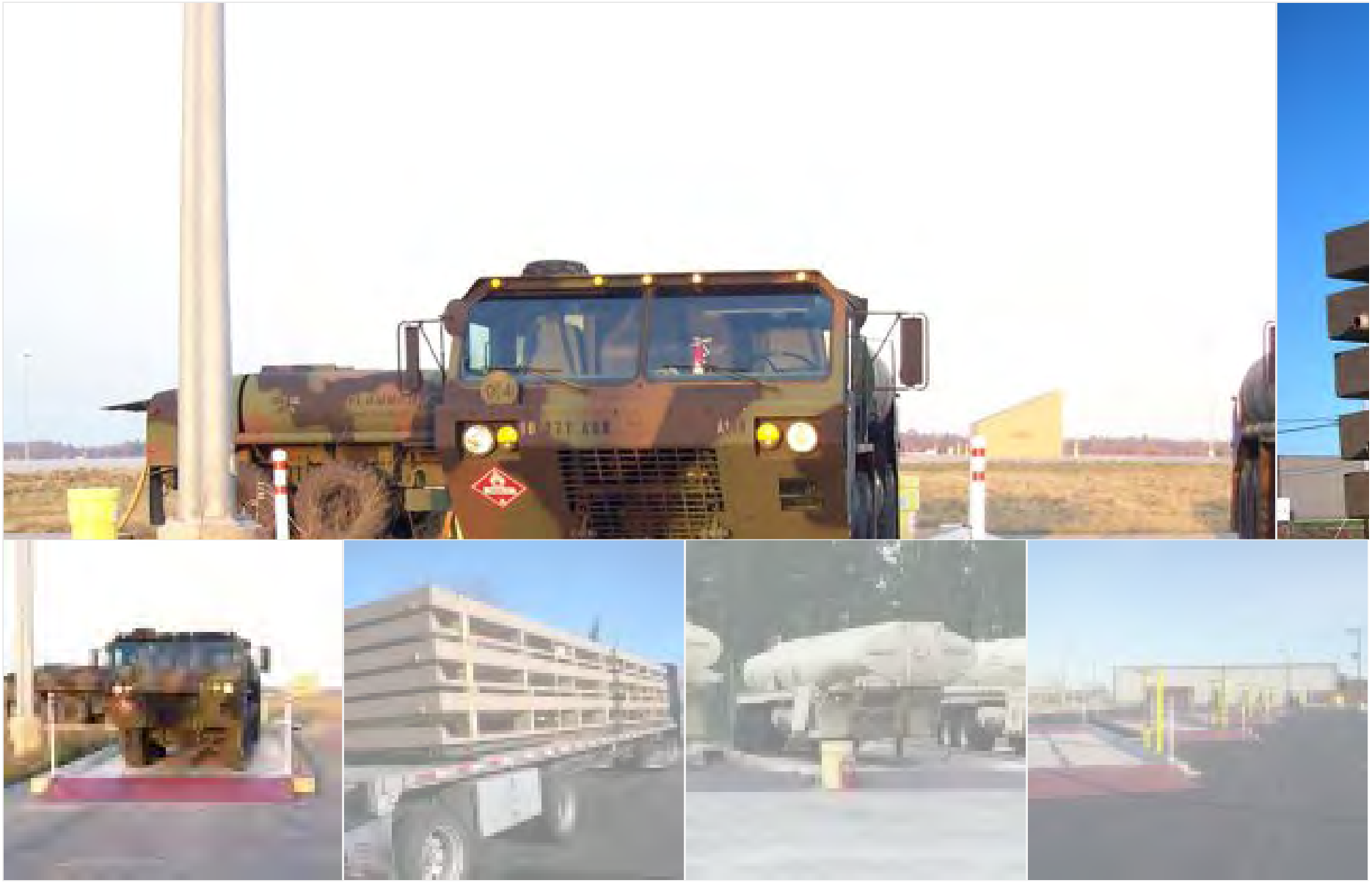
GSA Contract Holder Contract GS-07F-0092T (https://www.gsaadvantage.gov/advantage/contractor/contractor_detail.do?mapName=/catalog/product_detail&oid=904946960&contractNumber=GS-07F-0092T&itemNumber=48-BRK-DLX-8)

(https://facebook.com/Containment-Corporation-239625716168273/?ref=ts) Login (/staging/my-account/) (/staging/cart/)

(https://www.youtube.com/channel/UCGwuFyLfXaZwmAAHU4fbpgw)

(https://www.containmentcorp.com/)

Home (https://www.containmentcorp.com) / Tri-Star® Tanker Fuel Containment and Truck Containment System - Tanker Containment (https://www.containmentcorp.com/product-category/tri-star-tanker-fuel-containment-and-truck-containment-system-tanker-containment/) / Tri-Star® Low Profile Containment Pad™ - Tri-Star Wash Pads - Fuel Containments (https://www.containmentcorp.com/product-category/tri-star-tanker-fuel-containment-and-truck-containment-system-tanker-containment/tri-star-low-profile-containment-pad-tri-star-wash-pads-fuel-containments/) / The Tri-Star MAX – ¼ Steel Above-Ground Containment System



The Tri-Star MAX – ¼ Steel Above-Ground Containment System

Request Quote

The Tri-Star MAX is a ¼_steel above-ground containment system designed for fuel or chemical trucks with large containment requirements. The Tri-Star MAX's modular design supports custom lengths and allows this heavy-duty steel system to be shipped on highways, or overseas in shipping containers.

Tri-Star MAX – ¼ Steel Above-Ground Containment System Literature (https://www.containmentcorp.com/wp-content/uploads/2018/04/Tri-Star-MAX-flyer.pdf)

1

Request a Quotation

Category: **Tri-Star® Low Profile Containment Pad™ - Tri-Star Wash Pads - Fuel Containments (https://www.containmentcorp.com/product-category/tri-star-tanker-fuel-containment-and-truck-containment-system-tanker-containment/tri-star-low-profile-containment-pad-tri-star-wash-pads-fuel-containments/)**

Description

Reviews (0)

Description

The Tri-Star MAX is a ¼" steel above-ground containment system designed for fuel or chemical trucks with large containment requirements. The Tri-Star MAX's modular design supports custom lengths and allows this heavy-duty steel system to be shipped on highways, or overseas in shipping containers.

Construction

Constructed of heavy-plate steel panels, and featuring the proven tri-linear wall design, thousands of Tri-Star MAX systems have been employed in military applications for more than fifteen years now without a single reported wall failure. Each panel is fully encapsulated in a heavy fiberglass (with glass mat) protective coating, many times thicker than any paint, to provide maximum protection over the long

haul. The sump is comprised of horizontal panels with overlapping seams which are bolted together to compress a gasket/caulk sealant for a watertight surface. Various gasket/caulk materials can be used for compatibility with various fuel and chemical exposures. Each system is completed with drain ports in all four corners, and filter berms with ball valves for rainwater management. Systems include tie-downs to anchor the structure to the substrate and Line-of-Sight Poles to assist drivers entering and exiting the systems.

Customizable Dimensions

Our surface-mounted, modular, drive-in Tri-Star MAX spill containment system has standardized widths of 13′ wide and 16′ wide and is assembled with 7′ length panels. The length can be extended by 7’ lengths to the desired length. Standard wall heights are 6”H, 8”H and 9”H. Width, Length and Height can be adjusted to meet containment capacity requirements, or the containment vessels dimension requirements.

DOD/Government Uses

Our 13′ wide system is the ideal containment system for the 2,500 Gallon HEMTT Fuel Tanker used for Forward-Arming and Army Refueling Points. Our 16′ wide system is the ideal containment system for the R11 Fuel Tanker used by the Air Force. For other tanker size, capacity and fuel tank containment requirements the Tri-Star MAX has customizable dimensions. We also provide various other Tri-Star containment product options along with other portable tanker and tank containment options.

Standard Sizes

Part #CST-MAX421309: 42’ x 13’ x 9” Tri-Star MAX Spill Containment System for HEMTT Refueler
Part #CST-MAX421609: 42’ x 16’ x 9” Tri-Star MAX Spill Containment System for Fuel Tankers

Customizable

Part #CST-MAX071309: 7’ x 13’ x 9” Tri-Star MAX Panel. (Adjustable by 7’ Lengths)
Part #CST-MAX071609: 7’ x 16’ x 9” Tri-Star MAX Panel. (Adjustable by 7’ Lengths)
***Standard wall height is 9”. 6” and 8” High Walls are available.

Tri-Star MAX’s modular construction allows the disassembled panels to be stacked for shipment over the highways or containerized for shipment overseas.

Ramps: The interior half of the ramp system is integral to the end panel. The outside half of the ramp system bolts onto the assembled structure.

Ramps come in three standard lengths:
“X” Ramps extend out for the ramp peak 3ft in both directions, 6ft total. These ramps are sufficient for most military tanker trucks.“XX” Ramp extends out from the ramp peak 5ft in both directions, 10ft total. Large AF R-11 refuelers and most large commercial refuelers are comfortable with this ramp.“XXX” Ramp extends out from the ramp peak 8ft in both directions, 16ft total. This ramp is occasionally used for very large refuelers, or situations where site conditions dictate a longer ramp.

All Tri-Star MAX Truck Containment Systems come with up to four large (1-1/2”) female threaded Drain Ports. Generally located in each corner. The open floor plan allows for rainwater to flow freely to the lowest corner. The Drain Ports can be secured with a Filter Berm on the inside of the drain, and a Ball Valve on the outside, to safely control rainwater releases from the system.

Half inch thick steel tie-downs are used at every joint to secure the system to the substrate. Understanding that a 42’ long full size Tri-Star containment system with ramps at either end weighs approximately 13,000 lbs. and isn’t going anywhere.

System is completed with Line-of-Sight poles; break-away design that gives the driver a visual point of reference entering and leaving the system.

Need additional capacity… Plumb systems together to share capacity. The five systems pictured to the left were plumbed together to create more than 14,000 gallons of surface containment!

Add a Tri-Star Canopy for protection from the elements. The canopies are surface mounted; no ground penetration. A heavy-duty anchor is attached to the rugged tri-linear sidewall, and the canopy poles are secured to these anchors. Designed to withstand winds to 80 mph.

We now offer surface-mounted steel building! These can be ordered complete with roll-up doors and man-doors.

See additional images of Tri-Star Tanker Truck Containment (https://www.containmentcorp.com/product-gallery/) in our photo gallery!

Related products

Tri-Star Containment Pad Steel Buildings

Request Quote

(https://www.containmentcorp.com/product/tri-star-containment-pad-steel-buildings-2/)

Request a Quotation

Inquire (/product/the-tri-star-max-%C2%BC-steel-above-ground-containment-system/?add-to-quote=132)

Tri-Star Containment Pad

Request Quote

(https://www.containmentcorp.com/product/tri-star-containment-

pad/)

Request a Quotation

Inquire (/product/the-tri-star-max-%C2%BC-steel-above-ground-containment-system/?add-to-quote=131)

Contact Info

Containment Corp.
42045 Remington Ave.,
Suite 112 Temecula, CA 92590
requests@containmentcorp.com
(800) 235-7421 (541) 550-2015

The EPA Blog

(https://blog.epa.gov/) The EPA Blog (https://blog.epa.gov/)

Celebrating Pollution Prevention Week (https://blog.epa.gov/2019/09/16/celebrating-pollution-prevention-week/)
September 16, 2019
By Alexandra Dapolito Dunn Assistant Administrator for the Office of Chemical Safety and Pollution Prevention
Please join me in celebrating Pollution Prevention Week, September 16-22, 2019! It's been almost 30 years since Congress passed the Pollution Prevention Act of 1990, … Continue reading →
Widener.Charles epa.gov

Videos

(https://www.containmentcorp.com/video-gallery/)

GSA Contract

GSA Contract Holder Contract GS-07F-0092T (https://www.gsaadvantage.gov/advantage/contractor/contractor_detail.do?mapName=/catalog/product_detail&oid=904946960&contractNumber=GS-07F-0092T&itemNumber=48-BRK-DLX-8)

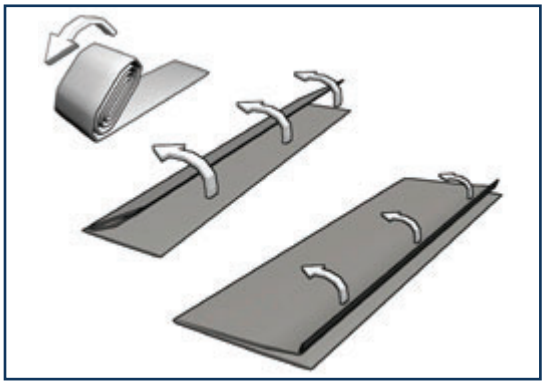
(https://www.containmentcorp.com/#)

Portable Spill Berms

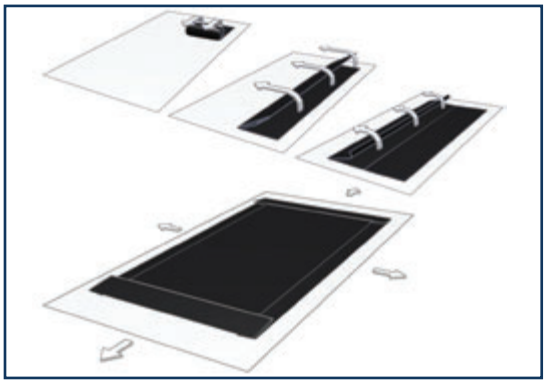
Portable secondary containment berms

- One piece pop-up berm is ready to use
- Bracketed berm easily sets up in minutes
- Manufactured with UV and chemically resistant membranes
- Durable and light-weight
- Portable, reusable, and repairable
- Prompt manufacturing lead time
- Custom designs engineered to meet your specific needs

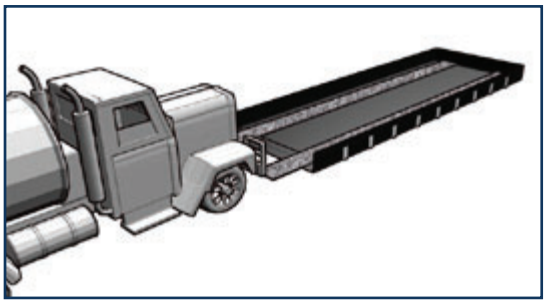
Berm Installation



1. Unpack all components and locate the ground cover. The ground cover is the thick cloth type material. Unfold the ground cover and position it in the desired location.

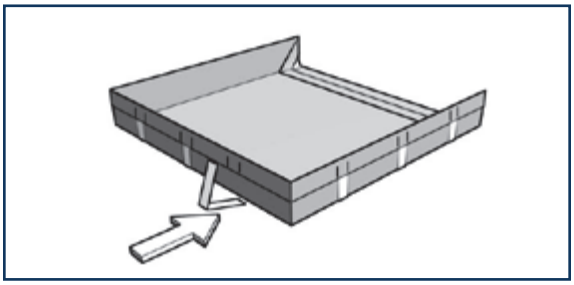


2. Next, locate the spill berm. Unfold the spill berm and center it on top of the ground cover.



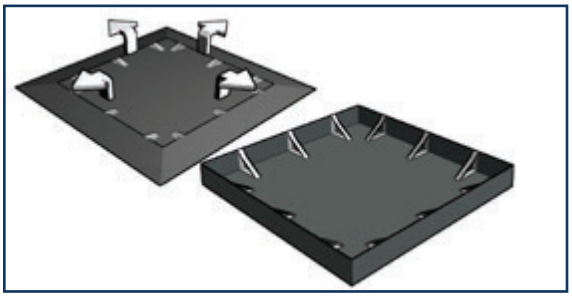
3. If the optional track guard is used, position it on top of the erected berm.

Bracketed Berm



For the bracketed berm, locate the aluminum angle brackets. Insert the angle brackets into the perimeter pockets on three sides of the spill berm. Use the unsupported end for equipment entry. After equipment is in place, insert the angle brackets on the fourth side to complete the installation.

Pop Up Berm



For the InstaBerm, pull all four sidewalls of the spill berm outward so that they are standing upright. Straighten the top angles of the wall supports inside the berm. The walls will move further outward as the berm is filled.

APPLICATIONS

- Roll-off Containers
- Tanker Trucks
- Frac Tanks
- Decon Wash Pads
- Emergency Response
- Drum Storage
- Portable Pumps

ATTACHMENT C

Water Treatment Train Schematic

Key:
Piping/Hose
Butterfly Valve
Pressure Gauge
Ball Valve
Sample Port
Vapor Line
Contingent
Secondary Containment
Flow Meter

To Atmosphere

Blower

1,000 lb Vapor-Phase Carbon Vessels

Covered
18,000 Gallon Weir Tank

18,000 Gallon Clarifier

Influent

pH Adjustment System

Contingent Chemical Aided Settling System

Centrifugal Pump Skid

Bag Filtration

5,000 lb Zeolite Media Vessel

5,000 lb Granular Activated Carbon Vessel

5,000 lb Zeolite Media Vessel

5,000 lb Granular Activated Carbon Vessel

Effluent/Discharge

Covered
18,000 Gallon Weir Tank

18,000 Gallon Clarifier

pH Adjustment System

Contingent Chemical Aided Settling System

5,000 lb Granular Activated Carbon Vessel

Cartridge Filtration

5,000 lb Resin Media Vessel

5,000 lb Granular Activated Carbon Vessel

Cartridge Filtration

5,000 lb Resin Media Vessel

21,000 Gallon Frac Tank

21,000 Gallon Frac Tank

21,000 Gallon Frac Tank

21,000 Gallon Frac Tank

Submersible Pump w/ Float

STATE OF NEW YORK
JOHN J. HENRY
081764
LICENSED PROFESSIONAL ENGINEER

Notes:

1.) Figure is not to scale
2.) System rated for 500 GPM

Lockwood Remediation Technologies, LLC
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DESIGNED BY: LRT DRAWN BY: JHJ

CHECKED BY: DATE:

Water Treatment System Schematic

Hunts Point Former MGP Site
Bronx, NY

PROJECT No.
2-1944

FIGURE No.
1