



## LAUREL ENVIRONMENTAL ASSOCIATES, LTD.

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May 30, 2012

New York City Office of Environmental Remediation  
City Brownfield Cleanup Program  
c/o Mr. Shaminder Chawla  
100 Gold Street, 2nd Floor  
New York, NY 10038

Re: NYC VCP Project #12CVCP054K  
107 Union Street, Brooklyn, NY  
Remedial Action Work Plan (RAWP) Stipulation List

Dear Mr. Chawla,

Laurel Environmental, Inc. hereby submits a Remedial Action Work Plan (RAWP) Stipulation List for 107 Union Street (the Site) to the New York City Office of Environmental Remediation (OER) on behalf of Passiv House Xperimental, LLC. This letter serves as an addendum to the RAWP to stipulate additional content, requirements, and procedures that will be followed during the site remediation. The contents of this list are added to the RAWP and will supersede the content in the RAWP where there is a conflict in purpose or intent. The additional requirements/procedures include the follow:

### Stipulation List

1. A pre-approval letter from all disposal facilities will be provided to OER prior to any soil/fill material removal from the site. Documentation specified in the Appendix C of the RAWP (Section 1.6 "Materials Disposal Off-Site") will be provided to OER. If a different disposal facility for the soil/fill material is selected, OER will be notified immediately.
2. A CD containing the final RAWP including this approved Stipulation List will be placed in the library that constitutes the primary public repository for project documents.
3. Signage for the project will include a sturdy placard mounted in a publically accessible right of way to building and other permits signage will consist of the NYC BCP Information Sheet (attached Appendix 1) announcing the remedial action. The Information sheet will be printed out on 8" x 11.5" paper, laminated and permanently affixed to the placard.
4. This NYC BCP project involving the removal and transportation of hazardous waste may be subject to the New York state Department of Environmental Conservation's Special Assessment Tax (ECL 27-0923) and Hazardous Waste Regulatory Fees (ECL 72-00402). See DEC's website for more information: <http://www.dec.ny.gov/chemical/9099.html>.

5. The manufacturer's specification sheets for high density polyethylene (HDPE) vapor barrier with a minimum thickness of 20 mils are attached to Appendix 2, as OER requirements. The proposed ground floor with vapor barrier layout map has been amended to include the name of the vapor barrier and is attached to Appendix 3.
6. The criterion attached in Appendix 4 will be utilized if petroleum-containing tanks or vessels are identified during remediation or the subsequent redevelopment excavation activities. All petroleum spills will be reported to the NYSDEC Spill hotline, as required by applicable laws and regulations. This contingency plan is designed for heating oil tanks and other small or moderately-sized storage vessels. If larger tanks, such as gasoline storage tanks are identified, OER will be notified before this criterion is utilized.

Sincerely,



Scott Yanuck

cc: M. Mandac, OER

**Appendix 1**  
**NYC BCP Signage**



**NYC Brownfield Cleanup Program**

**107 Union Street  
Site #: 12CVCP054K**

This property is enrolled in the New York City Brownfield Cleanup Program for environmental remediation. This is a voluntary program administered by the NYC Office of Environmental Remediation.

For more information, log on to:

[www.nyc.gov/oer](http://www.nyc.gov/oer)

Or scan with smart phone:



If you have questions or would like more information, please contact:

Shaminder Chawla at (212) 788-8841  
or email us at [brownfields@cityhall.nyc.gov](mailto:brownfields@cityhall.nyc.gov)

## **Appendix 2**

### **Manufacturer's Specification Sheets for Vapor Barrier**



# Guide Specification **VBC-350(31mil) Composite Vapor Retarder**

UNDER-SLAB VAPOR RETARDER (03300 & 07260)

## PART I – GENERAL

### 1.1 SUMMARY

#### A. Products Supplied Under This Section

1. Vapor Retarder, Seam Tape & Accessories manufactured for installation under concrete slabs. (Acceptable) Vapor Retarder must have the following physical properties, qualities, and performance characteristics:
    - a. ISO Certified 100% high-grade virgin polyolefin resins – No recycled polyethylene.
    - b. Minimum thickness of 15 mils for plastic membrane.
    - c. Manufactured in the USA; marketed and sold by a true manufacturer; (No Imported, Private Labeled, Outsourced, or Toll Manufactured products accepted)
    - d. Products from ISO 9001 Certified Manufacturers.
    - e. Products and accessories which are stocked, supplied and readily available as needed in project locale.
    - f. Manufactured for the following uses in protecting against – moisture, radon gas, methane gas and sulphates.
    - g. Water Vapor Permeance (WVP) equal to or less than 0.007 (US Perms) and Water Vapor Transmission (WVT) equal to or less than 0.002 (g/hr/m<sup>2</sup>) - Products with WVP higher than 0.007 (US Perms) will NOT be accepted.
    - h. Manufacturer that will provide current independent third (3<sup>rd</sup>) party testing results; third (3<sup>rd</sup>) party testing to be provided by the manufacturer; and NOT a marketing, private label or out-sourcing entity. The ACTUAL manufacturer name and address must be identified to the requesting party.
    - i. Manufacturer providing current “Letters of ISO 9001 Certification”.
    - j. Must provide a “Certificate of Origin” upon request.
  2. Contact Inteplast Group for specific information on how Barrier-Bac contributes to project LEED rating, and/or ASTM E-2129 (Standard Practice for Data Collection for Sustainability Assessment of Building Products)
- #### B. Related Sections
1. Section 03300 Cast-in-place Structural Concrete
  2. Section 07260 Under-Slab Vapor Retarder

### 1.2 REFERENCES

#### A. American Society for Testing and Materials (ASTM)

1. ASTM E 1745-09 Standard Specification for Plastic Water Vapor Retarders Used in Contact with Soil or Granular Fill Under Concrete Slabs.
2. ASTM E 154 Standard Test Methods for Water Vapor Retarders Used in Contact with Earth Under Concrete Slabs.
3. ASTM E 96 Standard Test Methods for Water Vapor Transmission of Materials.
4. ASTM E 1643 Standard Practice for Installation of Water Vapor Retarders Used in Contact with Earth or Granular Fill Under Concrete Slabs.
5. ASTM D 903 Standard Test Method for Peel or Stripping Strength of Adhesive Bonds.

#### B. American Concrete Institute (ACI)

1. ACI 302.2R-06 Vapor Barrier Component (plastic membrane) is not less than 10 mils thick.



IntePlus® XF FILM

## Guide Specification **VBC-350(31mil) Composite Vapor Retarder**

UNDER-SLAB VAPOR RETARDER (03300 & 07260)

### 1.3 SUBMITTALS

#### A. Quality Control / Assurance

1. Submit CURRENT Laboratory test results showing compliance with ASTM & ACI Standards.
2. Submit CURRENT Third Party test results.
3. Submit Manufacturers Product Samples & Literature.
4. Manufacturer's installation instructions for placement, seaming and pipe boot installation.
5. Products that DO NOT MEET ALL criteria in section (1.1A -1.) will not be accepted.
6. Provide all letters, certificates and documentation required in section (1.1A-1.) with submittals.

## PART II – PRODUCTS

### 2.1 MATERIALS

#### A. Vapor Retarder

Specifier Note: For greater concrete peel adhesion (more than 4 lbs / in) when required by Architect & Engineer (1.) such as, post tension concrete, fiber reinforced concrete applications, shifting soil or sub-grade settlement conditions; (2.) when critical floor finish is needed (such as colored, stained or polished concrete); (3.) under gym floors, mechanical room or computer room floors; (4.) when being utilized in Brownfield Development Projects – Barrier-Bac VBC-350 (Composite) Membrane may be more suitable

1. Must be ISO Certified 100% high-grade virgin polyolefin resin (High Density Polyethylene - HDPE) vapor retarder film. Film thickness alone must be 15 mils or greater – reinforcing scrims or backing cannot be basis for minimum mil thickness.

a. Water Vapor Permeance	ASTM E 96	0.007 Perms (US)
b. Water Vapor Permeance	ASTM E 96	0.002 Perms (Metric)
c. Water Vapor Retarder	ASTM E 1745	Meets Class A (Plastics)
d. Tensile Strength	ASTM D 882	136 lbs/in
e. Puncture Resistance	ASTM D 1709	5210 grams
f. Life Expectancy	ASTM E 154	Indefinite
g. Chemical Resistance	ASTM E 154	Unaffected
h. Peel Adhesion to Concrete	ASTM D 903	8 lbs/in

2. Vapor Retarder Products

- a. Barrier-Bac VBC-350 by Inteplast Group – 877-535-0555 – [www.barrierbac.com](http://www.barrierbac.com)
- b. Underslab 2 by Polyguard Products – 800-541-4994 - [www.polyguardproducts.com](http://www.polyguardproducts.com)
- c. Florprufe 120 by Grace Construction Products – [www.na.graceconstruction.com](http://www.na.graceconstruction.com)



IntePlus® XF FILM

## Guide Specification **VBC-350(31mil) Composite Vapor Retarder**

UNDER-SLAB VAPOR RETARDER (03300 & 07260)

### 2.2 ACCESSORIES

#### A. Seam Options

1. Seam Tape must have the following qualities

- |  |                              |            |
|--|------------------------------|------------|
| a. Water Vapor Permeance                       | ASTM E 96                    | 0.01 Perms |
| b. Tensile Strength (lbs/in)                   | ASTM D 1970MD-20.09/TD-26.42 |            |
| c. Peel Adhesion (lbs/in)                      | ASTM C 794                   | 5.55       |
| d. Elongation to Break<br>(rubberized asphalt) | ASTM D 412                   | 320%       |
| e. Total Thickness                             | 30 mil                       |            |

2. Seam Tape

- a. Barrier-Bac Seam Tape by Inteplast Group – 877-535-0555 - [www.barrierbac.com](http://www.barrierbac.com)

3. Seam Weilding

- a. Seams may be heat welded if desired  
b. Contact Inteplast at 877-535-0555 for heat welding assistance

#### B. Pipe Boots

1. Construct pipe boots from vapor barrier material & seam tape per manufacturer details.

#### C. Multiple Penetrations (options based on specific jobsite conditions)

1. Construct pipe boots from Barrier-Bac membrane material & seam tape per manufacturer details.
2. Seal penetrations with waterproof seam tape per manufacturer details.
3. Seal penetrations with liquid detail sealant (1-part or 2-part).
4. Seal penetrations with self-leveling detail sealant (2-part).

## PART III – EXECUTION

### 3.1 PREPARATION

A. Ensure that subsoil is approved by architect or geotechnical firm

1. Level and tamp or roll aggregate, sand or tamped earth base

### 3.2 INSTALLATION

A. Install Vapor Retarder:

1. Installation shall be in accordance with manufacturer's instructions and ASTM E 1643-98
  - a. Unroll Vapor Retarder w/ the longest dimension parallel with the direction of the pour.
  - b. Lap Vapor Retarder over footings and seal to foundation walls.
  - c. Overlap joints 6 inches and seal with manufacturer's tape.
  - d. Seal all penetrations (including pipes) per manufacturer's instructions.
  - e. No penetration of the Vapor Retarder is allowed except for reinforcing steel and permanent utilities.
  - f. Repair damaged areas by cutting patches of Vapor Retarder, overlapping damaged area 6 inches and taping all four sides with tape.



# Technical Data VBC-350(31 mil) Composite Vapor Retarder

DIVISION: 07260, 03300

## 1.0 PRODUCT NAME

VBC-350 (31 mil) Composite Vapor Retarder  
 Class A Vapor Retarder  
 Exceeds ASTM E 1745 class A, B & C  
 Vapor Retarder Specifications

## 2.0 MANUFACTURER

Inteplast Group  
 9 Peach Tree Hill Road  
 Livingston, NJ 07039

Technical Assistance  
 Tel: (877) 535-0555  
 Fax: (800) 709-6002

## 3.0 PRODUCT DESCRIPTION

Uses: Barrier-Bac VBC-350 (31 mil) Composite is a high performance under slab vapor retarder developed for the construction industry to retard moisture migration through concrete slabs. It may also be used to control radon, methane, sulphates and many other soil contaminants. Barrier-Bac VBC-350 (31 mil) Composite Vapor Retarder provides a mechanical bond with concrete when placed with geotextile facing concrete pour. This bond greatly improves slab protection from moisture migration by maintaining intimate contact with the slab. Typical uses include projects with expansive soil conditions, void formed slabs and high water tables.

## 3.1 COMPOSITION

Barrier-Bac VBC-350 (31 mil) Composite is manufactured to the highest standards with only high-grade, virgin polyolefin resins. The manufacturing process for the Barrier-Bac VBC-350 (31 mil) Composite is an 16 mil, three layer, co-extruded, cross-laminated system. The membrane is then laminated with a 15 mil non-woven polypropylene geotextile. Barrier-Bac VBC-350 (31 mil) Composite is manufactured in 6 ft × 150 ft rolls (900 ft<sup>2</sup>) and weighs approximately 94 lbs per roll.

## 4.0 TECHNICAL DATA

Applicable Standards:

ASTM, American Society for Testing & Materials

- ASTM E 1745 Standard Specification for Water Vapor Retarders used in Contact with Soil or Granular Fill Under Concrete Slabs.
- ASTM E 154 Standard Test Methods for Water Vapor Retarders used in Contact with Earth Under Concrete Slabs, on Walls, or as a Ground cover.
- ASTM D 1709 Standard Test Methods for Impact Resistance of Plastic Films by the Free Falling Dart Method.
- ASTM E 96 Standard Test Method for Water Vapor Transmission of Materials.
- ASTM D 882 Standard Test Method for Tensile Properties of Thin Plastic Sheeting.

Table 1: Physical Properties of VBC-350(31 mil) Composite Vapor Retarder

Thickness	—	31 mil
Peel Adhesion to Concrete	ASTM D 903	8 lbs/in
Tensile Strength	ASTM D 882	136 lbf/in
Puncture Resistance	ASTM D 1709	5210 grams
Vapor Barrier Classification	ASTM D 1745	Class A
Water Vapor Permeance	ASTM E 96	0.007 perms (US)
Life Expectancy	ASTM E 154	Indefinite
Chemical Resistance	ASTM E 154	Unaffected
Randon Transmission Rate	ASTM D 1434	0.062



## Technical Data

## VBC-350 (31 mil) Composite Vapor Retarder

DIVISION: 07260, 03300

### 4.0 TECHNICAL DATA (continued)

- ASTM E 1643 Standard Practice for installation of Water Vapor Retarders used in Contact with Earth or Granular Fill Under Concrete Slabs.

ACI, American Concrete Institute

- ACI 302.1 R-04 Minimum Thickness (10 mil)

### 5.0 INSTALLATION

Barrier-Bac VBC-350 (31 mil) Composite shall be installed with non-woven geo-textile facing up over tamped earth, sand or aggregate base by unrolling and completely covering area to receive building slab or specified area. Overlap all seams a minimum of 6 inches and seal with Barrier-Bac Seam Tape or heat weld. All penetrations must be sealed with Barrier-Bac membrane and Barrier-Bac Seam Tape per manufacturer's recommendations. Project specific details and recommendations provided by *Inteplast Group* upon request.

### 6.0 AVAILABILITY & COST

Barrier-Bac VBC-350 (31 mil) Composite is available nationally through our network of building supply companies. Please contact our corporate office for a distributor in your area. Barrier-Bac VBC-350 (31 mil) Composite is cost efficient. Pricing is obtained by contacting your local Barrier-Bac distributor or sales representative.

### 7.0 WARRANTY

We warrant and guarantee our specifications as published. Published test results are based upon accepted industry practice as well as the test methods called for and listed on our test documents. We believe, to the best of our knowledge, that our published results are accurate and reliable and that they represent our vapor retarder membrane. *Inteplast Group* cannot control site conditions and improper installation practices. Therefore, no warranty, expressed or implied, is given, including those of merchantability, fitness for a particular purpose or any other matter with respect to the product.

### 8.0 MAINTENANCE

No maintenance is required.

### 9.0 TECHNICAL SERVICES

Technical services for all of our products are obtained by calling our corporate office.

Corporate Office:  
(877)535-0555

### 10.0 FILING SYSTEMS

Barrier-Bac brochures are available from Barrier-Bac distributors, sales representatives, *Inteplast Group*, and on our web site: [www.BarrierBac.com](http://www.BarrierBac.com)



## INTEPLAST GROUP

OFFICE: 9 Peach Tree Hill Rd., Livingston, NJ 07039  
PLANT: 101 Inteplast Blvd., Lolita, TX 77971

TEL: 877-535-0555  
FAX: 800-709-6002

E-MAIL: [info@BarrierBac.com](mailto:info@BarrierBac.com)

WEB SITE: [www.BarrierBac.com](http://www.BarrierBac.com) / [www.inteplast.com](http://www.inteplast.com)

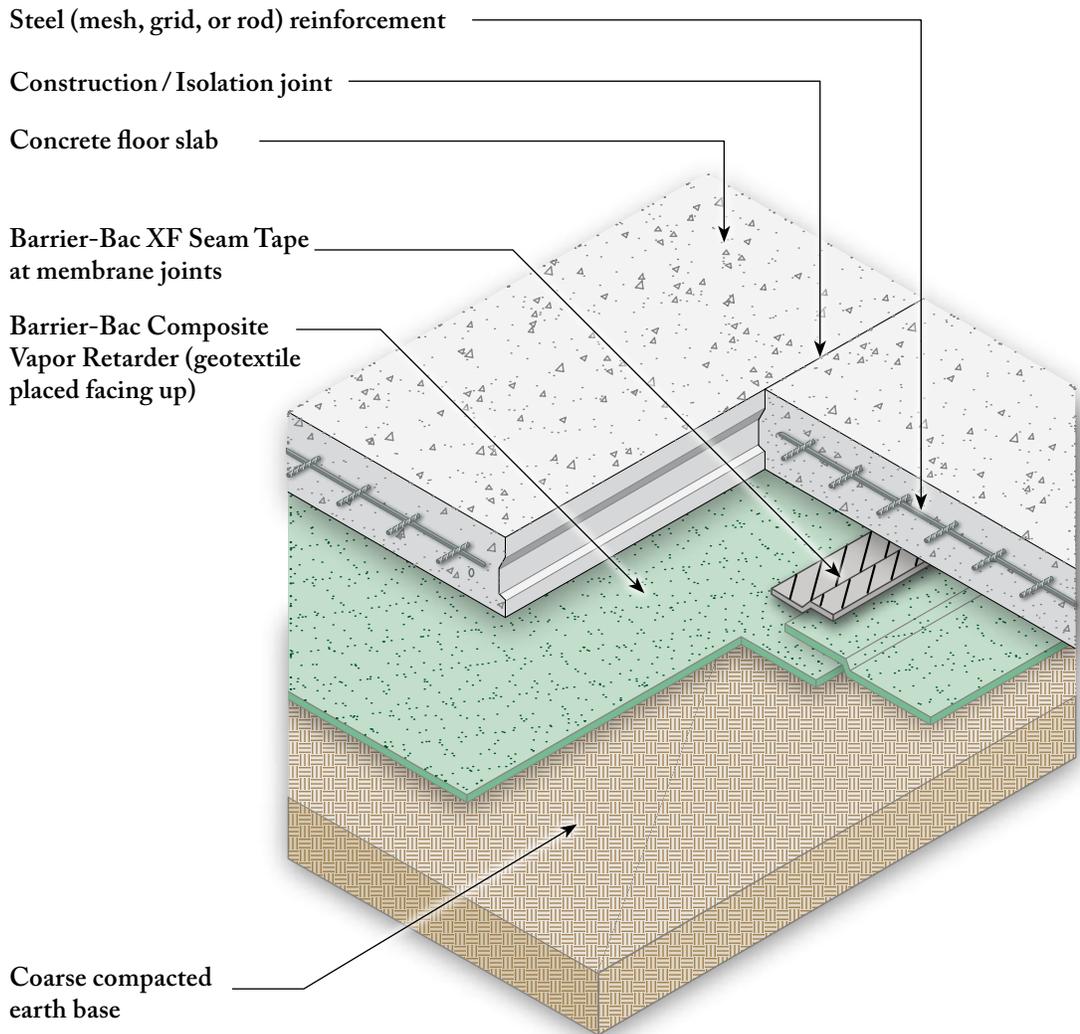
# **Installation Guidelines**

## **VBC Products**

## VBC Products Installation Guidelines

### Step 1A: Ground Surface Preparation : Earth Base

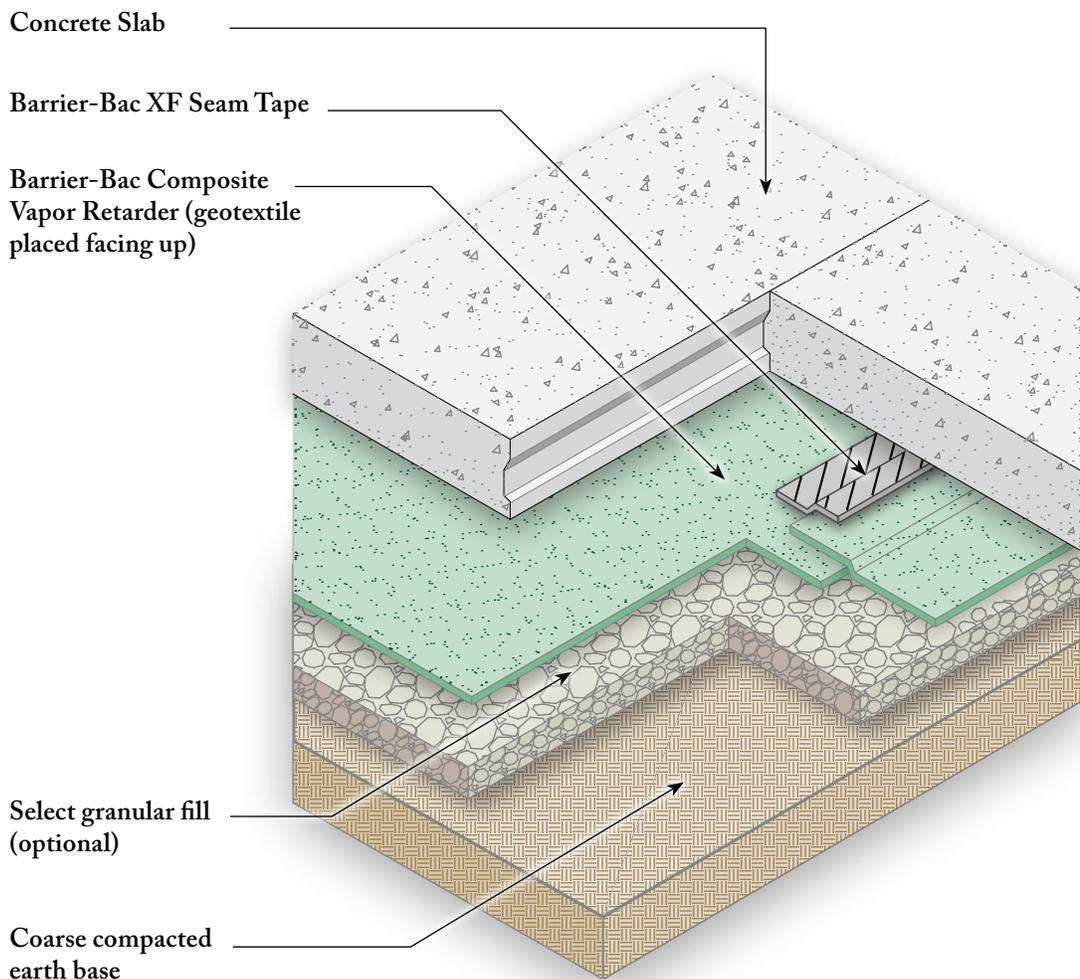
Select the suitable Barrier-Bac Composite product (VBC-350, 31 mil) and ensure the installation surface is relatively smooth. Although Barrier-Bac Composite products are extremely tough, installation is easier and more effective when done over a smooth base. However, Barrier-Bac composite may be installed directly over coarse compacted earth or sand base. The geo-textile fiber side must be facing up.



## VBC Products Installation Guidelines

### Step 1B: Ground Surface Preparation : Aggregate Base

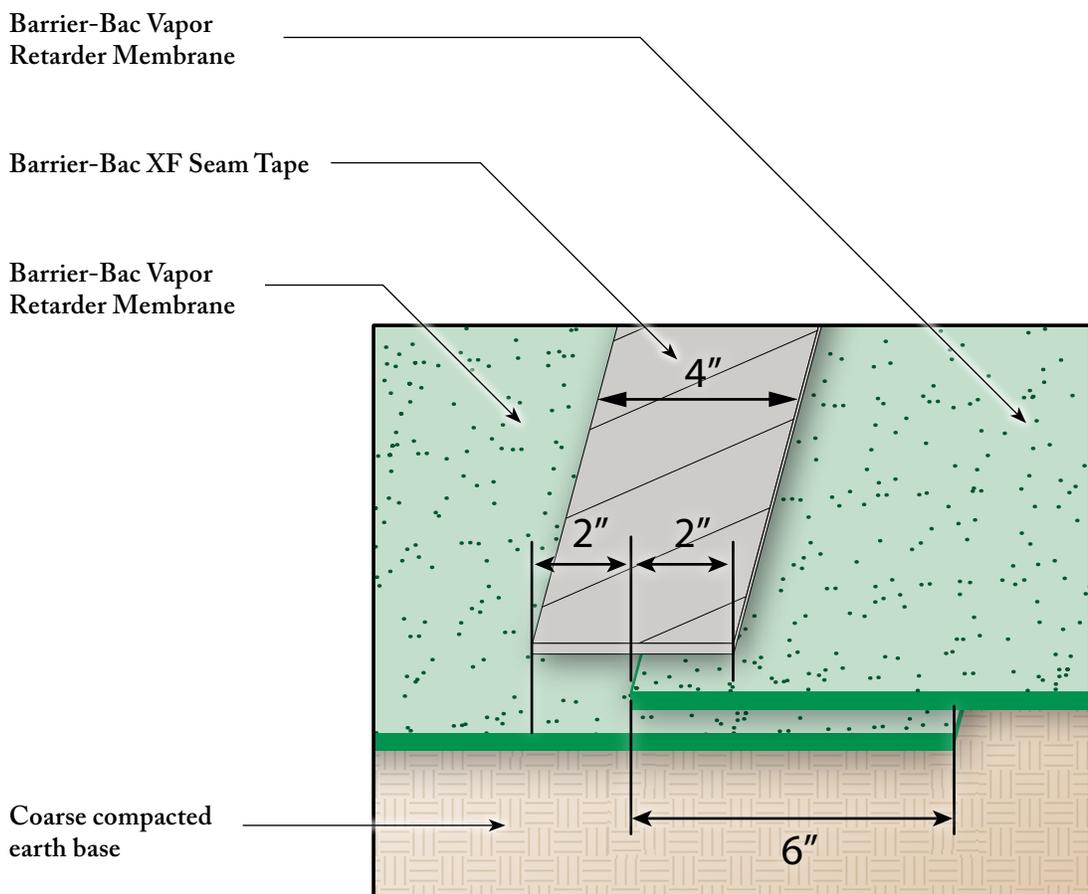
Select the suitable Barrier-Bac Composite product (VBC-350, 31 mil) and ensure the installation surface is relatively smooth. Although Barrier-Bac Composite products are extremely tough, installation is easier and more effective when done over a smooth base. It is optional to have a layer of granular fill under the Barrier-Bac Composite product. The geo-textile fiber side must be facing up.



## VBC Products Installation Guidelines

### Step 2: Unroll and overlap

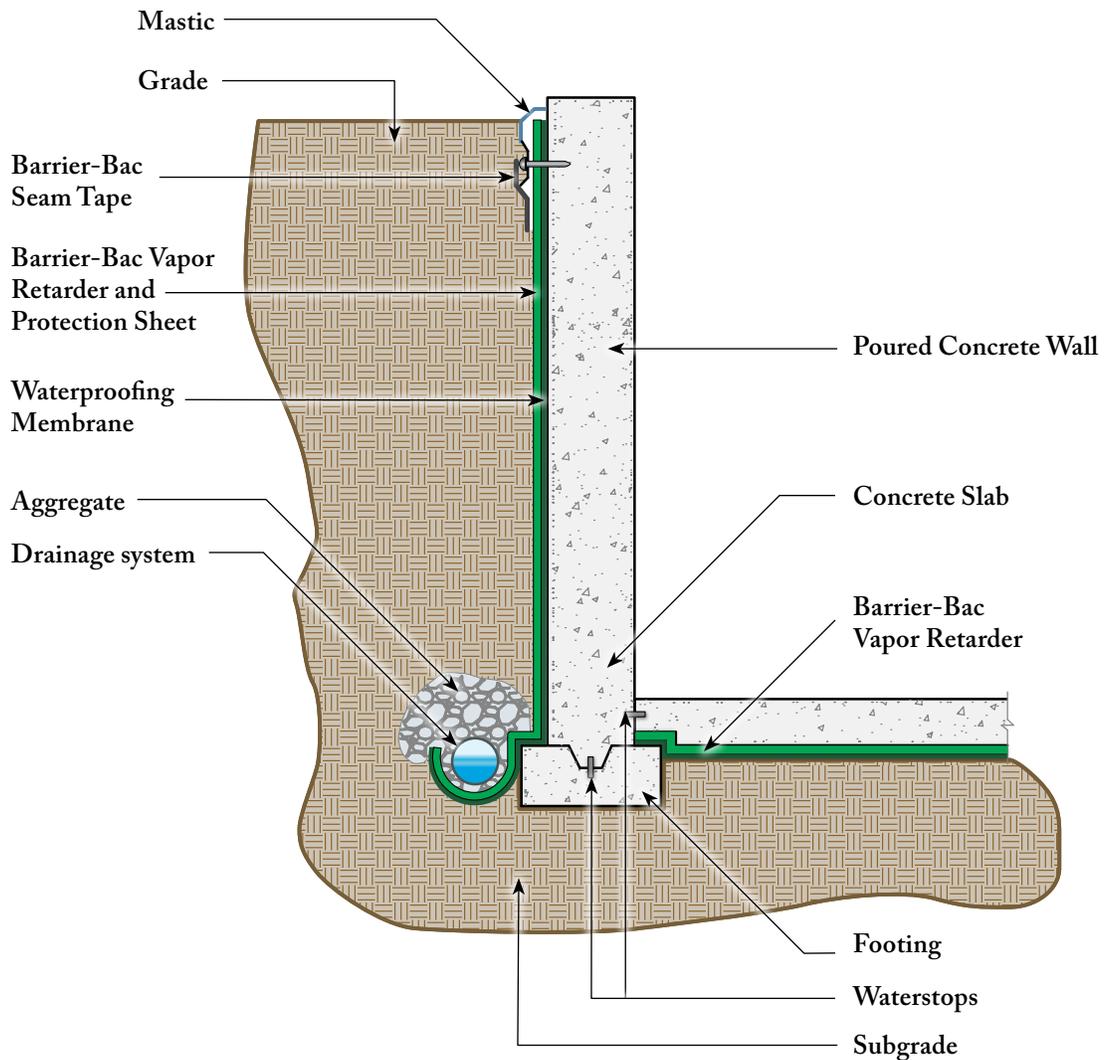
Barrier-Bac Composite Products should be unrolled to completely cover the pour area. Please place the geo-textile (black color) side facing up. Seams and/or joints can be joined using XF Seam Tape. The film should be overlapped six inches side-to-side and end-to-end. For VBC-350 Barrier-Bac Composite Vapor Retarder, the installation procedure is the same, but the geo-textile fiber side must be facing up.



## VBC Products Installation Guidelines

### Step 3: On Top of the Footing

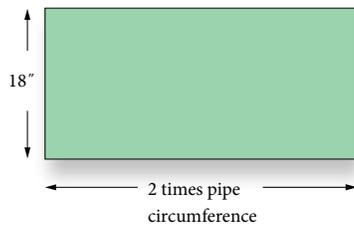
When vertical wall is involved, please place the membrane butt end on top of the footing and up against the vertical wall. This placement method will provide the needed protection from outside moisture following construction completion.



## VBC Products Installation Guidelines

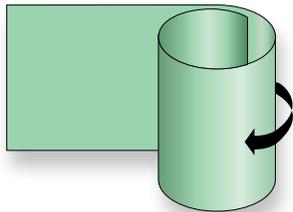
### Step 4A: Seal Penetrations - Round Penetrations

All penetrations must be sealed with the Barrier-Bac Composite and BB20T Seam Tape. For round pipe or posts, please seal penetrations with Pipe Boot.



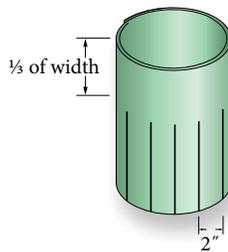
- 1 -

Measure a piece of Barrier-Bac Vapor Retarder membrane 18 inches in width and twice (two times) the circumference of the pipe.



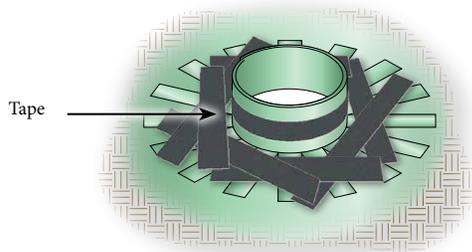
- 2 -

Roll the measured piece of membrane in a roll form approximately the size of pipe.



- 3 -

Flatten sized roll and make vertical cuts to approximately one-third of the width and two inches apart.



- 4 -

Open boot and wrap snugly around pipe, spreading cuts around base so strips lay horizontal to base.

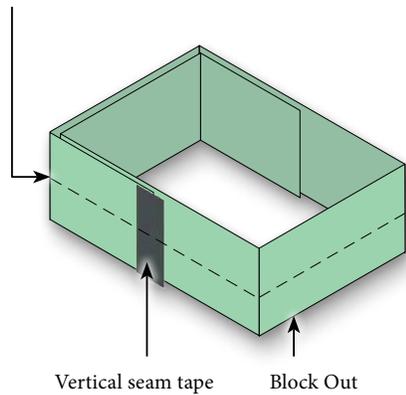
Tape around pipe circumference at top of boot, down side seam of boot and all two inch horizontal strips. Cover all seams of membrane with seaming tape.

## VBC Products Installation Guidelines

### Step 4B: Seal Penetrations - Square Penetrations

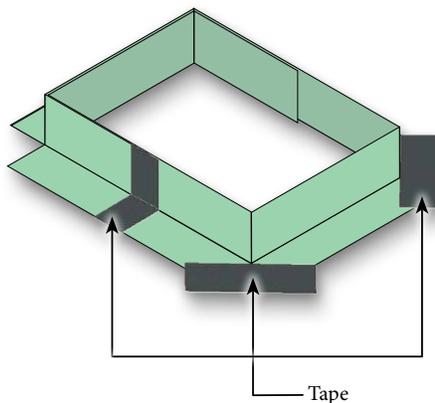
All penetrations must be sealed with the Barrier-Bac Composite and BB20T Seam Tape. For square posts, please seal penetrations with Block Out Seaming Methods.

Cut corners approximately half the height of Block Out



**- 1 -**

Cut a piece of Barrier-Bac Vapor Retarder Membrane twice the height and one and one-half the length of the perimeter of the Block Out. Wrap membrane around Block Out and temporarily tape vertical seam.



**- 2 -**

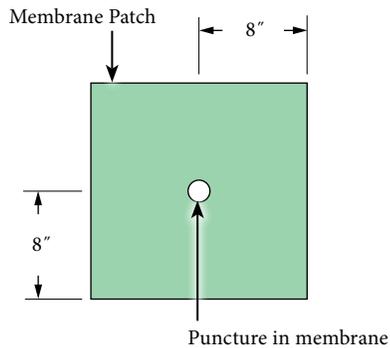
Make cuts in each of the four corners approximately half the height of the Block Out. Remove formed Block Out membrane form, flip over and replace on Block Out spreading flaps to horizontal position.

Tape all flaps securely with Barrier-Bac Seam Tape.

## VBC Products Installation Guidelines

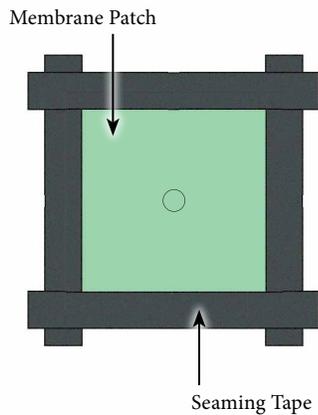
### Step 5: Patch Damages and Pour Concrete

All damages to the film must be sealed prior to pouring. Patch all damaged areas with Barrier-Bac Composite products and Seam Tape prior to concrete pouring. Concrete may be poured directly onto Barrier-Bac Composite Product – VBC-350(31 mil).



**- 1 -**

Cut a piece of Barrier-Bac Vapor Retarder in a square large enough so sides of patch extend eight inches from side of puncture.

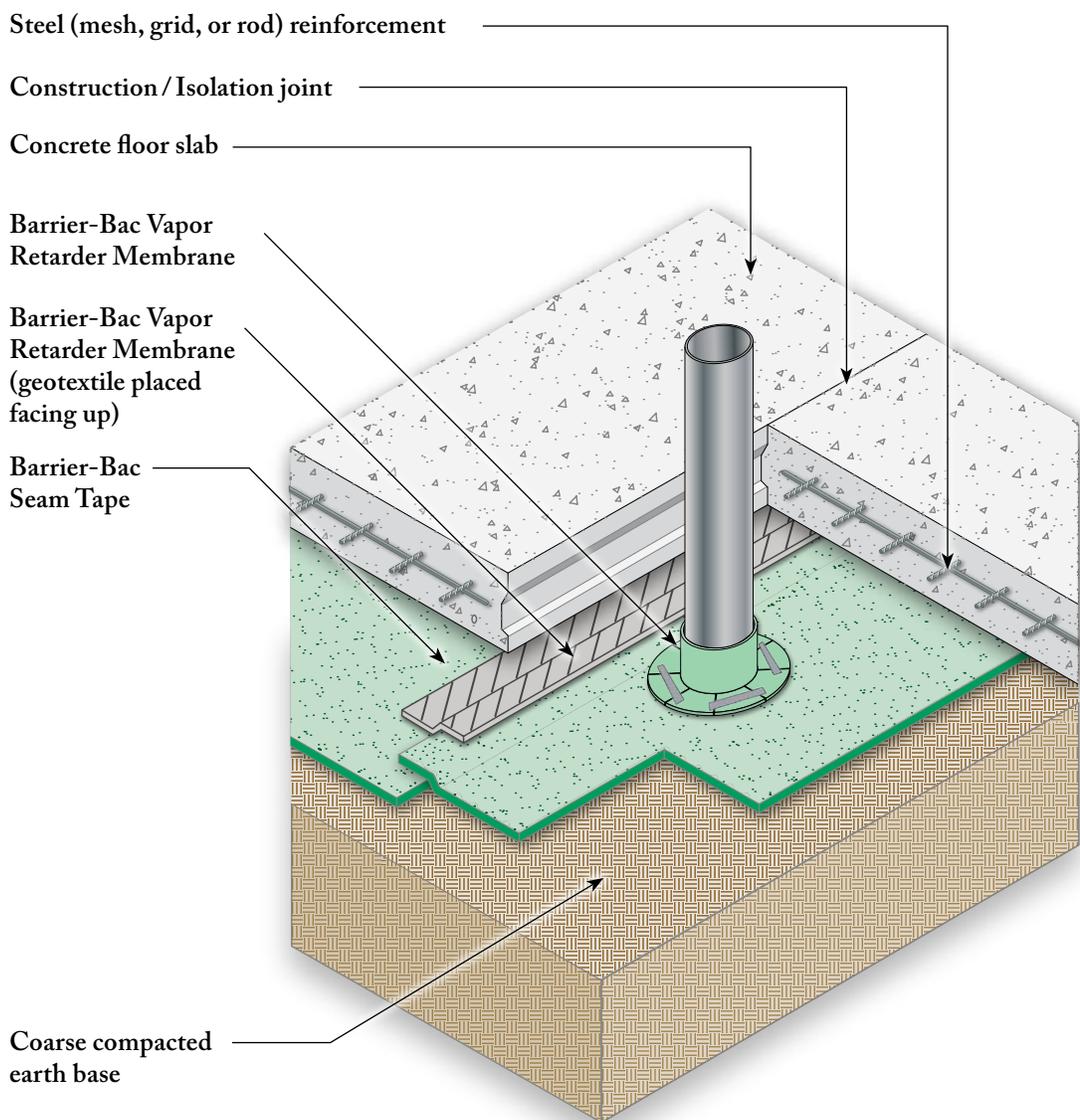


**- 2 -**

Cover damaged portion with membrane patch and secure all patch seams with Barrier-Bac Seam Tape.

## VBC Products Installation Guidelines

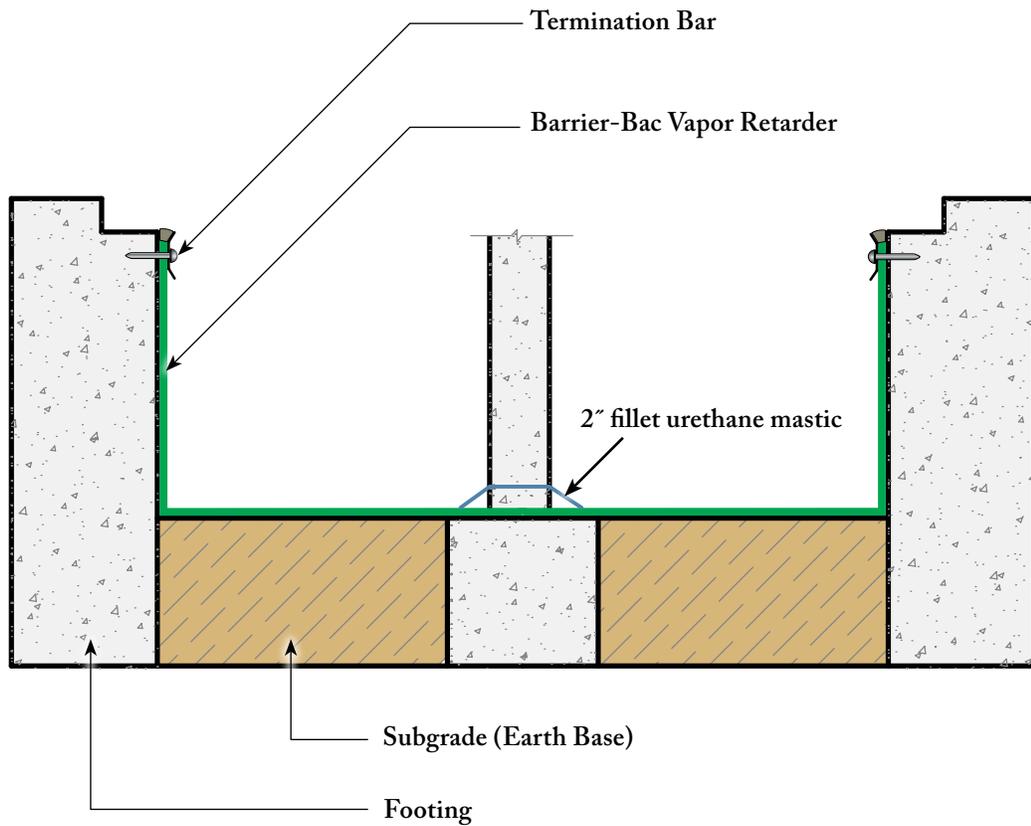
Other Drawings: Barrier-Bac Composite Vapor Retarder under concrete slab to footing with pipe penetration detail



\* See details at pipe penetration

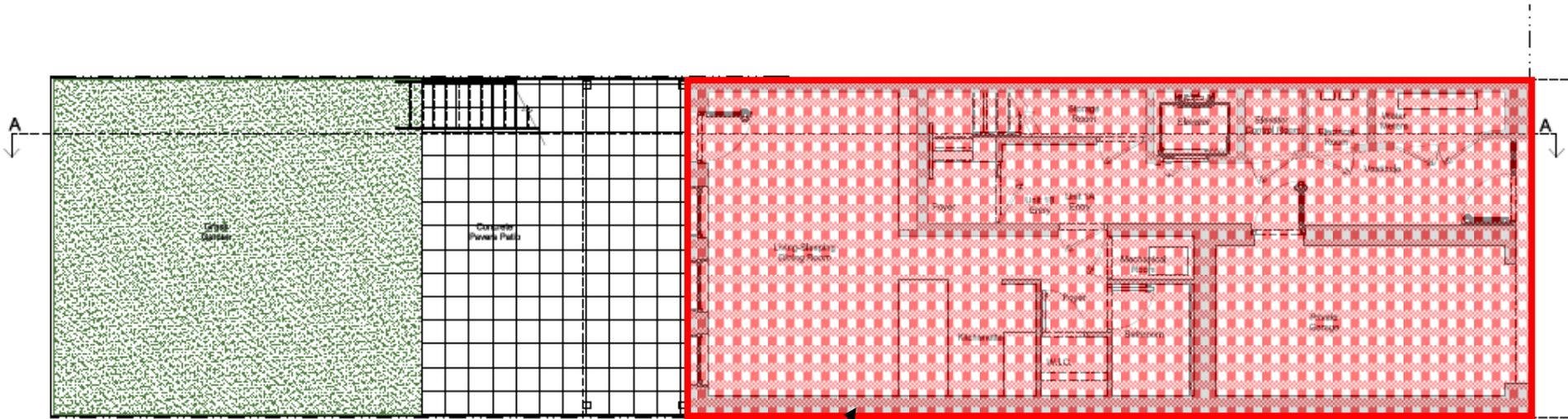
## VBC Products Installation Guidelines

Other Drawings: Barrier-Bac crawl space detail



## **Appendix 3**

### **Map of Proposed Ground Floor with Vapor Barrier Layout**



1 First Floor  
3/32" = 1'-0"

**Inteplast Group Barrier-Bac VBC-350- Sub-Slab Membrane**  
This 31-mil barrier will be located beneath the entire footprint of the proposed building



53 West Hills Road  
Huntington Station, NY 11746

PHONE: 631-673-0612  
FAX: 631-427-5323

**FIGURE 7.0**  
PROPOSED GROUND FLOOR  
WITH VAPOR BARRIER LAYOUT

107 UNION STREET  
BROOKLYN  
NEW YORK

PROJECT # : 12-152  
DRAWING DATE: 5-30-2012  
DRAWN BY: CJC  
CHECKED BY: SAY



NOT TO SCALE

LEA makes no guarantees as to the accuracy of this drawing and it should only be used for informational purposes.

SIDEWALK

## **Appendix 4**

# **Generic Procedures for Management of Underground Storage Tanks Identified under the NYC BCP**

# **GENERIC PROCEDURES FOR MANAGEMENT OF UNDERGROUND STORAGE TANKS IDENTIFIED UNDER THE NYC BCP**

Prior to Tank removal, the following procedures should be followed:

- Remove all fluid to its lowest draw-off point.
- Drain and flush piping into the tank.
- Vacuum out the “tank bottom” consisting of water product and sludge.
- Dig down to the top of the tank and expose the upper half.
- Remove the fill tube and disconnect the fill, gauge, product, vent lines and pumps. Cap and plug open ends of lines.
- Temporarily plug all tank openings, complete the excavation, remove the tank and place it in a secure location.
- Render the tank safe and check the tank atmosphere to ensure that petroleum vapors have been satisfactorily purged from the tank.
- Clean tank or remove to storage yard for cleaning.
- If the tank is to be moved, it must be transported by licensed waste transporter. Plug and cap all holes prior to transport leaving a 1/8 inch vent hole located at the top of the tank during transport.
- After cleaning, the tank must be made acceptable for disposal at a scrap yard, cleaning the tanks interior with a high pressure rinse and cutting the tank in several pieces.

During the tank and pipe line removal, the following field observations should be made and recorded:

- A description and photographic documentation of the tank and pipe line condition (pitting, holes, staining, leak points, evidence of repairs, etc.).
- Examination of the excavation floor and sidewalls for physical evidence of contamination (odor, staining, sheen, etc.).
- Periodic field screening (through bucket return) of the floor and sidewalls of the excavation, with a calibrated photoionization detector (PID).

## Impacted Soil Excavation Methods

The excavation of the impacted soil will be performed following the removal of the existing tanks. Soil excavation will be performed in accordance with the procedures described under Section 5.5 of Draft DER-10 as follows:

- A description and photographic documentation of the excavation.
- Examination of the excavation floor and sidewalls for physical evidence of contamination (odor, staining, sheen, etc.).
- Periodic field screening (through bucket return) of the floor and sidewalls of the excavation, with calibrated photoionization detector (PID).

Final excavation depth, length, and width will be determined in the field, and will depend on the horizontal and vertical extent of contaminated soils as identified through physical examination (PID response, odor, staining, etc.). Collection of verification samples will be performed to evaluate the success of the removal action as specified in this document.

The following procedure will be used for the excavation of impacted soil (as necessary and appropriate):

- Wear appropriate health and safety equipment as outlined in the Health and Safety Plan.
- Prior to excavation, ensure that the area is clear of utility lines or other obstructions. Lay plastic sheeting on the ground next to the area to be excavated.
- Using a rubber-tired backhoe or track mounted excavator, remove overburden soils and stockpile, or dispose of, separate from the impacted soil.
- If additional UST's are discovered, the NYSDEC will be notified and the best course of action to remove the structure should be determined in the field. This may involve the continued trenching around the perimeter to minimize its disturbance.
- If physically contaminated soil is present (e.g., staining, odors, sheen, PID response, etc.) an attempt will be made to remove it, to the extent not limited by the site boundaries or the bedrock surface. If possible, physically impacted soil will be removed using the backhoe or excavator, segregated from clean soils and overburden, and staged on separated dedicated plastic sheeting or live loaded into trucks from the disposal facility. Removal of the impacted soils will continue until visibly clean material is encountered and monitoring instruments indicate that no contaminants are present.
- Excavated soils which are temporarily stockpiled on-site will be covered with tarp material while disposal options are determined. Tarp will be checked on a daily basis and replaced, repaired or adjusted as needed to provide full coverage. The sheeting will be shaped and secured in such a manner as to drain runoff and direct it toward the interior of the property.

Once the site representative and regulatory personnel are satisfied with the removal effort, verification of confirmatory samples will be collected from the excavation in accordance with DER-10.