



STATE OF TENNESSEE
DEPARTMENT OF ENVIRONMENT AND CONSERVATION
Division of Solid Waste Management
Fifth Floor, L & C Tower
401 Church Street
Nashville, Tennessee 37243-1535

December 29, 2006

Mr. Ron Loving
Plant Manager
Velsicol Chemical Corporation
1199 Warford Street
Memphis, TN 38108

RE: Approval of a Class 3 Modification
Velsicol Chemical Corporation
Memphis, Tennessee
Unit: Container Storage
EPA ID No.: TND 00 702 4664
Permit No.: TNHW-109
Modification Number: 5 (D-32)

Dear Mr. Loving:

Enclosed is a copy of the Class 3 Modification for the above referenced permit. This modification is in accordance with Tennessee Hazardous Waste Management Rule 1200-1-11-.07(9)(c) and became effective as of the above date.

If you have any questions, please contact Mr. Clayton Bullington of my staff at (615) 532-0859.

Sincerely,

A handwritten signature in cursive script, reading "William Krispin", is positioned above the typed name.

Mr. William Krispin
Manager
Permitting Sections

Enclosures

cc: Ms. Angela Ivory, Treatment, Storage and Disposal Section
Mr. Clayton Bullington, Corrective Action Section
Mr. Phil Davis, Memphis Environmental Field Office
Mr. Jon Johnston, Chief, RCRA Branch, EPA, Region 4
Mr. Gary Hermann, Memphis Environmental Center

State of Tennessee
Department of Environment and
Conservation
Division of Solid Waste Management

Hazardous Waste Management
Program
5th Floor, L & C Tower
401 Church Street
Nashville, TN 37243-1535

**MODIFICATION TO
HAZARDOUS WASTE MANAGEMENT FACILITY PERMIT**

Permittee: Velsicol Chemical Corporation
Owner: True Specialty Corporation
Operator: Velsicol Chemical Corporation
Location: 1199 Warford Street, Memphis, Tennessee 38108
EPA ID Number: TND 00 702 4664
Permit Number: TNHW-109
Unit: Container Storage
Modification Type: Class 3
Modification Number: 5 (D-32)

Pursuant to the Tennessee Hazardous Waste Management Act of 1977, as amended (Tennessee Code Annotated 68, Chapter 212, Part 1) and the regulations promulgated thereunder by the Tennessee Solid Waste Disposal Control Board (found at Tennessee Rule Chapter 1200-1-11), hazardous waste management facility permit number TNHW-109 issued to Velsicol Chemical Corporation on September 30, 2002, is hereby modified, pursuant to Rule 1200-1-11-.07(9)(c), as follows:

1. The Final Remedy requirements for residential areas along Cypress Creek have been added to the permit as Appendix 9-6, "Corrective Action Remedies," in Attachment 9, "Solid Waste Management Units and Areas of Concern." A new Subsection IV.I, "Corrective Measures Implementation," has also been added to Section IV, "Specific Conditions for Corrective Action."
2. The emergency coordinator information has been updated on pages 6-2 and 6-4 of Attachment 6, "Contingency Plan."
3. An example form for inspections of the soil consolidation area has been inserted into Attachment 4, Inspection Schedule, as Figure 4-9.

This permit modification is further subject to and conditioned upon the terms, conditions, limitations, standards, and schedules contained in or specified in the attachments which are a part of this modification. This modification is hereby made a part of Permit Number: TNHW-109, EPA ID Number: TND 00 702 4664, and is effective as of December 29, 2006, and shall remain in effect until September 30, 2012, unless continued, revoked and reissued, or terminated under Rule 1200-1-11-.07(9). Failure to comply with the terms of this modification shall constitute a violation of the Permit.

December 29, 2006
Date

Mike Apple 6/2/11/16
Mike Apple

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MEMPHIS, TENNESSEE
INSTALLATION ID No.: TND 00 702 4664

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3. Within one hundred and twenty (120) calendar days after this permit has been modified for remedy selection, the permittee shall demonstrate financial assurance for completing the approved remedy.

I. CORRECTIVE MEASURES IMPLEMENTATION

The permittee shall implement the selected corrective action remedy for the properties specified in Appendix 9-6, "Corrective Action Remedies," of Attachment 9, "Solid Waste Management Units and Areas of Concern," in accordance with the requirements of Appendix 9-6.

J. MODIFICATION OF THE CORRECTIVE ACTION SCHEDULE OF COMPLIANCE

1. If at any time the Commissioner determines that modification of the Corrective Action Schedule of Compliance is necessary, the Commissioner may initiate a modification to the Corrective Action Schedule of Compliance (Attachment 9, Appendix 9-4).
2. Modifications that are initiated and finalized by the Commissioner will be in accordance with the applicable provisions of Rule 1200-1-11-.07(9). The permittee may also request a permit modification in accordance with Rule 1200-1-11-.07(9) to change the Corrective Action Schedule of Compliance.

K. WORK PLAN AND REPORT REQUIREMENTS

1. All work plans and schedules shall be subject to approval by the Commissioner prior to implementation to assure that such work plans and schedules are consistent with the requirements of this permit, applicable regulations, and guidance. The permittee shall revise all submittals and schedules as specified by the Commissioner. Upon approval the permittee shall implement all work plans and schedules as written.
2. All work plans and reports shall be submitted in accordance with the approved schedule. Extensions of the due date for submittals may be granted by the Commissioner based on the permittee's demonstration that sufficient justification for the extension exists.
3. If the permittee at any time determines that the SAR information required under subsection IV.B, the CS Work Plan under subsection IV.D, or RFI Work Plan(s) required under subsection IV.E no longer satisfy the requirements of Rule 1200-1-11-.06(6)(I) or this permit for prior or continuing releases of hazardous waste or hazardous constituents from solid waste management units and/or areas of concern, the permittee shall submit an amended Work Plan(s) to the Commissioner within ninety (90) calendar days of such determination.

4. Three (3) hard copies and one (1) electronic copy of all reports and plans shall be provided by the permittee to the Commissioner in care of Mike Apple at the following address:

Mr. Mike Apple, Director
Division of Solid Waste Management
5th Floor, L & C Tower
401 Church Street
Nashville, Tennessee 37243-1535

5. The permittee may deviate from this section, "Specific Conditions for Corrective Action," by participating in the Facility Action Plan (FAP) process, with prior approval from the Director. The permittee will meet with the Division of Solid Waste Management (DSWM) personnel once a year to develop a FAP. During the FAP meeting the permittee must be prepared to discuss work done since the previous FAP meeting or, if this is the first FAP meeting, all work that has been done prior to the FAP meeting, and discuss at a minimum future work to be completed in the following work year. The FAP will include reporting requirements and an implementation schedule and will be submitted to DSWM within 45 days of the FAP meeting. The permittee must notify DSWM prior to any deviation from his FAP. The permittee must notify DSWM and provide the plans for fieldwork at least 30 days prior to the commencement of any field activities. The permittee must provide for a mid-year meeting, if deemed necessary by the Director. If the permittee fails to abide by the negotiated conditions and schedules in the FAP and as outlined in this paragraph, or the permittee or DSWM no longer wishes to remain in the FAP process, then upon notification of termination, the permittee will be required to revert back to this section, "Specific Conditions for Corrective Action."

L. APPROVAL/DISAPPROVAL OF SUBMITTALS

The Commissioner will review the work plans, reports, schedules, and other documents ("submittals") which require the Commissioner's approval in accordance with the conditions of this permit. The Commissioner will notify the permittee in writing of any submittal that is disapproved, and the basis therefore. Subsection IV.L shall apply only to submittals that have been disapproved and revised by the Commissioner, or that have been disapproved by the Commissioner, then revised and resubmitted by the permittee, and again disapproved by the Commissioner.

M. DISPUTE RESOLUTION

The Commissioner and the permittee shall use their best effort to resolve any disputes concerning submissions hereunder and the proper application of permit, statutory or regulatory provisions informally and in good faith. If a disagreement cannot be resolved informally, the parties jointly or individually may pursue the matter formally by requesting a Declaratory Order by the Tennessee Solid Waste Disposal Control Board in a contested case hearing under T.C.A. §4-5-223.

FIGURE 4-9

EXAMPLE FORM

SOIL CONSOLIDATION AREA at VELSCOL'S MEMPHIS FACILITY

MONTHLY INSPECTION LOG – HDPE COVER

Date _____ Time _____

		Yes	No
1.	Is the Soil Consolidation Area currently being modified to accept more soil and/or is more soil currently being added to the Consolidation Area? If yes, skip 2 - 4.		
2.	Are there any signs of loss of integrity of the HDPE cover (i.e., holes, rips, cracks, brittleness, mowing or other equipment damage)?		
3.	Are there any signs of failure of welded seams?		
4.	Are there any signs of stormwater leakage through the HDPE cover?		
5.	Are there any signs of damage to or holes in the Facility's security fence and gates, or gates being unlocked while unattended, in the immediate vicinity of the Soil Consolidation Area?		

Comments/Date and Nature of Maintenance/Repair Work or Operational Status:

Signed: _____

CONTINGENCY PLAN

Overview

This Contingency Plan represents procedures and equipment maintained by the Velsicol Chemical Corporation, Memphis, Tennessee, to respond to hazardous situations related to generation, treatment, and storage of hazardous waste.

Responses to the emergencies involving hazardous waste will be supervised by the Emergency Coordinator. The Emergency Coordinator will have the ultimate authority and responsibility for the following:

1. Determining if the emergency involves a spill or release of a "reportable quantity" of material.
2. Assessing the immediate threat to the environment or human health.
3. Determining when to initiate notification procedures to other agencies.
4. Ensuring that the proper clean up equipment and procedures are available.
5. Providing assistance, personnel, and equipment to generate a spill response.

Specific individuals responsible for emergency response are identified in this plan. Specific methods of response to spills, fires, and industrial accidents involving hazardous wastes are given. Emergency and protective equipment are also described.

General Information

The Velsicol Chemical Corporation hazardous waste storage facility is owned by Velsicol Chemical Corporation and is located at 1199 Warford Street, Memphis, Tennessee. Refer to maps and drawings located in Appendix 6-1 for the location of the hazardous waste storage area located inside the plant.

Emergency Coordinators

In an emergency, contact the Emergency Coordinator listed below:

Utilities/Incinerator Supervisor (Ali Toutio), Emergency Coordinator:

Office Telephone: (901) 320-0258

Home Telephone: (901) 380-9516

Address: 2418 Genwood Street
Memphis, TN 38134

Plant Manager (Ron Loving), Assistant Emergency Coordinator:

Office Telephone: (901) 320-0215

Cell Phone: (901) 277-0736

Address: 10220 Mackwood Drive
Lakeland, TN 38002

- Hang up last;
- The Boiler Engineer will then activate the Emergency Alarm System Notification.

Reporting Procedures

1. Reporting Procedures for Spills
2. Classification of Spills
 - A. In-Plant
 - i. Liquid spills, contained and non-contained from vessels, drums or process equipment.
 - ii. Vapor releases, fire, explosion, relief valves, etc.
 - iii. Spills associated with loading or unloading of tank trucks or railcars, or leaking truck/railcars within plant boundaries.
 - B. In Transit (leaking drums, tank truck or railcar outside of plant boundaries)
3. Reporting Procedures
 - A. The Area Production Supervisor or Shift Supervisor is to be notified immediately after a spill has occurred either in-plant or in transit. Phone: (901) 324-4401 ext. 241.
 - B. In case of an in-plant spill, the Area Supervisor or Shift Supervisor will take immediate action to prevent further spill discharge. He or she will then notify one of the following:
 - i. Utilities/Incinerator Supervisor – Ali Toutio, ext. 258.
Home: 901-380-9516.
 - ii. Plant Manager - Ron Loving, ext. 215. Cell: 277-0736.
 - iii. In case of fire or explosion, the Shift Supervisor will also immediately call the following: Memphis Fire Department - 911
 - C. If a liquid spill reaches Cypress Creek, the contacted individual in Section B will notify the following:
 - i. National Response Center: (800) 424-8802.
 - ii. POTW: 353-2392.
 - iii. Shelby County Health Department: 576-7600.
 - iv. Tennessee Division of Water Quality Control: 543-6695.
 - v. Tennessee Emergency Management Agency: (800) 262-3300.
 - D. If a liquid release occurs that impacts off-site, or the liquid release is a RQ, the contacted individual in Section B will notify the following:
 - i. National Response Center: (800) 424-8802.

APPENDIX 9-6
CORRECTIVE ACTION REMEDIES

CORRECTIVE ACTION REMEDIES

Final Remedy Requirements for Cypress Creek

The Final Remedy requirements for corrective measures at residential land use areas along Cypress Creek in Memphis, Tennessee are summarized as follows:

- Corrective Measures will be performed on residential properties where soil tests have found representative (or average) dieldrin concentrations equal to or greater than 2.5 milligrams per kilogram (mg/kg) on a dry weight basis.
- A marker followed by a minimum 15-inch thick soil barrier to human exposure will be placed over contaminated soils. These remedies will generally, but not always, require excavation of about 15-inches of contaminated soil. The 15-inch soil barrier shall generally consist of a 12-inch soil layer topped with a 3-inch layer of sod.
- The contaminated soil will be transported to Velsicol's Memphis Facility at 1199 Warford St., where it will be placed in an environmentally secure Consolidation Area in the general area of Solid Waste Management Unit (SWMU) No. 7, North Disposal Area, a former landfill.

A more detailed discussion of the Final Remedy is included below.

Scope of Remedy

This Final Remedy is applicable to residential properties along Cypress Creek in Memphis, Tennessee where soils have been contaminated by way of Cypress Creek such that the contaminant levels exceed the Remedial Action Level (RAL) of 2.5 mg/kg representative dieldrin. Residential Properties include properties with single family and duplex residences, apartment complexes, and small vacant lots in residential neighborhoods that are adjacent to single family and duplex residences. Residential properties do not include properties that are currently in commercial or industrial use, or large undeveloped properties, unless and until those properties are developed for residential use.

Per the above requirements, the properties listed below have been identified as requiring Corrective Measures:

- | | | |
|---------------------------|---------------------|--------------------------|
| 1) 920 Bingham St. | 7) 1075 Maury St | 13) 1188 Tunica St.* |
| 2) 2486 Dana Dr. | 8) 948 Meagher St. | 14) 2460 Vollintine Cove |
| 3) 2301 Dexter Ave. | 9) 957 Meagher St. | 15) 2466 Vollintine Cove |
| 4) 1978 Edward Ave. | 10) 959 Meagher St | 16) 2472 Vollintine Cove |
| 5) 1984 Edward Ave. | 11) 961 Meagher St. | 17) 2478 Vollintine Cove |
| 6) 1787 Greenvview Circle | 12) 965 Meagher St. | 18) 2486 Vollintine Cove |

*Only the narrow grassed strip between driveway and Cypress Creek

Three of the properties (i.e., 1978 Edward Ave., 1984 Edward Ave., and 2478 Vollintine Cove) were remediated by Velsicol during 2005 under an Interim Measures directive from the Division of Solid Waste Management (DSWM). The methods and criteria used by Velsicol in performing those Interim Measures meet or exceed the final remedy requirements presented herein. On

September 12, 2006, the DSWM approved Velsicol's July 18, 2006 *Cypress Creek Interim Measures Completion Report* for those three properties and considers that the Interim Measures are the final remedy.

Implementation of the final remedy involves the installation of a clean soil barrier with a minimum thickness of 15 inches over contaminated soil that exceeds the RAL. The soil barrier may include the thickness of the sod. This will generally, but not always, require removal of a like thickness of contaminated soil in order to provide appropriate final grades that consider stormwater drainage and other land features.

Prior to placement of the protective soil barrier Velsicol (permittee) shall install a marker between the contaminated soil and the soil fill (i.e., at the bottom of the excavation) to indicate the depth of the protective barrier. Orange plastic construction fencing, or other materials approved by DSWM, which are long lasting and visible if uncovered, will be used as the marker.

Where more than one soil sample was used in evaluating human health risks at a property, only the portion of the property represented by samples that exceed the RAL will require Corrective Measures. Permittee may elect to perform additional surface soil testing and may use the results of that testing to more precisely determine the portions of properties that will require installation of the protective soil barrier. Permittee may elect to perform additional soil testing of the soils left in place below the bottom of the excavation and marker to determine if the contaminant levels exceed the RAL. Any additional soil testing will require DSWM oversight.

Upon DSWM approval of the Corrective Measures Completion Report, which is to be prepared by Velsicol for each property remediated, the DSWM will record a deed notification that presents the details of the final remedy and identifies any areas where contaminants are left in place above the RAL.

The specific procedures to be used in performing the Corrective Measures at the identified properties are detailed below. The permittee shall:

- Prepare a plan that ensures for the general safety of personnel involved with the implementation of this final remedy. The plan should address the conditions anticipated during all phases of the remedy.
- Prepare a Work Plan that describes the technical procedures to be used during the implementation of this final remedy. The plan should address requirements for the activities common to all of the properties, such as site security, personnel training, dust control measures, decontamination procedures, transportation of the soil, etc. Permittee shall submit the plan for TDEC written approval, prior to commencement of any excavation activity. This general work plan, upon approval, shall be considered an applicable appendix to each of the Excavation Plans described below.
- Prepare an Excavation Plan for each identified property for DSWM approval prior to commencement of the site work. This plan will indicate the horizontal extent of planned excavation, including setbacks from structures and other site features, and protective soil barrier placement. Each Excavation Plan shall contain a diagram detailing the setbacks from building foundations, trees and other site features, including the related protective soil barrier placement. Figure 1 provides an example of an Excavation Plan

diagram. The building set-backs are necessary to prevent damage to structures and foundations and to avoid removing soil containing termiticides that have been applied to protect the structures. Set backs used around trees and large shrubs that are not removed (e.g. so that the trees and/or shrubs and their roots are not injured by soil excavation or soil cover) will be established by a qualified landscape designer or horticulturist. If unusual site conditions are encountered during the pre-design site investigations and/or during soil excavation work, which impact the excavation and clean barrier soil placement work, permittee may, upon DSWM review and approval, modify certain aspects of the excavation and/or backfill requirements from those specified herein.

- Excavate contaminated soil and place and compact the protective soil barrier in accordance with the DSWM-approved Excavation Plan.
- Prepare a Site Restoration Plan for DSWM approval for each identified property, which will include certain Final Remedy requirements. The Final Remedy elements include the installation of grass sod and/or other means of surface soil erosion control to protect the soil barrier. At properties where the land to be remediated has steep surface slopes, the Site Restoration Plan may include erosion control features such as terraces, gentle surface slopes or hard surfacing. (Note: Extra site restoration work such as sodding of other disturbed areas; planting of replacement trees, shrubs and other landscape features; and other activities such as shed and fence removal/replacement will be performed according to site restoration plan elements that Permittee will develop in consultation with the property owner. However, this extra work will not be a part of the Final Remedy requirements.)
- Excavated contaminated soil will be transported to the Velsicol's property at 1199 Warford Street in Memphis for subsequent management. Permittee will adhere to applicable regulations regarding methods of transporting contaminated soil by truck over public roadways.
- Perform periodic air monitoring at properties where contaminated soils are excavated to provide a measure of impacts and to provide a basis for implementing dust control measures. Watering is expected to be the primary dust control method, but other suitable methods may be used.
- Prepare Corrective Measures Completion Reports that describe the work completed at each property for DSWM approval. DSWM's approval of the reports will confirm and document that the permittee has completed the final remedy for each property.

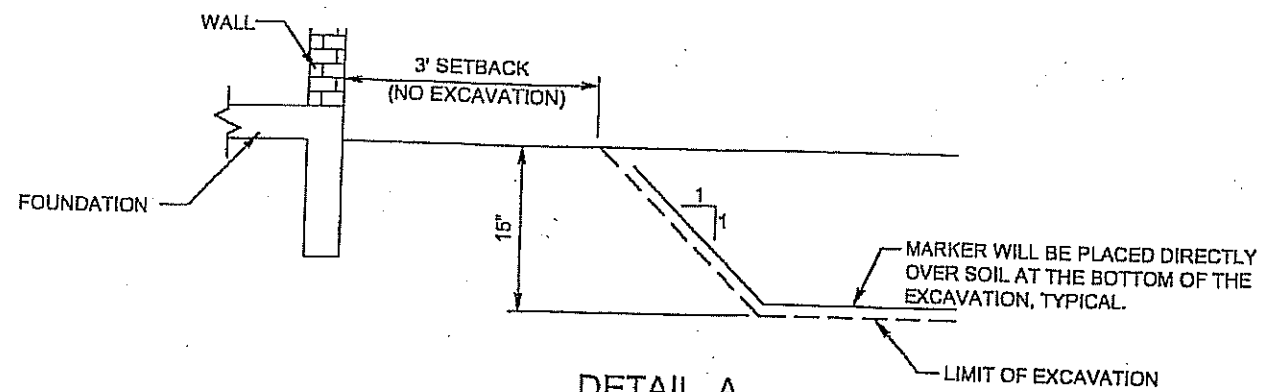
DISPOSITION OF CONTAMINATED MEDIA

The contaminated soil will be consolidated on Velsicol's property at 1199 Warford St. in Memphis, Tennessee. Applying the Area of Contamination (AOC) policy, as described in EPA, Region 4's guidance document entitled *Management of Contaminated Media*, dated September, 1999, allows for the soils, which were contaminated from releases at Velsicol, to be returned to the facility.

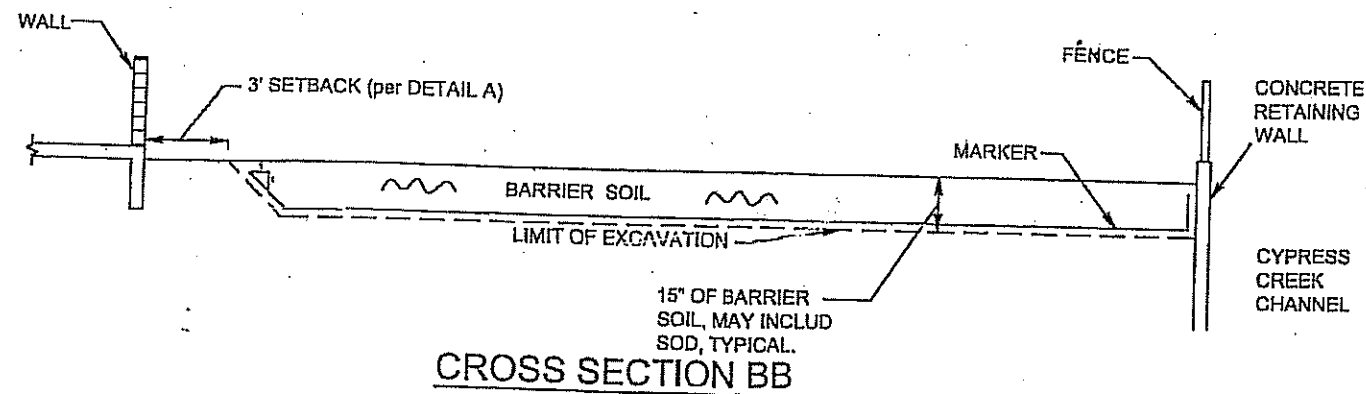
Permittee shall prepare a Phase II Consolidation Plan for DSWM approval, prior to construction of the consolidation area. The plan shall include specific details concerning the construction, operation and maintenance of the unit in a manner that provides for the control of human exposures to the contaminated soil and prevents releases to the environment by wind or stormwater erosion. Velsicol's July 18, 2006 document, *Interim Measures Completion Report, Cypress Creek Project*, provides text and engineered drawings of the Phase I disposal unit. The Phase II Plan will include provisions for monthly inspections, site security, applicable monitoring, recordkeeping and reporting. In accordance with permit paragraph II.E.3, the permittee shall record inspections in an inspection log or summary. An example Monthly Inspection Log for the Soil Consolidation Area is provided as Figure 4-9, in Attachment 4, Inspection Schedule. The permittee shall keep the inspections records for at least three years from the date of inspection.

Upon completion of the filling phase, permittee shall install a cover that is designed to minimize rainwater infiltration into and through the contaminated soil. The cover will be composed of compacted soil and/or a membrane liner, as part of the DSWM approved Phase II Consolidation Plan. The permittee has the option of performing subsequent management for the treatment and disposal of the contaminated soil, subject to DSWM approval. In addition, a future permit modification will be necessary for the long-term operation, maintenance and applicable monitoring of the consolidation area.

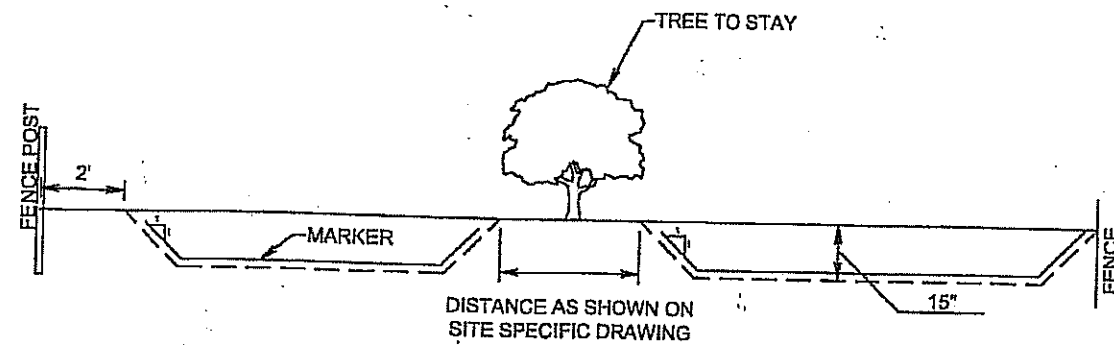
Filename: W:\Projects\env\iron\velsicol\work Order #4\reference files\Construction details.dwg
 Layout: Site Plan, 7/10/2006



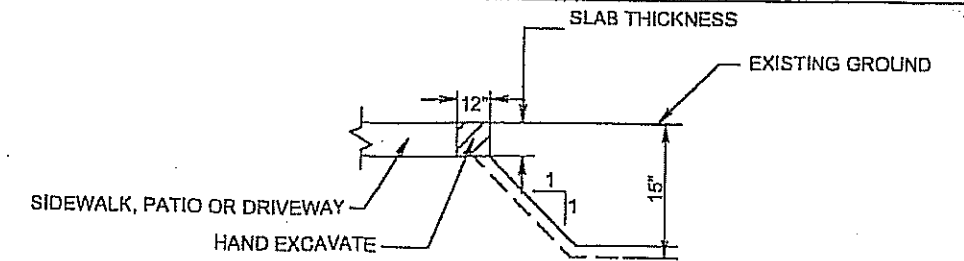
DETAIL A



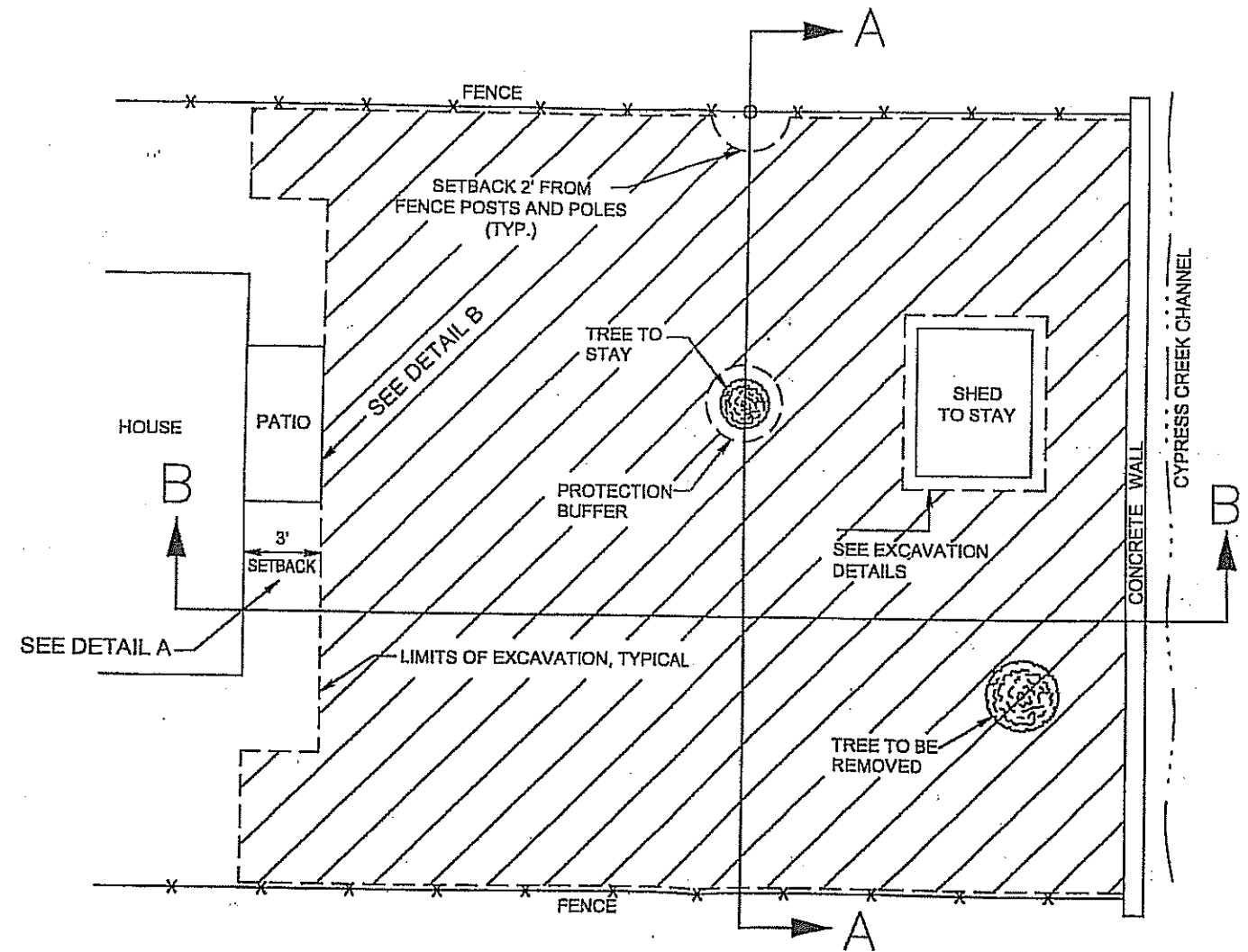
CROSS SECTION BB



CROSS SECTION AA



DETAIL B



EXCAVATION PLAN

Class 3 Modification,
 Dated: 12/29/06

VELSICOL
 CYPRESS CREEK CLEANUP PROJECT
 MEMPHIS, TENNESSEE

DESIGN: F&A	DRAWN: B. S.	SCALE: N.T.S.	FIGURE 1
DATE: 7/2006	EXCAVATION DETAILS		
JOB. NO. G-5634-2			



STATE OF TENNESSEE
DEPARTMENT OF ENVIRONMENT AND CONSERVATION
Division of Solid Waste Management
Fifth Floor, L & C Tower
401 Church Street
Nashville, Tennessee 37243-1535

December 29, 2006

Mr. Ron Loving
Plant Manager
Velsicol Chemical Corporation
1199 Warford Street
Memphis, TN 38108

RE: Response to Comments
Velsicol Chemical Corporation
Memphis, Tennessee
Unit: Container Storage
EPA ID No.: TND 00 702 4664
Permit No.: TNHW-109
Modification Number: 5 (D-32)

Dear Mr. Loving:

Attached is a copy of the Response to Comments for the approval of the Class 3 Modification to the container storage permit, TNHW-109, issued to Velsicol Chemical Corporation in Memphis, Tennessee on September 30, 2002. The Class 3 Modification became effective on December 29, 2006 and shall remain in effect until September 30, 2012, unless continued, revoked and reissued, or terminated under Rule 1200-1-11-.07(9)

If you have any questions, please contact Mr. Clayton Bullington of my staff at (615) 532-0859.

Sincerely,

Mike Apple by H&B

Mike Apple
Director

cc: Ms. Angela Ivory, Treatment, Storage and Disposal Section
Mr. Clayton Bullington, Corrective Action Section
Mr. William Krispin, Manager, Permitting Sections
Mr. Phil Davis, Memphis Environmental Field Office
Mr. Jon Johnston, Chief, RCRA Branch, EPA, Region 4
Mr. Gary Hermann, Memphis Environmental Center

RESPONSE TO COMMENTS
Velsicol Chemical Corporation
Memphis, Tennessee

This document has been prepared in accordance with Tennessee Rule 1200-1-11-.07(7)(j). It has resulted from the Tennessee Department of Environment and Conservation (TDEC), Division of Solid Waste Management's (Division) issuance of a draft Class 3 Permit Modification to Velsicol Chemical Corporation (Velsicol) located at 1199 Warford Street, Memphis, Tennessee 38108, EPA Identification Number: TND 00 702 4664. The permit conditions allow operation and maintenance of a container storage unit at Velsicol and include the corrective action conditions for solid waste management units and areas of concern at the facility. The Class 3 Permit Modification includes the final remedy requirements (soil removal) for residential areas along Cypress Creek in Attachment 9, "Solid Waste Management Units and Areas of Concern" and updates the emergency coordinator information in Attachment 6, "Contingency Plan."

Part A of this document describes the efforts made by the Division to obtain public input. Part B summarizes and responds to all significant comments received.

A. Public Involvement Opportunities

Velsicol issued a public notice in the July 15, 2006 edition of the Commercial Appeal stating that a public meeting would be conducted at the Hollywood Community Center located at 1560 North Hollywood Street, Memphis, Tennessee 38108, on August 10, 2006, concerning the Class 3 Permit Modification for a corrective action final remedy. Community members attended the public meeting and submitted comments. These comments have been addressed by Velsicol and are included in this document.

A public notice was issued for the draft Class 3 Permit Modification in the October 30, 2006 edition of the Commercial Appeal. The public notice advised the public that copies of the draft Class 3 Permit Modification and associated materials were available for review at the Division's Memphis Environmental Field Office and at the Hollywood Branch Public Library, Memphis, Tennessee. The notice also established a 45-day public comment period (that ended December 15, 2006) and described how interested persons could comment in writing on the proposed actions. It further described that a public hearing would be held on November 30, 2006, at the Hollywood Community Center. Several members of the general public attended the public hearing.

B. Public Comment/Response Summary

The comments concerning the permit modification are provided in the following order: 1) Comments Received From the Public Meeting Held by Velsicol on August 10, 2006; 2) Comments Received Prior to the 45-Day Public Comment Period; 3) Comments Received From the Public Hearing Held on November 30, 2006; 4) Comments Received From Springdale Memphis, L.P. Via Letters Dated August 31, 2006 and September 19, 2006; 5) Comments Received From Velsicol (the facility owner/operator); and 6) Comments made by the Division to clarify language in the draft permit modification. The comments include responses from Velsicol, EPA and the Division (State).

**COMMENTS RECEIVED FROM THE PUBLIC MEETING HELD BY VELSICOL ON
AUGUST 10, 2006**

Velsicol received the following comments during the Public Meeting, which was held at the Hollywood Community Center at 6:00 p.m. on August 10, 2006. The comments on the proposed permit modification are followed by Velsicol's response with a few additions by the Division (State). Most of the comments were handwritten on comment forms and have been edited for clarity and typed for ease of reading.

COMMENT NO. 1: Is there a cost to the homeowners for the cleanup?

VELSICOL RESPONSE: All work is done at no cost to the homeowners. If the resident allows the clean-up workers to use water from the house, the cost of the water is reimbursed.

COMMENT NO. 2: Although no waste, what about runoff? What about the air that is breathed?

VELSICOL RESPONSE: During the clean-up work, rainwater that contacts contaminated soil in the digging area will be controlled to prevent runoff. In addition, the chemicals of concern in soils along Cypress Creek bind tightly to soil particles so only very small amounts wash off with rainfall or are given off into the air. In addition these chemicals degrade faster in soils near the surface that are exposed to sunlight and to oxygen in the plant root zone than they do in deeper soils. The human health risk assessment included protective assumptions about the amount of wind blown dusts that residents are exposed to. All of these factors went into the TDEC's selection of a remedial action level of 2.5 parts per million (ppm) for dieldrin.

COMMENT NO. 3: Since you say that you don't know how the chemicals got to the various properties, you must assume that it is absorbed by the soil.

VELSICOL RESPONSE: Yes, the contaminants of concern are generally held tightly to the soil particles.

FOLLOW-UP COMMENT: How did you determine that 15 inches, just over 1 foot, is sufficient?

VELSICOL RESPONSE: The clean soil provides a barrier to human exposure to any underlying contaminated soils. Although just a few inches of clean soil would provide an adequate barrier, it is impractical with large excavation equipment to dig less than about one foot deep. Tillage for gardening is usually limited to about six inches. One foot is also adequate to allow for any erosion of the soil surface before corrective action could be taken to stop the erosion. Velsicol recommended one foot of depth, but the Tennessee Department of Environment and Conservation is requiring a thicker depth of clean soil barrier (i.e., 15 inches) as an extra measure of safety.

COMMENT NO. 4: How does this affect people with vegetables?

VELSICOL RESPONSE: The Human Health Risk Assessment included consideration of chemical uptake in vegetables grown in backyards along Cypress Creek in developing the Remedial Action Level. Velsicol tested for contaminants in vegetables from one Cypress Creek property and found them to be far below levels that could present a health concern. TDEC established the 2.5 parts per million dieldrin Action Level, as safe for all residential activities, including growing gardens and eating the vegetables. If residents have concerns about their vegetables, they are encouraged to contact TDEC or Velsicol.

COMMENT NO. 5: What if my property soil test result is 2.0 ppm and not 2.5? What happens then?

VELSICOL RESPONSE: Properties with average dieldrin concentrations below 2.5 parts per million (ppm) will not need to be cleaned up. The human health risk assessment was conducted following established U.S. Environmental Protection Agency (USEPA) procedures and was reviewed and approved by scientists at the USEPA, the Tennessee Department of Environment and Conservation (TDEC), and the Tennessee Department of Health (TDOH). The risk assessment included many built in layers of conservatism to insure that potential health risks were not underestimated. Based on the risk assessment, Velsicol determined that a remedial action level of 3.0 ppm is protective of human health. TDEC considered this recommendation, but ultimately selected a remedial action level of 2.5 ppm.

COMMENT NO. 6: I support Velsicol's plan and endorse their application for permit modification. Science, fact and proven technology should be considered in the approval process and prevail.

I am concerned that the City of Memphis appeared to have avoided any responsibility and clean up cost. It was the City's Public Works Department that dredged Cypress Creek and subsequently used the sludge (sanitary waste and chemicals) to backfill on homeowner's property.

VELSICOL RESPONSE: Comments acknowledged.

COMMENT NO. 7: The owner of one of the 15 properties that will require clean up has met with TDEC/TDOH and has agreed to provide access for clean-up. He asked about how his dogs will be handled and he has two sheds that Velsicol will need to work around.

VELSICOL RESPONSE: Velsicol will provide a temporary dog run or other means to keep dogs away from the area where the work will be performed. The sheds will be looked at with the property owner to determine if they can be moved for the digging work, or left in place.

COMMENT NO. 8: Several individuals asked that their property be tested, or asked why their property had not been tested. The same response applies to all and is presented below. It is noted that most of those who made this comment also made other comments and their entire set of comments are presented later in this document.

VELSICOL RESPONSE: The Tennessee Department of Environment and Conservation (TDEC) decides where soil testing should be performed. This decision is based on soil test data

from nearby properties and information on whether or not the property may have received soil from Cypress Creek. Velsicol has forwarded each request and relevant information on nearby soil testing results to TDEC, who will use the available information to determine if testing is warranted.

STATE RESPONSE: Contaminated properties are determined through a process of assessing the extent of contamination by sampling each adjacent property that is contaminated above the action level. Early on, it was agreed that cleanup would proceed until the next adjacent property fell below the action level. Please see the State's response to comment #10 from the November 30, 2006 public hearing on page 16.

COMMENT NO. 9: Has there been a hold up of the houses recently built on Jackson, east of Hollywood and have they been released for families to live in them?

Yes, there was a hold up on the completion of the apartments at 2510 Jackson Ave. The developer has received Tennessee Department of Environment and Conservation and Health Department approvals for families to move into the apartments in the southern portion of the site.

FOLLOW-UP COMMENT: I (Jannie R. Winfrey) still want someone to come and test the soil at my address.

VELSICOL RESPONSE: See Comment No. 8.

COMMENT NO. 10: My father (James Quinn) needs to be on your mailing list. Currently you are sending mail addressed to my mother, who is deceased (March 8, 2002 Brain Tumor Cancer). Please correct your database with the correct information. I (Janice Quinn) would also like to receive mailings addressed to me individually.

VELSICOL RESPONSE: Velsicol's mailing list is being changed as requested.

COMMENT NO. 11: Has my (Ms. Jearline) property been tested? If not, why not?

VELSICOL RESPONSE: Soils at your property have not been tested. See Comment No. 8.

FOLLOW-UP COMMENT: Neighbor's water is gritty. (This question was raised in a follow-up phone call to Ms. Jearline.)

VELSICOL RESPONSE: Memphis Light Gas and Water (MLGW) provides drinking water for all of Memphis. They treat and test the water to ensure that it is safe for drinking. Questions concerning the quality of drinking water should be directed to MLGW or the Memphis Shelby County Health Department.

COMMENT NO. 12: Did Velsicol dump any chemicals into the former junkyard on Jackson, now known as Springdale Creek Apartments?

VELSICOL RESPONSE: No, Velsicol did not dump any chemicals into the former junkyard at 2510 Jackson Ave. Based on the site investigations, the soil contamination is thought to have

come from sediments that were dug from Cypress Creek when the concrete liner was constructed during the 1960's.

COMMENT NO. 13: Springdale Creek Apartments – did they clean it up?

VELSICOL RESPONSE: Yes, about three fourths of the former junkyard area has been cleaned up and construction of the buildings in the clean area has been completed. The developer has advised Velsicol that most of the available units have been rented.

COMMENT NO. 14: My (Ms. Hayslett) property was not tested. The property that you cleaned up is about 6 houses from my house. I (am) wondering why mine was not tested. I have children and grandchildren that play in my yard. I would like to know that they are playing on safe and healthy soil.

VELSICOL RESPONSE: See Comment No. 8. We assume that the commenter is referring to 920 Bingham as the house that was cleaned up. Note that 920 Bingham has not been cleaned up because Velsicol was denied access to do so.

COMMENT NO. 15: Comments were made on Tuesday and also tonight regarding the protective gear workers were wearing merely to prevent breathing dust and getting dirty. Is that true? Does handling or working in the contaminated soil have anything to do with them wearing the protective gear?

VELSICOL RESPONSE: The Occupational Safety and Health Administration (OSHA) establishes requirements for personal protective equipment to be used during the cleanup of sites containing contaminated soils. These requirements are normally met with a certain level of defined protection. A health and safety plan is prepared for each project that evaluates the work area conditions and determines the type of protective gear that workers should use. On the Cypress Creek clean-up work, long-sleeved disposable coveralls were used to keep the workers take-home clothes clean and to reduce contact with contaminated soil. Dust masks were used to reduce inhalation of dust and contaminants that may be in the dust.

COMMENT NO. 16: Why did they move the contaminated dirt from one spot to another spot in our neighborhood?

VELSICOL RESPONSE: We assume that this question relates to the consolidation of the contaminated soil at Velsicol's manufacturing plant at 1199 Warford Ave. The system for consolidation of the contaminated soil at Velsicol's property was developed with the input and oversight of the Tennessee Department of Environment and Conservation. The soil is placed in a secure area to ensure that it is properly managed to protect public health and the environment.

COMMENT NO. 17: What if a house has a basement that floods every time it rains?

VELSICOL RESPONSE: Per discussion with Mr. Ores after the meeting, it was determined that the City has installed a backflow preventer on a storm drain in an attempt to stop the basement flooding, but the problem has not been resolved. While this flooding problem is not considered to be an environmental problem related to historic contamination in Cypress Creek,

Velsicol agreed to meet Mr. Ores at his property to review the basement conditions relative to the location of the Cypress Creek channel.

COMMENT NO. 18: What if no one lives in the house next door and it may be contaminated?

VELSICOL RESPONSE: All residential properties suspected of being contaminated above the remedial action level near your property on Meagher Street have been sampled. Should new information be discovered to indicate a property is in need of testing, the property owner will be contacted for access to do the testing and/or clean-up work. Contact information for the property owner will be obtained from Shelby County records.

COMMENT NO. 19: Please mail questions and answers directly to Arthur Ores.

VELSICOL RESPONSE: We will comply with this request.

COMMENT NO. 20: How did the soil contamination get dispersed to different properties along Cypress Creek (such as Springdale School, new apartments, Edward St., Meagher St.)?

VELSICOL RESPONSE: The contamination would have been spread along the bottom of Cypress Creek by the flow of the drainage waters. Then it is thought to have been moved from the creek bottom to the over bank areas by the construction of the concrete liner during the 1960's, by flooding, and by other activities such as filling of low areas at the former junkyard on Jackson Ave.

FOLLOW-UP COMMENT: Why was his (Arthur Ores) property not tested?

VELSICOL RESPONSE: See Comment No. 8.

COMMENT NO. 21: When did Velsicol first begin measuring risks possibly caused by Velsicol?

VELSICOL RESPONSE: Velsicol began its soil testing and risk evaluation work under TDEC direction and oversight during 2001.

COMMENT NO. 22: Have you found any properties that were so much at risk that you would purchase the property or subsidize landowners because of diminished property value?

VELSICOL RESPONSE: No. Velsicol's engineers and consultants are certain that all properties with contamination exceeding the remedial action level can be cleaned up using the methods approved by TDEC and explained during the meeting.

COMMENT NO. 23: Would you want your children to breathe the air?

VELSICOL RESPONSE: (As answered by Mr. Hanson of Velsicol) My children do breathe air that contains chemicals and actually we all do everyday. We breathe hydrocarbons each time we fill our gasoline tanks. We breathe solvents each time we use cleaners and waxes around our houses. Our automobiles are constructed of plastic materials and we breathe their vapors each

time we drive. We breathe chemicals each time we apply cosmetics or stand next to someone who does.

The real issue is not over the fact that we are exposed to chemicals, but is the exposure enough to cause a problem. In the case of the contaminants along Cypress Creek, the answer is that breathing the air does not pose a risk. A risk assessment was conducted, which the regulatory agencies used to establish a protective remedial action level of 2.5 mg/kg or parts per million (ppm) dieldrin. This risk assessment took into account all avenues of exposure including inhalation, skin adsorption and ingestion.

COMMENT NO. 24: What about the properties that are north of Chelsea Ave. between Warford – Watkins – McLean?

VELSICOL RESPONSE: Properties north of Chelsea are too far away from Cypress Creek for there to be any concern about contamination related to Cypress Creek, unless you know of areas that were filled with soils dug from the Creek. Anyone that knows of areas where soils from the Cypress Creek concrete liner construction work were placed during the 1960's is asked to provide that information to Velsicol or go the Tennessee Department of Environment and Conservation so that it can be investigated.

COMMENT NO. 25: Is water contaminated or affected?

VELSICOL RESPONSE: Memphis Light Gas and Water (MLGW) provides drinking water for all of Memphis. They treat and test the water to ensure that it is safe for drinking. Questions concerning the quality of drinking water should be directed to MLGW or the Memphis Shelby County Health Department.

COMMENT NO. 26: Is there an estimated rate of decreased soil chemical concentration yearly over 30 years?

VELSICOL RESPONSE: Scientists who have measured the degradation of dieldrin and other chemicals of concern have found that the specific breakdown rate can change based on many different factors, but is generally very slow. However, these chemicals do degrade faster in soils near the surface that are exposed to sunlight and to oxygen in the plant root zone than they do in deeper soils. At Cypress Creek this has been shown by soil test results that compared concentrations in the top 3 inches of soil to deeper samples.

COMMENT NO. 27: My (Arena Williamson) undeveloped parcel at Cypress Creek was not tested. Transfer of ownership and property value has been compromised due to concern for chemical concentrations. It is located on Edward Street between McLean & University Street, where two properties have been remediated. I would like to ensure my parcel is tested.

VELSICOL RESPONSE: The subject property was tested during 2003 and test results were mailed to the property owner at that time. Velsicol will send a copy of the test results to Ms. Williamson.

FOLLOW-UP COMMENT: Installation of the concrete liner caused a new concern, erosion. What can be done to correct this?

VELSICOL RESPONSE: Velsicol has visited this property, with representatives of the Tennessee Department of Environment and Conservation. Based on that site visit, it appears that the soil erosion is being caused by the poor condition of the Cypress Creek concrete liner. The City of Memphis Drain Maintenance Department is responsible for the concrete liner, so this question has been forwarded to them.

COMMENT NO. 28: I (Brenda Chism-Love) have been renting property for 2 years come October 2006. Does this matter concern me? Who is at risk? And how long do you have to be exposed to cause environmental health hazards?

VELSICOL RESPONSE: The property in question has been tested and the average dieldrin concentration was found to be 0.65 ppm (parts per million), which is much cleaner than the remedial action level of 2.5 ppm approved by TDEC and the USEPA. The action level includes many safety factors including the assumption that residents live at one home for 30 years starting at birth and that nearly all of the soil contacted during that period comes only from the residence. The use of these protective assumptions in the risk assessment ensures that the selected remedial action level is safe for all residents.

COMMENT NO. 29: In 1964, I was very active gardening, hanging out laundry, cutting grass; my children playing in the Creek. I started coughing, visiting doctor after doctor. Last summer I had surgery for kidney cancer. They lucked upon my condition because I put myself in the hospital. In 1996, I stopped gardening at your suggestion. Question - Why could you find bad soil down the street from me, but my yard is okay? I have been sick, my husband died in 1983. That was rather young. I am afraid to use my yard again.

VELSICOL RESPONSE: Velsicol asked for the person submitting this question to identify herself so that we could answer this in the context of the location of the property. The questioner did not identify the property, so the question has been forwarded to the Tennessee Department of Health and the Memphis/Shelby County Health Department for information and/or follow-up.

COMMENT NO. 30: This is about human life. Do you all really know how precious life really is? There is no amount of money that can measure human life. In all due respect, I (name not given) don't think you or your family live in this part of this community. We need concern. God loving people that really care about human beings, whatever race or color it doesn't matter. God loves all of us, even the ones who do us wrong. We have been living in our house at least 30 years. I just thank God, he sits high and looks low and sees and knows everything. All of the community that is involved should be cleaned up. This is a time to get back to basics and do what God wants all of us to do. Thank you. God Bless you!

VELSICOL RESPONSE: Comments acknowledged. Velsicol shares this commenter's concern for the neighborhood and its residents. This concern has led to a multi-year program of sampling and analyses designed to investigate the location of Cypress Creek soils and, now, to remediate any that may pose a potential health risk.

COMMENT NO. 31: The only thing that went wrong was the screen was changed too fast. The presentation was very informative.

VELSICOL RESPONSE: Comments acknowledged.

COMMENT NO. 32: My prayer is that this clean-up is done by community residents to help solve this situation and get a lot of unemployed residents off the streets.

VELSICOL RESPONSE: Velsicol is talking to a minority business owner who does this type of clean-up work about the possibility of doing some of the work. Velsicol will also commit to discussions with other remedial contractors about hiring locally for the project. Velsicol will identify the selected contractors on the www.CypressCreekMemphis.com website, so that community members can apply to them for jobs.

COMMENT NO. 33: How will the questions that were asked tonight and Tuesday be answered so that the public will know your answers?

VELSICOL RESPONSE: All of tonight's comments and our responses will be posted on Velsicol's Cypress Creek website at www.CypressCreekMemphis.com and a copy will be placed in the information repository at the Hollywood Branch Library. If you do not have Internet service and would like us to mail a copy to you, please let us know and give us your mailing address. In addition, comments and questions relating to the clean-up plans will be provided to TDEC as part of Velsicol's application for the Permit Modification.

COMMENT NO. 34: Whatever answers you will give to the questions should be available to all concerned, possibly at the community center or some central area in the neighborhood. I would like to have that information sent to me (Rev. Wendall Coward-Greater Mount Zion Baptist Church).

VELSICOL RESPONSE: Please see response to comment # 33.

COMMENT NO. 35: Can I (Gladys Coins) get my yard tested. For 3 years or more, I've had problems. I do have lawn service. I did not get a clear understanding because the presentation was going too fast. I did not receive a full explanation of some things. My daughter had cancer before she passed. Please add me to mailing list.

VELSICOL RESPONSE: See Comment No. 8. Upon request, Velsicol will meet with individuals to provide more information. The second comment is being forwarded to the Tennessee Department of Health and the Memphis/Shelby County Health Department for information and/or follow-up regarding health questions. You will be added to Velsicol's mailing list.

COMMENT NO. 36: These meetings need to have a minute taker and need to be recorded and an official report needs to be sent to the community.

VELSICOL RESPONSE: Please see response to comment # 33.

COMMENT NO. 37: What compensation will be made to people who were affected health-wise. Land sold for below value. Can I (Andre Mathews) be placed on the mailing list?

VELSICOL RESPONSE: Most health conditions have multiple potential causes. Velsicol is not aware of any scientific study linking specific health conditions to dieldrin or Cypress Creek. You will be added to Velsicol's mailing list.

COMMENT NO. 38: The Creek has a lot of trash and it smells. My property backs up to Creek, lived there 50 years.

VELSICOL RESPONSE: Comments acknowledged.

COMMENT NO. 39: The Creek smells. It's nasty.

VELSICOL RESPONSE: Comments acknowledged.

COMMENT NO. 40: Will there be another meeting with the Tennessee Department of Health (TDOH) or Memphis/Shelby County Health Department to answer additional health risk questions?

VELSICOL RESPONSE: This question is being forwarded to the Tennessee Department of Health and Memphis/Shelby County Health Department for information and/or follow-up.

COMMENT NO. 41: Some members of the Vollintine – Evergreen Community Association would like to know whether Velsicol is willing to support and pay for blood test of residents living in the Sub Area III, to establish the level of chemicals such as dieldrin in their systems?

VELSICOL RESPONSE: This question goes to the subject of the health study proposed by the Tennessee Department of Health on August 8, 2006. Velsicol will forward this comment to them for inclusion in their considerations as they design the study.

COMMENT NO. 42: Our (Joe & Doris McCray) property is just 2 houses away from the point on Bingham Street that is marked for clean up. I am not satisfied with the reports given tonight for several reasons. (1) From the property that tested high on Bingham, water runs directly into my backyard. I would like to personally see the test results for my property. (2) I, along with my family, have lived at this location for the past 24 plus years. I worked all the yards in this area for 10 plus years. I was never sick, didn't have a doctor, but all of sudden, I developed a nervous condition. I stayed at the doctors or hospital for 2 years straight. In February 1994 I went to the hospital and doctor 21 times. I was diagnosed as having Chronic Nervous Syndrome. I know that the chemicals from Velsicol are known to cause that. I need some answers please. I have other comments.

VELSICOL RESPONSE: (1) The commenter's property has not been tested. See Comment No. 8. (2) This question is being forwarded to the Tennessee Department of Health and the Memphis/Shelby County Health Department for information and/or follow-up regarding health questions.

COMMENT NO. 43: The creek overflowed up to my backyard door (Willye Curry) at my former address near Cypress Creek. It needed cleaning up and fenced in so that no child will fall in and drown like one year when I lived there. There was a risk for all children who lived there and no safety zone was provided for them. Clear out the channel so that water won't rise up into the backyard. Before it was concreted, there were a lot of rash, infections and colds and other hazardous diseases through ingesting.

VELSICOL RESPONSE: These comments are being forwarded to the Tennessee Department of Health and Memphis/Shelby County Health Department and to the Memphis Public Works Department for their information and/or follow-up.

COMMENT NO. 44: I just wanted to know, does the chemical have something to do with deaths last year in the 38108 area? For some reason this community's death rate for kids is the highest in all of Shelby County.

VELSICOL RESPONSE: The Risk Assessment included evaluations of potential risks to young children and the Remedial Action Level was established by TDEC to protect the health of those young children. This comment is being forwarded to the Tennessee Department of Health and Memphis/Shelby County Health Department for information and/or follow-up.

COMMENT NO. 45: This area needs to be cleaned up to clear away all brush, trees, bushes and chemicals. Not good for your health. These products from Cypress Creek will cause cancer and other diseases.

VELSICOL RESPONSE: This comment is being forwarded to the Tennessee Department of Health (TDOH) and Memphis/Shelby County Health Department for information and/or follow-up. As discussed in its Health Consultation, the TDOH has concluded that dieldrin cannot be linked with cancer.

COMMENT NO. 46: Was the land at Cypress Creek School tested before the school was built and since I (name not given) bought a house a half mile south of Cypress Creek. One daughter attended Cypress Creek School. One son is attending Cypress Creek School. My wife passed in 2003, one daughter passed in 2000.

VELSICOL RESPONSE: Velsicol is not aware of any information on soil testing before the school was constructed. Velsicol tested the schoolyard and nearby park soils at Cypress Middle School during 2002 and that information has been provided to Memphis City Schools. The Tennessee Department of Environment and Conservation placed a clean soil barrier over some playground areas at the school during 2003. We are not aware of any soil testing a half mile south of Cypress Creek. The comments on health conditions are being forwarded to the Tennessee Department of Health and Memphis/Shelby County Health Department for information and/or follow-up.

COMMENT NO. 47: Thank you for your presence tonight! I am Dr. Muhammad Salaam, President and founder of the Citizen's Council for Human Rights; and member of the American Bar Association. Firstly, of the 11 products you produce, a few of them such as organochlorine insecticides, heptachlor and chlordane, are environmentally persistent toxins, that are probable

human carcinogens and nerve toxins. Secondly, Shelby County Tennessee ranks "worst" in the US in chemical releases or waste generated properties, with zip code 38108, as the highest risk. Shelby County also ranks 4th in the Nation in regards to releases rating at 10,449,977 pounds of chemical and toxic poisons. What is your plan to eliminate risk factors relevant to cancer and non-cancer (air and water releases), recognized carcinogens, as well as developmental and reproductive toxicants? Thank you.

VELSICOL RESPONSE: The Memphis plant produces 2 products, hexachlorocyclopentadiene (hex) and chlorendic anhydride. The plant produced heptachlor and chlordane in the past but has not produced them for more than 10 years. Neither hex nor chlorendic anhydride are known carcinogens or nerve toxins.

The activities at Velsicol's Memphis plant are subject to federal, state and local regulations and the Facility is fully permitted for its operations. Velsicol has implemented a system of continuous improvements, which has made its operations even more secure. We are confident that our operations are not affecting human health or the environment.

COMMENT NO. 48: (Tommy and Versie Hollingshed) Asked that we test their soil.

VELSICOL RESPONSE: See Comment No. 8.

COMMENTS RECEIVED PRIOR TO THE 45-DAY PUBLIC COMMENT PERIOD

The Division received the following comments after Velsicol's Public Meeting, which was held at the Hollywood Community Center at 6:00 p.m. on August 10, 2006, and prior to the 45-day public comment period for the draft permit modification. The comments are followed by the Division's response.

COMMENT NO. 1: The Division received a call on October 18, 2006 asking what the cleanup process was, when it was, and why the Division did not plan to continuously monitor the capped areas.

RESPONSE: The cleanup process generally consists of 15 inches of pesticide-contaminated soil being removed and replaced with clean soil at residential lots identified as contaminated. This will be done at all lots that allow access. There will be a clean soil barrier, at least 15 inches thick, placed on the contaminated soil. There will be a marker placed between the contaminated soil and the clean soil. The Division does not plan to continuously monitor the capped yards because the contaminants are immobile in soil. The Division will not require placing a physical barrier (like a plastic lining) between the clean soil and the dirty soil because it would create storm-water problems.

COMMENT NO. 2: The Division received a call on October 24, 2006 asking if it's too late to do anything about the contamination, and commenting that the cleanup may be done at an inconvenient time. A backyard only cleanup is not enough because the contaminated dirt particles could have migrated under her house during rain, and she is concerned that there is contamination in the air from the contamination in the soil.

RESPONSE: It is not too late to address this contamination. Although contaminated soil particles could have migrated under some residences during rain, this possibly contaminated soil is not going to be in contact with people living in the houses. The Division is legally required to include notifications in the deeds of the Phase II residences to make sure that future property owners are aware of the situation. Every effort has been made to prevent contaminated dust particles from forming or from leaving contaminated areas. Cleanup will be halted when the wind is high enough to blow dust particles to neighboring properties. The consolidation area is covered with a plastic lining to prevent dust migration.

**COMMENTS RECEIVED FROM THE PUBLIC HEARING HELD ON
NOVEMBER 30, 2006**

The following comments were received from the public hearing held on November 30, 2006. The comments are followed by the Division's response.

COMMENT NO. 1: Councilwoman Barbara Swearengen Holt--Two of the residences have been cleaned up and you thought you had four more and now you think you have some more. Do you know how many you have?

RESPONSE: Three residences have been cleaned up in Phase 1. These residences are 1978 and 1984 Edward Avenue and 2478 Vollintine Cove. There are fifteen more properties that could be cleaned up in Phase 2, but not all of these have granted access approval.

COMMENT NO. 2: Councilwoman Barbara Swearengen Holt—How many properties have agreed to have cleanup done on their properties so far? Do you know how many have approved cleanup? How many does that leave.

RESPONSE: Seven of the 15 prospective remediation properties have approved cleanup.

COMMENT NO. 3: Councilwoman Barbara Swearengen Holt--You said the non-residential and recreational properties would be done later. What properties fall into these categories? Are schools included in these categories, and are there any schools near Cypress Creek?

RESPONSE: Residential properties include houses and apartments that are occupied all day, and non-residential properties include recreational or industrial properties such as schools, parks, or businesses that are not occupied all day. Cypress Middle School is located near the Creek, and remediation was conducted at this location in December 2003.

COMMENT NO. 4: Eddie Houston Jr.--I talked to State Representative John Deberry, and he told me to come out. Most of the chemical plants that I know are guilty of some kind of polluting. This is the wrong fact to be sidelined. The people in the immediate area should get some form of restitution. The State hasn't exactly did their job, and they do not go all the way to make this company come into compliance, and not pollute. People were swimming in that Creek before 1972. My backyard overflows, and you step in that water, you will track it into your house. That chemical plant is still producing hazardous wastes. The people that live close by should get some form of compensation. The State and Velsicol can't prove why someone got cancer. The company cannot prove that they didn't cause someone to get cancer.

RESPONSE: The Memphis Shelby County Health Department (MSCHD) conducted a Cancer Incidence Review for three census tracts around Cypress Creek in April 2005 and was unable to establish a cause and effect relationship between the cancer incidence rates and the environmental conditions in the area. In addition, the Velsicol Chemical Corporation released the results of a Human Health Risk Assessment in June 2006 and the Tennessee Department of Health (TDH) released the results of a Health Consultation in August 2006. These documents concluded that a health risk either does or did exist for certain properties near Cypress Creek,

and three of these properties have been cleaned up. The remaining properties will be scheduled for cleanup after these property owners agree to allow access to their properties.

COMMENT NO. 5: Kathryn Joyce--I think what I heard from the presentation was that you were only planning to clean up the part of the yard that was 2 feet away from the house. That sounds like a partial correction of the problem, because there are portions of soil near the house that are not going to be touched. There is evidence of contamination to the soil in that rain water could wash contaminated soil into these areas near the houses. I would like to think we would not subject a child to the risk from the soil contamination due to erosion from the rain. To me, we are still subjecting our families to the risk of contamination until all of the contamination is removed. I'm not comfortable with that. There is no guarantee that a child is not going to play there. Something needs to be done to correct that area.

RESPONSE: The clean up plans in the permit modification show that the part of the back yard that is located within 3 feet of the house foundation will not be excavated. This setback was established so that the house is not in danger of collapsing if the soil near the foundation is removed. The yards were sloped to funnel water away from the house toward Cypress Creek, but adding a protective layer of soil near the house would alter the flow of water and could trap water near the house foundation.

COMMENT NO. 6: Councilwoman Barbara Swearngen Holt--As far as the foundation of the houses is concerned, I don't put as much value in preserving the foundation as the value of the families living there. We can rebuild houses, and engineers can raise a house up. This is not a fantastic thing. Certainly we can raise a house up high enough to dig the contamination out from underneath. Could you go back and look for a solution because you're leaving contamination near the house?

RESPONSE: The Shelby County Health Department, The State Health Department and The Environmental Protection Agency determined that this method of cleanup would leave these properties safe.

COMMENT NO. 7: Councilwoman Barbara Swearngen Holt--When you say that termiticides are routinely placed around house foundations during home construction, it looks like you are saying that everybody that gets their houses treated for termites is creating a dangerous situation for themselves. You're saying pesticides that were part of the normal home construction could endanger children.

RESPONSE: The use of termiticides is necessary, especially in the southern U.S. Without the use of termiticides, termite infestation would be widespread and damage by termites would be costly to homeowners. The use of the termiticides for the control of termites in a residential setting is determined to be safe.

COMMENT NO. 8: Resident--I understand about the resources and the cost. This community has problems that people usually only associate with Third World Countries.

RESPONSE: Comment noted.

COMMENT NO. 9: Councilwoman Barbara Swearngen Holt--In light of the fact there are 8 homeowners that have not agreed to the cleanup, how long do they have to make that decision, and what happens if in fact they never decide to agree to the cleanup. I don't think you can leave it open in perpetuity.

RESPONSE: The decision about cleanup cannot be left open indefinitely, but the decision does not need to be made immediately because the cleanups are not scheduled to begin until after March 2007. There will be a deed notification attached to the deed of every property where the representative dieldrin contamination levels are above 2.5 mg/kg even if the property owner refuses to allow Corrective Measures.

COMMENT NO. 10: Resident--My yard was not sampled, and I've been told me that my yard is not close enough to the Creek or near enough to known areas of contamination to be sampled. I want soil sampling conducted in my yard.

RESPONSE: Originally, determination of additional soil sampling locations along Cypress Creek was based on the nearness of soil sampling results that were above the dieldrin action level, the nearness of the property to the creek, or located in a historically flooded area. Currently, contaminated properties are determined through a process of assessing the extent of contamination by sampling each adjacent property that is contaminated above the action level. Early on, it was agreed that cleanup would proceed until the next adjacent property fell below the action level. To be considered for further soil sampling, a landowner will have to show that their property has been impacted by pesticide contamination from Velsicol.

COMMENT NO. 11: Steve Gadbois (VECA)--For a property where Corrective Measures are performed, will there be a legal document prepared and recorded (with the Shelby County Register) indicating forever that Corrective Measures were performed?

Can the affected property owner force this to happen, or force this not to happen? (The point is that such a legal document, once recorded, could be protective of the current or future owners, or it could be detrimental by hurting the property's value.)

What about the situation for properties with dieldrin levels exceeding 2.5 mg/kg but for which Corrective Measures are not performed (because of owner refusal or any other reason) – will there be a recorded legal document indicating that?

RESPONSE: There will be a deed notification attached to the deed of every property where the representative dieldrin contamination levels are above 2.5 mg/kg even if the property owner refuses to allow Corrective Measures. Where corrective action has taken place, the deed notification will note that contaminated soil exists below a depth of fifteen (15) inches and that there is a marker in place to denote where that 15-inch level is. Where a corrective measure is not performed, the deed notification will state that there are contaminated soils that exceed levels that impose a risk to human health. The permit lists the eighteen properties with greater than 2.5 mg/kg representative dieldrin in the Corrective Action Remedies section.

**COMMENTS RECEIVED FROM SPRINGDALE MEMPHIS, L.P. VIA LETTERS
DATED AUGUST 31, 2006 AND SEPTEMBER 19, 2006**

The Division received the following comments from Springdale Memphis, L.P. via letters dated August 31, 2006 and a follow-up letter on September 19, 2006. The U.S. Environmental Protection Agency provided comments on the August 31, 2006 letter. In this Response to Comments document, the Division also responds to Springdale's original letter and the follow-up letter.

GENERAL COMMENT FROM AUGUST 31, 2006 LETTER: The purpose of this letter is to comment on Velsicol Chemical Corporation's application for a permit modification which is currently pending before the Department of Environment and Conservation. Springdale Memphis L.P. owns and operates a residential apartment community situated in Cypress Creek Sub-Area III. Extensive environmental investigation and testing have documented significant concentrations of chemicals on the Springdale property associated with the operations of Velsicol. This testing was performed in consultation with and under the oversight of TDEC, and the Department has been provided all test results and supporting data. Springdale Memphis L.P. offers the following comments on the pending application for a permit modification:

COMMENT NO. 1: Springdale Memphis L.P. has provided to the Department thorough documentation of the existence on Springdale's property of chemicals associated with the Velsicol Chemical Corporation. Any determination and course of action on the part of the Department should include and be based upon an assessment of the documentation provided by Springdale Memphis L.P., and should not be based solely on the limited testing performed by Velsicol.

EPA RESPONSE: EPA believes that the analytical documentation of soil contamination at the Springdale Memphis L.P. property is being appropriately considered by TDEC. Although the RCRA-permitted Velsicol Chemical facility is regulated under the RCRA requirements, TDEC chose to manage the contaminant risk at the apartment site under the Division of Remediation superfund protocol. EPA considers this is an appropriate jurisdictional decision for TDEC because:

1. The apartments were recently constructed on public property owned by the City of Memphis as well as formerly designated an uncontrolled Tennessee Superfund (automotive dump) site;
2. The developer/builder errantly redistributed previously known Cypress Creek pesticide contamination and automotive wastes across the apartment complex site; and
3. The conceptual site model, RCRA soil sampling protocol and risk assessment assumptions for the individual residential properties differ from that associated with the apartment land use scenario.

STATE RESPONSE: The environmental and remediation work at the Springdale Creek Apartments are being directed by the Tennessee Department of Environment and Conservation (TDEC) Division of Remediation (DOR) under a different regulatory program from the program that is being addressed under Velsicol's Tennessee Hazardous Waste Permit. The corrective action required by the hazardous waste permit is under the authority of the TDEC Division of

Solid Waste Management (DSWM). It is not necessary or appropriate for the Springdale Creek Apartments site to be addressed under both the DOR and the DSWM. It is not appropriate to compare the risk assessment findings of the Cypress Creek risk assessment to conditions at Springdale Creek apartments. The findings from the Cypress Creek risk assessment do not automatically transfer to the Springdale Creek Apartments.

COMMENT NO. 2: Based upon the information provided to the Department by Springdale, a remedial action level determined by a calculated Dieldrin concentration as the basis for the remedial action in the Cypress Creek Sub-Area III is neither adequate nor appropriate for all properties within this area. Where indicated by scientific data and test results, determination of remedial action should be based upon the cumulative excess risk and the hazard index of other Velsicol-associated pesticides in addition to Dieldrin, including Aldrin and Endrin.

EPA RESPONSE: EPA agrees with the comment. The issue of cumulative risk and hazard indices is a fundamental requirement of the EPA risk assessment process. Both TDEC and EPA have agreed that Velsicol Chemical adequately addressed these requirements as a "secondary cleanup trigger." Specifically, the human health risk analysis prepared by GeoSyntec Consultants does consider the cumulative risk from all pesticide constituents detected along Cypress Creek. As documented in the revised report titled "Human Health Risk Assessment and Development of Remedial Action Levels for Cypress Creek Sub-Area III (dated June 29, 2006)," the proposed cleanup level of 2.5 ppm dieldrin (suggested in the Class III Final Remedy permit modification) also correlates to a cumulative pesticide risk of approximately $5E-5$ and a Hazard Index of 0.5-0.7. These cumulative "secondary cleanup triggers" are within the EPA acceptable excess carcinogenic risk range of $1E-6$ to $1E-4$ and are below the non-cancer Hazard Index of 1.0.

STATE RESPONSE: The State agrees with EPA's response.

COMMENT NO. 3: The Springdale Memphis site should be included in the list of residential properties subject to remedial action by Velsicol in accordance with the foregoing.

EPA RESPONSE: This is a risk management decision being addressed by the TDEC Division of Remediation. Also refer to EPA Response to Comment # 1.

STATE RESPONSE: Please see State Response to Comment #1.

COMMENT NO. 4: Consistent with the proposed remedy for other properties, remedial action for the Springdale site should be based on a cumulative excess risk level of 5×10^{-5} and a cumulative hazard index of 1 for all site constituents of concern.

EPA RESPONSE: This is a risk management decision being addressed by the TDEC Division of Remediation. Also refer to EPA Response to Comment # 2.

STATE RESPONSE: Please see State Response to Comment #1.

COMMENT NO. 5: In order to complete its residential development, Springdale Memphis L.P. will be required to undertake excavation of contaminated soils and stockpile these soils on its property within the existing area of contamination. In order to avoid any potential adverse

impacts resulting from this activity, the removal of these soils from the Springdale site by Velsicol should be accomplished without delay.

Springdale Memphis L.P. respectfully requests that the pending permit modification incorporate such provisions as may be necessary to implement the substance of the comments set forth herein.

EPA RESPONSE: EPA disagrees in part. Velsicol Chemical Corporation is a RCRA permitted facility being held responsible for investigating the off site releases along Cypress Creek and implementing appropriate corrective action pursuant 40 CFR 264.101. Around 1999, pursuant an Agency-requested "Good Neighbor Contingency Plan", Velsicol Chemical notified industrial, commercial, utility (water, electrical, sewer), county and state agencies of documented soil and sediment pesticide contamination located downstream of their Warford Street-facility. Unfortunately, around 2002, the land owners (City of Memphis) authorized development of the "formerly designated uncontrolled Tennessee Superfund (automotive dump) site" without an adequately documented "due diligence environmental status" report. Thus, EPA does concur that Springdale Memphis L.P. may be required to excavate and contain contaminated soils as appropriate to the risk management decisions being addressed by the TDEC Division of Remediation; but, not at the sole expense of Velsicol Chemical Corporation.

STATE RESPONSE: The State agrees with EPA's response. In addition, please see State Response to Comment #1.

CONCLUSION FROM SEPTEMBER 19, 2006 LETTER: This letter was a response to comments made by Gary Herman of Velsicol to the August 31, 2006 Springdale letter. Only the request in the conclusion of the letter is addressed in this comment and the State response.

COMMENT: Springdale maintains that the Springdale Memphis site should be included in the list of residential properties subject to remediation under the Class 3 modification to Velsicol's permit.

STATE RESPONSE: Please see State Response to Comment #1 of the August 31, 2006 letter.

**COMMENTS RECEIVED FROM VELSICOL CHEMICAL CORPORATION
MEMPHIS, TENNESSEE**

The Division received the following comments from Velsicol Chemical Corporation during the 45-day draft comment period for the permit modification. The comments are followed by the Division's response.

COMMENT NO. 1: Page 9-6-2, third bullet in the section **Final Remedy Requirements for Cypress Creek:** The Draft Permit states that the soil will be placed in an environmentally secure Consolidation Area "..... on top of SWMU No. 7, North Disposal Area, a former landfill". Note that the delineation of the SWMU No. 7 boundary, as taken from the Phase I RFI Report and presented in Appendix C of the July 18, 2006 Cypress Creek Interim Measures Completion Report, is acknowledged to be approximate. In addition, it has been Velsicol's intent to consolidate the soils in the general area of SWMU No. 7, rather than precisely on top of SWMU No. 7. The Permit language should be revised to provide for this uncertainty of the precise location of SWMU No. 7 and to provide flexibility in design of the expanded Consolidation Area. Velsicol recommends that this be resolved by revising the draft permit language as follows: "The contaminated soil will be transported to Velsicol's Memphis Facility at 1199 Warford St., where it will be placed in an environmentally secure Consolidation Area in the general area of Solid Waste Management Unit (SWMU) No. 7, North Disposal Area, a former landfill."

RESPONSE: The State agrees. The change will be made.

COMMENT NO. 2: Page 9-6-3, fourth full paragraph states that "..... the Division will record a deed notification that identifies the area and the details of the final remedy". Velsicol's intent in possibly performing additional soil testing of the soils left below the bottom of the excavation and marker (Ref. preceding paragraph of the draft Permit) is to determine if the underlying soil contaminant level exceeds the Remedial Action Level (RAL). Therefore, Velsicol recommends that fourth full paragraph be modified as follows: "Upon Division approval of the Corrective Measures Completion Report, which is to be prepared by Velsicol for each property remediated, the Division will record a deed notification that presents details of the final remedy and identifies any areas where contaminants are left in place above the RAL."

RESPONSE: The State agrees. The change will be made.

COMMENT NO. 3: Page 9-6-3, first bullet: The permit draft calls for Velsicol (the Permittee) to prepare a general plan to ensure worker safety during all phases of the remedial work. Be advised that Velsicol will require that the selected remedial contractor(s) prepare and implement the Site Health and Safety Plan(s), as they are responsible for their workers health and safety. Therefore, the plan will not be prepared by Velsicol, but rather by the remedial contractor(s). And, therefore, the draft permit language should be modified to read as follows: "Provide for the preparation of a plan that ensures for the general safety of personnel"

RESPONSE: Velsicol is the permittee and therefore is responsible for any submittals required under the permit. It does not matter whether the plan is provided by Velsicol or one of its contractors. The permit language will not be changed.

COMMENT NO. 4: Page 9-6-5, second-to-last sentence in last paragraph: The sentence states that a future permit modification will be necessary for long term O&M and monitoring. Velsicol intends that the Phase II Consolidation Plan, which must be approved by Division in accordance with the first paragraph on page 9-6-5, will establish adequate long-term operation, maintenance and monitoring requirements for the Consolidation Area. Therefore, the Permit should not include a requirement for a future Permit Modification to address long-term O&M and monitoring under the Phase II Consolidation Plan and the second-to-last sentence in the last paragraph should be deleted from the permit requirements. Should Velsicol decide to implement additional measures relative to the consolidated soil, which results in the need for a permit modification, it will apply for such modification at that time.

RESPONSE: Although the construction and maintenance of the Consolidation Area is being addressed in this permit modification as part of the final remedy for the residences, it is not the final remedy for the Consolidation Area. When the remediation has been completed and all contaminated soils are consolidated on-site, the final remedy for the unit will be selected and the permit will be modified in accordance with the corrective action provisions of the permit.

COMMENT NO. 5: Page 9-6-5, last sentence in last paragraph: This sentence states that the final consolidation area could become regulated as a CAMU in the future. It is true that a CAMU or other regulatory mechanism may be appropriate if Velsicol elects to take the option, subject to Division approval, of performing subsequent management for the treatment and disposal of contaminated soil (i.e., as noted in the third-to-last sentence in the last paragraph). However, Velsicol believes that the last sentence is unnecessary and should be deleted from the Permit because it serves no necessary purpose at this time.

RESPONSE: The State agrees. The last sentence will be deleted.

CHANGES TO THE PERMIT MODIFICATION MADE BY STATE

The following changes were made to the draft permit by the State without outside comment. All changes made were for clarification purposes.

1. The first paragraph on page 9-6-5 removed the "Document 8" reference for the Interim Measures Completion Report, Cypress Creek Project, by clarifying it as the Velsicol Chemical Corporation, July 18, 2006 document.
2. An Example Inspection Form for the contaminated soil consolidation area was added to Attachment 4, Inspection Schedule, as Figure 4-9.