



March 25, 2020

Mr. Bradley Buselli  
Environmental Specialist III  
Florida Department of Environmental Protection  
Hazardous Waste Program and Permitting  
Post Office Box 3070  
Tallahassee, FL 32315-3070

RE: First Request for Additional Information Response to Comments  
Permit Renewal for RCRA Activities  
Perma-Fix of Florida, Inc.  
1940 NW 67<sup>th</sup> Place  
Gainesville, FL 32653  
(FLD 980711071)

Dear Mr. Buselli:

On behalf of Perma-Fix of Florida, Inc. (Perma-Fix), Trihydro Corporation submitted a RCRA Hazardous Waste Facility Permit Renewal Application for the facility located at 1940 NW 67th Place in Gainesville, Florida to the Florida Department of Environmental Protection (FDEP) on December 11, 2019. The facility is currently operating as a commercial waste bulking, storage, and treatment facility for hazardous, industrial, universal, biomedical, mixed, radioactive-only, and non-hazardous waste under a RCRA Hazardous Waste Construction and Operation Facility Permit, which was issued by the FDEP on May 27, 2015 and expires on May 27, 2020.

In a letter dated December 30, 2019, Perma-Fix received a First Request for Additional Information (RAI) from FDEP. Additional comments from the United States Environmental Protection Agency (USEPA) were provided in email correspondence dated January 27, 2020. On February 21, 2020 an extension to the response to comment submittal was requested until March 29, 2020, which was approved by the FDEP on February 24, 2020. Individual written responses to FDEP and USEPA comments are provided below. Edited permit text excerpts, figures, and tables are attached with reference to corresponding page numbers from the original submittal.

## **RESPONSES TO FDEP COMMENTS DATED DECEMBER 30, 2019**

### ***FDEP Comment 1***

*Part I.D, Summary of Site Processes: The application describes a non-elementary neutralization (N-EN) process performed in a portable 300-gallon tank; this activity is further described in Appendix I-E. Please note that this tank is listed under Part II, Section K.2.1 of the application as a RCRA permitted unit.*



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- a. *Appendix I-E, Section I.1, Process Description: This section appears to indicate that both elementary neutralization and N-EN processes may be performed using the 300-gallon tank. While elementary neutralizations are exempt from RCRA permitting, the N-EN process is not because it involves mixed wastes. Therefore, the language of this section should be revised to clarify the distinction between the two processes; noting that the tank is considered a permitted unit, and not exempt from RCRA permitting. The Department recommends that the facility consider the use of separate tanks or units for each process, if for instance the process were to be performed on a non-mixed waste stream. The utilization of one unit for RCRA-exempt elementary neutralizations and another for N-EN avoids any potential issues of regulated sludges or residues passing into the neutralized liquid.*

#### **Response to FDEP Comment 1**

The 300-gallon tank described in the permit application was a proposed neutralization method that was never enacted. A modified portion of text from Part I.D.2.1 and the complete Appendix I-E text have been updated to reflect the following current practices that address the above comments (see Attachment A-1).

The processing of the radioactive corrosives is done in the as-received container, which may range from a 5-gallon to 55-gallon poly drum dependent on the lab pack volumes. Therefore, there is no mixing of RCRA-exempt and non-exempt waste in the same container. Waste is processed in the container in which it is received.

#### **FDEP Comment 2**

*Part I, Figure I-15: The area on the figure marked for “Universal Waste Storage” has not been observed to be used for this type of storage since the 2017 District inspection. Additionally, facility personnel during the 2017, 2018 and 2019 inspections stated that the area was no longer used for UW storage. The area observed during these inspections that is now used for UW storage is on the east side of the warehouse, the aisle closest to the outside wall. If a defined area for UW storage is not consistently utilized, then the figure should be revised to either indicate all possible locations or to remove the area designation and clarify the possible location(s) within the application text.*

#### **Response to FDEP Comment 2**

The area previously marked for “Universal Waste Storage” is no longer used for this type of storage. Figure I-15 has been revised to reflect the current location of UW storage as the east side of the warehouse closest to the outside wall (see Attachment A-2).



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### **FDEP Comment 3**

*Part II.A.1, General Information:* The application provides a description of the scale for Figure II-A-1, however this is not noted in the figure itself. Several other figures throughout the application do not have a map scale listed. Please review and update all figures in the application to provide the map scale, as appropriate.

#### **Response to FDEP Comment 3**

Figures have been reviewed and those requiring a scale have been updated to include the appropriate scale (see Attachment A-3).

### **FDEP Comment 4**

*Part II.I.1, Description of Miscellaneous Units:* The Department acknowledges that the current PF-II process may be replaced with a continuous thermal desorption unit, and that information was also included / reviewed in the previous permit renewal application. According to Appendix II-I-1, several existing components will be incorporated into the new process and as-built written certification for any new PF-II process components or updates to equipment lists will be submitted when the changes are completed. The Department recommends that, if available, any additional information be provided within the text, tables, or figures of the permit application that could facilitate the operational transition to the new continuous PF-II process without the need to subsequently modify the permit after these activities are completed.

#### **Response to FDEP Comment 4**

The specifics of a new thermal desorber have yet to be determined. Perma-Fix understands a permit modification and all the necessary supporting as-built and other engineering requirements will be required prior to resuming these specific operations. Part II.I.1 Description of Miscellaneous Units of the application text has been revised accordingly; the modified text excerpt is included with this letter (see Attachment A-4).

### **FDEP Comment 5**

*Part II.Q, RCRA Facility Assessment:* The Department acknowledges that SWMUs 30, 31 & 32 are not part of the facility. However, the tables located in Appendix A of the Permit (and future permit applications) must continue to denote these units for historical tracking purposes, because these were previously identified in the Final RFA dated June 27, 1990.



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### **Response to FDEP Comment 5**

Part II.Q RCRA Facility Assessment text has been revised to delete the sentence regarding SWMUs 30, 31, and 32. The modified text excerpt has been included as Attachment A-5.

### **FDEP Comment 6**

*Part II.R, Process Vents:* Paragraph 3 of this section indicates (as well as other sections of the permit application) that the planned solvent recycling activities (distillation) are exempt from RCRA permitting requirements. Please revise this section to include the specific exemption citation and clarify how this process relates to the current / future PF-II thermal desorption process and overall operations within the TOB. Is the proposed / RCRA exempt solvent distillation process planned to take place within a non-exempt permitted unit that manages other wastes? Also, please see Comment 7b below.

### **Response to FDEP Comment 6**

Part I Section D.2.1 Treatments and Operation Building and Part II.R Process Vents text have been updated to reference exemption citation 40 CFR 261.6(c)(1). These sections have been revised to clarify the process and how they relate to the current/future PF-II thermal desorption process. Solvent recycling is planned to take place in a non-exempt area and will therefore be subject to Subpart AA. The PF-II process is currently performed in the treatment and operations building, a non-exempt area, and is subject to Subpart AA as detailed in a modified portion of Part II.R text (see Attachment A-6 for modified portions of Part I Section D.2.1). See Attachment B-1 for the modified Part II.R text.

Solvent recycling activities (distillation) are exempt per 40 CFR 261.6(c)(1). A distillation unit was purchased in 1997 for a one-time operation. However, the unit has not been used since that time. PFF proposes to keep the distillation unit in inventory and place it in one of the two following non-RCRA exempt buildings: the liquid scintillation vial (LSV) radioactive control area (RCA) or treatment and operations building (TOB) RCA. The emissions from this process would be routed through the same air pollution control equipment used for one of these buildings.

### **FDEP Comment 7**

*Part II, Appendix II-A-2, Contingency Plan:*

- a. The plan does not have a Quick Reference Guide as required by 40 CFR 262.262(b).
- b. *Section 2, Paragraph 3:* This paragraph indicates that the facility has planned to perform solvent recycling activities (distillation). The text references that complete details of the process can be found in Part II Section I of the permit application dated November 2014. Upon review of this reference, it appears that this section of the prior permit renewal application does not reference



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*solvent recycling activities, but specifically addresses potential changes to the PF-II thermal desorption process described in Comment 3 above. Please clarify / update the reference and update any other parts of the current permit application that discuss these activities, as appropriate. In addition, should these operational changes modify any existing permitted units, then a permit modification may be required, if adequate detail is not provided within the current permit application.*

- c. Section 4.5.2: This section says that “Facility records available for review include manifests, and waste analysis data on-site kept at the file cabinets in the hallway next to the copy room for at least three years, and then kept off-site...” However, Part II, A-7 (Operating Record/Biennial Report) of the application states that: “Copies of the manifests and operating records will be maintained on-site for at least one year. After that, all records may be transferred to an off-site...” Please reconcile these two sections as to records that are kept on-site and that would be accessible during an emergency.*
- d. Table 2: This table does not include the address information for Emergency Coordinators as required by 40 CFR 264.52(d).*
- e. Figure 5: Legend entry is missing for “Points of Egress” as shown in other figures.*
- f. Figure 8: This figure indicates the “hazards” and includes the term “hazardous wastes” on both the PSB and LSV building, but not the TOB, which also contains hazardous wastes. Please discuss the reason for this omission.*

#### **Response to FDEP Comment 7**

##### Comment 7.a

The Contingency Plan has been updated to include a Quick Reference Guide as required by 40 CFR 262.262(b) (see Attachment A-7).

##### Comment 7.b

Section 2, Paragraph 3 of the Contingency Plan has been revised to refer to the most recent permit application date and to reference Part I Section D.2.1 Solvent Recycling. Pema-Fix understands that any operational changes to permitted units in the future will require a permit modification (see Attachment A-7).

##### Comment 7.c

Section 4.5.2 has been updated to state that manifests and waste analysis data will be available for review on-site for at least three years and then transferred to an off-site storage facility. Part II Section A.7 of the permit application has been revised to reconcile the previous difference in sections (see Attachment A-7).



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Comment 7.d

The address information for Emergency Coordinators is provided in Attachment CP-1 of the updated Contingency Plan (see Attachment A-7).

Comments 7.e and 7.f

Figures 5 and Figure 8 of the Contingency Plan have been updated to reflect required changes (see Attachment A-7).

**FDEP Comment 8**

*Part II, Appendix II-T, DEP Form 62-730.900(2)(d): The Facility Operator (MR. Randy Self, Operations Manager) has signed all sections of this form, including the Facility and Land Owner certifications. If the Facility Operator is an authorized representative, please attach / provide a letter of authorization as indicated on the certification form. Otherwise, these certifications should be resubmitted with an authorized signature.*

**Response to FDEP Comment 8**

FDEP form 62-730.900(2)(d) has been updated with an authorized signature (see Attachment A-8). Due to recent personnel changes, FDEP form 62-730.900(2)(a) Application for a Hazardous Waste Permit has been updated and is included in Attachment A-8 as well as an updated Organization Chart to replace the existing Part II Appendix II-A-3 Personnel Training Program Figure 1. An updated version of Part II Appendix II-P FDEP Form 62-730.900(2)(c) Information Regarding Potential Releases from Solid Waste Management Units has been included in Attachment A-8.

**RESPONSES TO USEPA COMMENTS DATED JANUARY 27, 2020**

**EPA Comment 1**

*II-35 Monitoring and Inspections, PFF inspection plan mentioned. Please include a reference of its location within the permit application.*

**Response to EPA Comment 1**

Reference to Table II-6 Inspection Schedule has been added to the text on page II-35 Monitoring and Inspections (see Attachment B-1).

**EPA Comment 2**

*Page II-55 says "Hence, Subpart AA will apply to operation of each of these three units when hazardous waste of at least 10 ppm organic content by weight is processed." However, the Subpart AA regulations are applicable to the operations that manage hazardous waste with an organic concentration of at least*



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*10 ppmw. The regulations are applicable at all times that the hazardous waste of at least 10 ppmw is in the system regardless of whether it is in operation or in process (triple rinsing would/should be required if the waste managed in the equipment changed that dramatically). Additionally, the organic concentration should be clarified through out to be at least 10 ppmw throughout this section.*

#### **Response to EPA Comment 2**

Page II-55 Section R has been revised to state that Subpart AA will apply to each of these three units when they contain hazardous waste of at least 10 ppmw organic content whether they are in operation or in process. The text has been updated to state parts per million by weight (ppmw) throughout this section (see Attachment B-1).

#### **EPA Comment 3**

*Page II-56 discusses the equipment that is potentially subject to the Subpart BB regulations. No discussion of when the equipment is subject is provided. Additionally, if the facility is relying on the organic concentration of the waste being less than 10% by weight then a triple rinse will need to be conducted prior to utilizing the equipment for waste less than 10% by weight. Additional justification for the processing of such a waste (less than 10% by weight) may be required, some cost benefit or recovery and reuse explanation. In the second full paragraph on Page II-57 the equipment in these areas is discussed as subject to the Subpart BB requirements.*

#### **Response to EPA Comment 3**

Page II-56 has been revised to delete the word ‘potentially’. Page II-57 includes a discussion of when equipment is exempt from Subpart BB based on 40 CFR 264.1050(e) and 40 CFR 264.1050(f). The text has been revised to clarify that the facility does not rely on the organic concentration of waste being less than 10 ppmw; the facility presumes that incoming waste streams contain greater than 10 ppmw based on historical average concentrations. The text has been updated to state that triple rinsing of the equipment will be performed should the waste managed in the equipment change in order to confirm ppmw organic content (see Attachment B-1).

Page II-56 has been updated to list only the areas with equipment that are subject to 40 CFR 264, Subpart BB as the liquid scintillation vial (LSV) area, hazardous waste transfer area, and mixed waste transfer to larger containers area. Pursuant to 40 CFR 264.1050(f), the 3,000-gallon tank, debris treatment area, mixed waste tanker loading area, PF-II treatment area, and all other equipment in contact with hazardous waste for less than 300 hours per calendar year is exempt from the Subpart BB requirements.

See response for EPA comment 4 for equipment excluded under 40 CFR 264.1050(e).



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#### **EPA Comment 4**

*Page II-57 first full paragraph discusses the PF-II Treatment equipment being excluded under 40 C.F.R. 264.1050(e) (equipment under vacuum service). This excluded equipment should be clearly identified in the permit application. No equipment identified in tables II-11, II-12, or II-13 has been identified as excluded under this exemption. No table is given for the PF-II area. Adequate detail of the vacuum service is not provided in this discussion or the earlier discussion of the process.*

##### **Response to EPA Comment 4**

Table II-11 has been modified to provide a comprehensive list of the PF-II treatment vacuum equipment and reference exemption under 40 CFR 264.1050(e). Table II-12 no longer lists equipment for the LSV area since there are no longer connected plumbing or pumps in the LSV area. Table II-12 has been revised to list equipment for the hazardous waste transfer area (see Attachment B-2).

#### **EPA Comment 5**

*Page II-57 last paragraph, states “The Facility storage tank is exempt from Subpart CC tank requirements because the 3,000-gallon tank is used to receive mixed waste.” 40 C.F.R. 264.1080(a)(6) states that the requirements of Subpart CC are not applicable to a waste management unit that is used solely for the management of radioactive mixed waste in accordance with all applicable regulations under the authority of the Atomic Energy Act and the Nuclear Waste Policy Act. If the tank solely manages mixed waste it must be stated in the previously quoted sentence. Additionally, without having reviewed the applicable Radioactive Material License and any other permit or license applicable to the unit the applicability cannot be properly accessed.*

##### **Response to EPA Comment 5**

Page II-57 has been revised to cite 40 CFR 264.1080(a)(6) as exemption from Subpart CC requirements and to clarify that the tank is used solely to manage mixed radioactive waste per radioactive material license 2598-1 listed on Table I-1 Current and Pending Permits (see Attachment B-1).

Note, the facility storage tank has not been used since 1999. However, the tank has been retained in the permit application for potential future use.

#### **EPA Comment 6**

*Page II-57 seventh line from the bottom, the citation 40 CFR 1086(f), is found. Please revise this to the appropriate citation.*



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### **Response to EPA Comment 6**

Text has been revised to reflect the correct citation of 40 CFR 264.1086(f) (see Attachment B-1).

### **EPA Comment 7**

*Page II-58 Pumps in light liquid service and designated as no detectable emissions must be tested for compliance with the requirements for no detectable emission prior to its initial designation, annually, and at any other times as requested by FLDEP or EPA. The discussion should be altered to include these requirements.*

### **Response to EPA Comment 7**

Text has been revised to state the following: ‘tested prior to initial designation, annually, and at any other times as requested’ (see Attachment B-1).

### **EPA Comment 8**

*Page II-58 Pressure Relief Devices in Gas/Vapor Service this discussion states that the requirements of 40 CFR 264.1054 do not apply. Please include the citation of the exemption (40 CFR 264.1054(c)?) and a discussion of the requirements of that exemption including any references to other portions of the application as appropriate.*

### **Response to EPA Comment 8**

Text has been revised to reference 40 CFR 264.1054(c) and that these devices are exempt from 40 CFR 264.1054(a) and (b) since each of these pressure relief devices is part of a closed vent system capable of capturing and transporting leakage from a pressure relief device to a control device (see Attachment B-1).

### **EPA Comment 9**

*Page II-58, all pumps, pressure relief devices, and open ended valves or lines, and valves should be clearly identified in the P&ID and equipment lists. These lists and P&IDs should be clearly referenced in the discussion found on Page II-58. No clear identification of open ended valves or lines is seen in Tables II-11 through II-13.*

### **Response to EPA Comment 9**

Table II-11 has been modified to provide a comprehensive list of the PF-II treatment vacuum equipment and reference exemption under 40 CFR 264.1050(e). Table II-12 no longer lists equipment for the liquid scintillation vial (LSV) area since there is no longer connected plumbing or pumps in the LSV area. Table II-12 has been revised to list equipment for the hazardous waste



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transfer area. Open ended valves have been identified on Table II-12 and Table II-13. These equipment list tables are clearly referenced in the text of Part II Section S Open-ended Valves or Lines (see Attachments B-1 and B-2).

### **EPA Comment 10**

*Page II-59 Recordkeeping Requirements Section, item 3: This discussion appears to be in direct conflict to the discussion of the potentially subject to the Subpart BB requirements discussion found on Page II-56 and previously discussed above. Percent-by-weight determinations will be required for all equipment that the facility manages multiple waste streams in and for all equipment that the facility claims is not applicable for that reason.*

#### **Response to EPA Comment 10**

Item 3 has been deleted and a statement has been added to clarify that all incoming waste is presumed to contain greater than 10 ppmw organic concentration. Therefore, percent by weight determinations are not performed (see Attachment B-1).

### **EPA Comment 11**

*Page II-59 Recordkeeping Requirements Section identifies the information that will be maintained at the facility. Items 1-4, this information should be included in the application. Preferably in the Tables II-11 through II-13. Most of the information is already included. Please review. Additionally, all the requirements of 40 CFR 264.1064 are not discussed in this section or in the previous sections. For example, 40 CFR 264.1064(g)(2)(i) requires a list of all the equipment that has been designated for no detectable emissions. This information does not appear in the table provided. Only a statement in the discussion on page II-58 discusses that all the pumps in certain areas are designated for no detectable emissions. This is only one example of several. Please review the regulation.*

#### **Response to EPA Comment 11**

Perma-Fix uses the hours of service exemption from 40 CFR 264.1050 and issues a work order annually to track hours of service for each potentially subject piece of equipment. Table II-11 has been modified to provide a comprehensive list of the PF-II treatment vacuum equipment and reference exemption under 40 CFR 264.1050(e). Table II-12 no longer lists equipment for the liquid scintillation vial (LSV) area since there is no longer connected plumbing or pumps in the LSV area. Table II-12 and Table II-13 have been updated to reference the correct exemption for each subject piece of equipment as 40 CFR 264.1050(f) (see Attachments B-1 and B-2).



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The requirements of 40 CFR 264.1064 are listed on Page II-60. A reference to choosing the exemption provided in 40 CFR 264.1050(f) is included on Page II-64 of the permit application.

### **EPA Comment 12**

*Page II-60 Delay of Repair Section: The individual sections discussing the standards for each piece of equipment do not include repair timeframes. These should be included or referenced clearly. The Delay of Repair section must include references and conform to the requirements found in the regulations.*

#### **Response to EPA Comment 12**

Regulatory reference to 40 CFR 264.1059 for repair recordkeeping has been added to the text. The Delay of Repair section has been updated to state that all detected leaks will be repaired as soon as practicable, but not later than 15 days for all equipment after detection unless the following conditions arise as described in 40 CFR 264.1059 (see Attachment B-1).

### **EPA Comment 13**

*Lastly, some clarification was requested on the preconditioning process discussion (Page II-26) and the solvent recycling process (Page I-5) with regard to waste drained / remaining in the catch pan / drum; specifically, the regulatory status of the accumulation tank and AA/BB/CC applicability to both processes. As I understand, there is some form of closed-ventilation system that covers this area; additional details could be included in the permit application language (or in the FDEP Response), as needed, to convey this information.*

#### **Response to EPA Comment 13**

The following text has been added to Page II-26 Waste Treatment:

‘All treatment activities that take place in the treatment operations building (TOB) and the Liquids Scintillation Vial (LSV) processing areas are conducted under negative air with fugitive emissions directed to the regenerative thermal oxidizer (RTO).’

The text has been updated to state that there is no plumbing associated with the pre-conditioning process and that the drum tumbler and catch pan are not subject to Subpart AA/BB/CC requirements.

Waste from the proposed solvent recycling will be placed into a drum. The accumulation tank of recovered solvents would be exempt from Subpart AA/BB/CC/ requirements (see Attachment B-1).



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Perma-Fix of Florida, Inc. appreciates the agency's consideration in reviewing this application. If you have any questions or comments, please contact Mr. Dan Cain (Perma-Fix of Florida, Inc.) at (352) 395-1347 or Mr. William Kelly (Trihydro Corporation) at (904) 513-9742.

Sincerely,  
Trihydro Corporation

William C. Kelly, P.G.  
Senior Project Manager

61A-003-001

Attachments

cc: Brian Bastek, EPA Region 4, [bastek.brian@epa.gov](mailto:bastek.brian@epa.gov)  
Denise Housley, EPA Region 4, [housley.deinese@epa.gov](mailto:housley.deinese@epa.gov)  
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**ATTACHMENT A-1**

**RESPONSE TO FDEP COMMENT 1**

**REVISED PART 1.D.2.1 NON-ELEMENTARY NEUTRALIZATION (EXCERPT)**

**REVISED APP I-E. NON-ELEMENTARY NEUTRALIZATION**

## **REVISED PART 1.D.2.1 NON-ELEMENTARY NEUTRALIZATION (EXCERPT)**

### **D.2 DESCRIPTION OF OPERATIONS BY BUILDING**

#### **D.2.1 TREATMENT AND OPERATIONS BUILDING (TOB)**

**Non-elementary Neutralization:** Perma-Fix has performed elementary neutralization of mixed wastes for several customers in the past. PFF performs non-elementary neutralization in as received containers typically ranging from 5-gallon to 55-gallon poly drums. If received in larger containers, up to 275-gallon poly totes, then they are handled in one of two ways. If larger totes received are non-radioactive, they are shipped as-is for disposal. If larger totes received are radioactive, they are neutralized in their original container and based on constituents, either shipped for combustion at the Perma-Fix Diversified Scientific Services (DSSI) facility or dried with absorbent and tested for LDR compliance prior to shipment for land disposal. A detailed description of the process is contained in Appendix I-E.

## REVISED APP I-E. NON-ELEMENTARY NEUTRALIZATION

### 1.1 PROCESS DESCRIPTION

PFF performs non-elementary neutralization in as received containers ranging in size from 5-gallon to 55-gallon poly drums. Elementary neutralization means neutralization of wastes that are hazardous only because they exhibit the corrosive characteristic (i.e., D002), or they are listed only for corrosivity. The elementary neutralization unit is exempt from RCRA permitting per 40 CFR 270.1(c)(2)(v). The non-elementary neutralization is performed on wastes that are hazardous based on corrosivity criteria (i.e., D002) and also carry other hazardous waste code(s). All non-radioactive corrosives are bulked and shipped offsite for treatment and disposal. Radioactive corrosives are managed in one of two ways. Acidified or alkaline organics are blended with appropriate buffers and shipped to the Perma-Fix Diversified Scientific Services (DSSI) facility for combustion. Concentrated acids or bases are neutralized and dried using an absorbent and tested for LDR compliance prior to shipment for land disposal. The processing of the radioactive corrosives is done in the as received container, which may range from a 5-gallon to 55-gallon poly drum dependent on the lab pack volumes. The process involves the as received container equipped with an air-powered stirring paddle, a pH meter, and a temperature monitoring device. The process involves the following:

- Acids and bases received are bulked into totes.
- A sample of the acid or base in the tote is taken to the lab for recipe development.
- Using bench scale tests, the lab will develop a neutralization recipe (i.e. how much neutralizing agent is needed for the amount of material to be neutralized).
- Treatment technicians will perform the task using the as received container as follows:
  - The required quantity of neutralizing agent is placed into the neutralization tank.
  - The tote containing the acid or base to be neutralized is placed adjacent to the neutralization tank. A metering pump is connected to the tote and the tank.
  - The metering pump then starts pumping the material to be neutralized from the tote into the 300-gallon tank.
  - The operation is continued until the pH of the treated waste is greater than 2.0 and less than 12.5, generating a liquid waste that is radioactive only (non-RCRA).

The non-elementary neutralization (N-EN) tank system is generally used in the Treatment and Operations Building (TOB). This system is portable and can be used in the TOB and/or LSV Process Area. There is a market for D002 corrosive wastes that also contain RCRA-regulated organics and/or metals. For example, mixed waste generators routinely create acidic wastes containing chromium. The N-EN process would be conducted exactly as described above. The only difference is that the liquid resulting from the N-EN process would still be a RCRA-regulated material. These liquid wastes will then receive further processing based on the RCRA-regulated material(s) present.

### 1.2 WASTE CODE TRACKING

The waste to be treated by non-elementary neutralization will have a D002 hazardous waste code and at least one other hazardous waste code. The treated liquid resulting from the process will not carry the D002 waste code but will be a hazardous waste based on the original code other than D002.

## **REVISED APP I-E. NON-ELEMENTARY NEUTRALIZATION**

### **2.1 MAINTENANCE**

Facility personnel will conduct a preventative and corrective maintenance program for the non- elementary neutralization process system components. The preventative maintenance program is based on information supplied by the equipment vendors regarding the expected life of process components and by a periodic historical review of maintenance records. Corrective maintenance will be conducted on an as-needed basis. Additionally, the system will be maintained and operated in accordance with good engineering practice.

### **3.1 ENVIRONMENTAL PERFORMANCE STANDARDS**

#### **3.1.1 RELEASE PREVENTION**

The non-elementary neutralization process is located, designed, constructed, operated, maintained, and closed in a manner that will ensure protection of human health and the environment. For purposes of ensuring protection of human health and the environment, PFF has designed and will operate the process equipment in conformance with applicable tank standards. Appropriate secondary containment and air emission controls will be incorporated into the design and operation of the equipment. Any accidental spills are contained in the secondary containment area.

#### **3.1.2 PREVENTION OF RELEASES TO GROUNDWATER OR SUBSURFACE ENVIRONMENT**

Releases to groundwater or the subsurface environment from the non-elementary neutralization process are extremely unlikely for the following reasons.

- Relatively small volumes (i.e., less than 300 gallons) of waste are treated in the batch process.
- The process is conducted within secondary containment systems designed to collect any liquid spills. The containment system is coated with a chemically resistant material compatible with the waste streams designated for processing.
- The treatment areas will be inspected each operational day. Leaks or spills from the system will be cleaned up as soon as it is practicable and safe to do so, but within 24 hours of discovery.
- The treatment areas are located within buildings physically separated from the subsurface environment, groundwater, and precipitation.
- The Facility maintains a Contingency Plan to provide a framework for facility response to emergencies such as spills, fires, or explosions. This plan provides procedures to respond to threats to human health or the environment from the system.

#### **3.1.3 PREVENTION OF RELEASES TO SURFACE WATER, WETLANDS, OR SOIL SURFACE**

Releases to surface water, wetlands, or soil surface are also extremely unlikely for the reasons listed above.

#### **3.1.4 PREVENTION OF RELEASES TO AIR**

Releases to air from the non-elementary neutralization process are prevented by conducting the treatment within building areas equipped with emission control devices or sufficient ventilation.

## **REVISED APP I-E. NON-ELEMENTARY NEUTRALIZATION**

### **3.1.5 MONITORING AND INSPECTIONS**

PFF will monitor the non-elementary neutralization process during processing operations. Loading and unloading is conducted manually (or by automated equipment that is manually controlled). The process area will be visually inspected each operating day for evidence of leaks or spills. The secondary containment system will also be inspected each operating day for evidence of cracks or breaches in containment.

### **3.1.6 POTENTIAL PATHWAYS OF EXPOSURE OF HUMANS OR ENVIRONMENTAL RECEPTORS**

PFF workers within the treatment areas are the most likely human receptors for chemicals or chemical constituents released from the non-elementary neutralization process. The exposure is anticipated to be minimal because emission control devices or sufficient ventilation is provided for the area and because very low amounts of waste (i.e., less than 300 gallons) are processed at a time. The primary pathway for human exposures from this treatment process is inhalation of air emissions.

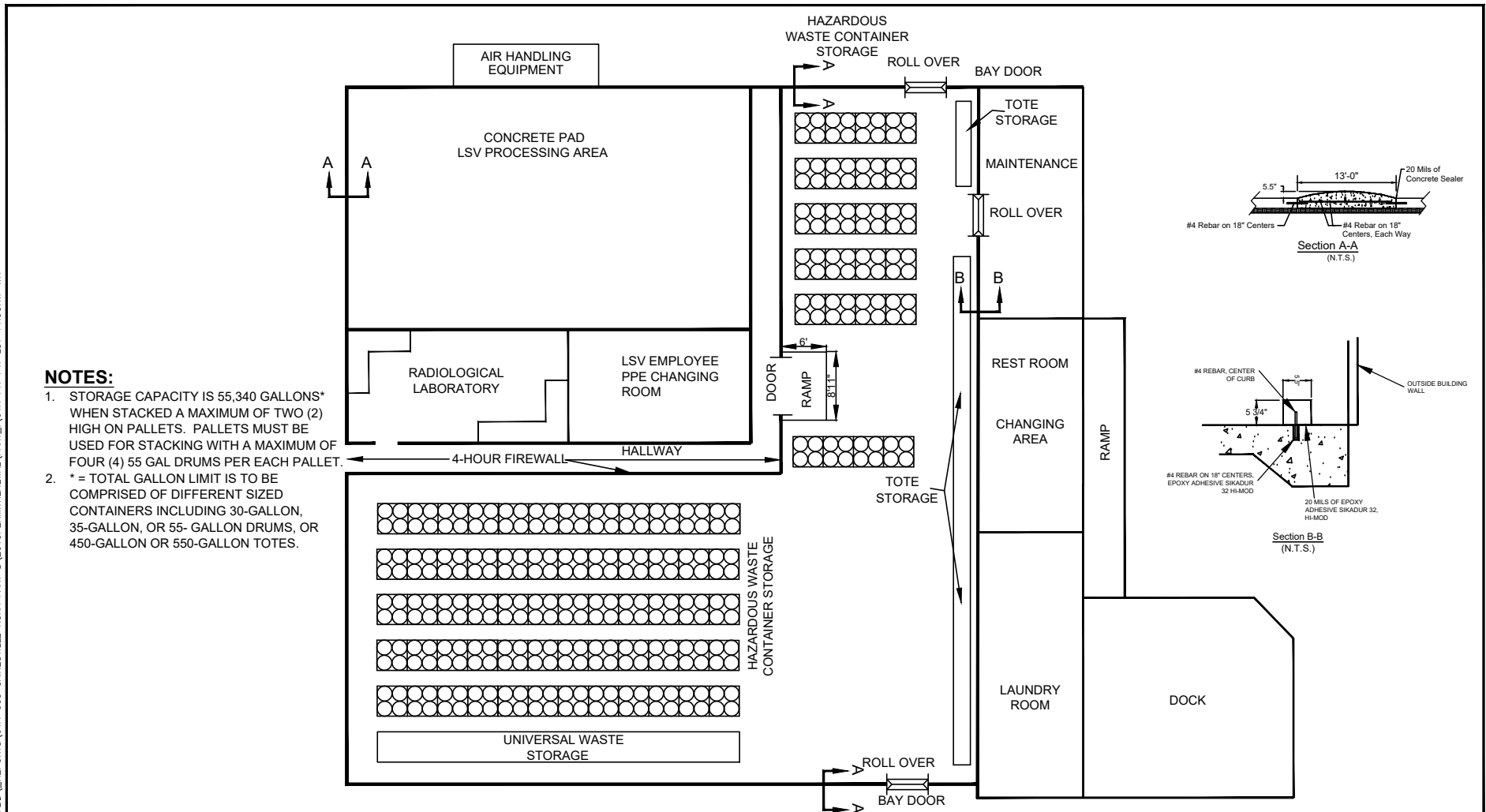
Operating personnel (or personnel present in the treatment areas for any other reason) will be required to wear personal protective equipment (PPE) selected to address the potential hazards identified for the wastes to be managed, and the operating parameters of the system. The PPE selected will be in accordance with OSHA standards.

Environmental receptors such as soil, surface water, groundwater, and air are unlikely to be impacted due to the process area air controls, the containment system, and the location of the process within a building, which prevents contact with precipitation run-on and run-off and soil.

**ATTACHMENT A-2**

**RESPONSE TO FDEP COMMENT 2**


**REVISED FIGURE I-15. LSV PROCESSING AND HAZARDOUS WASTE STORAGE  
WAREHOUSE**



\\TRIHYRO.COM\CLIENTS\OTOR\PERMAFIXOFFICE\CADD\REPORTS\61A-003 GAINESVILLE RCRA PART B\2019PERMITRENEWAL\PART\_61A-PR-PTI-LSV-PROCHW-WH

Source: Perma-Fix, 2014



 <b>Trihydro</b> CORPORATION 1252 Commerce Drive Laramie, Wyoming 82070 www.trihydro.com (P) 307/745.7474 (F) 307/745.7729	<b>FIGURE I-15</b>			
	<b>PART I</b>			
	<b>LSV PROCESSING AND HAZARDOUS WASTE STORAGE WAREHOUSE</b>			
	<b>PERMA-FIX OF FLORIDA, INC.</b> <b>1940 NW 67TH PLACE</b> <b>GAINESVILLE, FLORIDA</b>			
Drawn By: REP	Checked By: CE	Scale: 1" = 20'	Date: 10/4/2019	File: 61A-PR-PTI-LSV-PROCHW-WH

**ATTACHMENT A-3**

**RESPONSE TO FDEP COMMENT 3**

**REVISED FIGURE I-1. WASTE MANAGEMENT AREA**

**REVISED FIGURE I-12. PROCESSING AND STORAGE BUILDING**

**REVISED FIGURE II-A-1. TOPOGRAPHIC CONTOURS**

**REVISED FIGURE II-A-2. ACCESS CONTROL**

**REVISED FIGURE II-A-3. BUILDING AND OTHER STRUCTURES**

**REVISED FIGURE II-A-5. SURFACE WATER FLOW DIRECTION**

**REVISED FIGURE II-A-6. HAZARDOUS WASTE UNITS**

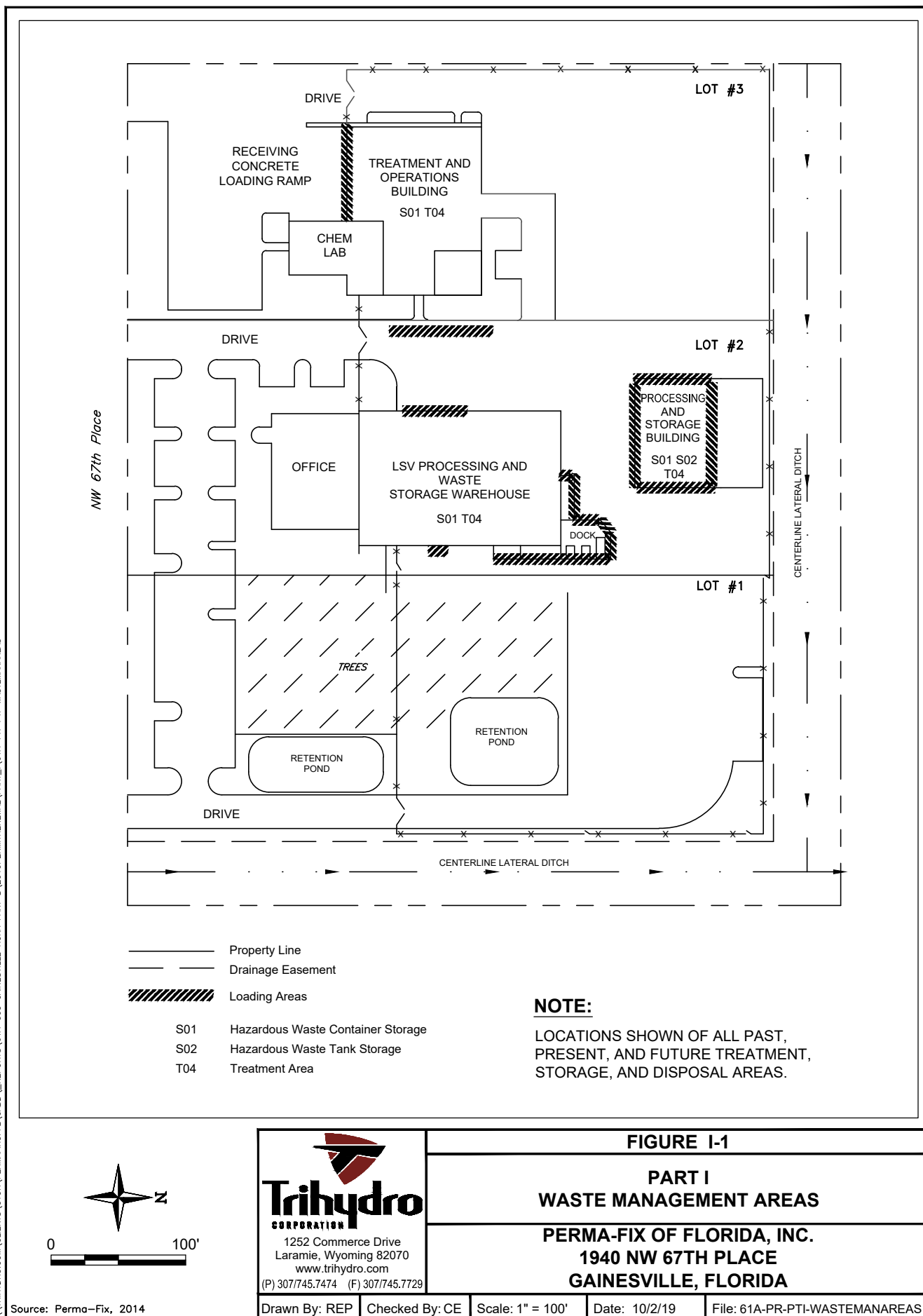
**REVISED FIGURE II-A-7. SURFACE WATER AND SITE DRAINAGE PATTERN**

**REVISED FIGURE II-A-9. TRAFFIC INFORMATION**

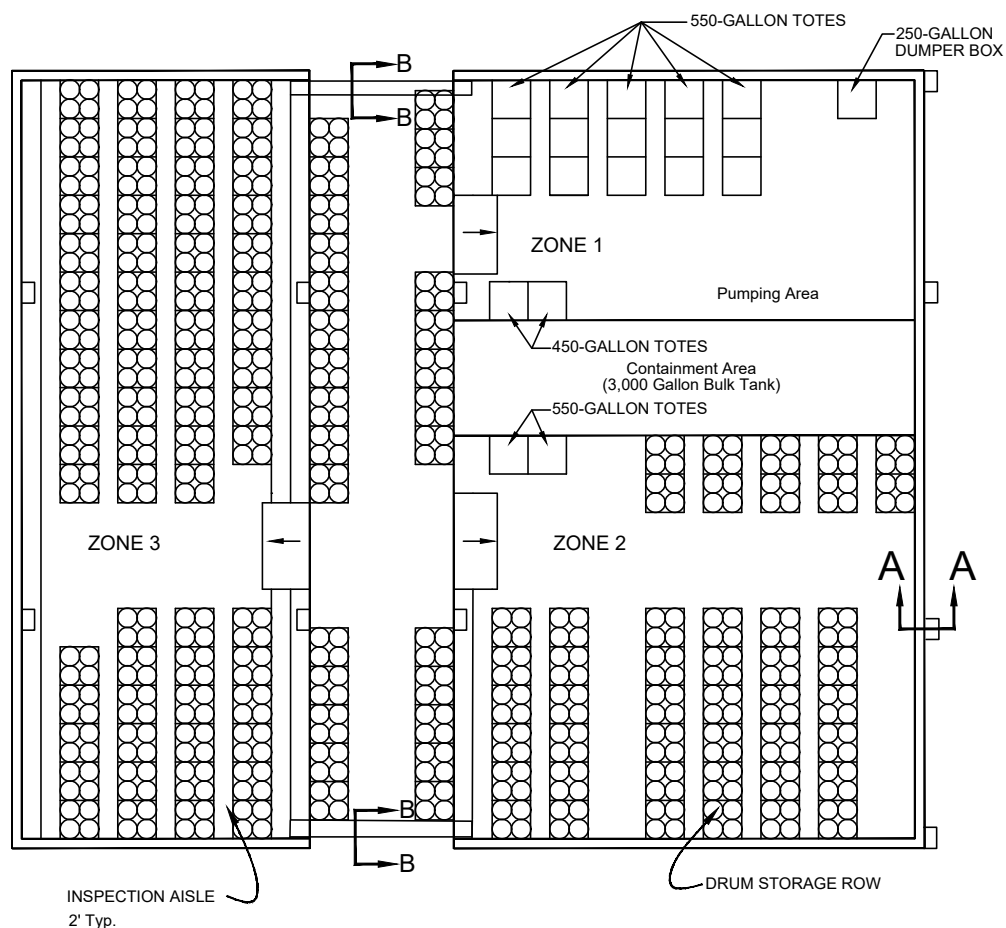
**REVISED FIGURE II-K-1. BORING LOCATION DIAGRAM: PROCESS AND  
STORAGE BUILDING**

**REVISED FIGURE II-K-2. BORING LOCATION DIAGRAM: LSV PROCESSING AND  
WASTE STORAGE WAREHOUSE**

\\TRIHYRO.COM\CLIENTS\OTOR\PERMAFIXOFFL\CADD\REPORTS\61A-003 GAINESVILLE RCRA PART B\2019PERMITRENEWAL\PART\61A-PR-PTI-WASTEMANAREAS



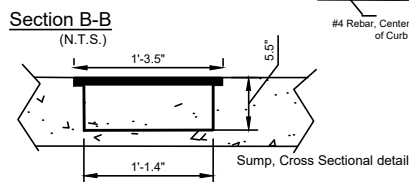
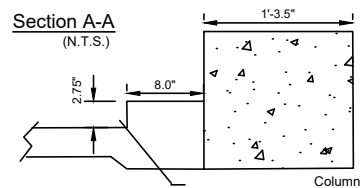
\\TRIHYDRO.COM\CLIENTS\OTOR\PERMAFIX\61A-003 GAINESVILLE RCRA PART B\2019PERMITRENEWAL\PART\_I\61A-PR-PTI-PROCSTRGBLDG



ZONE 1 - 9130 GALLONS  
ZONE 2 - 21340 GALLONS  
ZONE 3 - 41360 GALLONS

**NOTES:**

1. STORAGE CAPACITY IS 71,830 GALLONS\* WHEN STACKED A MAXIMUM OF TWO (2) HIGH ON PALLETS. PALLETS MUST BE USED FOR STACKING WITH A MAXIMUM OF FOUR (4) 55 GAL DRUMS PER EACH PALLET.
2. \* = TOTAL GALLON LIMIT IS TO BE COMPRISED OF DIFFERENT SIZED CONTAINERS INCLUDING 30-GALLON, 35-GALLON, OR 55- GALLON DRUMS, OR 450-GALLON OR 550-GALLON TOTES.



**FIGURE I-12**

**PART I  
PROCESSING AND STORAGE BUILDING**

**PERMA-FIX OF FLORIDA, INC.  
1940 NW 67TH PLACE  
GAINESVILLE, FLORIDA**

Source: Perma-Fix, 2014

Drawn By: REP

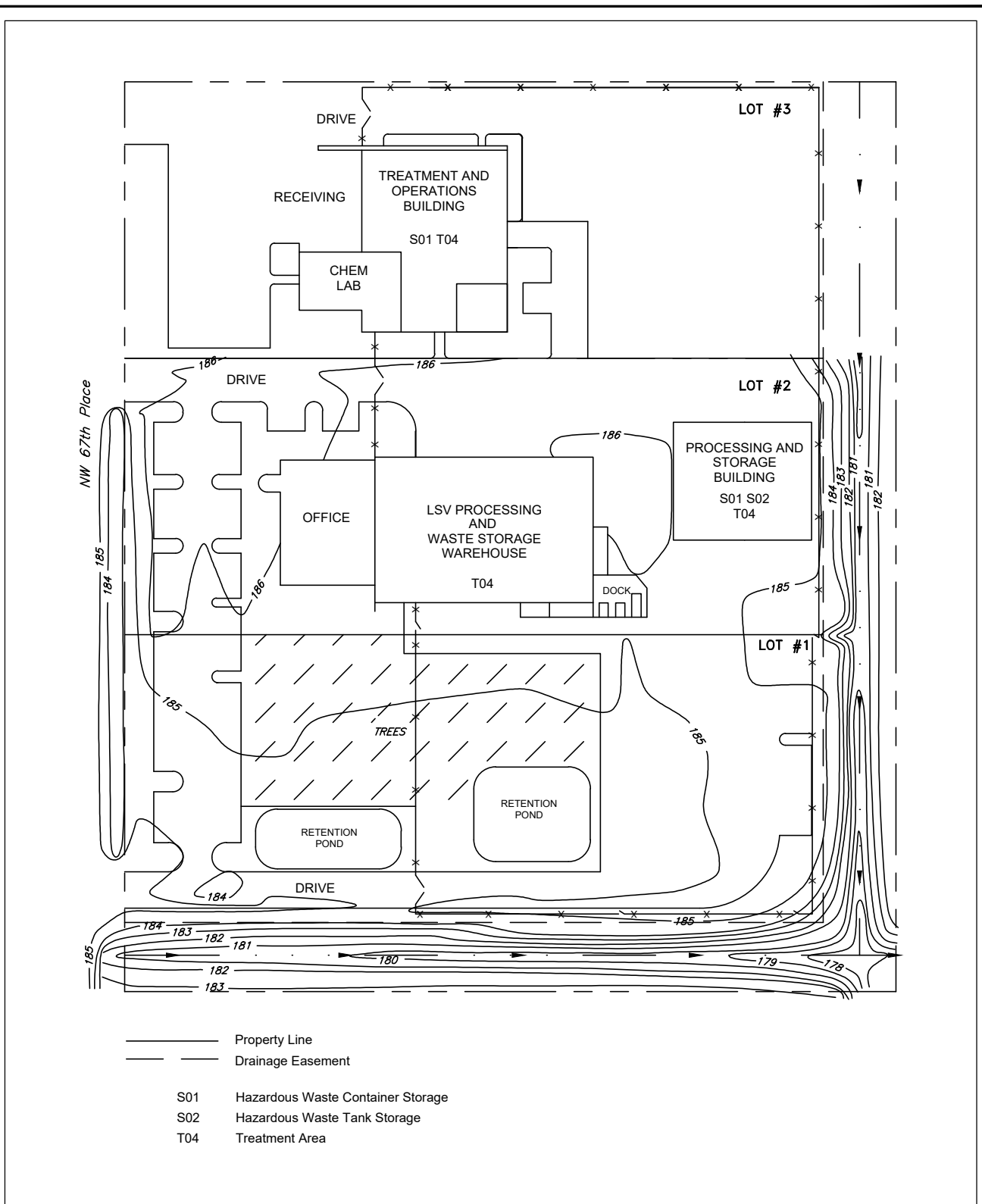
Checked By: CE

Scale: 1" = 20'

Date: 10/3/19

File: 61A-PR-PTI-PROCSTRGBLDG

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- Property Line  
 Drainage Easement  
  
S01 Hazardous Waste Container Storage  
S02 Hazardous Waste Tank Storage  
T04 Treatment Area



  
**Trihydro**  
CORPORATION  
1252 Commerce Drive  
Laramie, Wyoming 82070  
www.trihydro.com  
(P) 307/745.7474 (F) 307/745.7729

**FIGURE II-A-1**

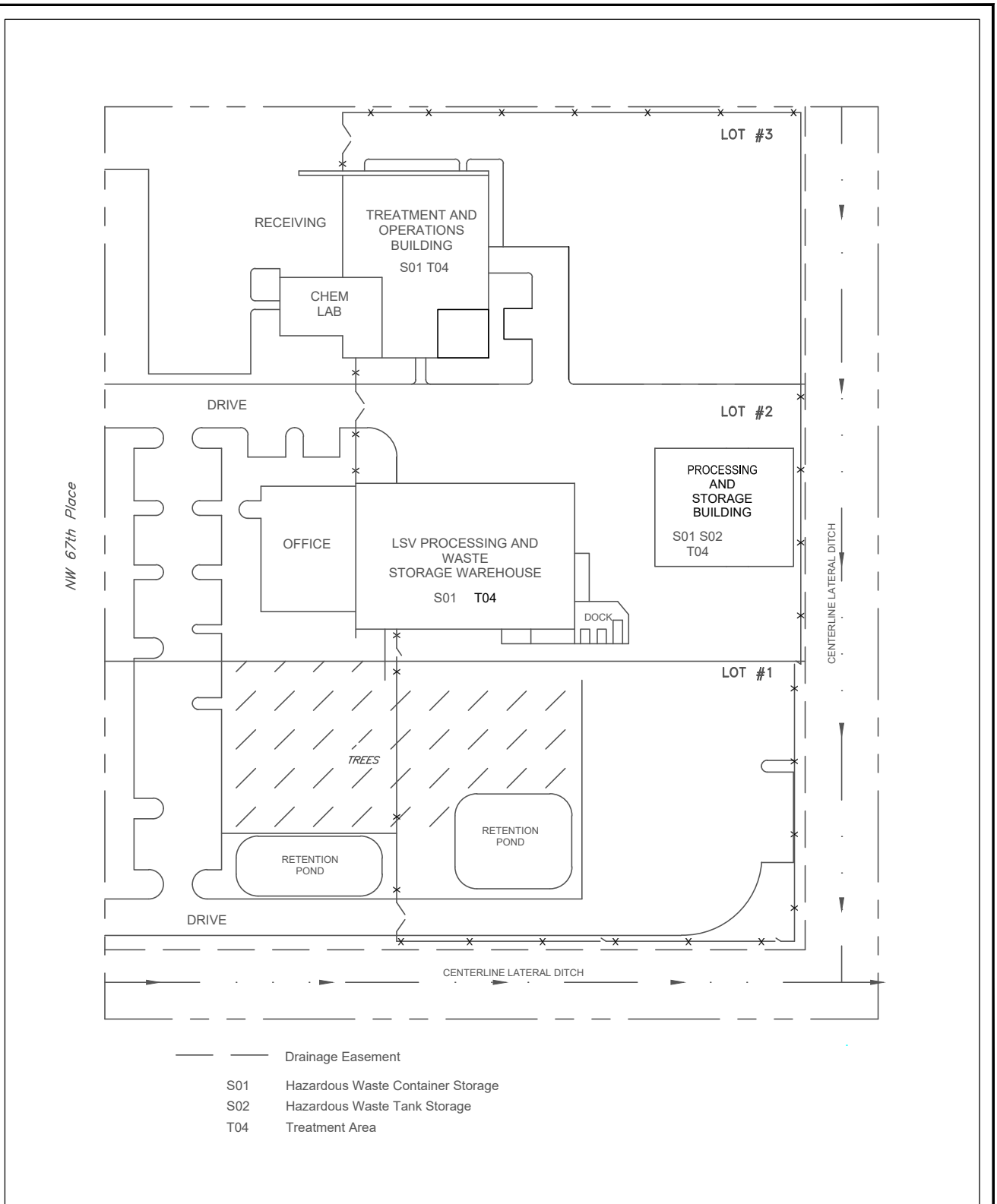
**PART II  
TOPOGRAPHIC CONTOURS**

**PERMA-FIX OF FLORIDA, INC.  
1940 NW 67TH PLACE  
GAINESVILLE, FLORIDA**

Source: Perma-Fix, 2014

Drawn By: REP	Checked By: CE	Scale: 1" = 100'	Date: 10/4/2019	File: 61A-PR-PTII-TOPOCONT
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\\TRIHYRO.COM\CLIENTS\OTOR\PERMAFIX\61A-003 GAINESVILLE RCRA PART B\2019PERMITRENEWAL\PART II\61A-PR-PTII-ACCESSCONTROL



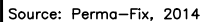
**FIGURE II-A-2**

**PART II  
ACCESS CONTROL**

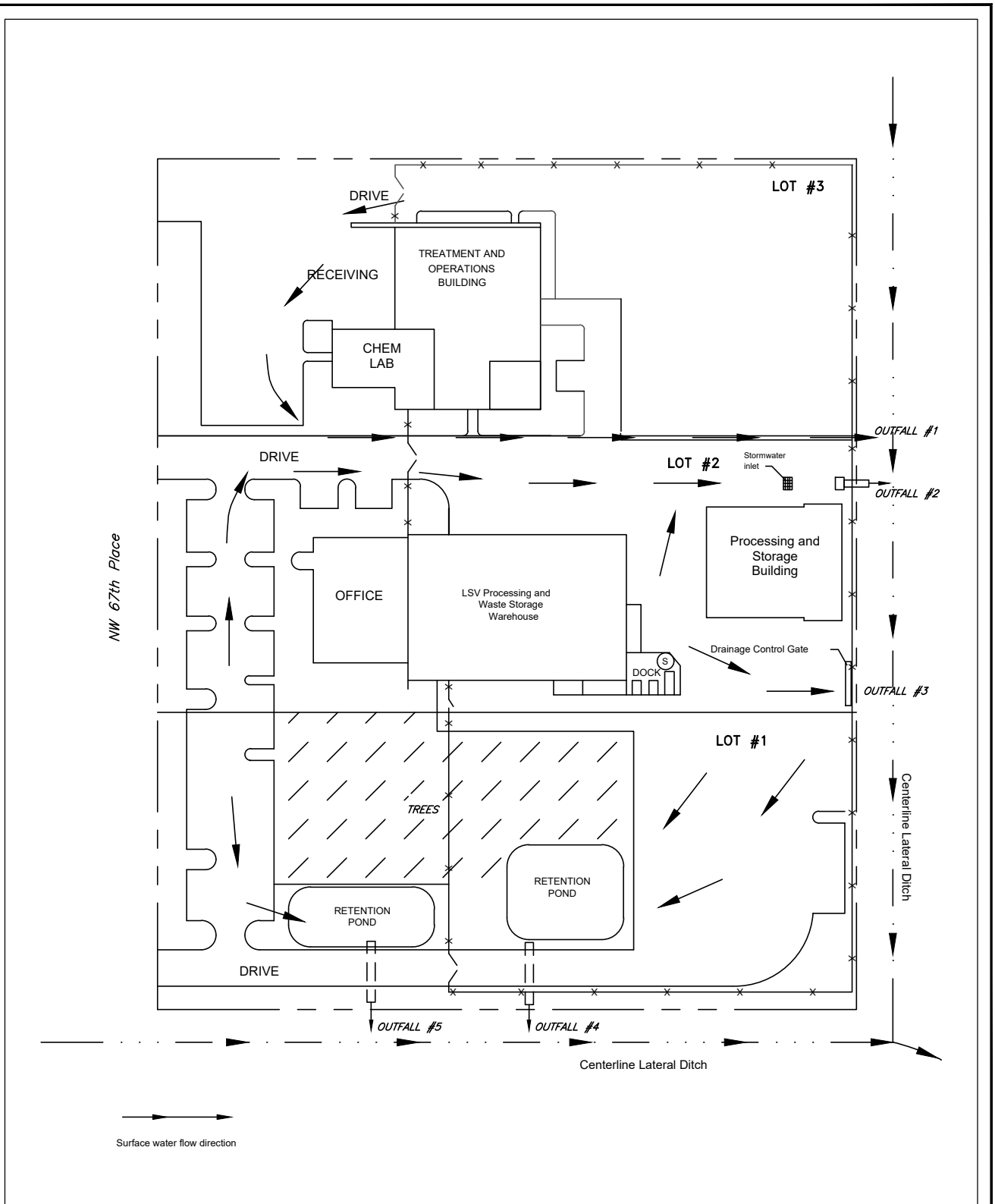
**PERMA-FIX OF FLORIDA, INC.  
1940 NW 67TH PLACE  
GAINESVILLE, FLORIDA**

Source: Perma-Fix, 2014

Drawn By: REP	Checked By: CE	Scale: 1' = 100'	Date: 10/7/2019	File: 61A-PR-PTII-ACCESSCONTROL
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\\TRIHYDRO.COM\CLIENTS\OTOR\PERMAFIX\FLOW\REPORTS\61A-003 GAINESVILLE RCRA PART B\2019PERMITRENEWAL\PART II\61A-PR-PTII-SURFWTRFLOW



**FIGURE II-A-5**

**PART II  
SURFACE WATER FLOW DIRECTION**

**PERMA-FIX OF FLORIDA, INC.  
1940 NW 67TH PLACE  
GAINESVILLE, FLORIDA**

Source: Perma-Fix, 2014

Drawn By: REP	Checked By: CE	Scale: 1" = 100'	Date: 10/7/2019	File: 61A-PR-PTII-SURFWTRFLOW
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\\TRIHYRO.COM\CLIENTS\OTOR\PERMAFIX\CAD\REPORTS\61A-003 GAINESVILLE RCRA PART B\2019PERMITRENEWAL\PART II\61A-PR-PTII-HAZDWASTEUNITS

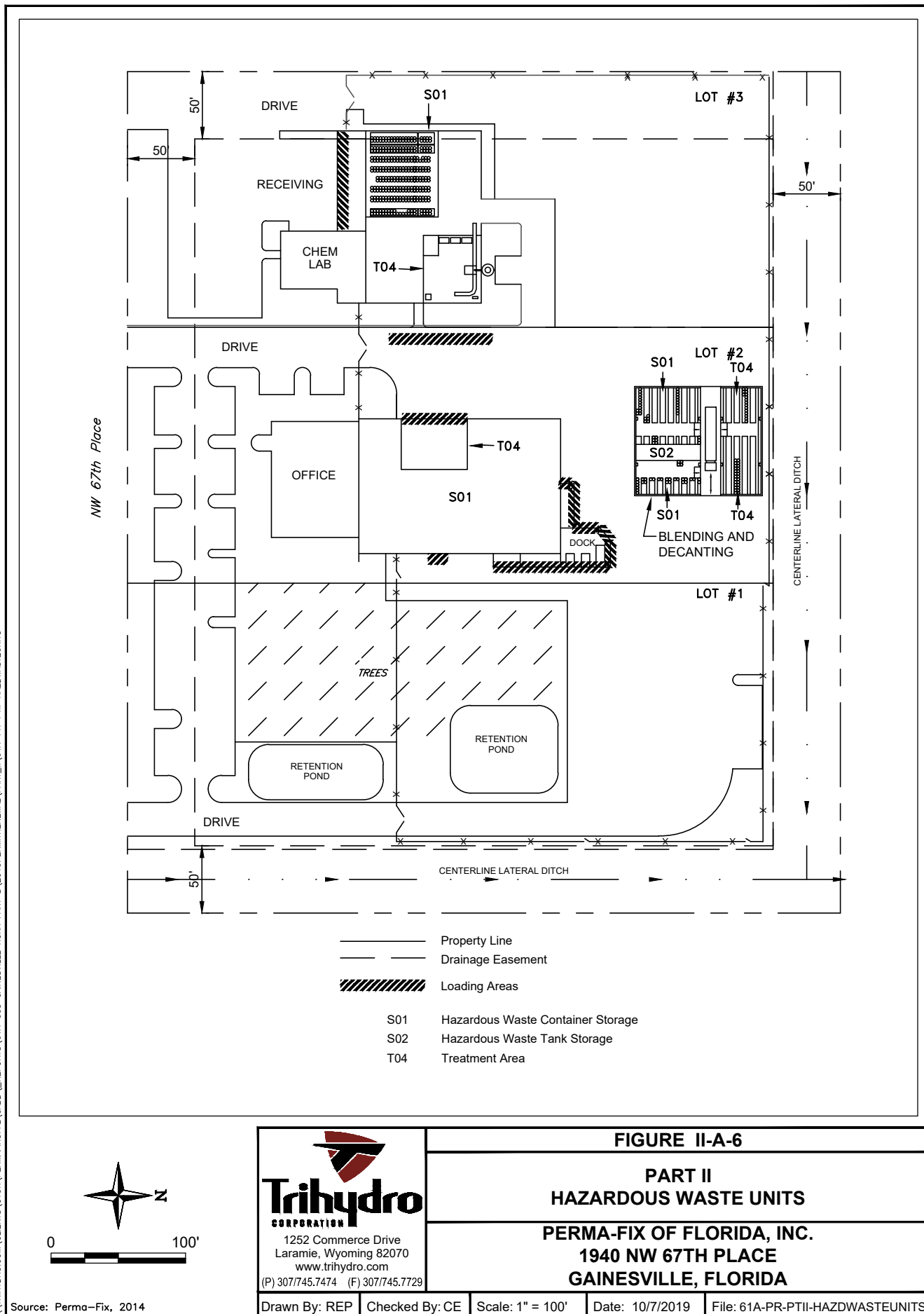


FIGURE II-A-6

PART II  
HAZARDOUS WASTE UNITS

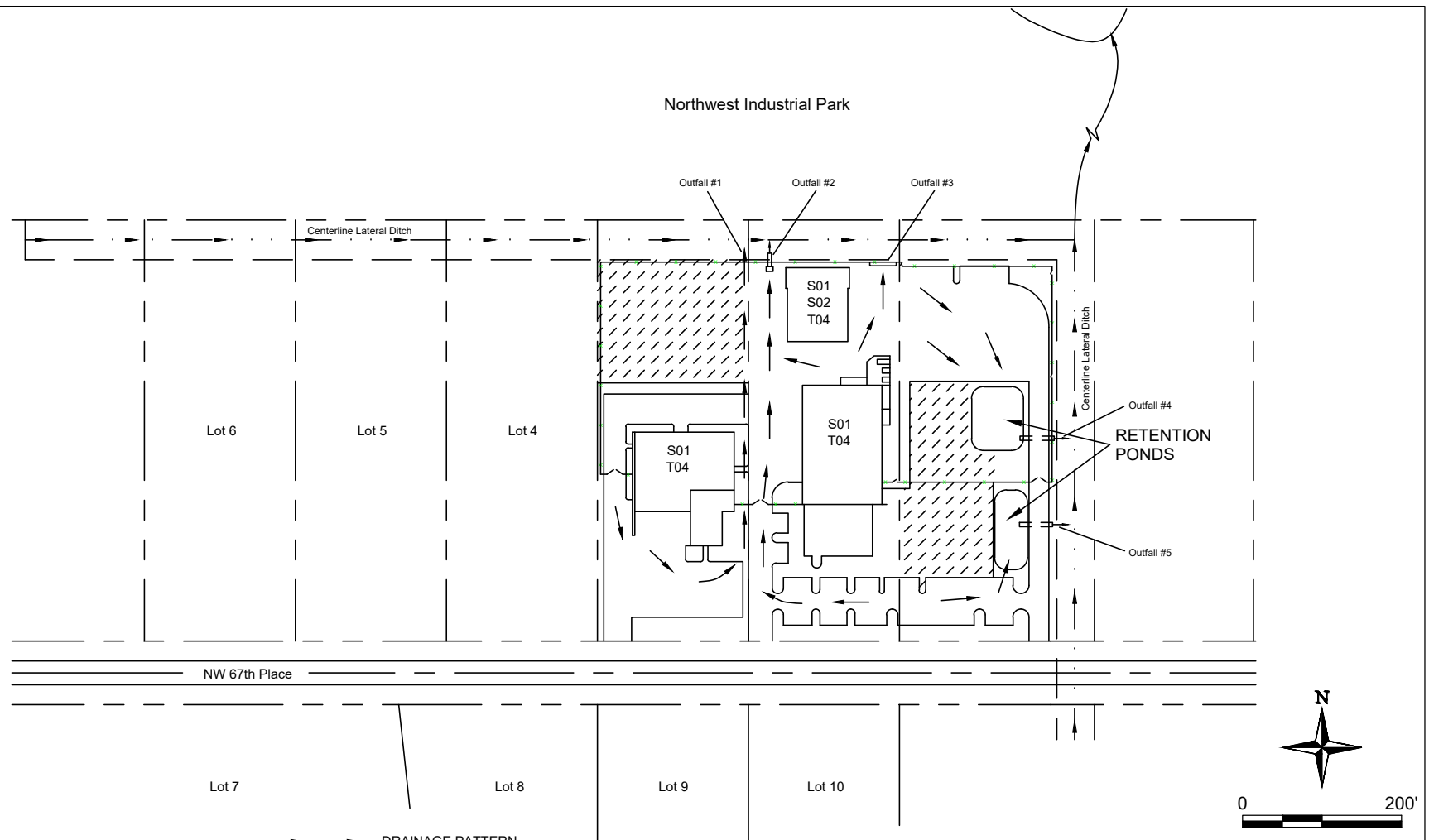
PERMA-FIX OF FLORIDA, INC.  
1940 NW 67TH PLACE  
GAINESVILLE, FLORIDA

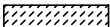


Source: Perma-Fix, 2014

Drawn By: REP	Checked By: CE	Scale: 1" = 100'	Date: 10/7/2019	File: 61A-PR-PTII-HAZDWASTEUNITS
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→ DRAINAGE PATTERN  
 WOODED AREA

**Trihydro**  
CORPORATION  
1252 Commerce Drive  
Laramie, Wyoming 82070  
www.trihydro.com  
(P) 307/745.7474 (F) 307/745.7729

**FIGURE II-A-7**

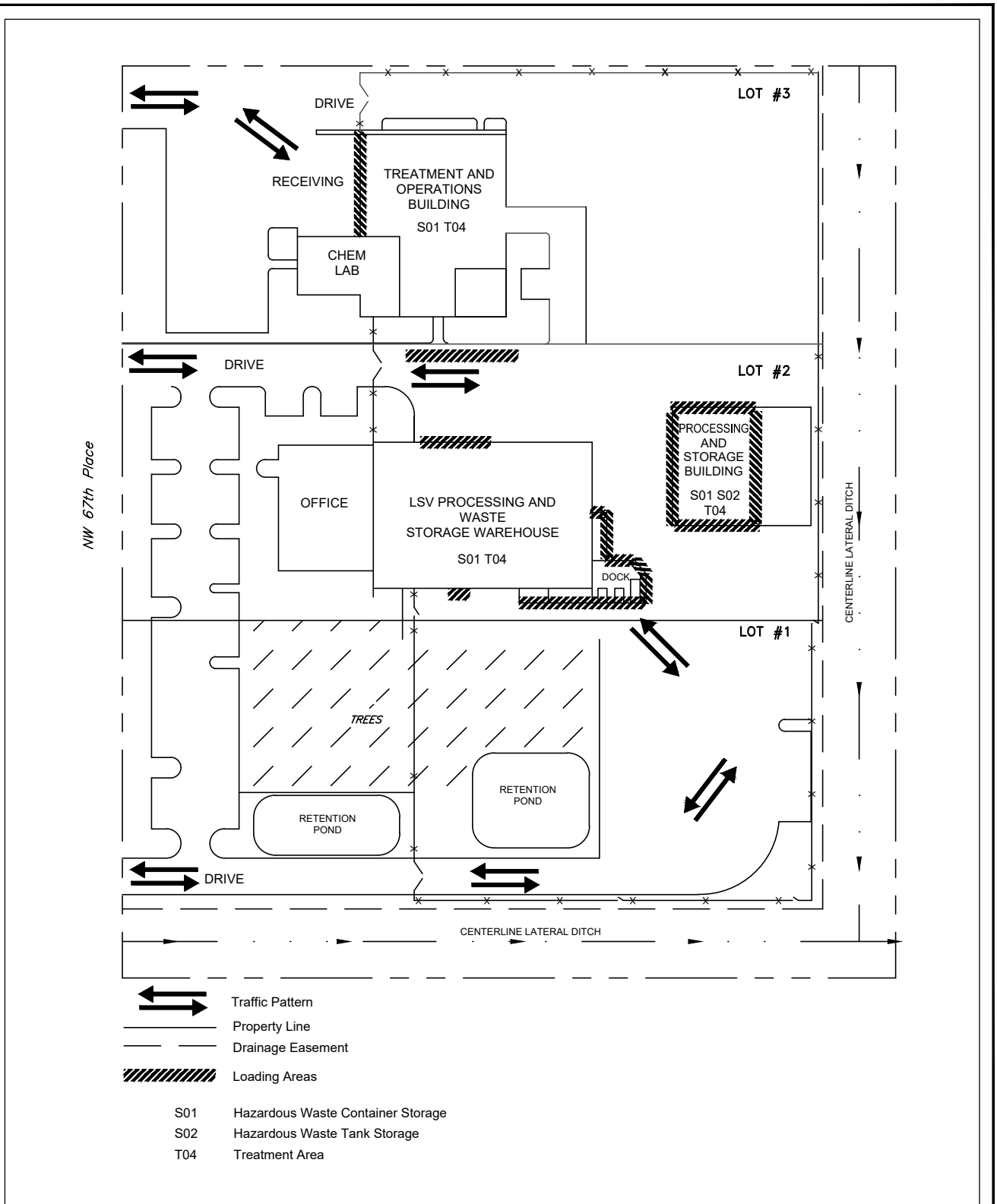
**PART II**  
**SURFACE WATER AND SITE DRAINAGE PATTERN**

**PERMA-FIX OF FLORIDA, INC.**  
**1940 NW 67TH PLACE**  
**GAINESVILLE, FLORIDA**

Source: Perma-Fix, 2014

Drawn By: REP	Checked By: CE	Scale: 1" = 200'	Date: 10/7/2019	File: 61A-PR-PTII-SURFWTRSITEDRAIN
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\\TRIHYRO.COM\CLIENTS\OTOR\PERMAFIXOFFL\CADD\REPORTS\61A-003 GAINESVILLE RCRA PART B\2019PERMITRENEWAL\PART II\61A-PR-PTII-TRAFFICINFO



**FIGURE II-A-9**

**PART II  
TRAFFIC INFORMATION**

**PERMA-FIX OF FLORIDA, INC.  
1940 NW 67TH PLACE  
GAINESVILLE, FLORIDA**

Source: Perma-Fix, 2014

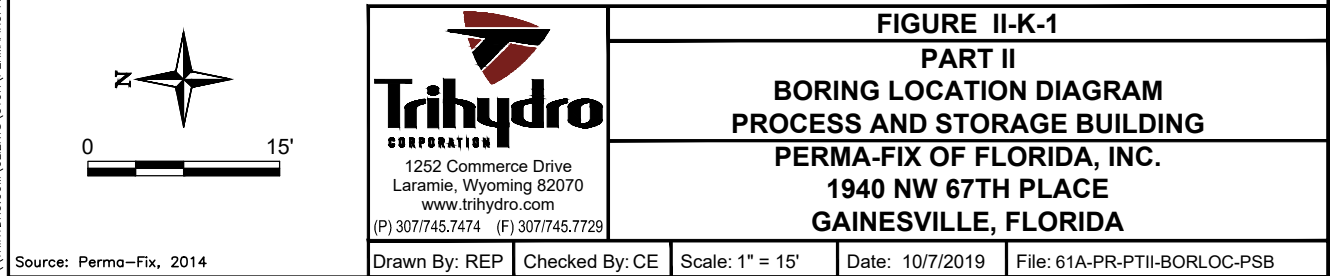
Drawn By: REP

Checked By: CE

Scale: 1" = 100'

Date: 10/4/2019

File: 61A-PR-PTII-TRAFFICINFO





**ATTACHMENT A-4**

**RESPONSE TO FDEP COMMENT 4**

**REVISED PART II.I.1 DESCRIPTION OF MISCELLANEOUS UNITS (EXCERPT)**

## **REVISED PART II.I.1 DESCRIPTION OF MISCELLANEOUS UNITS (EXCERPT)**

### **I MISCELLANEOUS UNITS**

#### **I.1 DESCRIPTION OF MISCELLANEOUS UNITS**

This section describes the Perma-Fix® II process that may be identified as a miscellaneous unit regulated under 40 CFR 264 Subpart X. The unit will be used to physically and/or chemically treat hazardous wastes and/or non-RCRA radioactive wastes. This section of the permit application is intended to address the regulations for miscellaneous units applicable to this process.

PFF conducts thermal desorption and/or chemical oxidation/reduction in a treatment unit. The operation is a proprietary process known as Perma-Fix® II (PF-II). A detailed description of the existing batch unit and its operation follows. The batch thermal desorber is planned to be replaced with a continuous unit, which is described in Appendix II-I-1. In addition, the supporting PF-II ancillary equipment, including the associated air pollution control systems, are planned for upgrade or replacement. The proposed changes to the PF-II process are based on a concept only level design and a permit modification is anticipated.

**ATTACHMENT A-5**

**RESPONSE TO FDEP COMMENT 5**

**REVISED PART II.Q RCRA FACILITY ASSESSMENT (EXCERPT)**

## **REVISED PART II.Q RCRA FACILITY ASSESSMENT (EXCERPT)**

### **Q. RCRA FACILITY ASSESSMENT**

RCRA Facility Assessment conducted by EPA's contractor, A. T. Kearney, is attached as Appendix II-Q.

A Release Assessment Report for Area of Concern A (Paint Spray Booth) and Area of Concern C (Soil Mound Area) prepared by Environmental Science Associates, Inc. and dated June 2001 was submitted to DEP. This Report had concluded that no further action was warranted for Areas of Concern A and C, based on the results of the laboratory analysis of the soil samples. This investigation was required by the HSWA corrective action section of the hazardous waste permit that was in effect then.

The current hazardous waste permit issued on May 27, 2015 requires no further action for any potential SWMUs at the facility. No releases from any additional SWMUs have been identified after the issuance of this permit.

The current operational facility property was acquired by PFF from Quadrex Corporation on June 17, 1994. The Quadrex Annex Area was never owned by PFF; the Quadrex Annex Area is indicated on the SWMU map (Figure II-Q-1).

**ATTACHMENT A-6**

**RESPONSE TO FDEP COMMENT 6**

**REVISED PART I.D.2.1 SOLVENT RECYCLING (EXCERPT)**

**REVISED PART II.R PROCESS VENTS (EXCERPT)**

## **REVISED PART I.D.2.1 SOLVENT RECYCLING (EXCERPT)**

### **D.2 DESCRIPTION OF OPERATIONS BY BUILDING**

#### **D.2.1 TREATMENT AND OPERATIONS BUILDING (TOB)**

##### **Solvent Recycling**

The following information is included for informational purposes only since spent solvent recycling/reclamation is exempt from RCRA permitting requirements or by activities conducted onsite (e.g. recovery of select solvents used in the PF-II process to minimize mixed waste generation) pursuant to 40 CFR 261.6(c)(1). The PF-II process is a thermal desorber used to treat organic contaminated solids that entails a bag-house pulse-back system, accumulation tank, vacuum system and absorber tank (hi-flash kerosene) with all fugitive emission routed through the HEPA system and RTO. The Facility plans to recycle spent solvents (e.g., Freon) generated by various industrial generators. A low-temperature still or distillation unit will be used to separate the re-useable solvents from contaminants. The reclaimed solvent will be returned to the generator for reuse, to a vendor for resale or kept in-house for further use. The separated contaminants will be containerized or managed in an on-site process. If hazardous, waste not managed on site will be shipped off-site for subsequent treatment and/or disposal by an authorized hazardous waste facility. The unit will be placed in either the LSV radioactive control area (RCA) or TOB RCA. All operations in the RCAs are routed through the same air pollution control equipment. Ancillary activities will be conducted and equipment operated in accordance with applicable regulations. Applicable emissions control requirements are addressed in Part II Section R of this permit application. Vendor specifications for the planned distillation unit are enclosed in Appendix I-C for information purposes.

## **REVISED PART II.R PROCESS VENTS (EXCERPT)**

### **R PROCESS VENTS**

These standards apply to process vents associated with distillation, fractionation, thin- film evaporation, solvent extraction, and air or steam stripping operations that manage hazardous waste with organic content of at least 10 ppm by weight (ppmw).

PFF currently operates affected process vents in association with the Liquid Scintillation Vial (LSV) waste treatment unit, the Perma-Fix<sup>®</sup> II (PF-II) process that meets the definitions of “distillation” and “steam stripping operations” as defined in Subpart AA, and chemical extraction operations for debris treatment as described in Part I of this permit application. Hence, Subpart AA will apply to each of these three units when hazardous waste of at least 10 ppmw organic content whether they are in operation or in is process. Each of these three units are part of the mixed waste processing operations. The operations are conducted in totally enclosed treatment facilities with all fugitive emissions or working losses from process operations vented through HEPA systems and a regenerative thermal oxidizer in support of the nuclear waste processing. Triple rinsing of the equipment will be performed should the waste managed in the equipment change in order to confirm ppmw organic content.

In addition, PFF plans to operate a solvent distillation process at the Facility. Although this process will be exempt from permitting requirements, it will be subject to Subpart AA requirements because the unit will be located at a TSDF otherwise subject to permitting requirements of Part 270. The unit will be located in one of two radioactive control areas (RCAs) equipped with a vapor recovery system in accordance with the requirements of 40 CFR 264.1033. The RCAs are operated under negative air with all fugitive or working loss emissions routed through a HEPA system and the RTO.

**ATTACHMENT A-7**

**RESPONSE TO FDEP COMMENT 7**

**REVISED APPENDIX II-A-2. CONTINGENCY PLAN**




# **CONTINGENCY PLAN**

## ***019C – Revision 19***


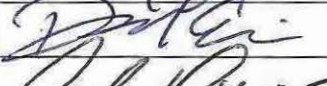


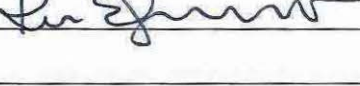
**PERMA-FIX OF FLORIDA, INC.  
1940 NW 67TH PLACE  
GAINESVILLE, FLORIDA 32653  
(352) 373-6066**

**DEP/EPA ID#: FLD 980 711 071**

**SINGLE USE ONLY**  
**Tuesday, March 3, 2020**  
**PERMA-FIX OF FLORIDA, INC.**  
**STANDARD OPERATING PROCEDURE (CC)**

 <p><b>PermaFix®</b> environmental services A Nuclear Services and Waste Management Company</p>	<p align="center"><b>ENVIRONMENTAL HEALTH AND SAFETY</b></p>	<p align="center"><b>SOP-019C</b></p>	
		<p align="center"><b>Revision: 19</b></p>	
<p align="center"><b>Contingency Plan</b></p>			

### Approvals

Title	Signature	Date
EHS Manager		2/18/2020
Radiation Safety Officer		2/18/2020
QA Manager		2/18/2020
Field Service Manager		2/18/2020
SE Regional VP**		2/18/2020


\*\* Denotes Final Approval and Date of Issuance

### Revision Control

Number	Date	Change Description
17	12/20/2019	Annual Review, updated contact info, added quick reference guide
18	1/30/2020	Updated contacts and QRG
19	2/18/2020	Updated contacts

SINGLE USE ONLY  
 Tuesday, February 18, 2020  
 PERMA-FIX OF FLORIDA, INC.  
 STANDARD OPERATING PROCEDURE (CC)

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 <p><b>PermaFix®</b> environmental services A Nuclear Services and Waste Management Company</p>	<p align="center"><b>ENVIRONMENTAL HEALTH AND SAFETY</b></p>	<p align="center"><b>SOP-019C</b></p>	
		<p align="center"><b>Revision: 19</b></p>	
<p align="center"><b>Contingency Plan</b></p>			

### Approvals

Title	Signature	Date
EHS Manager		
Radiation Safety Officer		
QA Manager		
Field Service Manager		
SE Regional VP**		

\*\* Denotes Final Approval and Date of Issuance

### Revision Control

Number	Date	Change Description
17	12/20/2019	Annual Review, updated contact info, added quick reference guide
18	1/30/2020	Updated contacts and QRG
19	2/18/2020	Updated contacts
19	3/3/2020	Updated TOC, minor change

**SINGLE USE ONLY**  
**Tuesday, March 3, 2020**  
**PERMA-FIX OF FLORIDA, INC.**  
**STANDARD OPERATING PROCEDURE (CC)**

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**PERMA-FIX OF FLORIDA, INC.**  
**STANDARD OPERATING PROCEDURE (CC)**

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**Tuesday, March 3, 2020**  
**PERMA-FIX OF FLORIDA, INC.**  
**STANDARD OPERATING PROCEDURE (CC)**

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**Tuesday, March 3, 2020**  
**PERMA-FIX OF FLORIDA, INC.**  
**STANDARD OPERATING PROCEDURE (CC)**

## **1.0 SCOPE AND OBJECTIVES**

This Contingency Plan (hereafter referred to as "the Plan") describes an organized course of action to be taken by Facility personnel or outside organizations in response to possible hazardous waste emergencies at the Perma-Fix of Florida, Inc. (PFF) facility (Facility). In addition, the Plan lists emergency equipment to be maintained on-site and designates the primary and alternate Emergency Coordinators. This Plan is designed to fulfill the Resource Conservation and Recovery Act (RCRA) Subpart D requirements of 40 CFR Part 264.

The Plan is designed to be a stand-alone document that provides instructions and guidance for responding to Facility emergencies. The Facility was designed and will be operated in a manner to prevent spills, fires, and explosions, in accordance with all permits and licenses. Personnel are trained to immediately implement and execute the Plan whenever there is an imminent or actual fire, explosion, or release of hazardous waste or hazardous waste constituents. Additionally, the Plan will be implemented in the event of natural disasters or bomb threats.

Updated copies of the Plan are posted within the Facility and maintained in the Facility Operating Record. Copies of the Plan and subsequent updates have been supplied to the state and local agencies that may be called upon to assist in the event of an actual emergency at the Facility. A copy of this Plan will be submitted to other agencies after receiving approval by the Florida Department of Environmental Protection (FDEP) of this Plan.

## **2.0 FACILITY OPERATIONS**

PFF currently conducts a commercial waste bulking, storage, and transfer facility operation at its Gainesville, Florida facility. Waste managed on-site includes a wide variety of hazardous, industrial, mixed (i.e., a combination of hazardous and low-level radioactive), and non-hazardous wastes. PFF separately blends hazardous and mixed wastes into fuels for reuse (i.e., energy recovery) in permitted, off-site incinerators, industrial furnaces, boilers, etc. PFF also consolidates, repackages, and sorts waste materials for shipment and off-site treatment and/or disposal.

Permitted activities at the Facility include a variety of chemical and physical waste treatment activities. Specifically, PFF receives, stores, and treats hazardous waste. PFF is currently permitted for the following treatment operations: thermal desorption, chemical and physical extraction (extraction methods include water washing, high pressure steam, blasting, grinding, spalling etc.), chemical oxidation/reduction, size reduction and separation techniques, lab-pack decommissioning, neutralization, mercury amalgamation, deactivation, stabilization, microencapsulation, and macroencapsulation.

Existing treatment operations at the Facility include the Perma-Fix I® (PF-I) (chemical stabilization) and Perma-Fix II® (PF-II) (thermal desorption; chemical oxidation/reduction) processes, as well as treatment of hazardous debris in accordance with the alternative debris treatment standards specified in 40 CFR 268.45 (namely physical abrasion, chemical washing, and encapsulation). In addition, PFF is planning solvent recycling activities (distillation), which are exempt from RCRA permitting requirements. Complete details of these processes may be found in Part I Section D.2.1 Solvent Recycling of PFF's RCRA permit application (dated December 2019). Figure CP-1 is a Site Plan showing the locations of hazardous waste management areas at the Facility. Figure CP-2 shows the location of the facility on a street map.

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Liquid scintillation fluid (LSF) is an example of one waste stream received at PFF. LSFs are generally received in vials and/or bulk from off-site generators. The vials are crushed, and the scintillation fluid is captured and consolidated into containers ranging from 5-gallon to 550-gallon, or pumped into a 3,000-gallon aboveground storage tank or pumped into DOT-approved containers. The containers are stored in the Processing and Storage Building (see Figure CP- 1). The scintillation fluid is then fuel blended and shipped off site for energy recovery. The broken vials are washed with an ethanol solvent and disposed as a non-hazardous solid waste.

PF-I and PF-II processes are conducted in the Treatment and Operations Building. Debris washing activities are conducted in a segregated area within the LSV processing area. The PF-II process, macroencapsulation, and solvent recycling activities are or will be carried out inside the Treatment and Operations Building. Fuel blending (bulking and de-watering) operations are conducted in the Processing and Storage Building.

Used oil is stored in the LSV Processing and Storage Warehouse (see Figure CP-1) in DOT approved containers. The used oil is generally fuel blended. Spent fluorescent lamps destined for recycling and various non-hazardous wastes are also stored in the LSV Processing and Storage Warehouse.

Additional information regarding facility operations relevant to contingency plan implementation are addressed in the procedures noted below.

### **3.0 EMERGENCY COORDINATORS**

This Plan identifies a primary emergency coordinator and alternate emergency coordinators as indicated in Attachment CP-1. The individuals identified are familiar with all aspects of PFF operations, trained in Contingency Plan implementation, and are capable of making appropriate decisions under emergency circumstances. The primary and alternate emergency coordinators have the authority to commit the resources of PFF required to implement the Plan. The emergency coordinators have the authority to shut down and restart processing areas and evacuate plant personnel. An emergency coordinator will be able to reach the Facility in a short period of time, should it be necessary to respond after regular business hours. If the evacuation of surrounding areas is advisable as determined by the Emergency Coordinator, immediate notification will be made to appropriate local authorities and the Emergency Coordinator (or his/her designee) will be available to assist appropriate officials decide whether surrounding areas should be evacuated.

### **4.0 IMPLEMENTATION**

The Plan will be implemented whenever an incident or emergency at the Facility threatens or has the potential to threaten human health, the environment, and public or private property. The designated emergency coordinator will implement the Plan in the event of an imminent or actual emergency. The emergency coordinator will also provide coordinated assistance to the internal personnel and outside organizations responding to the emergency incident. Criteria for implementation of the Contingency Plan at the Facility include the following scenarios and potential emergencies:

#### **4.1 Fires and/or Explosions**

- A large fire has been discovered and the fire is not extinguished using portable fire extinguishers;
- Facility personnel have exhausted locally available fire extinguishers on a small fire and the fire continues to burn or spread;
- A fire causes the release of toxic fumes affecting the surrounding area;
- Use of water or chemical fire suppressant could result in contaminated runoff;

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- An imminent danger of an explosion exists; and/or,
- An explosion has occurred.

#### 4.2 Spills or Releases

- A spill exceeds the size or seriousness that can be controlled and remediated by Facility personnel using portable equipment available in the immediate area of a spill or release; and/or,
- A spill or uncontrolled reaction has caused or could cause the release of hazardous waste or hazardous waste constituents to the air, surface water, or soil.

#### 4.3 Natural Disasters

A hurricane, tornado, or severe weather event is forecast for the immediate area of the Facility or has occurred at the Facility.

#### 4.4 Bomb Threat

A bomb threat concerning the Facility is received by Facility personnel or by other persons who make the event known to Facility personnel.

#### 4.5 Emergency Response Procedures

##### 4.5.1 Notification

Facility personnel will immediately notify the emergency coordinator by telephone or intercom when an actual or imminent emergency is identified. If the emergency occurs after regular business hours, the emergency coordinator (or designated alternate) will be immediately notified using the telephone numbers listed in the Emergency Coordinator Contact List (Attachment CP-1).

The Gainesville Police and Fire Department can be summoned by telephone. Telephones that are configured for dialing an outside line can be activated by dialing “9” for external communication. Telephones are located inside each building containing hazardous waste and are also capable of facility-wide notification on a dedicated paging system.

Additionally, all emergency coordinators have the capability to maintain contact by radio to key members of the process technician team. Copies of the Contingency Plan, which contains the Emergency Coordinator Contact List, are posted in several areas of the Facility in hard cover binders in close proximity to processing, storage, and certain administrative areas.

##### 4.5.2 Identification of Hazardous Materials

As a precaution, all hazardous waste received by PFF is assumed to be ignitable and toxic. All smoke and fumes from fires and explosions will be assumed to be hazardous. The atmosphere around all spills will be assumed to be toxic and potentially reactive until determined to be otherwise. The emergency coordinator(s) or his/her alternate will make an inspection of the material(s) involved in an incident and determine the next course of action.

Whenever there is a release, fire, or explosion, the emergency coordinator(s) will (to the extent possible) immediately identify the character, source, amount, and aerial extent of any released

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materials. He/she may do this by visual observation (e.g., truck placards, container labels), review of facility records, and (if necessary) by chemical analysis. Facility records available for review include manifests, and waste analysis data on-site kept at the file cabinets in the hallway next to the copy room for at least three years, and then kept off-site with Iron Mountain at 5905 NE Waldo Road, Gainesville, Florida. Iron Mountain provides contracted service to archive the documents. The emergency coordinator may consider incident character (i.e., size of spill or type of incident) as well as weather conditions when coordinating response actions.

#### **4.5.3 Hazard Assessment**

As part of the Facility training program, Facility personnel are trained to assess the potential emergencies for which they have the capacity to respond. Facility personnel are trained in the use of locally available fire extinguishers and control equipment for minor spills. If more serious events are immediately recognized, or the event exceeds the capabilities of portable extinguishing or spill control equipment, the emergency coordinator will notify local authorities and activate the on-site fire alarm. Upon arrival of the local authorities, the emergency coordinator will provide information regarding the Facility and available materials to prevent the spread of contamination. The local fire or emergency response official, upon arrival at the Facility, shall have primary control and authority during an emergency situation at the Facility.

The need for partial or full evacuations of the Facility and surrounding areas will be assessed by the emergency coordinator and outside emergency agency personnel.

The affected employees' supervisor will assess medical emergencies. Either the Facility's local medical provider or a local emergency medical facility will treat any employee who is injured to the extent where the injury cannot be remedied by simple first aid.

Bomb threats will be treated as actual emergency events until determined otherwise. The Gainesville Police Department will make further assessments and recommendations to the Facility emergency coordinator.

The emergency coordinator has the authority to notify additional PFF employees as deemed necessary to broaden his/her capability in making assessments by utilizing trained personnel and specialized tools and equipment available to assess the extent and severity of an incident including:

- Photo-ionization detector
- Gas chromatograph
- Mass spectrometer
- Additional miscellaneous lab instruments

The emergency coordinator, or an individual he/she designates, will assess the potential environmental effects of an incident using the following criteria:

- Potential effects of gases, vapors, and smoke.
- Potential effect of water run-off from fire control.
- Potential effect of fire-fighting foams or chemicals.
- Potential effect on local surface water or groundwater.

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- Potential effect on human and animal health or life; inside and outside the facility.

#### 4.5.4 Control Procedures

##### 4.5.4.1 Fire and Explosion

Facility employees are trained in fire prevention and response. Employees are trained to respond to small fires with portable fire extinguishers. The Gainesville Fire Department will respond to structural or large fires. In addition, the entire facility is covered by an on-site fire suppression system supported by a diesel fire pump that feeds an array of wet and dry pipe systems and can distribute an AFFF foam/water mixture at the NFPA-required densities in any of the Facility's waste storage and processing areas. This system is monitored 24 hours a day and also has backup power to maintain all functionality in the event of AC power failure, in accordance with local and NFPA guidelines. Specific instructions for responding to a fire and explosion at PFF are contained in Attachment CP-2A, Emergency Procedures for Fire, and in Attachment CP-2B, Emergency Procedures for Explosion, respectively.

In the event of fire or explosion, the following actions will be immediately taken:

1. All work will cease, and all non-essential personnel will be evacuated to the designated assembly area.
2. All valves and conveyance systems in the LSV processing area that lead to the 3,000-gallon aboveground storage tank and those in the treatment area will be secured. All loading, processing, and unloading operations of the PF-I system, PF-II system, or other site operations in the affected area will be shut down.
3. The emergency coordinator(s) and local authorities will be notified.

##### 4.5.4.2 Minor Spills

Minor spills may occur during waste sampling, equipment maintenance, waste transfer, and treatment operations. Waste is managed throughout the Facility within secondary containment structures. Therefore, minor spills have minimal potential for off-site migration to the local environment. In most cases, these spills occur where adequate ventilation is present to dissipate any harmful vapors. These spills can generally be remediated using absorbent pads or materials.

##### 4.5.4.3 Major Spills

Major spills may result from overturned containers or ruptures in the storage tank, containers, piping, or hoses. Secondary spill containment has been installed around hazardous waste treatment process areas and storage locations within the Facility.

Specific instructions for responding to a spill or unplanned release at the Facility are contained in Attachment CP-3, Emergency Procedures for a Spill/Unplanned Release. Attachment CP-3 includes a step-action table that summarizes those activities that should be

taken immediately upon the discovery of a spill or release in any one of the process areas (e.g., LSV processing, PF-I, PF-II, or other treatment areas on site).

#### **4.5.4.4 Natural Disasters**

The most probable natural disasters to affect the Facility would be either a tornado or a hurricane. Warnings of approaching tornadoes and tropical storms/hurricanes will be received from the National Weather Service or local media. A NOAA emergency weather radio is kept in the offices and monitored during business hours for this purpose.

With tornadoes, there is usually little time to make preparations. The only emergency action that can be taken during a tornado warning is to have all employees move to the center of the building they are in. All employees working outside (e.g., in the PSB), will be notified and required to move inside to a safer location.

Early warning is possible with tropical storms/hurricanes. If it becomes apparent that a tropical storm or hurricane may impact the Facility, the following tasks will be completed:

- Daily entries to the operating record will be made documenting the path/progress of the storm. This will include storm-tracking maps from weather agencies, written warnings from weather services, etc.
- If the forecast predicts a tropical storm or hurricane force winds (>39 miles per hour) for the Facility, the following steps will be taken:
  - All double-stacked pallets of drums in the PSB will be placed on the floor.
  - Any empty B-25 containers on site will be placed around the outside of the PSB berm to minimize damage caused by flying debris during high winds.
  - All outside roll-off containers will be inspected to verify that covering tarps are secure.
  - Containers subject to wet weather damage will be covered in plastic (e.g., fiber containers) or moved inside the LSV Storage warehouse.
  - Any equipment/supplies and other loose objects outside the main buildings will be brought inside, such as empty drums, over-packs, forklifts, spill kits, etc.
  - Maintenance will verify that the emergency power generator and portable pumps are serviced and ready for use.
  - Emergency response equipment (respirators, protective clothing, gloves, etc.) that might be needed to respond to a spill/fire/release will be placed in a location easily accessible to responders, such as under the front stairwell.

After the event is over and it is safe to go outside, emergency coordinators will tour the facility to evaluate damage, if any, and implement the Contingency Plan as needed.

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#### **4.5.4.5 Bomb Threats**

All bomb threats will be reported to the emergency coordinator or company officials and subsequently to the Gainesville Police and Fire Departments. The Facility will be evacuated, and local authorities may conduct a bomb search. The Facility will remain unoccupied until the local authorities and emergency coordinators determine the threat no longer exists.

#### **4.5.4.6 Power or Equipment Failure**

In the event of a power failure, all transfer pumps and treatment operations will stop. Existing automatic valves inherent in the design of the fluid transfer pumping equipment prevent reversal of flow in the LSV transfer lines. The container storage facilities and conveyors in the LSV area are not rendered unsafe during a power failure. The emergency coordinator(s) and Facility maintenance personnel will survey potential damage resulting from a loss of power. Equipment will be repaired immediately after power is restored or as soon as possible. If equipment is beyond repair, it will be properly disposed or managed as scrap.

No run-away reactions will occur as a result of suspension of the PF-I process. Equipment damage would not be anticipated as a result of a power outage.

In the event of a power failure, all operations in the PF-II process line will be discontinued. The system is manually loaded and unloaded so backflow or unintended unloading of material will not occur. The process line (including the heating system) will automatically shut off and is not configured to automatically restart (i.e., in the event of a power failure, upon system shut-down, manual operator action is required for reactivation of equipment). Power failure will not be a factor for container treatment operations since these operations are manually operated. Therefore, in the event of a power failure, the process will be shut down, and all container(s) will be closed until safe processing can be resumed. No other facility operations are anticipated to potentially result in safety or damage problems if interrupted by a power outage.

Emergency exit signs and lighting are provided at critical locations throughout the facility and are supplied with battery-backup power units providing up to 90 minutes reserve power. The Facility is not equipped with automatic emergency backup generators. However, a portable gas-powered electric generator is located on site.

Equipment failure and malfunction will be recorded in the operating record. Maintenance personnel will check and repair malfunctioning equipment as needed. Equipment and instrument calibration will be performed as needed by qualified individuals to minimize the potential for equipment failure, or use of equipment in an “out of calibration” condition. The facility inspection schedule and inspection log sheets provide a mechanism for inspection of tanks and accessories and minimizes the potential for equipment failure and potential releases to the environment. Most equipment failures would not result in any release of hazardous constituents to the environment. In addition, storage and treatment areas are provided with secondary containment systems designed to prevent migration of released materials to environmental media. In the event that equipment failure results in a release, the incident

response procedures outlined in this Contingency Plan are designed to address the most likely possible scenarios.

## **5.0 PREVENTION OF RECURRENCE OR SPREAD OF FIRES, EXPLOSIONS, OR RELEASES**

In the event of a fire, explosion, or release, transfer pumps, electric motors, heating units, mixing equipment and other equipment items will be shut off to eliminate the possibility of recurrence. The emergency coordinator shall institute this as necessary. The storage tank is equipped with a high-level alarm system to prevent overfilling. The proper functioning of this system also will mitigate the possibility of a recurrent emergency situation. The automatic power shut-off system for the PF-II process line will minimize the potential for recurrence of any fire, explosion, or release.

Plant personnel will tour affected areas of the Facility every two hours, inspecting for possible recurrences of fire or material release until the “all clear” determination has been announced.

## **6.0 STORAGE AND TREATMENT OF RELEASED MATERIAL**

If PFF halts operations in response to a fire, explosion, or release, the emergency coordinator must monitor for potential leaks, pressure buildup, gas generation, or ruptures in valves, pipes, or other equipment, wherever appropriate.

Immediately after an emergency, the emergency coordinator must provide for the treatment, storage, or disposal of recovered waste, contaminated soil, or surface water, or any other material that results from a release, fire, or explosion at the Facility. If the recovered material cannot be processed on-site, it will be characterized and disposed of properly in an approved off-site hazardous or non-hazardous waste management facility, as applicable. Collected waste, contaminated soil/surface water, or other material resulting from release response will be stored in a designated storage area (prior to treatment on-site or shipment off-site) based on the identity of the waste and conditions at the Facility. In most cases, the material will be containerized and stored in container storage areas used for management of the original waste. If incident conditions preclude storage in standard storage areas, temporary areas will be designated in accordance with the requirements of 40 CFR 262.34. In some cases, liquid waste may be collected directly onto a tanker and shipped off-site for proper disposal.

## **7.0 EMERGENCY EQUIPMENT**

A list of emergency equipment available on-site is provided in Attachment CP-5, Emergency Equipment List. Locations of the facility’s emergency equipment are shown on CP-6, Emergency Equipment Locator Map. Available equipment includes fire extinguishers, portable pumps, forklift, empty containers, shovels, brooms, and absorbent.

The emergency coordinator will supervise Facility personnel in the cleanup and treatment of hazardous wastes after the emergency is mitigated. If an outside emergency response/cleanup contractor is required, the emergency coordinator will interface with the outside contractor to ensure proper response or cleanup in accordance with procedures in the Contingency Plan and with Facility permits and licenses.

Corrosive materials will be neutralized in place, then absorbed and containerized. All others will be absorbed (if liquid) and containerized, followed by waste characterization, and, if necessary, analysis and shipment off-

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site for disposal. Large volumes of liquids may be pumped into containers or tanker trucks for appropriate management.

## **8.0 INCOMPATIBLE WASTE**

The emergency coordinator will ensure that (in the affected area(s) of the Facility) no waste that may be incompatible with the released material is treated, stored, or disposed of until cleanup procedures are completed. Depending on the situation, this may require isolation of certain classes of material on-site, or loading and shipping certain classes of material off site.

## **9.0 POST-EMERGENCY EQUIPMENT MAINTENANCE**

All emergency equipment listed in Attachment CP-5 and used during an emergency will be replenished or cleaned and inspected for integrity before operations are resumed.

After an incident, non-disposable emergency equipment listed in this Contingency Plan will be cleaned and made fit for its intended use before operations are resumed. Equipment used for emergency response will be decontaminated by steam cleaning, water washing, or other appropriate method. Used fire extinguishers will be re-charged, and depleted supplies will be restocked. Appropriate decontamination methods will be chosen based on the manufacturer's recommendation and/or the type/quantity of contamination present. Disposable equipment will be properly managed, and decontamination residues will be managed in accordance with 40 CFR 262.34.

## **10.0 CONTAINER SPILL AND LEAKAGE**

Leaking containers will be overpacked into non-leaking secondary containers until processed; or the material in the leaking container will be transferred into another appropriate DOT container. No attempt will be made to repair leaking containers. Waste that leaked from a container will be absorbed and managed and disposed of appropriately.

The PF-I and PF-II processes will be conducted in an area equipped with secondary containment. Debris treatment, as well as container treatment activities, is conducted within secondary containment. Spills will be managed in the same manner as tank releases discussed below. Incidental spills will be removed from containment upon detection. Containment areas are subject to routine inspections to facilitate the detection of and timely response to leaking containers or accumulated liquids.

## **11.0 TANK SPILLS AND LEAKAGE**

The bulk storage tank at the Facility is located within secondary containment. Spills will be absorbed and managed as hazardous waste for proper disposal. If the tank itself develops a leak, the remaining waste will be pumped from the tank into containers, or directly into a tanker truck. The tank will then be assessed by a Florida registered professional engineer and either repaired or closed in accordance with the approved closure plan contained in the Facility's Part B permit.

The PF-II system is also equipped with secondary containment. Spills will be managed in the same manner as tank releases discussed above. Incidental spills will be removed in a timely manner. Additionally, these areas are subject to routine inspections to facilitate the detection of and timely response to leaking containers or accumulated liquids.

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## **12.0 COORDINATION AGREEMENTS**

Arrangements have been made with the following state and local authorities to provide emergency assistance to the facility:

<b><u>NAME OF ORGANIZATION</u></b>	<b><u>FUNCTION</u></b>
• City of Gainesville Fire and Rescue Department	• Respond to fires, explosions, spills, or releases
• City of Gainesville Police Department	• Primary responder for plant security & traffic control
• Alachua County Sheriff's Office	• Secondary responder for plant security & traffic control
• North Florida Regional Medical Center	• Emergency medical treatment
• State of Florida DEP Emergency Response Unit	• Assist in emergency response coordination efforts

Coordination agreements are intended to document each emergency response organization's ability and willingness to assist the PFF facility in the event of an emergency incident.

Complete copies of the Plan after approval from FDEP will be sent to the local police and fire departments, nearby hospital, emergency response contractor, and state and local emergency response teams to familiarize them with the Facility and those actions needed in case of an emergency. Documentation indicating that copies of the previous plans have been submitted to these organizations is maintained in the Facility Operating Record. Also, documentation of each organization's acceptance or refusal to enter into a coordination agreement is maintained in the Facility Operating Record. Example copies of these documents are provided as Attachments CP-9 and CP-10, respectively. In addition, the local hospital has been advised about the properties of hazardous waste handled at the facility and the types of injuries/illnesses that could result from fires, explosions, or releases at the facility.

Whenever the Plan is amended, copies of the amendments will be provided to these organizations. The invitation for site inspections will be offered whenever there are significant changes to Facility operations, or annually.

## **13.0 COORDINATION OF EMERGENCY SERVICES**

This section of the Contingency Plan identifies outside organizations that are available for emergency response services. Written agreements with these organizations are maintained in the Facility operating record. These service agencies and organizations are to be summoned only by the PFF emergency coordinator or his/her alternate.

The following table summarizes those notifications and actions that should be undertaken in response to emergency situations that could arise at the Facility.

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<b><u>IN CASE OF A</u></b>	<b><u>THEN NOTIFY*</u></b>	<b><u>SIMULTANEOUS ACTIONS</u></b>
<ul style="list-style-type: none"> <li>Fire or Explosion</li> </ul>	Gainesville Fire Rescue Department  Call 911, or (352) 334-5078	<ul style="list-style-type: none"> <li>Evacuate Facility employees to assembly location</li> <li>Take attendance for missing persons</li> <li>Emergency coordinator assists ranking Fire official</li> </ul>
<ul style="list-style-type: none"> <li>Release of harmful or toxic gases or fumes</li> </ul>	Gainesville Fire Rescue Department  Call 911, or (352) 334-5078	<ul style="list-style-type: none"> <li>Evacuate Facility employees to upwind assembly location</li> <li>Take attendance for missing persons</li> <li>Emergency coordinator assists ranking Fire official</li> </ul>
<ul style="list-style-type: none"> <li>Spill or release of hazardous materials or hazardous wastes</li> </ul>	Local Hazardous Materials Response Team (Gainesville Fire Rescue HAZMAT Team)  Call 911, or (352) 955-1818 <u>OR</u> North Central Florida Regional Planning Council (352) 955-2200 <u>OR</u> Florida DEP State Warning Point (800) 320-0519 or (850) 413-9911 (24 hours)	<ul style="list-style-type: none"> <li>Evacuate Facility employees to Assembly Location (as required)</li> <li>Take attendance for missing persons (if required)</li> <li>Emergency coordinator(s) evaluate the situation and potential hazards</li> <li>Either coordinate in-house spill response (minor spills) <u>or</u> contact outside responders (major spills).</li> </ul>
<ul style="list-style-type: none"> <li>Bomb threat or unauthorized trespass</li> </ul>	Gainesville Police Department Call 911, or (352) 334-2400  <u>OR</u>  Alachua County Sheriff's Office Call (352) 955-1818	<u><b>BOMB THREAT</b></u> <ul style="list-style-type: none"> <li>Evacuate Facility employees to assembly location</li> <li>Take attendance for missing persons</li> <li>Emergency coordinator assists ranking police official</li> </ul> <u><b>TRESPASS</b></u> <ul style="list-style-type: none"> <li>Emergency coordinator &amp; operations personnel check for tampering, theft, etc.</li> <li>Resecure Facility</li> </ul>
* Written reports and additional agency notifications may be required beyond those emergency notifications listed above (e.g., RQ report, or hazardous waste tank release, etc.).		

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## **14.0 EVACUATION PLAN**

Potential emergencies requiring evacuation from hazardous waste management areas are primarily fire hazards and the associated potential release of toxic, irritating, or asphyxiating gas/fumes, or bomb threat. In either case, Facility employees will execute the procedures listed below.

All employees are trained in evacuation procedures. Periodic evacuation drills are conducted to familiarize facility personnel of the primary and secondary evacuation routes and assembly locations throughout the Facility. Evacuation routes are shown on Attachment CP-7, Emergency Evacuation Route Map.

Criteria for implementation of the Facility evacuation plan include the following scenarios and potential emergency situations:

### **14.1 Fire and Explosion**

All Facility employees are trained in the Facility's evacuation plan procedures in the event of a fire or explosion. Employees are instructed to evacuate the Facility using either primary or alternate emergency evacuation routes, as instructed. Employees shall remain at the assembly location until the ranking fire official and/or emergency coordinator have given clearance, unless conditions warrant an off-site evacuation.

### **14.2 Release of Toxic, Irritating, or Asphyxiating Gases or Fumes**

A remote possibility exists for the release of gases or fumes that may cause toxic, irritating, or asphyxiating effects on Facility employees. Employees are instructed to evacuate the Facility and proceed to the designated assembly point for attendance counts. If the primary evacuation routes and assembly point are unusable due to encroaching gases or fumes, employees shall use the secondary evacuation routes and assembly point, depending on wind direction or dispersal of fumes or gases. Employees shall remain at the assembly location until clearance has been given by either the emergency coordinator or ranking emergency official, unless conditions warrant an off-site evacuation.

### **14.3 Bomb Threat**

If a bomb threat is received by the Facility, all employees are instructed to evacuate the Facility via either primary or secondary evacuation routes. All employees will evacuate and proceed to either the primary assembly area or a secondary assembly area designated by the emergency coordinator for an attendance count. Employees shall remain at the assembly location until the ranking police official or the emergency coordinator has given clearance.

#### **14.3.1 Procedure Signals:**

An internal announcement is broadcasted using the telephone public address system. All personnel and employees are instructed to evacuate the Facility through the front door or closest exit.

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- The emergency coordinator or designee will make the announcement by dialing 80 (eight zero) on the telephone and saying:  
“**ATTENTION!!** THE PERMA-FIX EMERGENCY EVACUATION SYSTEM IS NOW BEING EXECUTED. A SITUATION EXISTS REQUIRING IMMEDIATE EVACUATION OF THE FACILITY. PLEASE CALMLY EXIT THE FACILITY AND ASSEMBLE AT THE DESIGNATED AREA.”
- The emergency coordinator(s) shall direct the evacuation. In the event of an issue of accountability, and if conditions allow, the emergency coordinator(s) shall re-enter the Facility to locate personnel. While emergency coordinators are inside the perimeter of the Facility, they shall maintain radio contact with other emergency coordinators and the head counter at all times.
- In a situation that does not warrant re-entry by PFF emergency coordinators, entry of the Facility shall be performed by the local emergency response authorities, with their findings communicated to on-site PFF emergency personnel.
- Primary evacuation routes have been established and are depicted on Attachment CP-7, Emergency Evacuation Route Map. Additionally, secondary evacuation routes have been established in order to provide employees with an alternate route to the assembly location so that an attendance count may be taken. Secondary routes are utilized in the event that primary routes are unusable due to fire, heat, smoke, fumes, or asphyxiating gases. Attachment CP-8 illustrates the areas where potential facility hazard locations could exist.
- Evacuation Route Maps are posted at strategic locations throughout the Facility to guide employees to assembly location by illustrating the established primary and secondary evacuation routes.
- Upon complete evacuation of the Facility, all employees will immediately assemble in the parking lot adjacent to the east side entrance (or alternate assembly location) as directed by the emergency coordinator. In the event that toxic or irritating gases are generated, the emergency coordinator shall direct further evacuation from the area to a safe upwind location. Authorized emergency response personnel remaining in the area will be required to don appropriate personal protective equipment.
- The head counter or designee shall account for all PFF and non-PFF personnel by using a current employee list and sign-in roster, and shall communicate by radio to the emergency coordinator(s) when an issue of accountability exists. The radio is located by the downstairs fax machine in the office area. (VERIFY RADIO IS SET TO CHANNEL 2.) When all personnel have been accounted for, the head counter will then report personnel accountability to the emergency coordinator(s).
- All employees will remain at the assembly point location until instructed otherwise by the emergency coordinator or outside authority.
- The emergency coordinator will advise the appropriate responding agencies if there is a need for the evacuation of the surrounding area.

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## **15.0 REQUIRED REPORTS**

The time, date, and details of any incident that requires implementation of the Plan will be documented and kept in the Facility operating log. Within 15 days after an incident, a written report will be submitted to the FDEP. The report will include:

- (1) Name, address, and telephone number of the owner or operator;
- (2) Name, address, and telephone number of PFF;
- (3) Date, time, and nature of incident (e.g., fire, explosion);
- (4) Name and quantity of material(s) involved;
- (5) The extent of injuries, if any;
- (6) An assessment of actual or potential hazards to human health or impacts to the environment, where applicable; and,
- (7) Estimated quantity and disposition of recovered material that resulted from the incident.

In case of occurrence of a fire or explosion from the facility that could threaten the environment or human health outside the facility, it will be reported verbally to the FDEP within 24 hours, and a written report will be provided within 5 days, as required by 62-4.160.17(b), F.A.C. The verbal report will include the name, address, I.D. number, and telephone number of the facility; its owner or operator; the name and quantity of materials involved; the extent of any injuries; an assessment of actual or potential hazards; and the estimated quantity and disposition of recovered material. The written submission will contain:

1. A description and cause of the fire or explosion at the facility.
2. If not corrected, the expected time of correction, and the steps being taken to reduce, eliminate, and prevent recurrence of the fire or explosion.

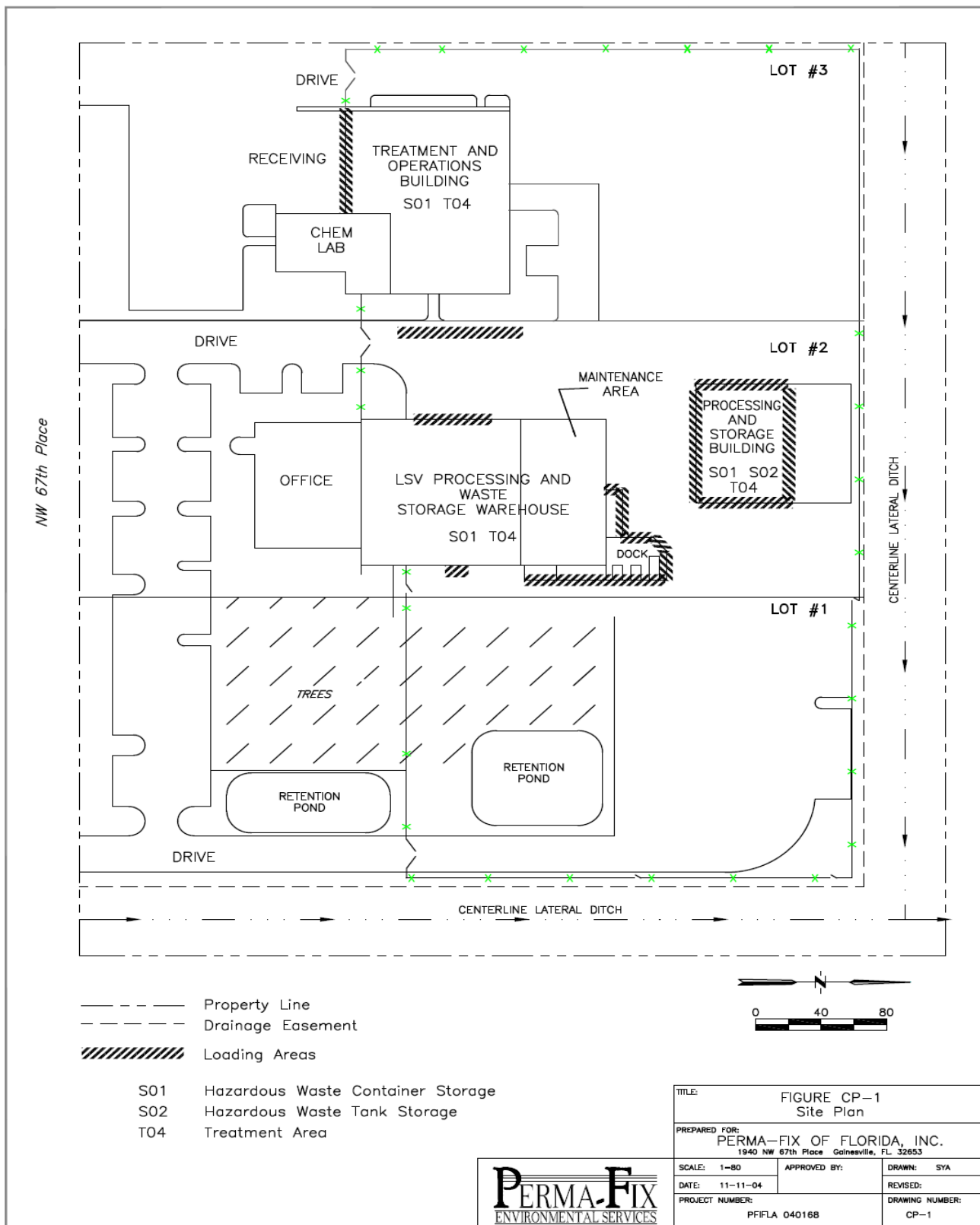
The Plan will be reviewed and immediately amended, if necessary, whenever:

- The Plan fails in an emergency;
- The list of emergency equipment changes;
- Changes occur in the Facility's design, construction, operating, maintenance, or other circumstances that materially increase the potential for fires, explosions, or releases of hazardous waste, or changes, the response necessary in an emergency;
- The list of emergency coordinators changes; or,
- The Facility permit is revised.

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**FIGURE CP-1**  
**SITE PLAN**

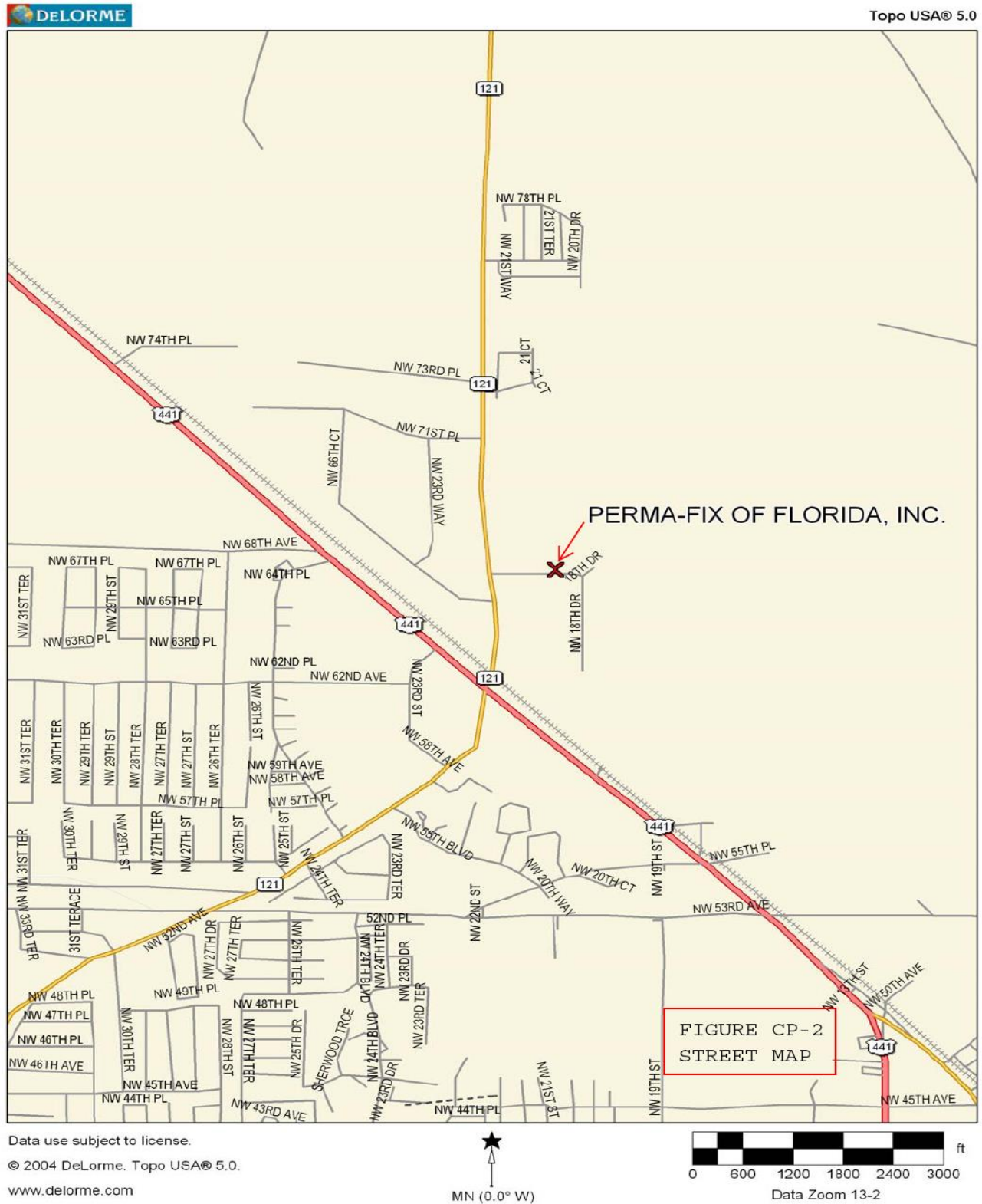
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**FIGURE CP-2**  
**STREET MAP**

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## **ATTACHMENTS**

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# **ATTACHMENT CP-1**

## **EMERGENCY COORDINATORS**

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**ATTACHMENT CP-1  
EMERGENCY COORDINATORS**

**Primary Emergency Coordinator**

<b>Name:</b>	<b>Dwayne Singleton</b>
Position/Title:	Field Service Manager
Work Telephone Number:	(352) 395-1362/373-6066
Home Telephone Number:	(352) 376-9624
Mobile Telephone Number:	(352) 219-8640
Home Address:	4138 NW 48 <sup>th</sup> Place, Gainesville, FL 32606

**Alternate Emergency Coordinators\***

<b>Name:</b>	<b>Andy Owens</b>
Position/Title:	Quality Assurance Manager
Work Telephone Number:	(352) 395-1357/373-6066
Home Telephone Number:	N/A
Mobile Telephone Number:	(352) 284-8064
Home Address:	929 NE County Rd 234, Gainesville, FL 32641

<b>Name:</b>	<b>Mike Owens</b>
Position/Title:	Maintenance Coordinator
Work Telephone Number:	(352) 395-1360/373-6066
Home Telephone Number:	(904) 684-3108
Mobile Telephone Number:	(386) 937-6770
Home Address:	200 N Fillmore Ave. Interlachen FL 32148

<b>Name:</b>	<b>Dan Cain</b>
Position/Title:	Environmental Health & Safety Manager
Work Telephone Number:	(352) 395-1347/373-6066
Home Telephone Number:	(503) 200-8082
Mobile Telephone Number:	(503) 200-8082
Home Address:	2210 SW Old Bellamy Rd, Ft White, FL 32038

<b>Name:</b>	<b>Dan Cain</b>
Position/Title:	Radiation Safety Officer
Work Telephone Number:	(352) 395-1347/373-6066
Mobile Telephone Number:	(503) 200-8082
Home Address:	2210 SW Old Bellamy Rd, Ft White, FL 32038

\* Alternate Coordinators are listed in the order in which they will assume responsibility as alternates.

NOTE: The work address for all Coordinators is 1940 NW 67<sup>th</sup> Place, Gainesville, Florida 32653.

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**ATTACHMENT CP-2A**

**EMERGENCY PROCEDURES FOR FIRE**

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**ATTACHMENT CP-2A  
EMERGENCY PROCEDURES FOR FIRE**

The following actions should be taken upon discovery of a fire anywhere within the Facility's processing areas.

<b>STEP</b>	<b>ACTION</b>																					
1	Sound alarm using the intercom and by word of mouth, and quickly evaluate the extent of the emergency. The alarm should alert the emergency coordinator.  If after hours, contact primary or alternate emergency coordinator using phone numbers in Attachment CP-1 posted by phone.																					
2	If the situation allows it, actuate the kill switch to disconnect the power to all process equipment. This should stop the flow of potentially ignitable and/or reactive materials. Lights should remain on inside the process area.																					
3	Follow the specific instructions of the emergency coordinator who will direct any internal efforts to contain, control or extinguish the fire, if the emergency coordinator is present.																					
4	If the primary or alternate emergency coordinator is not present, attempt to contain the fire as follows; otherwise, the primary or alternate emergency coordinator will conduct evaluation: <table border="1"> <thead> <tr> <th><b>If the fire is a...</b></th><th><b>Then respond by following these steps...</b></th></tr> </thead> <tbody> <tr> <td rowspan="6">Large fire (i.e., it cannot be extinguished without outside assistance)</td><td>a Call the Fire Department – 911</td></tr> <tr> <td>b The primary or alternate emergency coordinator should contact the following as necessary: • Gainesville Police Department 911 • Gainesville Fire Rescue Department (352) 995-1818</td></tr> <tr> <td>c Evacuate personnel from the affected area to the designated evacuation assembly area.</td></tr> <tr> <td>d Prevent entry into affected area if it would jeopardize the safety of an employee</td></tr> <tr> <td>e If the situation allows it, prevent the spread of fire beyond the immediate area using fire extinguishers until outside assistance arrives.</td></tr> <tr> <td>f Follow directions given by ranking fire official.</td></tr> <tr> <td></td><td>g Close appropriate valve on the storm water outfall(s), or use absorbent materials or mechanical means to prevent any contaminated fire-fighting water from exiting the facility, if it is safe to do so.</td></tr> <tr> <td></td><td>h If hazardous materials are involved in the fire, provide the MSDS or chemical information for the materials to the Fire Department.</td></tr> <tr> <td></td><td>i After the fire is extinguished, the emergency coordinator should evaluate the situation and determine whether an emergency response contractor is needed for environmental cleanup.</td></tr> <tr> <td></td><td>j Collect all contaminated absorbents in containers, and close and label the containers. Contained liquids may be pumped into a tank truck or containers.</td></tr> <tr> <td></td><td>k Resume operations only after the Fire Department and emergency coordinator have made a full inspection and have determined that the area is fit for restarting operations.</td></tr> <tr> <td></td><td>l Make proper notifications and prepare a written report regarding the incident.</td></tr> </tbody> </table>	<b>If the fire is a...</b>	<b>Then respond by following these steps...</b>	Large fire (i.e., it cannot be extinguished without outside assistance)	a Call the Fire Department – 911	b The primary or alternate emergency coordinator should contact the following as necessary: • Gainesville Police Department 911 • Gainesville Fire Rescue Department (352) 995-1818	c Evacuate personnel from the affected area to the designated evacuation assembly area.	d Prevent entry into affected area if it would jeopardize the safety of an employee	e If the situation allows it, prevent the spread of fire beyond the immediate area using fire extinguishers until outside assistance arrives.	f Follow directions given by ranking fire official.		g Close appropriate valve on the storm water outfall(s), or use absorbent materials or mechanical means to prevent any contaminated fire-fighting water from exiting the facility, if it is safe to do so.		h If hazardous materials are involved in the fire, provide the MSDS or chemical information for the materials to the Fire Department.		i After the fire is extinguished, the emergency coordinator should evaluate the situation and determine whether an emergency response contractor is needed for environmental cleanup.		j Collect all contaminated absorbents in containers, and close and label the containers. Contained liquids may be pumped into a tank truck or containers.		k Resume operations only after the Fire Department and emergency coordinator have made a full inspection and have determined that the area is fit for restarting operations.		l Make proper notifications and prepare a written report regarding the incident.
<b>If the fire is a...</b>	<b>Then respond by following these steps...</b>																					
Large fire (i.e., it cannot be extinguished without outside assistance)	a Call the Fire Department – 911																					
	b The primary or alternate emergency coordinator should contact the following as necessary: • Gainesville Police Department 911 • Gainesville Fire Rescue Department (352) 995-1818																					
	c Evacuate personnel from the affected area to the designated evacuation assembly area.																					
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	e If the situation allows it, prevent the spread of fire beyond the immediate area using fire extinguishers until outside assistance arrives.																					
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	g Close appropriate valve on the storm water outfall(s), or use absorbent materials or mechanical means to prevent any contaminated fire-fighting water from exiting the facility, if it is safe to do so.																					
	h If hazardous materials are involved in the fire, provide the MSDS or chemical information for the materials to the Fire Department.																					
	i After the fire is extinguished, the emergency coordinator should evaluate the situation and determine whether an emergency response contractor is needed for environmental cleanup.																					
	j Collect all contaminated absorbents in containers, and close and label the containers. Contained liquids may be pumped into a tank truck or containers.																					
	k Resume operations only after the Fire Department and emergency coordinator have made a full inspection and have determined that the area is fit for restarting operations.																					
	l Make proper notifications and prepare a written report regarding the incident.																					

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**ATTACHMENT CP-2A (continued)**

STEP	ACTION		
	<b>If the fire is a...</b>		<b>Then respond by following these steps...</b>
	Small isolated fire (i.e., one that can be extinguished without outside assistance)	a	Attempt to use fire extinguishers to control the fire.
		b	Use dry chemical, foam, or CO <sub>2</sub> fire extinguishers for fighting fires. Do not use water on electrical fire or liquid fires. <ul style="list-style-type: none"> <li>• Class C extinguishers: For use on electrical fires</li> <li>• Class B extinguishers: For use on flammable liquid fires.</li> </ul>
		c	Direct the stream from the extinguisher at the base of the fire from upwind and the sides. Do not stand downgradient of the fire.
		d	If the scope of the incident exceeds the capabilities of the portable fire extinguishers, activate dedicated fire suppression system.
		e	If efforts to extinguish the fire are not immediately effective, the emergency coordinator should contact the following as necessary: <ul style="list-style-type: none"> <li>• Gainesville Police Department 911</li> <li>• Gainesville Fire Rescue Department (352) 955-1818</li> </ul>
		f	After the fire is extinguished, the emergency coordinator must conduct an inspection before resuming operations.
		g	Prepare a fire report.
5	Refer to Attachment CP-4 for reporting requirements (if applicable).		

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**ATTACHMENT CP-2B**

**EMERGENCY PROCEDURES FOR EXPLOSIONS**

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**ATTACHMENT CP-2B  
EMERGENCY PROCEDURES FOR EXPLOSIONS**

The following actions should be taken if an explosion occurs at the Facility.

<b>STEP</b>	<b>ACTION</b>
1	Notify the Emergency Coordinator immediately if an explosion occurs at the facility. Also, provide any information pertaining to injury to employees, if available.
2	The Emergency Coordinator will notify the appropriate agencies listed in Attachment CP-5.
3	If it is safe to do so, retrieve any injured personnel and arrange for their medical help.
4	If the explosion has resulted in a fire, implement procedures listed in Attachment CP-2A.
5	If the explosion has resulted in a spill, implement procedures listed in Attachment CP-3.
6	Resume operations only after the Emergency Coordinator or his designee has made an inspection of the affected area(s) and has determined that the area(s) is fit for restarting operations.
7	Prepare a report on the explosion event.
8	Submit a written report, if applicable, to appropriate agencies listed in Attachment CP-5.

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**ATTACHMENT CP-3**

**EMERGENCY RESPONSE PROCEDURES  
FOR SPILL/UNPLANNED RELEASE**

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**ATTACHMENT CP-3  
EMERGENCY RESPONSE PROCEDURES FOR SPILL/UNPLANNED RELEASE**

Minor spills may occur during sampling, equipment maintenance, transfer, and treatment operations. In most cases, these spills will occur where adequate ventilation is present to dissipate any harmful vapors. These spills can generally be remediated using pads and absorbent materials.

Major spills may result from overturned containers or ruptures in storage tanks, containers, piping, and hoses. Secondary spill containment has been installed at hazardous waste process and storage areas. The following actions will be taken in the event of a spill:

<b>Step</b>	<b>Action</b>		
1	Communicate the spill event to others.		
2	Assess the extent and magnitude and source of the event.		
3	Shut down processing operations, if necessary.		
4	Assess immediate health and safety concerns. Evacuate area if necessary.		
5	Attempt to remediate the spill/release as follows:		
	<b>If spill is a...</b>	<b>Then respond by following these steps...</b>	
	Minor spill ( <i>may occur during sampling, equipment maintenance...</i> )	a	Remediate using pads and absorbent materials.
		b	Collect all contaminated absorbent and place in closed and labeled container.
	<b>If spill is a...</b>	<b>Then respond by following these steps...</b>	
	Major spill (may result from overturned containers or ruptures in storage tanks, containers, piping, and hoses.)	a	Deny entry into any area that would jeopardize the safety of an employee.
		b	Sound alarm. The alarm should alert the emergency coordinator. If after hours, contact the primary or alternate emergency coordinator using phone number in Attachment CP-1.
		c	Follow the specific instructions of the emergency coordinator, including evacuation of the area (if required).
		d	If it is safe to do so, stop the flow of the released material by closing valves, shutting off pumps, or rotating or “overpacking” ruptured containers.
		e	All loading and transfer activities in the area are to be ceased.

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Step	Action
	<p>f Contain the spill as much as possible using the following equipment:</p> <ul style="list-style-type: none"> <li>- <b>Absorbent booms:</b> Use these in tandem (one placed a few inches behind the other) to help control the flow of the material.</li> <li>- <b>Use other absorbent materials:</b> Use a commercial absorbent to soak up spills.</li> <li>- <b>Empty 55-gallon drums</b> can be turned on their sides and rolled to create an “instant” dike.</li> <li>- <b>Use mechanical means:</b> Ditch and shovels, if applicable.</li> </ul>
	<p>g Close appropriate valve on the storm water outfall(s), or use absorbent materials or mechanical means to prevent the spilled material from exiting the facility, if it is safe to do so and the potential exists for spills to flow outside the facility.</p>
	<p>h If there is a need for outside help, the primary or alternate emergency coordinator will contact the appropriate local authority, agency, or remediation contractor.</p>
	<p>i Pump free liquids into containers or drums <u>or</u> tanker trucks.</p>
	<p>j Collect all contaminated absorbent and place it in containers. Close and label containers.</p>
	<p>k If directed by the Facility Radiation Safety Officer, survey all affected areas and materials for radiation.</p>
	<p>l Begin equipment and area cleanup.</p>
	<p>m Arrange for proper management of remediation waste.</p>
	<p>n Complete a written description of the event while details are still fresh.</p>
	<p>o Refer to Attachment CP-4 to complete reporting requirements, if applicable.</p>
6	Notify local, state, and/or federal agencies listed in Attachment CP-4, as appropriate.

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## **ATTACHMENT CP-4**

### **EMERGENCY NOTIFICATION AND REPORTING INFORMATION**

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**ATTACHMENT CP-4  
EMERGENCY NOTIFICATION AND REPORTING INFORMATION**

In the event of an emergency that could threaten human health or the environment outside of PFF, the General Manager or emergency coordinator shall immediately notify:

**State of Florida Department of Environmental Protection**  
State Warning Point  
1-800-320-0519 (24 hours)  
or 1-850-413-9911 (24 hours)  
and  
**Alachua County Environmental Protection Department**  
(352) 264-6800 (24 hours)

To report a release to the environment above the reportable quantity of a listed hazardous material, the PFF General Manager or emergency coordinator shall immediately notify:

**National Response Center (NRC)**  
800-424-8802 (24 hours)  
or  
**State Warning Point Number**  
1-800-320-0519  
or 1-850-413-9911

If unsuccessful in reporting to the above numbers, call:

**U.S. Environmental Protection Agency, Region 4, Atlanta, GA**  
Emergency Response Center  
(404) 562-8700 (24 hours)

**Within 15 days after the incident, send written report to:**

State of Florida Department of Environmental Protection  
7825 Baymeadows Way, Suite 200B  
Jacksonville, Florida 32256  
Attention: Northeast District Manager

The written report must be submitted to FDEP within 5 days in accordance with 62-4.160(17) if the emergency involves a fire or explosion at the facility that could threaten the environment or human health outside the facility.

**ADDITIONAL OUTSIDE ORGANIZATIONS:**

Police Departments:	Gainesville Police Department	911 (or 352-334-2400)
	Alachua County Sheriff's Office	911 (or 352-955-1818)
Fire & Rescue:	Gainesville Fire Rescue Department	911 (or 352-334-5078)
Hospital:	North Florida Regional Medical Center	352-333-4000
Local Emergency Planning Committee:	North Central Florida Regional Planning Council	352-955-2200
Outside Cleanup Contractor:	AAG Environmental	1-800-472-9251 352-472-7295

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Florida DOH

Bureau of Radiation Control

407-297-2095

## **ATTACHMENT CP-5**

### **EMERGENCY EQUIPMENT LIST**

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**ATTACHMENT CP-5  
EMERGENCY EQUIPMENT LIST**

<b><u>Item</u></b>	<b><u>Description/Capability</u></b>	<b><u>Location(s)</u></b>
Telephone	Telephone communications for emergency notification	Waste Areas, Laboratory, and Other General Locations
Fire Extinguishers	Dry chemical, CO <sub>2</sub> - extinguish fires	Throughout Facility, Admin & Processing
Fire Hydrant	Fire hydrant – combat fire	Southwest Corner of Process and Storage Building
Absorbent Material	Vermiculite and absorbent material in spill kits – absorbs liquid spills	Waste Treatment Areas, Container Storage and Tank Storage Areas
Respirators	Full-face chemical cartridge, Self Contained Breathing Apparatus (SCBA)	Waste Treatment Areas, Laboratory, Main Building Storage Areas
Eye Wash	Permanent installation and portable eye wash bottles/stations – flush eyes	Waste Treatment Areas, Laboratory
First Aid Kits	Band-Aids, bandages – provide minor first aid	Laboratories and Container Storage Areas
Fork Lift(s)	Multiple units: 5-, 6-, 15-thousand-pound capacity – assist in moving materials	Designated Equipment Parking Area Adjacent to PSB
Bobcat	Small, bucketed, material-handling machine	Outside Maintenance - West Side
Automatic Fire Suppression	Fire sprinkler system, AFFF system (in LSV PSB, TOB); wet sprinkler system through remainder of building areas	Entire Facility
Protective Apron & Gloves	Cloth, Tyvek, rubber, or nitrile – body protection	Waste Management Areas & Maintenance Area
Safety Glasses and Hard Hats	Personal protective equipment – issued to employees	All Operational Areas
Emergency Exit Lighting & Signs	Emergency egress equipment	Throughout Administrative Offices, Lab, Waste Management Areas

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**ATTACHMENT CP-5 (CONTINUED)**  
**EMERGENCY EQUIPMENT LIST**

<b><u>Item</u></b>	<b><u>Description/Capability</u></b>	<b><u>Location(s)</u></b>
Portable Radios and/or Cellular Phones	Communication devices	Emergency Coordinators, Process Technicians
Spill Kit(s)	Clean up minor spills	Each Waste Management Area
Emergency Generator	Gas-powered generator – to provide electricity during emergency	Maintenance Area
Shovels, Brooms	To transfer spilled material manually into containers	Kept with Spill Kits, extras kept in Maintenance Shop
Empty Containers	To collect spilled material or PPE used during cleanup	On east side of LSV storage Warehouse
Portable Pumps	To transfer spilled liquids into containers or tanker trucks	Maintenance Area
Absorbent Booms	To prevent spills from entering surface waters or to absorb spilled material from the surface water	Mezzanine above LSV entry/exit Area
Field Monitoring Equipment (e.g., dosimeters, PID)	To assess an emergency and screen releases	Dosimeters in Radiation Lab; PID in office of the EHS Manager

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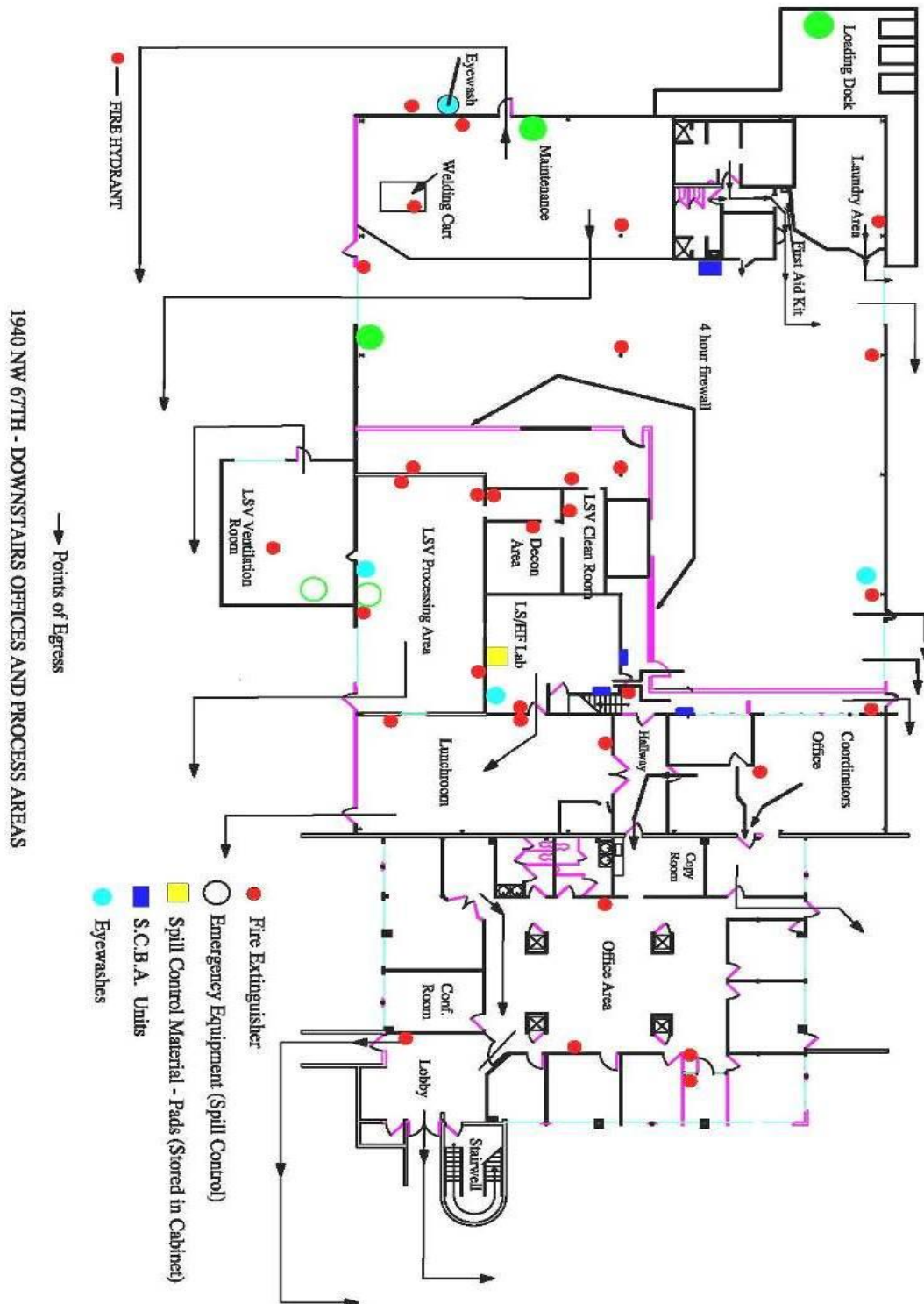
**ATTACHMENT CP-6  
EMERGENCY EQUIPMENT LOCATION MAPS**

- A: Downstairs Offices and LSV Process Areas**
- B: Upstairs Offices**
- C: TOB (Nelson) Building**
- D: PSB Building**

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## **A – DOWNSTAIRS OFFICES & LSV PROCESS AREAS MAPS**

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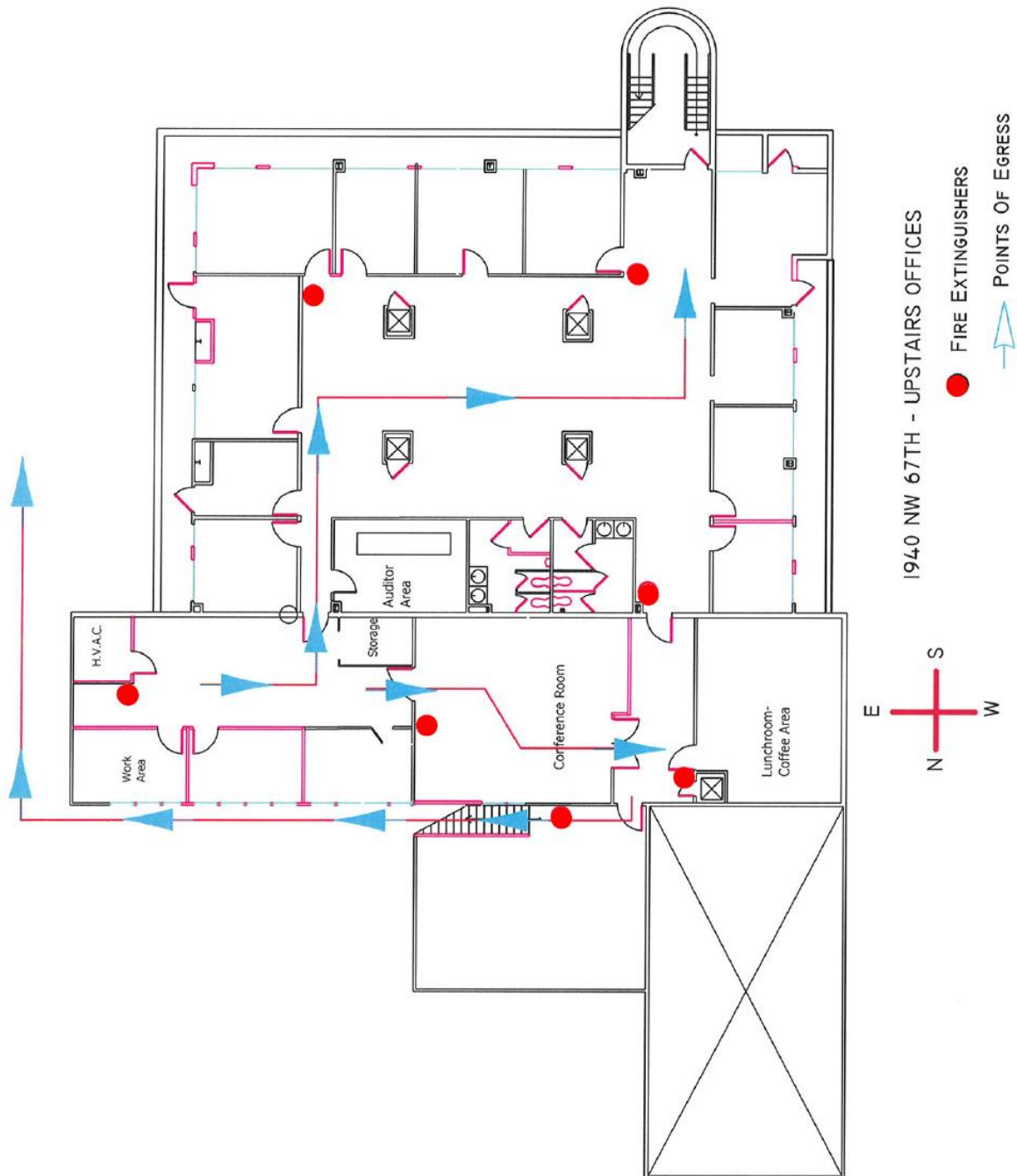


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## **B – UPSTAIRS OFFICES**

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**PERMA-FIX OF FLORIDA, INC.**  
**STANDARD OPERATING PROCEDURE (CC)**

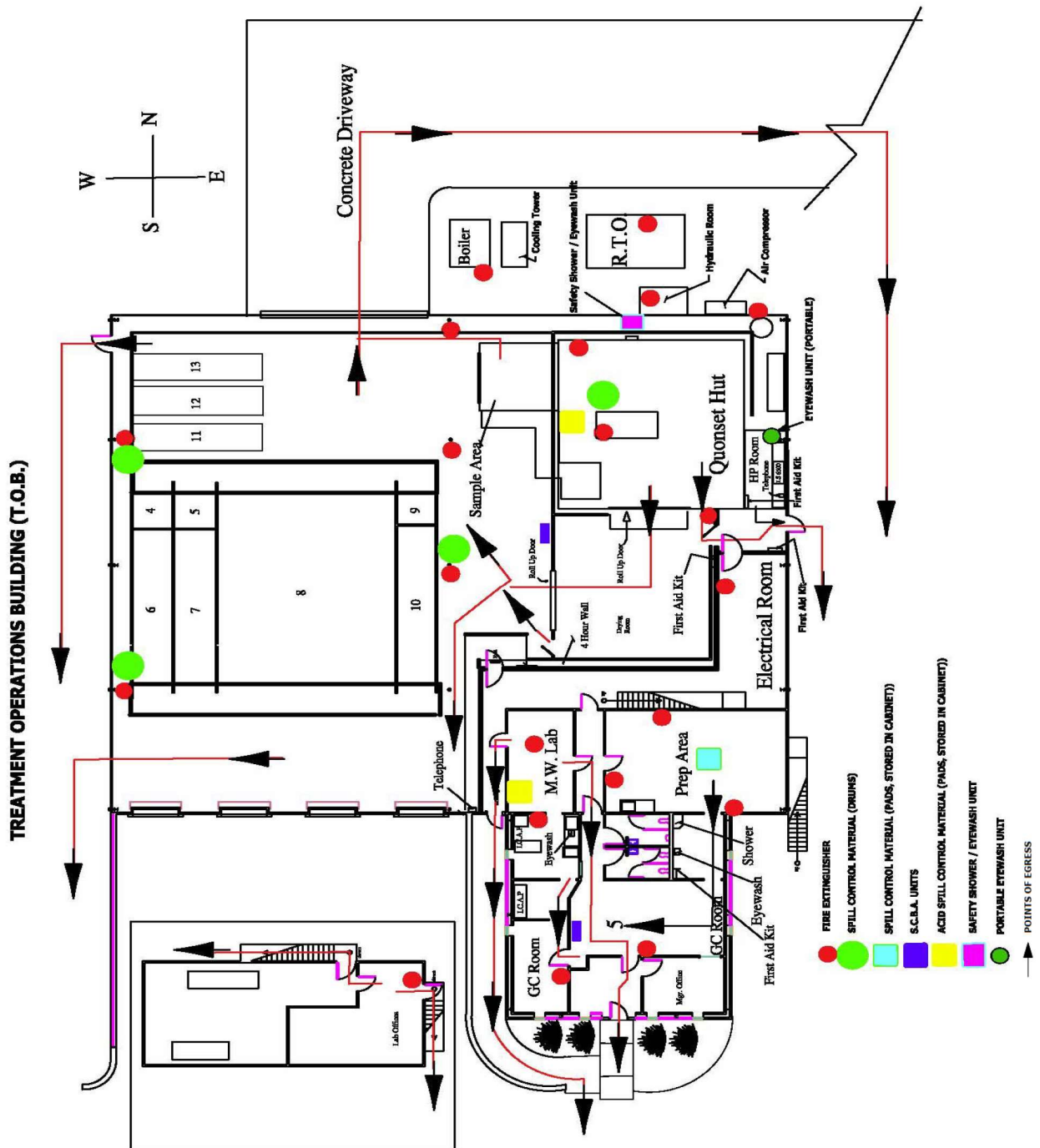
B - Upstairs Offices



**SINGLE USE ONLY**  
**Tuesday, March 3, 2020**  
**PERMA-FIX OF FLORIDA, INC.**  
**STANDARD OPERATING PROCEDURE (CC)**

## **C – TOB (NELSON) BUILDING**

**SINGLE USE ONLY**  
**Tuesday, March 3, 2020**  
**PERMA-FIX OF FLORIDA, INC.**  
**STANDARD OPERATING PROCEDURE (CC)**



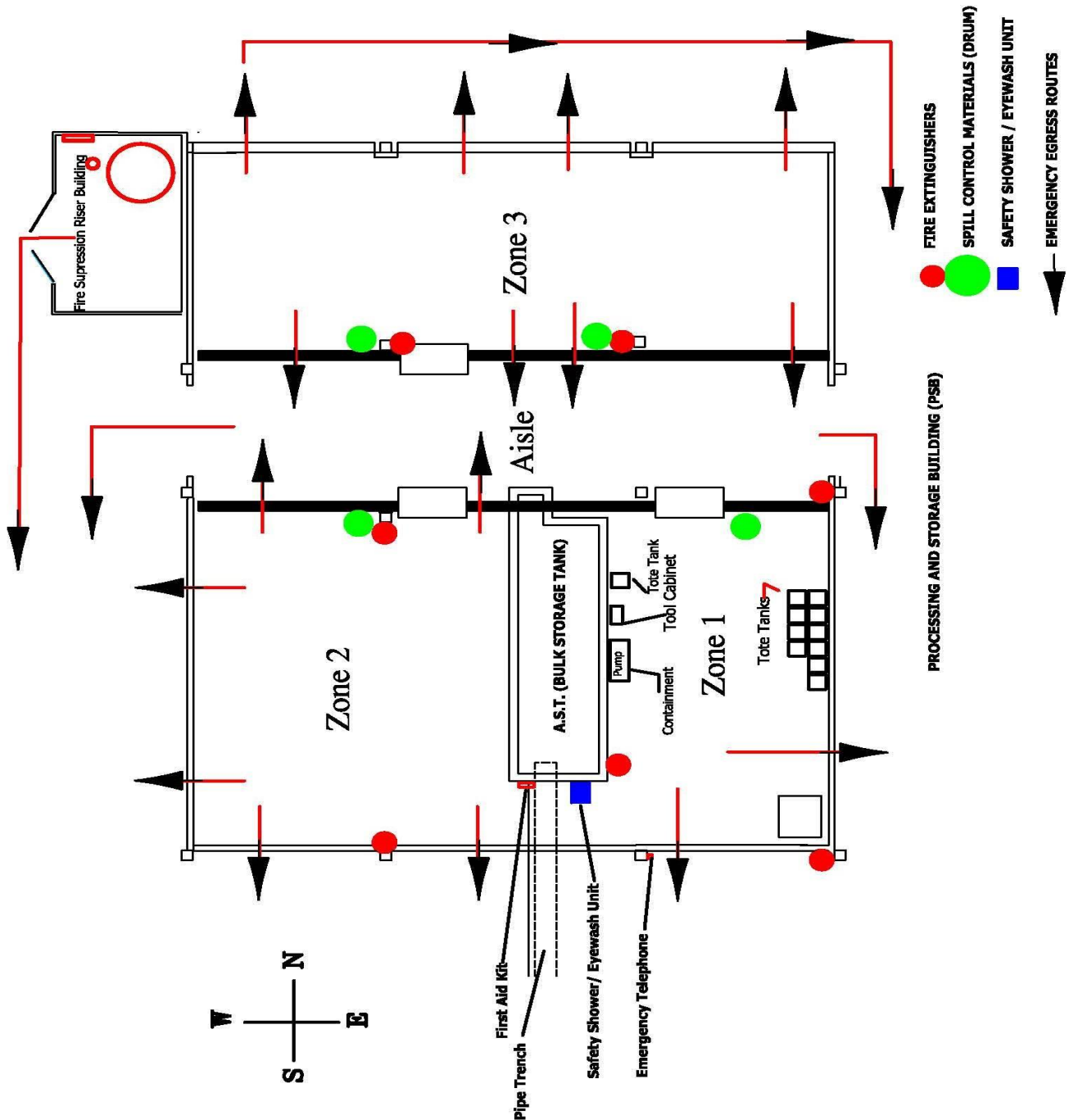
**SINGLE USE ONLY**  
Tuesday, March 3, 2020  
PERMA-FIX OF FLORIDA, INC.  
STANDARD OPERATING PROCEDURE (CC)

**D – PSB BUILDING**

**ATTACHMENT CP-7**

**EMERGENCY EVACUATION ROUTE MAP**

**SINGLE USE ONLY**  
**Tuesday, March 3, 2020**  
**PERMA-FIX OF FLORIDA, INC.**  
**STANDARD OPERATING PROCEDURE (CC)**



**SINGLE USE ONLY**

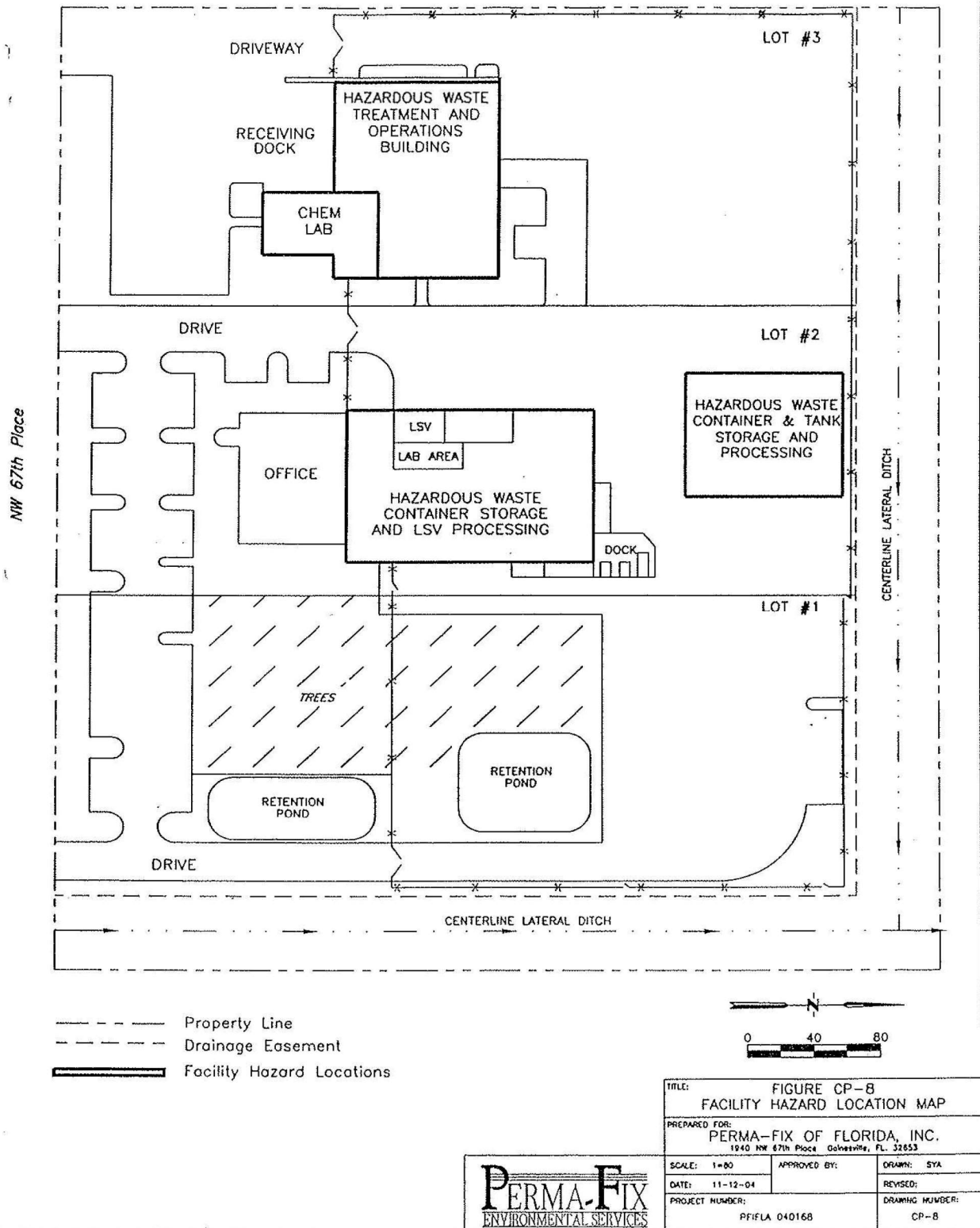
Tuesday, March 3, 2020

PERMA-FIX OF FLORIDA, INC.

STANDARD OPERATING PROCEDURE (CC)

**ATTACHMENT CP-8**  
**FACILITY HAZARD LOCATION MAP**

**SINGLE USE ONLY**  
**Tuesday, March 3, 2020**  
**PERMA-FIX OF FLORIDA, INC.**  
**STANDARD OPERATING PROCEDURE (CC)**



**SINGLE USE ONLY**  
**Tuesday, March 3, 2020**  
**PERMA-FIX OF FLORIDA, INC.**  
**STANDARD OPERATING PROCEDURE (CC)**

**ATTACHMENT CP-9**

**COORDINATION AGREEMENTS/RECEIPT DOCUMENTATION**

**EXAMPLE**

Certified Mail  
# \_\_\_\_\_  
Return Receipt Request

**ACCEPTANCE**

I certify that on this \_\_\_\_\_ day of \_\_\_\_\_, I received a copy of the Contingency Plan for Perma-Fix of Florida located at 1940 NW 67th Place in Gainesville, Florida 32653. Further, this organization agrees to respond to, or assist in, emergency situations which may arise at the subject facility should the need arise.

**REFUSAL**



By checking this box, the undersigned organization refuses to enter into an agreement to provide emergency response services to the subject facility. However, we do acknowledge receipt of the Contingency Plan being offered by Perma-Fix of Florida, Inc.

Signature:	
Printed Name:	
Title:	
Organization:	

**SINGLE USE ONLY**

**Tuesday, March 3, 2020**

**PERMA-FIX OF FLORIDA, INC.**

**STANDARD OPERATING PROCEDURE (CC)**

**ATTACHMENT CP-10**

**CONTINGENCY PLAN REVISIONS - TRANSMITTAL LETTER**

**EXAMPLE**

Certified Mail  
# \_\_\_\_\_  
Return Receipt Request

DATE: \_\_\_\_\_

TO: \_\_\_\_\_  
\_\_\_\_\_

RE: Contingency Plan Revisions - Perma-Fix of Florida, Inc.

Dear \_\_\_\_\_:

Perma-Fix of Florida, Inc. has revised the facility's Contingency Plan document. Our facility is required to supply your organization with a complete copy of the Contingency Plan document, and all subsequent revisions in accordance with federal EPA regulations listed at 40 CFR 264.53/264.54.

Copies of the revised pages are enclosed for insertion within your organization's copy of the Perma-Fix Contingency Plan document. Please make the necessary updates to your copy of the plan and discard all outdated pages.

The regulation also requires Perma-Fix to document a coordination agreement with your department to respond to, or assist in, emergency services in the event of an emergency situation which may arise at our facility. A separate form and envelope is enclosed for you to complete and return to the facility in order to assure Perma-Fix is in compliance with these regulations.

If you have any questions regarding the information received or your organization's role in contingency planning for the Perma-Fix of Florida facility, please contact me at (352) 395-1356.

Sincerely,

Perma-Fix of Florida, Inc.

Dan Cain  
Environmental Health and Safety Manager

**SINGLE USE ONLY**  
**Tuesday, March 3, 2020**  
**PERMA-FIX OF FLORIDA, INC.**  
**STANDARD OPERATING PROCEDURE (CC)**

# ATTACHMENT CP-11

## CONTINGENCY PLAN QUICK REFERENCE GUIDE

**SINGLE USE ONLY**  
**Tuesday, March 3, 2020**  
**PERMA-FIX OF FLORIDA, INC.**  
**STANDARD OPERATING PROCEDURE (CC)**

Perma-Fix of Florida stores and processes a wide variety of Hazardous, Low Level Radioactive and Mixed (Hazardous & Low Level Radioactive) Waste

Hazards from these wastes include:

- Ignitibility
- Corrosive
- Reactive
- Toxic

The maximum amounts present onsite are as follows

- Treatment Operations Building: 35,200 gallons
- Processing and Storage Building: 72,105 gallons
- LSV Processing and Storage Building: 54,340 gallons

Exposure to wastes in these areas might require specialized medical treatment.

The facility has alarms and a notification/paging system, and a fire suppression system that delivers 2200 gpm.

**SINGLE USE ONLY**  
**Tuesday, March 3, 2020**  
**PERMA-FIX OF FLORIDA, INC.**  
**STANDARD OPERATING PROCEDURE (CC)**

## **EMERGENCY COORDINATORS**

**SINGLE USE ONLY**  
**Tuesday, March 3, 2020**  
**PERMA-FIX OF FLORIDA, INC.**  
**STANDARD OPERATING PROCEDURE (CC)**

## **EMERGENCY COORDINATORS**

### **Primary Emergency Coordinator**

<b>Name:</b>	<b>Dwayne Singleton</b>
<b>Position/Title:</b>	Field Service Manager
<b>Work Telephone Number:</b>	(352) 395-1362/373-6066
<b>Home Telephone Number:</b>	(352) 376-9624
<b>Mobile Telephone Number:</b>	(352) 219-8640
<b>Address:</b>	4138 NW 48 <sup>th</sup> Place, Gainesville, FL 32606

### **Alternate Emergency Coordinators\***

<b>Name:</b>	<b>Andy Owens</b>
<b>Position/Title:</b>	Quality Assurance Manager
<b>Work Telephone Number:</b>	(352) 395-1357/373-6066
<b>Home Telephone Number:</b>	(352) 284-8064
<b>Mobile Telephone Number:</b>	(352) 284-8064
<b>Address:</b>	929 N.E. County Road 234, Gainesville, Florida 32641

<b>Name:</b>	<b>Mike Owens</b>
<b>Position/Title:</b>	Maintenance Coordinator
<b>Work Telephone Number:</b>	(352) 395-1360/373-6066
<b>Home Telephone Number:</b>	(904) 684-3108
<b>Mobile Telephone Number:</b>	(386) 937-6770
<b>Address:</b>	200 N Fillmore Ave. Interlachen Fl. 32148

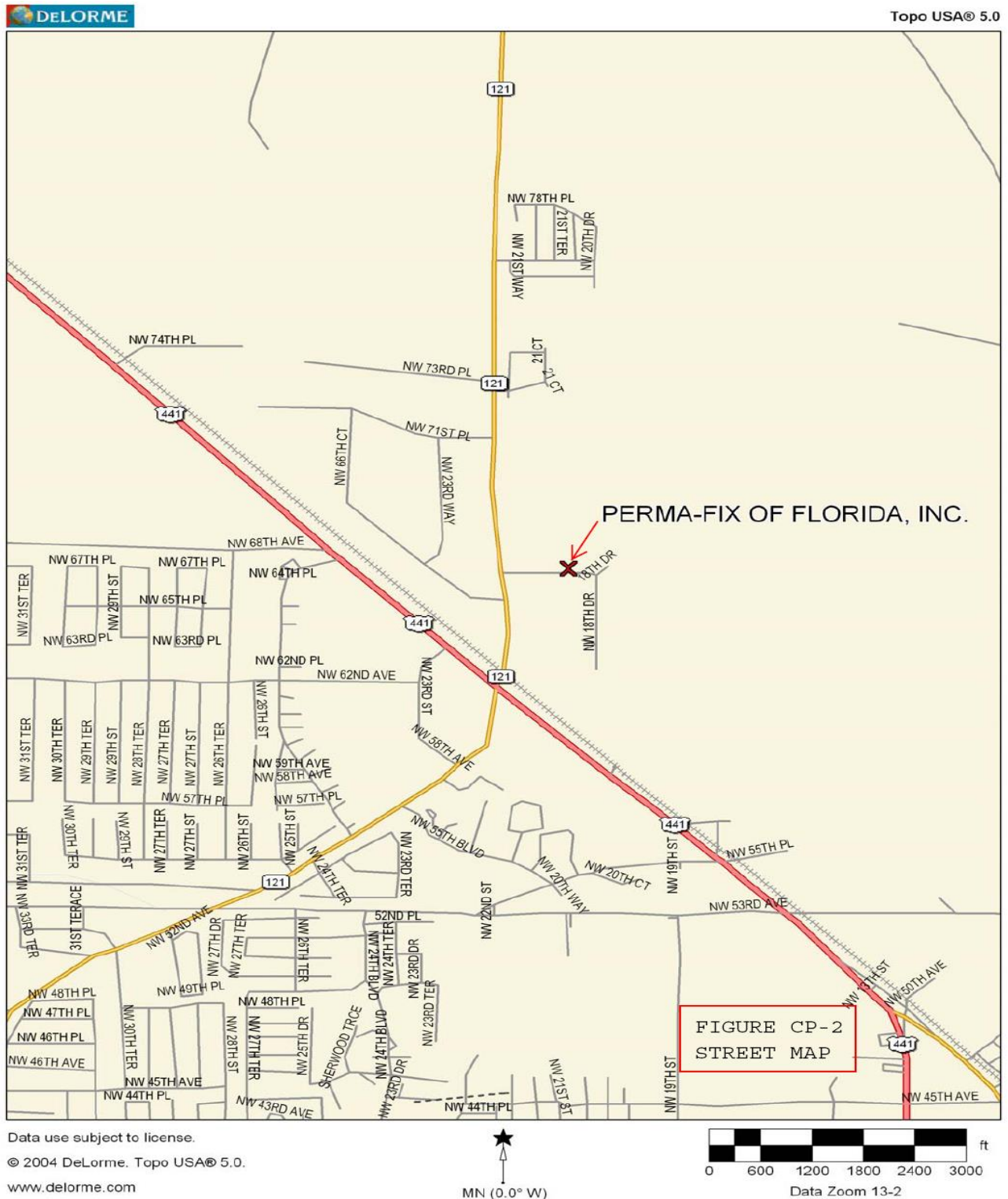
<b>Name:</b>	<b>Dan Cain</b>
<b>Position/Title:</b>	Environmental Health & Safety Manager
<b>Work Telephone Number:</b>	(352) 395-1347/373-6066
<b>Mobile Telephone Number:</b>	(503) 200-8082
<b>Address:</b>	2210 SW Old Bellamy Rd, Ft White, FL 32038

<b>Name:</b>	<b>Dan Cain</b>
<b>Position/Title:</b>	Radiation Safety Officer
<b>Work Telephone Number:</b>	(352) 395-1347/373-6066
<b>Mobile Telephone Number:</b>	(503) 200-8082
<b>Address:</b>	2210 SW Old Bellamy Rd, Ft White, FL 32038

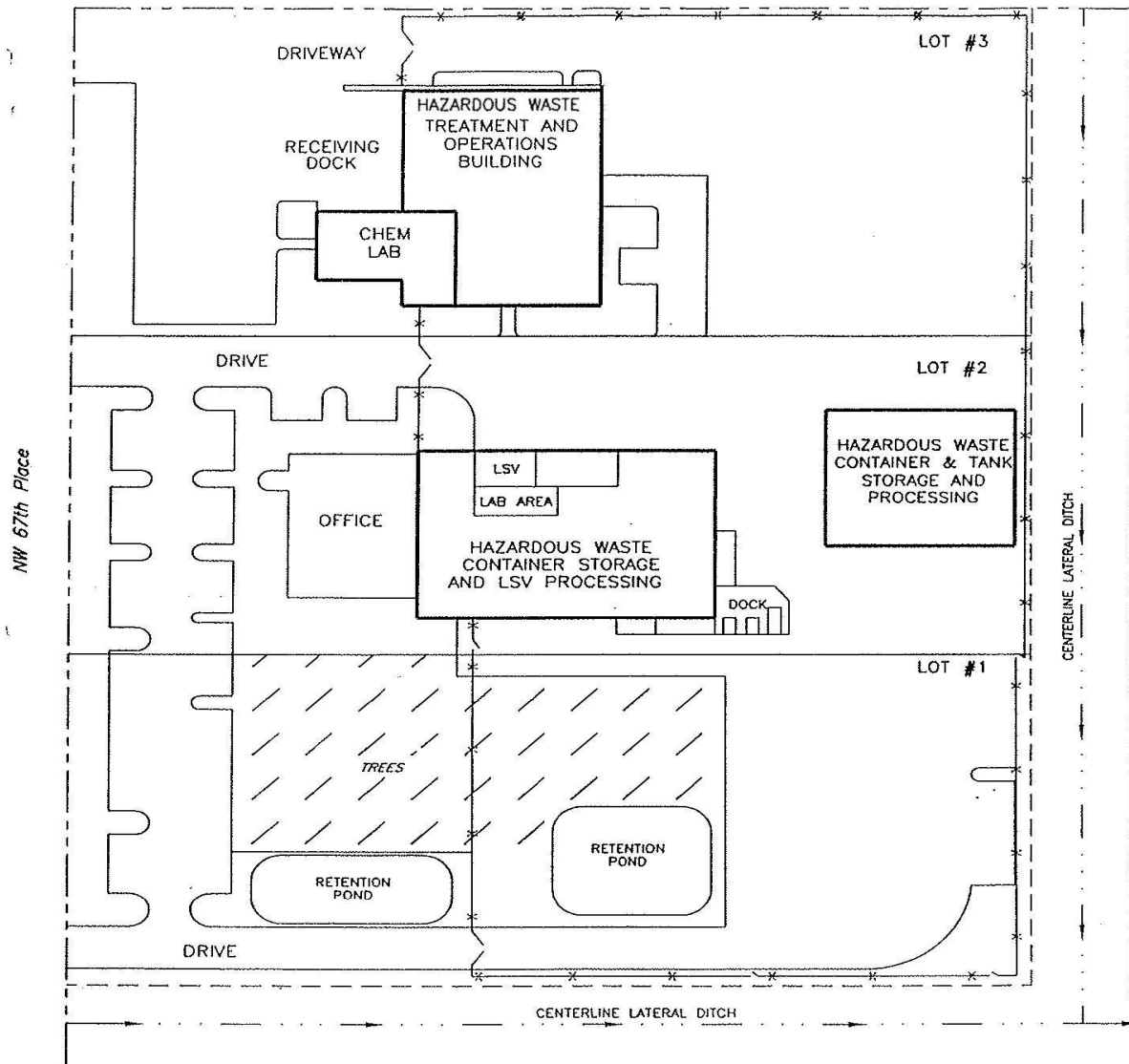
\* Alternate Coordinators are listed in the order in which they will assume responsibility as alternates.

NOTE: The work address for all Coordinators is 1940 NW 67<sup>th</sup> Place, Gainesville, Florida 32653.

**SINGLE USE ONLY**  
**Tuesday, March 3, 2020**  
**PERMA-FIX OF FLORIDA, INC.**  
**STANDARD OPERATING PROCEDURE (CC)**



**SINGLE USE ONLY**  
**Tuesday, March 3, 2020**  
**PERMA-FIX OF FLORIDA, INC.**  
**STANDARD OPERATING PROCEDURE (CC)**

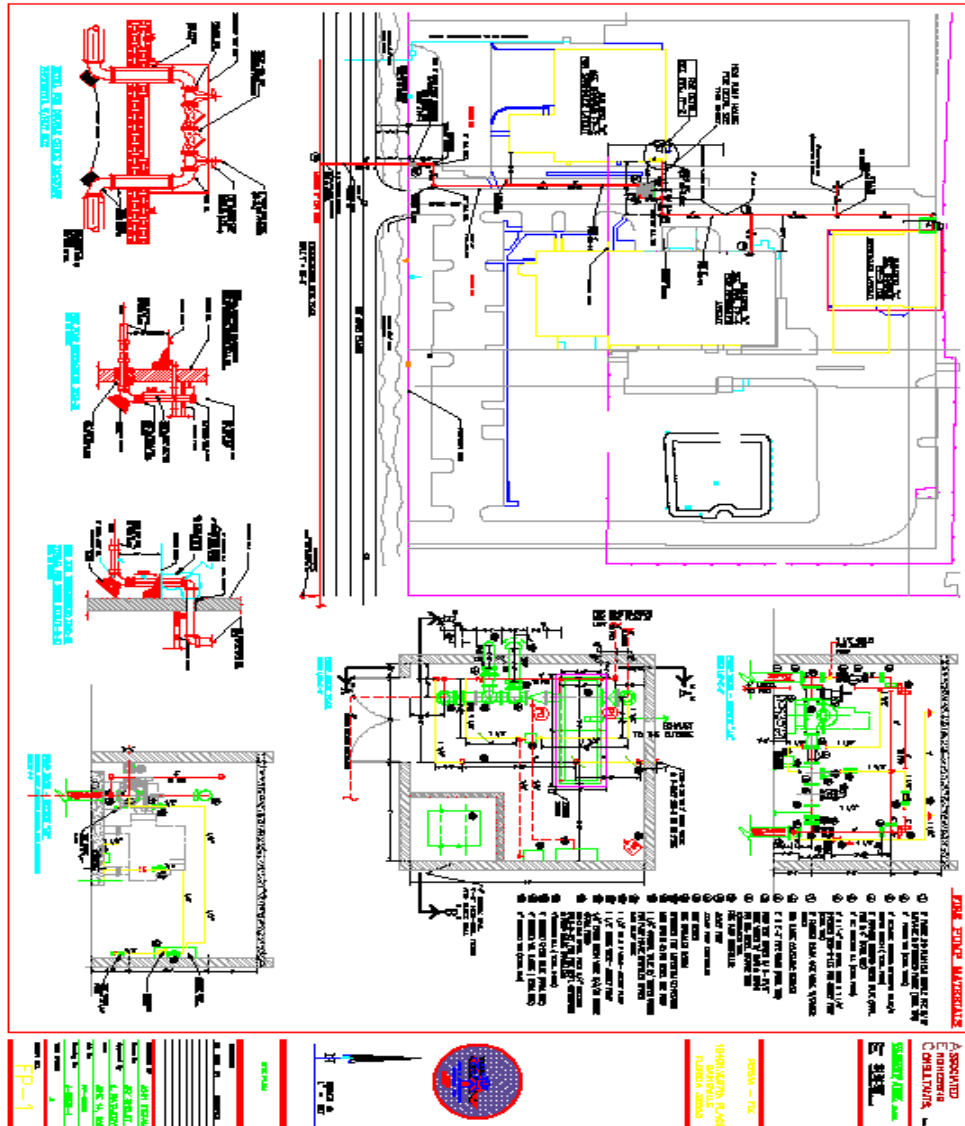


--- Property Line  
--- Drainage Easement  
--- Facility Hazard Locations



TITLE: FIGURE CP-8 FACILITY HAZARD LOCATION MAP		
PREPARED FOR: PERMA-FIX OF FLORIDA, INC. 1940 NW 67th Place, Gainesville, FL 32653		
SCALE: 1"=80'	APPROVED BY:	DRAWN: SYA
DATE: 11-12-04		REVISED:
PROJECT NUMBER: PFFLA 040168		DRAWING NUMBER: CP-8

**SINGLE USE ONLY**  
**Tuesday, March 3, 2020**  
**PERMA-FIX OF FLORIDA, INC.**  
**STANDARD OPERATING PROCEDURE (CC)**



**SINGLE USE ONLY**  
**Tuesday, March 3, 2020**  
**PERMA-FIX OF FLORIDA, INC.**  
**STANDARD OPERATING PROCEDURE (CC)**

**ATTACHMENT A-8**

**RESPONSE TO FDEP COMMENT 8**

**REVISED APPENDIX II-T. FDEP FORM 62-730.900(2)(D) CERTIFICATION**

**REVISED ATTACHMENT A. FDEP FORM 62-730.900(2)(A) APPLICATION**

**REVISED APPENDIX II-A-3. PERSONNEL TRAINING PROGRAM FIGURE 1  
ORGANIZATION CHART**

**REVISED APPENDIX II-P. FDEP FORM 62-730.900(2)(C) INFORMATION  
REGARDING POTENTIAL RELEASES FROM SOLID WASTE MANAGEMENT UNITS**

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Date	3/25/2020
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**APPLICATION FOR A HAZARDOUS WASTE FACILITY PERMIT  
CERTIFICATION  
TO BE COMPLETED BY ALL APPLICANTS**

Signature and Certification

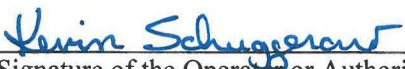
Facility Name Perma-Fix of Florida, Inc.

EPA/DEP I.D. No. FLD 980711071

The following certifications must be included with the submittal of an application for a hazardous waste authorization. The certifications must be signed by the owner of a sole proprietorship; or by a general partner of a partnership; or by a principal executive officer of at least the level of vice president of a corporation or business association, or by a duly authorized representative of that person. If the same person is a facility operator, facility owner, and real property owner, that person can cross out and initial the signature blocks under "1. Facility Operator" and "2. Facility Owner," and add the words "Facility Owner and Operator" at the line "Signature of the Land Owner or Authorized Representative."

**1. Facility Operator**

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations. Further, I agree to comply with the provisions of Chapter 403, Florida Statutes, and all rules of the Department of Environmental Protection. It is understood that the permit is only transferable in accordance with Chapter 62-730, Florida Administrative Code (F.A.C.), and, if granted a permit, the Department of Environmental Protection will be notified prior to the sale or legal transfer of the permitted facility.



Signature of the Operator or Authorized Representative\*

Kevin Schmuengerow, V.P. Southeast Operations  
Name and Title (Please type or print)

Date 3/25/2020 E-mail address kschmuengerow@perma-fix.com

Telephone (404) 989-1665

**\* Attach a letter of authorization**

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## 2. Facility Owner

This is to certify that I understand this application is submitted for the purpose of obtaining a permit to construct, operate, or conduct remedial activities at a hazardous waste management facility on the property as described. As owner of the facility, I understand fully that the facility operator and I are jointly responsible for compliance with the provisions of Chapter 403, Florida Statutes, and all rules of the Department of Environmental Protection.



Signature of the Facility Owner or Authorized Representative\*

Kevin Schmuggerow, V.P. Southeast Operations  
Name and Title (Please type or print)

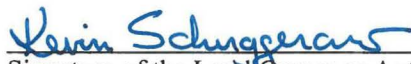
Date 3/25/2020 E-mail address kschmuggerow@perma-fix.com

Telephone (404) 989-1665

**\* Attach a letter of authorization**

## 3. Land Owner

This is to certify that I, as land owner, understand that this application is submitted for the purpose of obtaining a permit for the construction, operation, postclosure or corrective actions of a hazardous waste management facility on the property as described. For hazardous waste facilities that close with waste in place, I further understand that I am responsible for providing the notice in the deed to the property required by 40 CFR 264.119 and 265.119, as adopted by reference in Chapter 62-730, F.A.C.



Signature of the Land Owner or Authorized Representative\*

Kevin Schmuggerow, V.P. Southeast Operations  
Name and Title (Please type or print)

Date 3/25/2020 E-mail address kschmuggerow@perma-fix.com

Telephone (404) 989-1665

**\* Attach a letter of authorization**

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#### 4. Professional Engineer Registered in Florida

Complete this certification when required to do so by Chapter 471, F.S., or when not exempted by Rule 62-730.220(9), F.A.C.

This is to certify that the engineering features of this hazardous waste management facility have been designed or examined by me and found to conform to engineering principles applicable to such facilities. In my professional judgement, this facility, when properly constructed, maintained and operated, or closed, will comply with all applicable statutes of the State of Florida and rules of the Department of Environmental Protection.



Signature

Brad Pekas

Name (please type)

Florida Registration Number 46867

Mailing Address 3740 St Johns Bluff Rd, Suite 14

Street or P.O. Box

Jacksonville

FL

32224

City

State

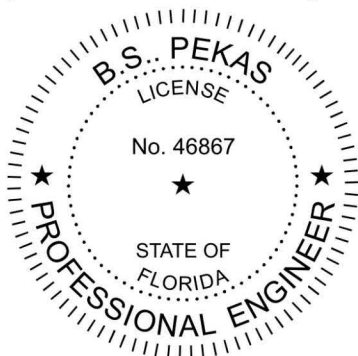
Zip

Date 3/25/2020

E-mail address bpekas@trihydro.com

Telephone (904) 513-9748

(PLEASE AFFIX SEAL)



Bradley S.  
Pekas

Digitally signed by Bradley S.  
Pekas  
DN: cn=Bradley S. Pekas, c=US,  
o=Trihydro Corporation,  
email=bpekas@trihydro.com  
Date: 2020.03.25 13:29:46 -04'00'

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**APPLICATION FOR A HAZARDOUS WASTE PERMIT  
PART I – GENERAL  
TO BE COMPLETED BY ALL APPLICANTS**

Please Type or Print

**A. General Information [40 CFR Part 270.13 (a)]**

1. Type of Facility in accordance with Part 270.13(a)

**■ TREATMENT**

- ☒ Tanks ☐ Piles ☐ Surface Impoundment  
☐ Incineration ☐ Containment Building  
☐ Boiler / Industrial Furnace Type of Unit \_\_\_\_\_  
☒ Miscellaneous Unit Type of Unit \_\_\_\_\_

**■ STORAGE**

- ☒ Containers ☒ Tanks ☐ Piles  
☐ Surface Impoundment ☐ Containment Building  
☐ Miscellaneous Unit Type of Unit \_\_\_\_\_

**□ DISPOSAL**

- ☐ Landfill ☐ Land Treatment ☐ Surface Impoundment  
☐ Miscellaneous Units Type of Unit \_\_\_\_\_

2. Type of application [40 CFR Part 270.13 (a)]:

- ☐ Construction Permit  
☐ Operation Permit  
☒ Construction & Operation Permit  
☐ Research, Development & Demonstration (RD&D) Permit  
☐ Postclosure Permit  
☐ Clean Closure Plan  
☐ Subpart H Remedial Action Plan  
☐ Corrective Action

3. Revision Number: 1

4. Date Current Operation Began, or is expected to begin: 10 /    / 1983

5. Facility Name [40 CFR Part 270.13 (b)] Perma-Fix of Florida, Inc.

6. EPA/DEP I.D. No. FLD 980711071

7. Facility Location or Street Address [40 CFR Part 270.13 (b)] 1940 NW 67th Place  
Gainesville, FL 32653

8. Facility Mailing Address 1940 NW 67th Place

	Street or P.O. Box
<u>Gainesville</u>	<u>FL 32653</u>
City	State Zip

9. Contact Person Kevin Schmuggerow Telephone (404) 989-1665

Title Vice President Southeast Operations

Mailing Address 1940 67th Place

	Street or P.O. Box
<u>Gainesville</u>	<u>FL 32653</u>
City	State Zip



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If leased, indicate land owner's name. \_\_\_\_\_

Address \_\_\_\_\_  
Street or P.O. Box City State Zip

E-mail address \_\_\_\_\_

17. Name of Engineer Brad Pekas Registration No. 46867

Address 3740 St. Johns Bluff Rd., Suite 14, Jacksonville, FL 32224  
Street or P.O. Box City State Zip

Associated with: Trihydro Corporation

18. Is the facility located on Tribal land [40 CFR Part 270.13 (f)]? ☐ Yes ☒ No

19. Existing or pending environmental permits (attach a separate sheet, if necessary):  
[40 CFR Part 270.13 (k)]

NAME OF PERMIT	AGENCY	PERMIT NUMBER	DATE ISSUED	EXPIRATION DATE
SEE TABLE I-1				

**B. Site Information** [40 CFR Part 270.13 (b)]

1. The facility is located in Alachua county.

The nearest community to the facility is Gainesville.

Latitude 29.71711 N Longitude 82.34931 W

Method and datum Center of the facility

2. The area of the facility site is 7.67 acres.

3. Attach a scale drawing and photographs of the facility showing the location of all past, present, and future treatment, storage and disposal areas. Include photographs and the locations of all Solid Waste Management Units and Areas of Concern. Also, show the hazardous wastes traffic pattern including estimated volume and control [40 CFR Part 270.13 (h)].

4. Attach a topographic map which shows all the features indicated in the instructions for this part.

5. Is the facility located in a 100-year flood plain? ☐ Yes ☒ No

6. The facility complies with the wellhead protection requirements of Chapter 62-521, F.A.C.

☒ Yes ☐ No

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**C. Land Use Information**

- The present zoning of the site is I-1 (Industrial).
- If a zoning change is needed, what should the new zoning be? N/A.

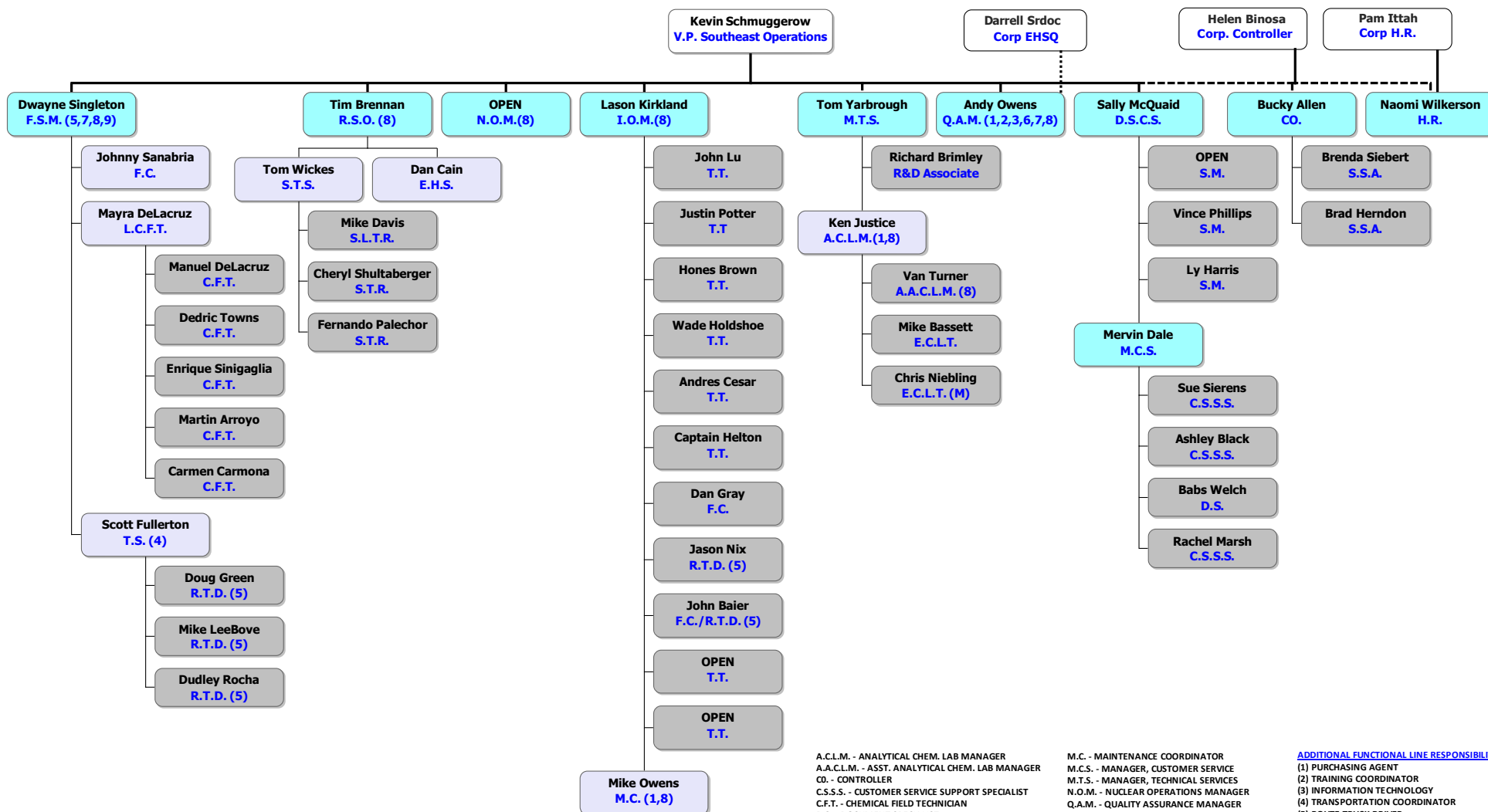
**D. Operating Information**

- Is waste generated on-site? ☒ Yes ☐ No
- List the NAICS codes (5 to 6 digits) [40 CFR Part 270.13 (c)] 562211 \_\_\_\_\_  
\_\_\_\_\_
- Use the codes and units provided in the instructions to complete the following table. Specify [40 CFR Part 270.13 (i and j)]:
  - Each process used for treating, storing or disposing of hazardous waste (including design capacities) at the facility, and;
  - The hazardous waste(s) listed or designated in 40 CFR Part 261, including the annual quantities, to be treated, stored, or disposed by each process at the facility.

PROCESS CODE	PROCESS DESIGN CAPACITY AND UNITS OF MEASURE	HAZARDOUS WASTE CODE	ANNUAL QUANTITY OF HAZARDOUS WASTE AND UNITS OF MEASURE
S01	161,370 gallons	See Table I-6	2,127,715 gallons
S02	3,000 gallons	D001, F001, F002, F003, F005	110,400 gallons
See Table I-4 for additional codes			

- A brief description of the facility [40 CFR Part 270.13 (m)]:  
  
See page 16 of application.
- For hazardous debris, a description of the debris category(ies) and contaminant category(ies) to be treated, stored or disposed of at the facility [40 CFR Part 270.13 (n)]:

See page 342 of application - section 2.2 of Appendix II-A-4 Waste Analysis Plan.



A.C.L.M. - ANALYTICAL CHEM. LAB MANAGER  
A.A.C.L.M. - ASST. ANALYTICAL CHEM. LAB MANAGER  
CO. - CONTROLLER  
C.S.S.S. - CUSTOMER SERVICE SUPPORT SPECIALIST  
C.F.T. - CHEMICAL FIELD TECHNICIAN  
D.S. - DOCUMENT SPECIALIST  
D.S.C.S. - DIRECTOR, SALES AND CUSTOMER SERVICE  
E.C.L.T. - ENV. CHEM. LAB TECHNICIAN  
E.C.L.T. (M) - ENV. CHEM. LAB TECHNICIAN (METALS)  
E.H.S.M. - ENV. HEALTH AND SAFETY MANAGER  
F.S.M. - FIELD SERVICE MANAGER  
F.C. - FIELD CHEMIST  
I.O.M. - INDUSTRIAL OPERATIONS MANAGER  
M.C. - MAINTENANCE COORDINATOR

M.C. - MAINTENANCE COORDINATOR  
M.C.S. - MANAGER, CUSTOMER SERVICE  
M.T.S. - MANAGER, TECHNICAL SERVICES  
N.O.M. - NUCLEAR OPERATIONS MANAGER  
Q.A.M. - QUALITY ASSURANCE MANAGER  
R.T.D. - ROUTE TRUCK DRIVER  
R.S.O. - RADIATION SAFETY OFFICER  
S.S.A. - SENIOR STAFF ACCOUNTANT  
S.L.T.R. - SENIOR LAB TECHNICIAN, RADIOLOGICAL  
S.M. - SALES MANAGER  
S.T.S. - SUPPORT TECHNICIAN SUPERVISOR  
S.T.R. - SUPPORT TECHNICIAN, RADIOLOGICAL  
T.S. - TRANSPORTATION SUPERVISOR  
T.Sp.-1 - TRANSPORTATION SPECIALIST 1  
T.T. - TREATMENT TECHNICIAN

ADDITIONAL FUNCTIONAL LINE RESPONSIBILITIES  
(1) PURCHASING AGENT  
(2) TRAINING COORDINATOR  
(3) INFORMATION TECHNOLOGY  
(4) TRANSPORTATION COORDINATOR  
(5) ROUTE TRUCK DRIVER  
(6) DOCUMENT CONTROL  
(7) RECEIPT INSPECTOR  
(8) EMERGENCY COORDINATOR

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**P. Information Regarding Potential Releases from Solid Waste Management Units (SWMUs) and Areas of Concern (AOCs)**

Facility Name Perma-Fix of Florida, Inc.

EPA/DEP I.D. No. FLD 980711071

Facility location Gainesville Florida  
City State

1. Are any of the following (SWMUs or AOCs), existing or closed at your facility?

A SWMU is a discernible unit at which solid wastes have been placed at any time, irrespective of whether the unit was intended for the management of solid or hazardous waste. Such units include all areas at a facility where solid wastes have been routinely and systematically released, as described in the July 27, 1990 Federal Register (55 FR 30798). The SWMU list in this form does not include all types of SWMUs. These are examples of the more common types of units. If you have a different type of SWMU, mark "yes" under "other".

AOCs are indiscernible units at which solid wastes have been placed at any time, irrespective of whether the unit was intended for the management of solid or hazardous waste. Examples of AOCs include areas where loading and unloading of chemicals may have occurred or an area of contamination with no known source.

**Do not include hazardous waste units that are currently being permitted in your Part B Application.**

Landfill	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
Surface impoundment	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
Land farm	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
Waste pile	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
Incinerator	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
Storage tank	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
Container storage area	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
Injection wells	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
Wastewater treatment units	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
Transfer station	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
Waste recycling operations	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
Land treatment facility	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
Boiler/industrial furnace	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
Satellite accumulation areas	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
Less than 90-day storage units	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
Stormwater retention ponds	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
Septic tanks	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
Used oil/oil filter collection units	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
Aerosol can/drum crushers	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
On-ground areas, pits, ditches	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
Other (units not listed above)	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No

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2. For each “yes” answer in one (1.) above, on separate sheet(s) of paper:
  - a. Describe the wastes that were stored, treated or disposed of in each unit, and whether the wastes would be considered hazardous wastes or hazardous constituents under RCRA. (Hazardous wastes are those identified in 40 CFR Part 261. Hazardous constituents are those listed in Appendix VIII of 40 CFR Part 261.) Include any available data on quantities or volumes of wastes disposed of and the dates of disposal.
  - b. Describe each unit, type of unit including construction details, capacity, dimensions (supply any available drawings), and location at the facility on the topographic map provided under 40 CFR 270.14(b)(19). Provide a site plan, if available, and the dates of operation of the unit [40 CFR 270.14(d)(1)]. If the information has previously been submitted formally to the Department, references to the documents and or summary tables may be submitted to meet this requirement.
  - c. Include a copy of federal, state and local permits or authorizations for SWMUs that may be permitted under other environmental programs.  
*See response below*
3. For each unit described in two (2.) above, and for each hazardous waste unit in your Part B application [40 CFR 270.14(d)(2)], on separate sheet(s) of paper, provide available data on all prior or current releases of hazardous wastes or constituents to the environment that may have occurred in the past or may still be occurring. If the data has previously been submitted formally to the Department, references to the documents and or summary tables may be submitted to meet this requirement. Provide the following information for each SWMU/AOC:
  - a. Date of release
  - b. Estimated or known quantity or volume of waste released
  - c. Location of the release
  - d. Describe the nature of the release (i.e., spill, overflow, ruptured pipe or tank, etc.).  
*See response below*
4. Provide, for each unit, all available analytical data that describes the nature and extent of the environmental contamination due to the releases described in three (3.) above, on separate sheet(s) of paper. Focus on the concentrations of hazardous wastes or constituents present in contaminated media (e.g., soil, sediment, surface water and groundwater) [40 CFR 270.14(d)(3)]. If the information has previously been submitted formally to the Department, references to the documents and or summary tables may be submitted to meet this requirement.  
*See response below*

*2. See RCRA Facility Assessment Report by EPA Contractor A.T. Kearney dated 6/27/90 and attached in permit application Section II.Q*

*3. See Source Removal Report and No Further Action Request, November 5, 2019 and attached DEP NFA approval letter, December, 2019*

*4. See Source Removal Report and No Further Action Request, November 5, 2019 and attached DEP NFA approval letter, December, 2019*



# FLORIDA DEPARTMENT OF Environmental Protection

Bob Martinez Center  
2600 Blair Stone Road  
Tallahassee, FL 32399-2400

**Ron DeSantis**  
Governor

**Jeanette Nuñez**  
Lt. Governor

**Noah Valenstein**  
Secretary

December 2, 2019

Mr. Michael Shuler  
Perma-Fix of Florida, Inc.  
1940 NW 67<sup>th</sup> Place  
Gainesville, FL 32653  
[mshuler@perma-fix.com](mailto:mshuler@perma-fix.com)

RE: **Source Removal Report and No Further Action (NFA)** dated November 5, 2019;  
Perma-Fix of Florida, Inc.; FLD 980 711 071

Dear Mr. Shuler:

The Department has reviewed the above referenced report and concurs with the proposal for No Further Action (NFA) without conditions contained therein. The report provides documentation supporting NFA at solid waste management unit (SWMU) 23. NFA is warranted as all soil contamination has been removed and backfilled with clean fill.

In lieu of a formal Site Rehabilitation Completion Order (SRCO) without conditions to address the updated SWMU status, the Department will make these changes to the permit through the upcoming permit renewal. Perma-Fix must abandon all monitoring wells at this SWMU within 60 days of issuance of the final permit. The wells must be plugged and abandoned in accordance with the requirements of Rule 62-532.500(4), F.A.C.

If you have any questions, please contact Bradley Buselli at (850) 245-8989 or via e-mail at [bradley.buselli@floridadep.gov](mailto:bradley.buselli@floridadep.gov).

Sincerely,

A handwritten signature in blue ink that reads "Michell Mason Smith".

Michell Mason Smith, Environmental Administrator  
Hazardous Waste Program and Permitting

cc:

Brian Bastek, EPA Region 4, [bastek.brian@epa.gov](mailto:bastek.brian@epa.gov)  
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**ATTACHMENT B-1**

**RESPONSE TO EPA COMMENTS 1 THROUGH 13**

**REVISED PART II RCRA PERMIT RENEWAL TEXT**



**PART II**  
**RCRA PERMIT RENEWAL APPLICATION**  
**PERMA-FIX OF FLORIDA, INC.**  
**1940 NW 67<sup>TH</sup> PLACE**  
**GAINESVILLE, FL 32653**

---

**March 25, 2020**  
**Project #: 61A-003-001**

**SUBMITTED BY:** Trihydro Corporation  
3740 St. Johns Bluff, Suite 14, Jacksonville, Florida 32224

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ENGINEERING SOLUTIONS. ADVANCING BUSINESS.

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## II. PART II

This application has been organized based on the structure found in Florida Department of Environmental Protection (DEP) Hazardous Waste Permit Application (DEP Form 62-730.900(2)(a)). The Part II section includes the specific facility information required as part of the permit application, including Section A General Information, Section B Containers, Section C Tanks, Section I Miscellaneous Units, and Section T Certification.

### A GENERAL

#### A.1 GENERAL INFORMATION

##### **Topographic Contour and Other Required Figures**

A topographic contour figure showing a distance of 1,000 feet around the hazardous waste management area at a scale of 1 inch to 200 feet is presented in Figure II-A-1. Site access control including the location of fences and gates is presented in Figure II-A-2. Figure II-A-3 shows the location of site buildings and other structures and loading/unloading areas. City of Gainesville sanitary sewer and water supply schematics are presented in Figure II-A-4. Surface water flow direction is presented in Figures II-A-5. Figure II-A-6 shows the location of hazardous waste units. The site drainage pattern is presented on Figure II-A-7.

##### **Wind Rose**

The Iowa State University Iowa Environmental Mesonet (IEM) provides recent climate and wind data for the Gainesville, Florida area. The IEM meteorological data was filtered to provide surface wind data for the five-year period from October 1, 2014 to October 1, 2019 at the Gainesville Regional Airport. The Gainesville Regional Airport site is approximately 5.5 miles southeast of the Perma-Fix of Florida, Inc. facility (PFF). A five-year wind rose for the 2014 to 2019 meteorological data set is presented in Figure II-A-8. The wind direction during the 2014 to 2019 time period was variable. The predominant wind direction is from the east with approximately 30.5 percent of the time winds being from the northeast, east-northeast, east, east-southeast, and southeast directions. Approximately 20 percent of the time the winds were from the west, west-southwest, and southwest.

##### **Traffic Patterns**

Traffic pattern, traffic control, and access patterns are identified in Figure II-A-9. The average truck traffic of incoming and outgoing waste is anticipated to be no more than 5 trailers or tanker trucks per day. The road system and parking area have adequate load-bearing capacity to withstand the projected loads. The access route to the plant is from US441 to SR121 to NW 67th Place and then to PFF. US441 and SR121 roadways are capable of truck traffic

carrying in excess of 80,000 pounds. There are no weight restrictions on these roadways. The internal roadway (NW 67 Place) and PFF parking lot are asphalt paved and can withstand truck traffic without difficulty.

## **A.2 FINANCIAL RESPONSIBILITY**

A copy of the financial mechanism used to establish financial assurance for closure of the facility and a copy of the facility liability coverage are attached (see Appendix II-A-1).

## **A.3 FLOOD MAP**

The operational area for the PFF site is located outside of the 100-year flood plain. As shown on Figure I-2 in Part I of this application, portions of the northern and eastern edges of the property have been redrawn to be within the 100-year flood plain. However, permitted activities are not conducted in these areas of the site.

## **A.4 FACILITY SECURITY**

### **Description of Security**

PFF is surrounded by a high-quality chain-linked fence topped with three strands of barbed wire with an overall height of at least six feet. The fence is in good condition and is periodically inspected. Entry into the facility is controlled by gate access. The entrance gates are closed and locked at all times, and only authorized personnel are allowed into the facility.

All facility visitors must enter through the main reception area located in the office building. See Figure II-A-3.

**Warning Signs:** Entrances to PFF loading, unloading, processing, and storage areas are posted with appropriate signs signifying “Danger - Unauthorized Personnel Keep Out” and “No Smoking”. These signs are visible and legible from a distance of at least 25 feet.

### **Contingency Plan**

A copy of the PFF Contingency Plan is included as Appendix II-A-2.

### **Description of Procedures, Structures, or Equipment to Prevent Hazards, etc.**

In the event of a power failure, all transfer pumps and treatment operations will stop. Automatic check valves prevent reversal of flow of waste in the LSV transfer lines. Operations in the container and tank storage areas and in the treatment areas are rendered safe during a power failure. Nevertheless, potential hazards will be assessed by the PFF Emergency Coordinator and PFF personnel during power outages and once again upon restoration of power.



Emergency exit signs and lighting are provided at critical locations throughout the facility and are powered by battery backup power units. A portable gas- powered electric generator is available for use, if necessary.

Containers of hazardous waste are unloaded from transport trucks into the staging and storage areas located in each of the three buildings where hazardous waste is managed. Special equipment such as non-sparking tools will be used in the flammable hazardous waste management areas. Forklift operators are instructed in proper and safe operation of the forklift and in incident response procedures. See the Contingency Plan and Personnel Training Plan included as Appendix II-A-2 and Appendix II-A-3, respectively, for training and incident response details.

All persons entering hazardous waste management areas are required to wear protective clothing, which is appropriate for the activities to be conducted in those areas. Personal protective equipment (PPE) is selected and used according to the standards and guidelines promulgated by the Occupational Safety and Health Administration (OSHA) and the American Conference of Governmental Industrial Hygienists (ACGIH). The Contingency Plan contains a list of PPE available at PFF. Training in the use of PPE is covered by the Personnel Training Plan.

PFF has been designed to prevent runoff from waste management areas onto other areas of the facility or to the environment (e.g., ground water). Waste management areas are enclosed and/or have sufficient containment to prevent runoff of contaminated water. Rainwater is directed to the on-site retention pond or to a drainage ditch north of the facility. The 3,000- gallon mixed waste storage tank is located inside the Processing and Storage Building in a containment area that is capable of containing 150% of the entire contents of the tank. Curbs and/or storm drains prevent surface drainage from passing through the waste management areas. Adequate containment is also provided for all process areas.

Avoiding the discharge of hazardous materials onto unprotected ground will prevent groundwater contamination. No drains are located within the waste management areas, and no unauthorized materials are released to the sanitary sewer or to surface water runoff. PFF accounts for all hazardous wastes delivered to and removed from the facility through a material accounting system. This includes a generator-specific numbering system to identify, at all times, the current status of each container of material received on-site. PFF tracks each container of material from time of receipt through final disposition. Intermediate and on-site generated waste packages are assigned a dedicated number for tracking purposes. Hazardous waste is stored and managed at the facility in areas equipped with secondary containment to prevent releases to the surrounding environment. In the unlikely event of a spill on unprotected ground from a transportation incident, the procedures outlined in the Contingency Plan would provide for immediate control and removal of hazardous waste spills.

All hazardous wastes received by PFF are assumed to be ignitable or reactive in some fashion and are managed accordingly until determined otherwise by facility personnel through sample analysis or profile review. Appropriate precautions are taken to eliminate sources of ignition including open flames; smoking, cutting, and welding hot surfaces; frictional heat; and spark from in and around the container storage, tank storage, and processing areas. PFF is fenced for security, and smoking is not allowed within the facility.

The hazardous waste storage and treatment areas are operated in accordance with applicable National Fire Protection Association (NFPA) standards. Other precautions against ignition include the following:

- All electrical systems and motors will be properly grounded and adequately rated for their intended use.
- Storage and treatment areas will be adequately ventilated.
- Special tools with low spark risk will be used for maintenance or repair work.

In the LSV processing and storage areas, additional safety features include:

- Electrical grounding for all key equipment including sampling tanks, bulk storage tank, and ancillary equipment.
- Automatic fire suppression for the LSV process line.
- Overflow interlocks and alarms for the sampling tanks and bulk storage tank.
- Circuit overload and lockout mechanisms.
- Ventilation systems for the process and work areas that maintain negative pressure in these areas and filter the exhaust for particulate matter and organic vapors.
- Automatic LSV process line shutdown button.
- Four-hour fire wall between LSV building and the office area.

In the TOB processing and storage areas, additional safety features include:

- Electrical grounding for all key equipment including the reaction vessel, absorber, condenser, and ancillary equipment.
- Automatic fire suppression for the PF-II process line.
- Mechanical drum dumper for loading the PF-II reactor vessel.
- Overflow interlocks and alarms for the process units.
- Mechanical drum lifter and pneumatic guillotine valve for emptying the reactor vessel into drums.

- Circuit overload and lockout mechanisms.
- Ventilation systems for the process and work areas that maintain negative pressure in these areas and filter the exhaust for particulate matter and organic vapors.
- Equipment pressure relief valves and conservation vents to prevent over pressurization.
- Automatic PF-II process line shutdown button.

Undesirable, uncontrolled, and dangerous reactions between incompatible wastes will be prevented by the early identification of potentially incompatible waste streams. Waste characterization and screening procedures are described in detail in the Waste Analysis Plan (WAP) included as Appendix II-A-4. In addition, compatibility testing will be conducted on materials that are part of lab packs or that will be bulked with other waste streams. Compatibility testing procedures are also addressed in the WAP. These procedures include the mixing of samples of potentially incompatible wastes. The mixture(s) will be observed for temperature rise, evolution of gases, and/or polymerization. Leaking or damaged containers of hazardous waste will be isolated from other containers until the contents have been placed in new containers or such drum is overpacked.

#### **Preparedness and Prevention Procedures Design and Operation of Facility**

The PFF treatment, storage, and processing areas, and associated process equipment, are designed, constructed, maintained, and operated to minimize the possibility of a fire, explosion, or any unplanned release of hazardous waste constituents to the air, soil, surface water, or groundwater that could threaten human health or the environment. To facilitate effective responses to potential emergency situations, the following equipment and procedures are used by PFF.

All hazardous waste to be treated with the PF-II process will be assumed to be ignitable until proven otherwise. This waste will be separated and protected from sources of ignition or reaction such as open flames, smoking, cutting and welding, hot surfaces, frictional heat, sparks (static, electric, or mechanical), spontaneous ignition, and radiant heat. PFF is fenced for security, and smoking is not allowed anywhere inside the facility. Containers holding ignitable and reactive wastes are stored at least 50 feet from the facility property line.

Potentially incompatible wastes or incompatible wastes and materials will not be placed in the same container, tank, or treatment equipment unless the wastes/materials are first tested in order to determine the necessary precautions to prevent reactions that:

1. Generate extreme heat or pressure, fire or explosions, or violent reactions.
2. Produce uncontrolled toxic mists, fumes, dusts, or gases in sufficient quantities to threaten human health or the environment.
3. Produce uncontrolled flammable fumes or gases in sufficient quantities to pose a risk of fire or explosion.
4. Damage the structural integrity of the container, tank, or treatment equipment or the facility.
5. May otherwise threaten human health or the environment.

Incompatible wastes will be stored in separate containers in separate secondary containment areas. Separation will be maintained by the use of berms, dikes, or by placing containers of incompatible waste in separate buildings. Incompatible wastes will not be placed in the same container, tank, or the same bermed storage section.

### **Required Equipment**

A computer system is used for management of important operations data. To minimize the potential for loss of information during power outages or computer system failure, key waste management information is also maintained in hard copy form. The following emergency or incident response equipment is maintained by PFF:

- Internal telephone communication system capable of notifying all employees in the event of an emergency.
- External communications equipment to summon outside assistance, if necessary.
- Emergency equipment:
  - Strategically located fire extinguishers
  - Automatic fire sprinkler system with Aqueous Fire Fighting Foam in the waste processing and storage areas
  - Spill cleanup (e.g., absorbent materials, booms, shovels, etc.)
  - Decontamination supplies
- Water for fire control at an adequate volume and pressure to supply water hose streams, foam-producing equipment, or water spray systems. The water source for supplying water hose streams is the City of Gainesville.

Emergency equipment is listed in Table II-1.

### **Access to Communication System**

Access to the communication system is readily available from several locations in and around the facility waste management areas. Additionally, a paging system allows for broadcasting of announcements at the facility. Activities

are not conducted in treatment or process areas unless at least two employees are present. Operating personnel will carry two-way portable radios or will have ready access to the plant telephone or both. The plant telephone system is connected to outside telephone systems and can be used to notify local authorities in the event of an emergency. The local fire department is less than one mile from PFF and is adequately equipped to respond in the event of a fire.

### **Testing and Maintenance of Equipment**

An outside contractor inspects and tests PFF's fire suppression equipment and alarm system semi-annually. In addition, all emergency response equipment and supplies are tested and maintained by facility personnel to assure proper operation in time of emergency. Table II-1 lists the emergency equipment available at the facility.

### **Required Aisle Space**

Adequate aisle space will be maintained in all areas of the facility to provide unobstructed movement of personnel, material handling machinery, fire suppression equipment, and spill control equipment. Pallets of hazardous waste containers or drums in storage areas that may be stacked up two high will be banded and situated so that at least two sides of each pallet are visible and accessible at all times, except for the chemotherapy and pharmaceutical waste containers. Pallets or drums are added and removed from the ends of rows by lift trucks.

### **Arrangements with Local Authorities**

Arrangements have been made to familiarize local authorities, such as police, fire, and emergency response departments with the:

- Layout of PFF.
- Properties and associated hazards of the wastes managed on site.
- Places where facility personnel would normally be working.
- Entrances to and roads inside the facility.
- Possible evacuation routes.

This includes the opportunity for facility inspections/visits by the local authorities. Arrangements with state and local emergency response authorities for assisting PFF (in the event that outside emergency response becomes necessary) are listed in Section 12 of the Contingency Plan (Appendix II-A-2).

Copies of the current Contingency Plan are provided to the local police and fire departments, the nearest major hospital, and the local emergency response team (i.e., the fire department). Copies of each Contingency Plan update will be provided to each of the listed agencies.

### **Personnel Training**

The training programs used to prepare persons to operate or maintain the facility in a safe manner are addressed in the Personnel Training Plan included as Appendix II-A-3 to this permit application.

## **A.5 CHEMICAL AND PHYSICAL ANALYSIS OF WASTE**

The hazardous and mixed waste that is stored and treated by PFF is generated by off-site and on-site sources. Off-site sources of hazardous waste may include, but are not limited to, RCRA treatment, storage, or disposal (TSD) facilities; remediation sites; research institutions; government agencies; paint and coatings manufacturers and users; solvent users; and other industries that generate hazardous wastes. The facility also receives wastes from a variety of conditionally exempt and small quantity generators. In addition, waste collected during various county household hazardous waste collection campaigns is managed at the facility. Hazardous waste generated by on-site sources consists primarily of treatment residues, spent PPE, laboratory wastes, including samples of hazardous waste taken for testing and analysis, and, to a lesser extent, occasional small spill clean-up residues and soils.

The diverse nature of waste sources results in hazardous and mixed wastes of variable chemical composition being stored and treated by PFF. A list of wastes and waste constituents that may be accepted by PFF is included as Table II-2. These materials are listed by the EPA waste numbers found in 40 CFR Part 261, Subparts C and D.

The physical composition of the hazardous waste managed at the facility is either liquid (pumpable) or solid (non-pumpable). The physical composition of hazardous waste generated off-site generally determines its mode of transportation to the facility. Typically, the hazardous waste that is treated and stored at the facility can be characterized as follows:

- Organic liquids, including suspended solids, which are received from off-site in drums and other containers meeting Department of Transportation (DOT) specifications.
- Sludges and solids, possibly containing free liquids, which are received from off-site by truck in drums and other containers meeting the requirements of the DOT.
- A variety of debris contaminated with hazardous constituents received in containers.

- Miscellaneous liquid and solid hazardous waste generated by PFF as a result of waste treatment and miscellaneous management activities, such as clean-up materials, PPE, and decontamination rinsate.
- Lab packs received from off-site.

Liquid wastes generated on-site include cleaning solvents and residues. Solid wastes generated on-site include filter cleaning residues and used PPE.

All hazardous waste shipments determined to be unacceptable will be rejected. Rejected shipments will be returned to the generator or shipped to an alternate authorized TSD facility. Acceptance parameters are addressed in the Waste Analysis Plan.

#### **A.6 WASTE ANALYSIS PLAN**

The Waste Analysis Plan (WAP) has been developed as a stand-alone document and is included as Appendix II-A-4. The WAP establishes hazardous waste acceptance procedures, sampling methods, frequency of analyses, analytical techniques, and related quality control/quality assurance procedures that will be followed by PFF to ensure that sufficient information is available for proper storage and treatment of hazardous waste. The chemical and physical analytical parameters that define acceptable hazardous waste, along with the rationale for their selection, are presented in the WAP.

Also addressed in the WAP are the precautions used to prevent undesirable chemical reactions resulting from mixing of incompatible hazardous waste or from the inadvertent receipt of hazardous waste exhibiting undesirable chemical reactions.

Undesirable chemical reactions are listed in 40 CFR 264.17(b) as reactions that:

1. Generate extreme heat or pressure, fire or explosions, or violent reactions,
2. Produce uncontrolled toxic mists, fumes, dusts, or gases in sufficient quantities to threaten human health and the environment,
3. Produce uncontrolled flammable fumes or gases in sufficient quantities to pose a risk of fire or explosions,
4. Damage the structural integrity of the facility, and
5. May otherwise threaten human health and the environment.

## **A.7 MANIFEST SYSTEM, RECORDKEEPING, AND REPORTING**

### **Required Notice**

When entering into any agreement to receive any waste from a generator, PFF will inform the generator in writing of PFF's permit status and the ability to accept the waste the generator will be shipping.

Prior to transferring ownership or operation of PFF, PFF will provide appropriate notification in writing to the proper authorities in accordance with 40 CFR 270.40.

### **Use of Manifest System**

PFF requires generators to provide a completed manifest for each shipment of hazardous waste. PFF will comply with the manifest use requirements of 40 CFR 264.71 and 264.72. In addition to the manifest number, PFF will assign a dedicated internal tracking number to each container and/or shipment received by PFF for ease of identification.

When hazardous waste accompanied by a manifest is received, PFF will:

1. Sign and date each copy of the manifest to certify that the hazardous waste covered by the manifest was received.
2. Note any significant discrepancies in the manifest (as defined in 40 CFR 264.72(a)) on each copy of the manifest.
3. Immediately give the transporter at least one copy of the signed manifest.
4. Within 30 days after the delivery, send a copy of the manifest to the generator.
5. Retain at the facility a copy of each manifest for at least three years from the date of delivery.

### **Manifest Discrepancies**

Upon discovering a significant discrepancy (as defined in 40 CFR 264.72(a)), PFF will attempt to reconcile the discrepancy with the waste generator or transporter (e.g., through telephone conversations). If the discrepancy is not resolved within 15 days after receiving the waste, PFF will immediately submit to the Florida Department of Environmental Protection (DEP) a letter describing the discrepancy and attempts to reconcile it, and a copy of the manifest at issue.

### **Unmanifested Waste Report**

If PFF accepts for treatment, storage, or disposal any hazardous waste from an off-site source without an accompanying manifest, as described in 40 CFR 263.20(e)(2), and if the waste is not excluded from the manifest requirement by 40 CFR 261.5, then PFF will prepare and submit a single copy of a report to the DEP within fifteen days after receiving the waste.



Such report will be submitted on EPA form 8700-13B (or by other means as required by DEP), be designated “Unmanifested Waste Report” and include the following information:

1. The EPA identification number, name, and address of PFF.
2. The date PFF received the waste.
3. The EPA identification number, name, and address of the generator and the transporter, if available.
4. A description and the quantity of each unmanifested hazardous waste PFF received.
5. The method of treatment, storage, or disposal for each hazardous waste.
6. The certification signed by the owner or operator of PFF or his authorized representative.
7. A brief explanation of why the waste was unmanifested, if known.

### **Electronic Manifests**

PFF may choose to use electronic manifests in lieu of paper manifests by complying with 40 CFR 264.71(f), (g), (h), (i), (j), and (k); and 40 CFR 262.24.

### **Operating Record/Biennial Report**

Copies of the manifests and operating records will be maintained on-site at the file cabinets in the hallway next to the copy room for at least three years. After that, all records will be transferred to an off-site location with Iron Mountain at 5905 NE Waldo Road, Gainesville, Florida. Iron Mountain provides contracted service to archive the documents. The Biennial Report of hazardous waste received and processed by PFF will address the quantities of materials shipped to PFF. Copies of the Biennial Report will be submitted to the DEP by March 1 of each even numbered year.

1. The biennial report will be submitted on EPA form 8700-13B [or by other means as required by DEP (e.g., electronic format)]. The report will cover facility activities during the previous calendar year and will include all information required by DEP/USEPA.

The following reports will be maintained by PFF:

- A description and the quantity of each hazardous waste received, and the method(s) and date(s) of its treatment and/or storage at the facility, as required. This record will be maintained until closure of PFF.
- The location of each hazardous waste within the facility and the quantity at each location. This information will include cross-reference to specific manifest document numbers if the waste was accompanied by a manifest. This record will be maintained until closure of PFF.

- Records and results of waste analysis performed.
- Summary reports and details of all incidents that require implementation of the Contingency Plan.
- Records and results of inspections.
- All closure cost estimates in accordance with 40 CFR 264, Subpart G. This record will be maintained until closure of PFF.

PFF will also maintain the following records at the facility or the off-site storage location for a period of at least three years:

- Waste minimization certification.
- Reports of releases, fire, and explosions.
- Closure Plan and Closure Cost Estimate.
- Notices to the off-site generators in accordance with 40 CFR 264.12(b).
- Land disposal restriction notices received from off-site generators.

All operating records maintained on site pursuant to this permit application will be available to state and federal environmental regulatory personnel for inspection.

## **A.8 FEDERAL ENVIRONMENTAL LEGISLATION**

PFF is not subject to the Coastal Zone Management Act, Fish and Wildlife Coordination Act, the National Historic Preservation Act, and Wild and Scenic River Act. PFF is located within an Industrial Park in urban setting and to the best of our knowledge there are no endangered species or archaeological or historical sites within the property.

Supporting documentation from the Florida Department of State, Division of Historical Resources, and the Florida Game and Fresh Water Fish Commission is included as Appendix II-A-5.

## **B. CONTAINERS**

PFF is currently permitted to store up to 72,105 gallons of containerized hazardous waste in the Processing and Storage Building; up to 35,200 gallons of container storage in the Treatment and Operations Building (see Figure I-6 in Part I of this application); and up to 54,350 gallons of hazardous waste in the LSV Processing and Waste Storage Warehouse in containers. In addition, permitted container treatment activities include stabilization/solidification

(i.e., PF-I process); and treatment in containers, which includes deactivation of reactive wastes (e.g., D003), mercury amalgamation, non-elementary neutralization, and treatment of debris using drum rotator(s).

## **B.1 DESCRIPTION OF CONTAINMENT SYSTEM**

The secondary containment system for the Processing and Storage Building consists of curbed and sloped concrete slabs and sumps, which are designed to drain liquids resulting from leaks or spills to sumps for removal. The containment system for the Processing and Storage Building consists of the following:

- An approximately 4-foot 10-inch wide and at least 4-inch high #4 rebar reinforced concrete sloped berm (“rollovers”) extending about 6 feet at forklift entry points to container storage areas.
- A 6-inch wide #4 rebar reinforced concrete curb with a minimum height of 2.5 inches around storage building perimeters.
- Continuous Neoprene® water stops within the concrete curbs and berms.
- Minimum of 20 mils of epoxy sealer at all joints and gaps.
- Polysulfide joint sealant in all floor joints.
- Sealant (e.g., Ashford Formula, which is a water-based inorganic silicate material for sealing and hardening of concrete floors), applied to the floor of the storage area to render the floor sufficiently impervious, in accordance with 40 CFR 264.175(b)(1).

The secondary containment system for the Treatment and Operations Building consists of curbed concrete slabs. The containment system for the Treatment and Operations Building consists of the following:

- 6-inch thick and approximately 5.75-inch high #4 rebar reinforced concrete curb near the building wall.
- 6-inch thick and 5.5-inch high #4 rebar reinforced concrete berming around each segregated container storage area.
- Approximately 7-foot wide and 4-inch high #4 rebar reinforced rollover berms for forklift entry/exit points for the container storage areas.
- Minimum of 20 mils of epoxy adhesive sealer at the concrete joints.
- Sealant (e.g., Ashford Formula, which is a water-based inorganic silicate material for sealing and hardening of the concrete floor), applied to the floor of the container storage area to render the floor sufficiently impervious, in accordance with 40 CFR 264.175(b)(1).

The container storage area within the LSV Processing and Waste Storage Warehouse is provided with a 5.5-inch thick and 5.5-inch high concrete curbing. The minimum height of the rollover berms for this storage area is 2.75 inches. A sealer and hardener have been applied to the storage area floor.

The floor slab making up the container storage areas in the Treatment and Operations Building, the Processing and Storage Building, and the LSV Processing and Waste Storage Warehouse consists of a concrete base that is free of cracks or gaps and is sufficiently impervious to contain leaks, spills, and accumulated precipitation until the collected material is detected and removed. In addition, the surface of the concrete base has been applied with a sealant (e.g., Ashford Formula) to ensure the impervious nature of the containment base. The product data for the Ashford Formula is included as Appendix II-B-1. In the future, a sealant other than Ashford Formula may be used to render the floor sufficiently impervious, in accordance with 40 CFR 264.175(b)(1).

The capacities of the containment systems in the Processing and Storage Building, the Treatment and Operations Building, and the LSV Processing and Storage Warehouse are sufficient to contain more than 10% of the volume of the maximum number of containers in each building. Containment calculations are included as Table II-3. Details of the secondary containment system for the Processing and Storage Building, Treatment and Operations Building, and the LSV Processing and Waste Storage Warehouse are shown on Figure I-12, Figure I-6, and Figure I-15, respectively, in Part I of this application.

Engineering reviews have been conducted on the floor slabs in the container storage areas of each container storage building at the Facility. Copies of the engineering reports for the floors are included as Appendix II-B-2. The October 13, 1997 Floor Slab Inspection letter addresses the concrete pad in the former Nelson Building; referred to in this permit application as the Treatment and Operations Building. The 1989 work sheet addresses the integrity of the concrete pad in the former Quadrex container and tank storage building; referred to in this permit application as the Processing and Storage Building. The concrete slab in the LSV Processing and Storage Warehouse is similar in nature as the other two buildings.

To prevent run-on and accumulation of precipitation, the container storage areas in each building are roofed and sufficiently sided to prevent run-on of stormwater. In addition, the perimeters of the concrete floor slabs are curbed in each building. Finally, site grading directs surface water away from the buildings.

The sloped floors in the Processing and Storage Building will direct any liquid to the sumps. The container storage areas will be inspected at least once a week for accumulation of liquids, and any accumulation will be removed from the container storage area and/or sumps in as timely a manner as possible but no later than within 24 hours of detection

by PFF personnel. Material removed from the container storage area and/or sump will be characterized and managed in accordance with applicable regulations. In addition, all containers stored in the Processing and Storage Building are kept off the floor on pallets or, in the case of totes, on built-in legs that prevent tote contact with any standing liquids.

The concrete slab in the Treatment and Operations Building and in the LSV Processing and Storage Warehouse is on a near level gradient. These container storage areas will be inspected at least once a week for accumulation of liquids, which will be remediated in as timely a manner as possible but no later than within 24 hours of detection. Depending on the amount involved, absorbents, submersible pumps, or a vacuum truck will be used to remove any liquids. All containers stored in the Treatment and Operations Building and in the LSV Processing and Storage Warehouse will also be kept off the floor on pallets or, in the case of totes, on built-in legs that prevent tote contact with standing liquids. All material removed from secondary containment areas will be characterized in accordance with 40 CFR 262.11 and stored, treated, or disposed of accordingly.

### **Ignitable, Reactive, and Incompatible Wastes**

No container of ignitable or reactive waste will be stored within 15 meters (50 feet) of the Facility property line or a public right-of-way as shown on Figure I-1 in Part I of this permit application. Hazardous waste will not be placed in an unwashed container that previously held an incompatible waste or material. A storage container holding a hazardous waste that is incompatible with any waste or other materials stored nearby in other containers or open tanks will be separated from the other materials or protected from them by means of a dike, berm, wall, or other device.

In order to ensure compatibility of waste streams intended for co-mingling, PFF will implement the following management procedures prior to mixing potentially incompatible wastes.

- Prior to receipt at the Facility, all hazardous wastes must be profiled and preapproved. See the Facility Waste Analysis Plan (WAP) (Appendix II-A-4 of this permit application) for details on the approval and profile process.
- Containers of incompatible waste identified by the waste profile and/or WAP will be segregated from each other.
- Potentially incompatible wastes will be mixed together in small quantities and observed for undesirable reactions prior to being stored, treated, or otherwise managed together at the Facility. See the WAP for compatibility testing details. Incompatible wastes, or incompatible wastes and materials, will not be placed in the same container (or an unwashed container), unless the requirements of 40 CFR 264.17(b) are complied with.
- Lab Pack packing lists will be reviewed to identify potentially incompatible wastes.
- During Lab Pack decommissioning (transfer of waste from small containers to bulk containers), potentially incompatible wastes will not be bulked together unless compatibility testing indicates that the wastes may be

combined i.e., the requirements of 40 CFR 264.17 (b) are complied with. Incoming Lab Pack wastes determined to be incompatible will be segregated from each other and shipped off site for disposal in separate containers unless treated or deactivated and made compatible. See Figure I-6 in Part I of this permit application for an illustration of segregated storage bays.

### **Condition and Management of Containers**

Upon receipt of a shipment of containers, PFF personnel will review the manifest and other documents accompanying the shipment for completeness and accuracy and to identify the shipment and verify its compliance with 40 CFR 264.71 and 40 CFR 264.72. After verification, the containers will be inspected for defects and/or unacceptable conditions, as required in 40 CFR 264.171. If a container is found to be leaking, or is of questionable integrity, the container will be overpacked or its contents transferred into another container in good condition. If, following analysis in accordance with the WAP, the contents of a container are found to be unacceptable, the containerized waste will be rejected and returned to the generator, or sent to an alternate TSD, per the generator's instructions.

A representative sample of the incoming waste will be collected and analyzed in accordance with the Waste Receipt Analysis section of the WAP to determine consistency with the waste profile. Containers of waste will remain in the receiving area portions of the storage areas until accepted for storage in accordance with the WAP. Upon acceptance, containers will be moved to one of the container storage areas in the Processing and Storage Building, Treatment and Operations Building, or LSV Processing and Storage Warehouse. Unacceptable or rejected containers will be stored in one of the container storage areas until transportation to the generator or an alternate TSD can be arranged.

- All containers will be managed as if they contain free liquids until determined by Facility personnel to contain solids through inspection and/or sampling. Containers of hazardous waste will be kept closed except during sampling or when hazardous waste is added or removed. All 55-gallon containers will be palletized upon arrival, and all palletized containers will be banded when double- stacked, except for the chemotherapy drugs and other pharmaceuticals stored in the cage area in Zone 2 of the Processing and Storage Building where pallets of chemotherapy drugs and pharmaceutical waste can be stacked three pallets high.
- Adequate aisle space will be maintained in all areas of the Facility to provide unobstructed movement of personnel, material handling machinery, fire suppression equipment and spill control equipment. Pallets of hazardous waste containers or drums in storage areas that may be stacked up two high (except for chemotherapy drugs and pharmaceutical waste) will be banded and situated so that at least two sides of each pallet are visible and accessible at all times. Pallets or drums are added and removed from the ends of rows by lift trucks.

All containers received from off-site must meet US Department of Transportation (DOT) requirements for the material being shipped in the container. Containers that do not meet DOT requirements will be overpacked into suitable containers for storage and/or shipment off site.

Examples of containers typically received at the Facility will include:

- 55-gallon steel drums (on standard pallets)<sup>1</sup>
- 55- and 30-gallon poly drums (on standard pallets)<sup>1</sup>
- 30-gallon steel and poly drums (on standard pallets)<sup>2</sup>
- 5-gallon steel and poly drums (on standard pallets)
- DOT overpacked drums containing: glass vials, plastic vials, ½- to 1-gallon glass or plastic containers, and up to 30-gallon plastic carboy containers (on standard pallets)
- DOT specification roll-off containers
- DOT specification fiberboard containers (on standard pallets)
- DOT specification tote tanks (up to 550-gallon capacity)<sup>3</sup>
- DOT specification tanker/trailers (not stored in container storage areas)
- Other DOT-approved (performance-oriented) containers (on standard pallets)

B-25 and B-12 Containers: these are 96 and 48 cubic feet Strong Type A containers used by the Nuclear Waste industry, typical dimensions are 6'W x 4'H x 4'D for the B-25 and 6'W x 2'H x 4'D for the B-12.

Figures I-6, I-12 and I-15 in Part I of this permit application illustrate typical container storage configurations in the container storage areas. These configurations are for illustration purposes only. PFF will only receive containers made of or lined with materials that will not react with and are otherwise compatible with the hazardous waste to be stored.

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<sup>1</sup> Typical dimensions: 55-gal drum – 36" x 22" dia; 30-gal drum – 27" x 18" dia; 5-gal container – 14" x 10" dia.

<sup>2</sup> Typical dimensions: 55-gal drum – 36" x 22" dia; 30-gal drum – 27" x 18" dia; 5-gal container – 14" x 10" dia.

<sup>3</sup> Totes are on legs, which keep them off the ground and away from accumulated liquid in containment areas. The dimensions for 450-gallon totes are 4 feet by 4.5 feet (base) by 5 feet, 4 inches (height). 450-gallon totes have 5.5- inch legs. 550-gallon totes have a base that is 3.5 feet by 4 feet and are 6 feet, 3 inches tall. 550-gallon totes sit on 6.5-inch legs.

## **Inspections**

PFF personnel will inspect areas where containers are stored or treated at least once per week. The inspections will cover proper placement of containers for ready access, container conditions, labeling, and inventory control. A detailed inspection log is maintained to ensure compliance with applicable Florida container and tank inspection requirements. An example of inspection log for container storage areas is included as Table II-4. Inspection logs will be maintained in the Facility operating record for a period of at least three years.

## **Closure Plan and Closure Cost Estimate**

A copy of the Facility Closure Plan and closure cost estimate is included in Section II.K of Part II of this application.

## **C TANK SYSTEMS**

### **C.1 TANK SYSTEM INTEGRITY**

The integrity of the existing tank has been certified by Lewis Engineering and Consulting, Inc. (Appendix II-C-1). The certification by Richard Lewis, a professional engineer, found the tank to be structurally sound. The certification process included a review of Facility records for the tank system, a visual inspection of the tank, and an ultrasonic thickness survey of the tank walls. The visual inspection found no leaks or exterior corrosion of the tank. The ultrasonic survey found that the head and shell thickness was nominally 0.25 inch.

Figures II-C-1 and II-C-2 provide design details of the tank.

The storage tank is located within the walls of the secondary containment system. Foundation support for the full storage tank is provided by the concrete floor of the containment structure and underlying soil. Foundation calculations for the storage tank are provided in Appendix II-C-2. Based on this review, the tank foundation is designed to maintain the load of a full tank in a satisfactory manner. The tank is supported by three carbon steel support frames. The foundation appears to be adequate to resist anticipated frost heave.

Ancillary equipment is provided with secondary containment. The piping from the LSV Processing area is contained in a sealed concrete pipe valley. The pipe valley is overlaid with a steel grid making the piping available for inspection by Facility personnel at all times.

### **C.2 TANK SYSTEM AND ANCILLARY EQUIPMENT DESCRIPTION**

The facility storage includes an aboveground 3,000-gallon tank to accumulate and store mixed liquid wastes solely that are ultimately transported off-site for energy recovery. The tank was constructed in 1999. The tank is installed



horizontally on steel supports in a concrete block secondary containment structure inside the Processing and Storage Building. (See Figure I-12 in Part I of this application for the tank location.) The tank is connected to the liquid scintillation vial (LSV) processing system located in the LSV Processing and Waste Storage Warehouse. The connection is through piping running from the LSV processing area to the tank. See Figures I-13 and I-14 in Part I of this application for process flow diagrams. See Figure II-C-3 for the LVS piping diagram.

The feed system associated with the 3,000-gallon bulk storage tank consists of the following equipment:

- Type 5, air driven, dual diaphragm pump.
- Pump suction line with ball valve.
- Pump discharge line with ball valve.
- Main fluid discharge control ball valve.
- Discharge hose connection.
- Main pump cutoff ball valve.
- Piping from the pump to the bulk tank.

The materials stored in the 3,000-gallon tank consist of the scintillation fluids, and solvent-based liquid carriers used for scintillation fluids, rinse solvents and other mixed organics (e.g., ethanol) used to clean the vial glass. Major compounds that may individually constitute up to 25% of the supplemental fuel include ethanol, toluene, and xylenes. Toluene and xylenes are contained in scintillation fluids, and ethanol is the primary solvent of choice, although conditions may occur requiring the use of other rinse solutions (isopropyl alcohol, detergents, etc.). Figures I-15, I-16, I-17, and I-18 in Part I of this permit application show the location of the LSV processing area and associated equipment.

### **C.3 DESCRIPTION OF SAFETY SYSTEMS AND CONTROLS**

40 CRF 264.31 requires facilities to be designed, constructed, maintained, and operated to minimize the possibility of a fire, explosion, or any unplanned sudden or non-sudden release of hazardous waste or hazardous waste constituents. The following addresses the equipment and procedures employed by PFF to facilitate compliance with 40 CFR 264.31.

All flanges and openings on the tank have been sealed to minimize the emission of volatile organic chemicals (VOCs). This sealing is accomplished by using rubber seals on doors/latches wherever there are openings (i.e., hinged hatch and manway shown in Figure II-C-1). In addition, even though the mixed waste storage tank is exempt from 40 CFR 264

Subpart CC VOC emission control requirements while storing mixed waste per 40 CFR 264.1080(b)(6), the tank is designed and will be operated in a manner consistent with Subpart CC Level 1 emission controls. Specifically, the following controls will be maintained:

- Fixed Roof.
- Vent pipe with a spring-loaded pressure relief valve.

The tank is equipped with mechanical pressure and temperature gauges, as well as a fill gauge. Overfill protection is provided by an intrinsically safe high-level alarm. The alarm emits an audible signal and shuts off power to the tank feed pump when the tank level reaches 80% of its capacity.

In addition, the tank is grounded to prevent risks associated with potential electrical surges and is located within containment in the Processing and Storage Building to prevent releases to the soil or surface water. Exposure to the sun and extreme temperatures is not an issue because the tank is under a roof, which protects it from direct sunlight.

#### **C.4 DIAGRAM OF PIPING, INSTRUMENTATION, AND PROCESS FLOW**

A process flow diagram is presented in Figure I-13 in Part I of this application. The piping diagram is provided as Figure II-C-3.

#### **C.5 CORROSION PROTECTION**

The tank system and its appurtenances are not directly exposed to the weather. Since the tank and associated fixtures are made of stainless steel, they are not painted. Exposed piping is galvanized and not painted. The P.E. certification report (Appendix II-C-1) indicates that there has been no deterioration of the tank.

Surface protection for the secondary containment has been provided. This protection consists of application of a sealant (e.g., Ashford Formula) to the containment floors. This application seals cracks and voids in the structure surfaces and hardens the concrete surface to provide good resistance to splashes and spillage that may occur in the containment area.

#### **C.6 NEW TANK SYSTEMS**

There are no new tank systems on site. Section C.6 does not apply to this permit application.

## C.7 SECONDARY CONTAINMENT SYSTEM ASSESSMENT

The following paragraphs give a detailed comparison between current containment system features and applicable requirements. For brevity, “secondary containment” as used here means features that meet the requirements of 40 CFR 264.193.

A. Materials compatibility (40 CFR 264.193(c)(1))

The primary waste material collected and stored in the tank system consists of toluene, xylenes, ethanol, or other selected rinse solvents/solutions. The primary hazardous characteristic of the waste is ignitability. These wastes are considered compatible with the system materials of construction (primarily concrete, stainless and galvanized steel, and the concrete sealer/hardener).

B. Strength and Foundation (40 CFR 264.193(c)(2))

The most critical strength requirement for the floor slab of the tank containment structure is its service as foundation support for the tank when full. Pressures on the soils below the floor slab are well below acceptable levels (see Appendix II-C-2). Satisfactory service with practically no cracking of the slab or the containment walls is further evidence of the adequacy of the system. As previously stated, the foundation support is adequate to prevent failure due to settlement, compression, uplift, or pressure gradients. The carrying capacity of the floor under the tank supports is enhanced by increased concrete thickness and steel reinforcing.

C. Leak Detection (40 CFR 264.193(c)(3))

All components of this system are accessible for visual inspection. Leak detection is provided by a documented daily visual inspection of the tank system on each day it contains hazardous waste.

The Inspection Log for the tank is included as Table II-5. Overfill protection is provided by a high-level alarm that emits an audible alarm and shuts off the feed pump when the tank level reaches 80% capacity (i.e., 4 feet). Normal operating practice will be to keep the tank level below 4.0 feet.

D. Liquid Removal (40 CFR 264.193(c)(4))

Liquid removal from the secondary containment is accomplished by a vacuum pump that removes liquid from a blind sump within the containment to the tank or other container. The containment floor is sloped to the blind sump.

E. External Liner System (40 CFR 264.193(d) and (e)(1))

As documented in Appendix II-C-3, the secondary containment for the tank system has a design capacity (4,870 gallons) sufficient to hold more than 100 percent of the tank’s capacity (3,000 gallons). Inspection of the facility in January 1988 demonstrated that the secondary containment floor slab and walls were free of cracks and gaps (see Appendix II-C-3). The impermeable sealant/hardener described in Appendix II-C-4

had been applied to the floor. The containment completely surrounds the tank and is capable of preventing both lateral and vertical migration of the waste.

## **C.8 VARIANCES**

There are no variances for this site. Section C.8 does not apply to this permit application.

## **C.9 SPILLS AND OVERFLOW PROTECTION**

The tank feed lines are utilized only in a batch mode and are not prone to fluid loss. Detailed inventory logs are maintained for each process batch, with any potential losses occurring in the transfer of fluids being readily identified. The overflow protective device is interlocked to the fluid feed system to prevent overfilling. The tank has a high-level alarm that shuts off the feed pump when the tank reaches 80% capacity. The feed system will not function, and an alarm will sound. The high-level alarm is inspected each day the tank contains hazardous waste to ensure its operability.

The bulk tank is compatible with flammable liquids and is permanently grounded via a dedicated grounding system.

## **C.10 IGNITABLE, REACTIVE, OR INCOMPATIBLE WASTES IN TANKS**

The 3,000-gallon storage tank is a dedicated tank and will only receive mixed liquid wastes. PFF operating procedures, including waste profile review prior to acceptance and evaluation upon arrival at PFF, are designed to prevent the addition of incompatible wastes that could cause failure of the tank system.

Specifically, PFF will not place incompatible wastes, or incompatible wastes and materials, in the same tank per the requirements of 40 CFR 264.17(b). Wastes designated as D002 will not be managed in the tank system. Stored waste is protected from any material or condition that may cause the waste to react or ignite. The tank content is tested prior to each shipment for disposal as described in the Waste Analysis Plan (Section 6.0). The fluids are pumped into and out of the tank through a manifold system.

The tank location meets the requirement of 40 CFR 264.198(b) regarding maintenance of protective distance from the public way or adjoining property line that can be built upon.

### **C.11 INSPECTION REQUIREMENTS**

The bulk tank, its associated equipment, and containment are inspected each day the tank contains hazardous waste in accordance with applicable requirements of 40 CFR 264.195. Detailed inspection logs are maintained in the Facility Operating Record for at least three years from the date of inspection. An example inspection log for a tank is included in Table II-5.

### **C.12 RESPONSE TO LEAKS OR SPILLS**

Should there be a leak or spill from the storage tank and/or its secondary containment or if the tank system is unfit for use, the following will be performed:

PFF will immediately stop flow to the tank or to the secondary containment and inspect the system to determine the cause of release.

If the release was from a tank system, hazardous waste will be removed from the tank as much as possible to prevent further release within 24 hours of release detection. If it can be demonstrated that this time frame is not feasible, then waste removal from the tank will be conducted at the earliest practicable time. Inspections and repair to the tank system will be performed after removal of waste.

Accumulated liquids will be removed from the secondary containment as soon as it is practicable and safe to do so; but no later than 24 hours after detection.

Upon detection of a release, a visual inspection of the release will be immediately conducted to prevent further migration of the leak, or spill to soils or surface water. If visual inspection reveals contamination of soil or surface water, the contaminated media will be removed and properly disposed of. Proper disposal will require waste characterization of the contaminated soil or surface water.

PFF will prevent further migration of the leak or spill.

In accordance with 40 CFR 264.196(d), any release of hazardous waste into the environment, except as provided in paragraph (d)(2), will be reported to the hazardous waste section of the DEP's N.E. District Office within 24 hours of its detection. A report of a release in excess of the reportable quantity (RQ) as specified in 40 CFR Part 302 will satisfy this requirement. In addition, reporting is not required if the leak or spill is confined in the tank secondary containment system, as explained on page 25455 of the Federal Register dated July 14, 1986. Any leak or spill of hazardous

waste of less than one (1) pound that is immediately contained and cleaned up will be exempt from the reporting requirement.

A written report in accordance with the requirements of 40 CFR 264.196(d)(3) will be sent to the DEP within 30 days of detection of a reportable release.

PFF will perform the repairs, or provide secondary containment, as required, prior to returning the tank system to service.

If repairs are extensive, PFF will obtain a certification from a qualified professional engineer registered in the state of Florida, prior to returning the tank system to service. A copy of such certification will be kept in the facility operating record until the closure of the facility, in accordance with 40 CFR 264.196(f).

The PFF Spill Prevention, Control, and Countermeasure Plan (SPCC) has been included as Appendix II-C-5.

### **C.13 TANK SYSTEMS THAT DO NOT MEET REQUIREMENTS**

The PFF tank systems meet requirements of 40 CFR 264.193.

### **C.14 CLOSURE PLAN**

A copy of the Facility Closure Plan is included in Section K of this permit application.

### **C.15 CLOSURE COST ESTIMATE**

A copy of the Facility Closure Cost Estimate is included in Section K of this permit application.

## **I MISCELLANEOUS UNITS**

### **I.1 DESCRIPTION OF MISCELLANEOUS UNITS**

This section describes the Perma-Fix® II process that may be identified as a miscellaneous unit regulated under 40 CFR 264 Subpart X. The unit will be used to physically and/or chemically treat hazardous wastes and/or non-RCRA radioactive wastes. This section of the permit application is intended to address the regulations for miscellaneous units applicable to this process.



PFF conducts thermal desorption and/or chemical oxidation/reduction in a treatment unit. The operation is a proprietary process known as Perma-Fix® II (PF-II). A detailed description of the existing batch unit and its operation follows. The batch thermal desorber is planned to be replaced with a continuous unit, which is described in Appendix II-I-1. In addition, the supporting PF-II ancillary equipment, including the associated air pollution control systems, are planned for upgrade or replacement.

### **Process Description**

The PF-II process typically consists of three primary steps used to treat organic contaminated soils, sludge, or other process waste (e.g. waste media not classified as debris or <60 mm particle size). Wastes selected for PF-II treatment require compliance with the treatment standards identified in 40 CFR Parts 268.40, 268.48, or 268.49 prior to land disposal. Dependent upon generator waste profile information and/or PFF process control analyses, PF-II treated waste may require PF-I treatment (metals stabilization) to ensure total compliance with the identified regulations.

PF-II treatment candidates are identified using the information provided by generators on waste (material) profile forms and accompanying support documentation such as land disposal restriction (LDR) notification forms. Example material profile and LDR forms are included as Appendix II-I-2 and I-3. Upon arrival at the facility, wastes are evaluated for proper management (storage and/or treatment) per the Waste Management Decision Trees of Figures I-8, I-9, I-19, and I-20 in Part I of this application.

See Figure I-6 in Part I of this application for the general layout of the Treatment and Operations Building and the location of the PF-II process equipment and container storage areas. See Figure II-I-1 for the PF-II process layout. See Appendix II-I-1 of this permit application section for a detailed description.

The PF-II process is conducted inside the Treatment and Operations Building (TOB). Emissions from treatment activities inside the TOB are controlled using a negative pressure ventilated system consisting of a dust collector, four high-efficiency particulate air (HEPA) filters (each rated at 1,000 cfm), and a regenerative thermal oxidizer (RTO). These units are collectively referred to as the “air emissions control system”.

### **Feed Stock Preparation**

Containers of hazardous waste requiring PF-II treatment are delivered to the TOB by powered lift trucks or drum dollies.

PF-II candidate waste streams are visually and physically screened for nonconforming items (e.g., items identified as debris according to 40 CFR 268.45). Non-debris solids (PF-II waste) are consolidated separately for the PF-II treatment. All drum unloading activities take place at ambient temperature while the TOB is under negative pressure.

## **Waste Treatment**

### *Preconditioning*

The first treatment step of the PF-II process usually involves pre-conditioning of the waste. Select solvents (as determined through preliminary data review or bench testing) are added to the waste and mixed to remove soluble organics that typically prohibit successful thermal operations. Some waste streams that have a high solubility potential (i.e., paint-related materials), are drastically reduced in volume during the pre-conditioning stage. This reduction is beneficial since it minimizes the solids destined for land disposal. Wastes that do not require pre-conditioning (e.g., lightly contaminated soils) are sent directly to thermal desorption.

The pre-conditioning activities are conducted using the pneumatic drum tumbler. The pneumatic drum tumbler is an end-over-end rotation device that can accommodate 55- or 85-gallon container(s). Approximately one-third of the tumbling vessel is filled with PF- II waste. An equivalent volume of a select solvent is added to the vessel. The tumbling vessel is closed appropriately using a bung-top lid. A pressure relief device is placed in the bunghole. The waste and solvent are tumbled for a predetermined amount of time (to achieve sufficient solvent extraction). The vessel's bung top lid is removed and replaced with a perforated lid. The vessel is drained of its liquid-phase contents into a catch-pan. There is no plumbing associated with the pre-conditioning process. The waste solvent is placed in a drum. The drum tumbler and catch pan are not subject to Subpart AA/BB/CC requirements.

All treatment activities that take place in the treatment operations building (TOB) and the Liquid Scintillation Vial (LSV) processing areas are conducted under negative air with fugitive emissions directed to the regenerative thermal oxidizer (RTO). The regulatory status of the accumulation tank is discussed in Section R as part of the PF-II process.

The process is repeated with a follow-up pre-conditioning step using a solvent with an opposing chemical polarity. Typically, the solvents of choice are hexane followed by water. In certain cases, other more effective solvents are selected through bench testing.

### **Thermal Desorption**

Figure I-11 in Part I of this application provides a process schematic for the thermal desorption step of the PF-II process. Wastes selected for thermal desorption are transferred from their holding container (normally a 55-gallon drum) into 5-gallon buckets using a shovel. The buckets are transported to the catwalk that runs parallel to the reactor



vessel. Buckets of PF-II waste solids are loaded into the top of the reactor vessel's feed-hopper. The hopper is unloaded into the reactor vessel by opening a pneumatic guillotine valve at the bottom of the hopper. If appropriate, water may be added to the reactor vessel and thoroughly mixed with the waste to form a homogeneous mixture or slurry<sup>1</sup>. The slurry is mixed and heated in the reactor vessel. Non-contact steam circulated through a temperature control jacket is used to heat the reactor vessel and its contents<sup>2</sup>. During this phase of the process, the liquid portions of the waste evaporate, and water and organic constituents pass through the heat exchanger (condenser) where part of the vaporized waste is condensed (liquid phase) and part remains in the vapor phase.

The vapor phase and condensate (liquid phase) are discharged into an accumulator tank. From there, the vapor phase is immediately drawn into an absorber. The absorber is a tank with a small diameter to height ratio that contains a low vapor pressure (high boiling point) solvent (e.g., water or kerosene). The vapor phase coming from the accumulator tank is mixed with the solvent and allowed to diffuse through the solvent, which absorbs the organic constituents contained in the vapor phase.

The process of heating the waste and removing the water and/or organic constituents from the vaporized waste continues until the free water and organic constituents have been stripped from the waste and collected in the accumulation and absorber tanks. The absorber tank vents to the air emission control system. This system operates under a vacuum and an inert atmosphere (e.g., nitrogen blanket) to prevent explosions and fires.

Once the thermal desorption step is complete, the condensate and liquid treatment residuals are collected from the accumulator and absorber tanks; containerized; characterized; and sent off site to a permitted waste management facility. The treated waste solids are containerized. Prior to container closure, a sample of the treated solid residuals is obtained and analyzed for compliance with the land disposal treatment standard. The containerized waste solids are placed in storage pending the results of the analytical tests.

If the PFF process control analyses determine the waste has not been successfully treated, the waste residuals may undergo additional cycles of pre-conditioning and thermal treatment or undergo chemical oxidation/reduction.

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<sup>1</sup> Alternatively, some waste may already be in slurry form when introduced into the reactor vessel and will not require the addition of water. In addition, certain wastes may require the addition of surfactants or organic solvents (e.g., hexane) to the waste slurry to mobilize contaminants and facilitate the treatment process. This step is conducted, when needed, during the pre-conditioning stage of the PF-II process.

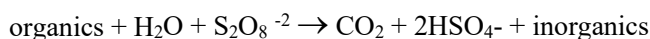
<sup>2</sup> Alternatively, hot water or cold water can be circulated through the system to control the temperature in the reactor vessel.

If successful treatment of the organic constituents is determined by the PFF laboratory screening analysis, the residual waste may require treatment for inorganic contaminants using the PF-I process. The waste solids remain in storage until the PF-I treatment is conducted. Once all applicable land disposal treatment standards are met, treated wastes are stored until a sufficient number of containers are obtained to support a shipment for disposal to a permitted waste management facility. Treated wastes will not be stored for more than a year.

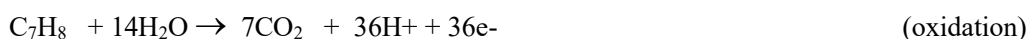
## Chemical Oxidation

If chemical oxidation treatment is required, the type and amount of oxidizer to be used is selected by bench tests carried out on that particular waste stream. The possible oxidizers are: peroxydisulfate salts (solid or in solution), persulfuric acid, and/or hydrogen peroxide. Water is added to the reactor vessel if deemed necessary to dissolve the oxidizer. Mixing is resumed, and the temperature of the vessel is raised enough to allow the oxidation reaction to begin (approximately 75 to 85°C). Any vapors created during this step are condensed in the condenser, and the condensate is discharged into the accumulator tank.

An example oxidation chemical reaction is as follows:



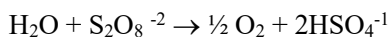
Example using sodium peroxydisulfate and toluene as the organic contaminant:



Example using hydrogen peroxide:



Water is also capable of reducing the oxidizer:



Oxygen is produced during the oxidation step. Through bench tests, it has been determined that the amount of volatile and semi-volatile organic compounds left in the stream after the thermal desorption step is very low; consequently, the amounts of off-gasses produced from the oxidation of chlorinated organic compounds, namely hydrochloric acid and chlorine gas, are also very low.

The time required to complete the oxidation process depends on temperature, the waste stream composition, and the amount of water added. Before the reaction is assumed to be complete, a sample of the aqueous phase is titrated to determine the concentration of unreacted oxidizer. When the oxidizer has been depleted, the oxidation step is considered complete.

Upon completion of the oxidation step, the reactor vessel is allowed to cool, and, if necessary, either calcium hydroxide or sodium hydroxide is added to adjust the pH of the mixture to within a range that minimizes corrosion of the PF-II process equipment. The reactor vessel may be heated to the boiling point of water to dry the slurry as appropriate for further treatment and/or disposal. The water condensed from the drying of the oxidized stream is discharged into the accumulator tank. Condensed/separated organic liquids recovered from the vaporized organic constituents are collected in the accumulator and absorber tanks and pumped into drums when the treatment run is complete. An inert atmosphere (e.g., nitrogen blanket) is provided at all times during treatment operations to prevent explosions and fires.

The non-volatile residual solids remaining in the reactor vessel are discharged into 55-gallon drums through a pneumatic guillotine valve located beneath the reactor vessel. Prior to container closure, a sample of the treated residual solids is obtained and analyzed for compliance with the appropriate treatment standard. The containerized residual solids are placed in proper storage awaiting analytical determination.

If the PFF process control analyses determine the residual solids have not been successfully treated for organics, the residual solids will undergo additional cycles of pre-conditioning and thermal treatment or undergo the chemical oxidation step again.

If analysis indicates successful treatment of the organic constituents, the residual solids may require treatment for inorganic contaminants using the PF-I process. The residual solids remain in storage until the PF-I treatment is conducted. Once all applicable treatment standards are met, the residual solids are stored until a sufficient number of containers are obtained to support a shipment for disposal to a permitted waste management facility. The residual solids storage period will not exceed one year.

## Process Residuals Management

The various steps in the PF-II process may generate several types of waste. These wastes will be characterized in accordance with the requirements of 40 CFR 262. Waste characterization may include the application of knowledge of the PF-II process and/or analytical testing pursuant to the Facility's Waste Analysis Plan. Generally, PFF will "carry through" all listed waste codes to each of the residual wastes generated by the PF- II process. In other words, PF-II residual wastes will be generated and manifested with the same listed waste codes assigned to the waste prior to its treatment. Appropriate characteristic waste codes will be retained or assigned to the residual wastes at the waste stream's final point of generation (prior to its being shipped off site). The anticipated disposition of residual wastes is discussed in further detail below.

- Wastes treated to meet the land disposal restrictions for hazardous waste constituents by thermal desorption, chemical oxidation, and/or stabilization/solidification, will be shipped to a permitted waste facility for disposal.
- The condensed volatiles separated by the thermal desorption process will be shipped to a permitted waste facility for energy recovery.
- The segregated debris is containerized in 55-gallon drums and placed in storage in the container storage area located in the TOB awaiting debris treatment and/or final packaging and shipment to a permitted waste management facility.
- RCRA empty containers originating from the PF-II activities are compacted, consolidated and managed as non-RCRA radioactive waste. The non-RCRA radioactive waste is stored until sufficient quantities are collected, at which point the waste is sent to a permitted waste management facility for final disposal.

## Decontamination Procedures

Decontamination of PF-II process equipment will be conducted whenever it would be inappropriate for treated wastes to come in contact with residuals from wastes previously treated in the equipment (e.g., when potentially incompatible wastes are involved or high radio-isotopic activity levels require decontamination to minimize cross-contamination).

When necessary, PF-II process equipment will be decontaminated as follows:

The feed hopper surfaces, the interior of the reactor vessel, and the contact surfaces of the unloading valve will be scraped, wiped, and rinsed. The recovered solids collected in the reactor vessel will be scraped, swept, and/or wiped out through the unloading valve at the bottom of the reactor.

When necessary, the PF-II process organic constituent recovery system (i.e., condenser, accumulator, absorber, and associated piping) will be decontaminated as follows:



The accumulator and absorber tank will be emptied. Next, approximately 55 gallons of water will be heated and evaporated in the reactor vessel, flushing all the condensing surfaces in the organic constituent recovery system. If further decontamination is necessary, the accumulator and absorber tanks will be rinsed with water until no phasing or discoloration is detected in any of the units.

### **Physical Characteristics, Materials of Construction, and Dimensions of the Unit**

A list and description of equipment currently contained in the design of the PF-II process system is included as Appendix II-I-2.

The PF-II process equipment is designed, located, constructed, operated, maintained, monitored, inspected, and closed in accordance with the applicable requirements of 40 CFR 264. A copy of the inspection schedule for the PF-II processing area and equipment is included as Table II-6 of this section. All relevant procedures to prevent hazards, inspections, testing, and maintenance and closure procedures and containment requirements addressed in this permit application for tanks and containers are applied to the construction and operation of the PF-II process equipment as well. Records of inspections, etc. will be maintained in the Facility Operating Record. The PF-II process equipment and location has been addressed in the Facility Closure Plan included in this permit application.

### **Reactor Vessel**

The reactor vessel is designed to process 150 to 200 gallons of slurry. The ideal waste to water ratio is estimated to range from 1:1 to 1:2. However, the optimal water content may vary for particular waste streams. The duration of the desorption process and the oxidation process depends on the organic contaminant loading of the particular wastes as well as the processing temperatures. The PF-II process duration will also depend on the rate of addition and volume of oxidizer used, if the oxidization step is carried out. The small batch nature of the process will minimize the total volume of waste in the system at any one time. An inert atmosphere (e.g., nitrogen blanket) is provided at all times during treatment operations to prevent explosions and fires.

The jacket on the reactor vessel (plough share) unit has a design pressure of 72 psi and a design temperature of 304°F. The jacket is constructed of 304 stainless steel (SS), which is compatible with steam or hot water. To prevent damage to the jacket from excess pressure, a pressure reducing station exists separating it from the boiler. A pressure relief valve set at 65 psi exists downstream of the reactor vessel jacket and upstream of the pressure reducing station. A pressure relief valve has been installed on the boiler generating the steam for the jacket as well. The pressure relief valve is set to release at 125 psi. At a set pressure of 125 psi, the maximum temperature the boiler will be able to produce is 353°F. If the boiler pressure goes above 125 psi, or the jacket pressure downstream of the pressure reducing

station exceeds 65 psi, the pressure relief valves will vent excess pressure (steam) to the atmosphere. The pressure relief valves are tested on an annual basis, with documentation in the Facility Operating Record.

The reactor vessel itself is designed to operate at atmospheric pressure. The reactor vessel and its internal components (e.g., mixing shovels) are constructed of 304 SS, which is compatible with the wastes to be processed.

### **Boiler**

The boiler has a design pressure of 125 psi and a design temperature of 350°F. To prevent damage to the boiler from excess pressure, a pressure relief valve has been installed on the boiler, which will prevent operation at pressures greater than 125 psi. For safety reasons, the boiler has a set operating pressure of 115 psi, which allows the boiler to generate steam with a maximum temperature of 353°F. Between the boiler and the PF-II unit, a pressure reduction station has been installed that steps-down the steam pressure from 125 to 58 psi. This station is equipped with a 65 psi pressure relief valve. Steam from the reduction station then travels to the PF-II unit where it is regulated to a working pressure of 58 psi. The pressure relief valve will be calibrated on an annual basis and replaced as needed.

### **Condenser**

The shell and tubes of the condenser have a design pressure of 150 psi and a design temperature of 250°F. The unit was hydrostatically tested at 225 psi. The shell (non- waste contact) side of the condenser is constructed of carbon steel, which is compatible with the cooling water to be circulated through the condenser. The tube (waste contact) side of the condenser is constructed of 316 SS, which is compatible with the waste to be processed.

The centrifugal pump with a maximum head pressure of approximately 30 psi is used to circulate water through the shell of the condenser. The pressure generated by the circulation pump is well below the design pressure of 150 psi for the shell of the condenser.

### **Accumulator**

The accumulator tank has a design pressure of 14.7 psi. The tank is constructed of 304 SS, which is compatible with the material being contained in the accumulator. The accumulator operates at ambient temperature and receives liquids from the condenser with temperatures between approximately 85°F and 120°F. These low temperatures are well within the design limits of the tank. The accumulator is “hard-piped” to the absorber tank by an ejector.

### **Absorber**

The absorber tank is designed to operate at atmospheric pressure. The tank is constructed out of 304 SS, which is compatible with the waste and the absorber medium used in the tank.

The absorber operates at ambient temperature and receives liquids with organic constituents from the accumulator tank with temperatures between approximately 85°F and 120°F. These temperatures are well within the design limits of the tank.

## **I.2 ENVIRONMENTAL PERFORMANCE STANDARDS**

### **Release Prevention**

The hydrogeologic, geologic, and meteorological factors of concern for the PFF Facility site and surrounding areas are addressed in Section A of this permit application. For purposes of ensuring protection of human health and the environment, PFF will operate the PF-II process equipment in conformance with applicable container and tank standards. Appropriate secondary containment and air emission controls are incorporated into the design and operation of the equipment. See Part II, Section B of this permit application for details regarding containment; management of ignitable, reactive, and incompatible wastes; condition and management of containers; inspections; and prevention of run on and accumulation of precipitation in the Treatment and Operations Building where the PF-II process operations take place.

### **Prevention of Releases to Groundwater or Subsurface Environment**

Releases to groundwater or the subsurface environment from the PF-II treatment process are extremely unlikely for the following reasons:

- The process will manage relatively small volumes of material; i.e., each treatment batch is approximately 150 to 200 gallons of waste.
- The unit is located within a secondary containment system designed to meet the requirements of 40 CFR 264, Subparts I and J. The containment system is designed to contain the entire volume of the waste being treated plus the volume of containers staged for processing. A sealant (e.g., Ashford Formula, which is a concrete sealer and hardener) has been applied to the containment system floor and walls. Containment calculations are included as Table II-7. In the future, sealants other than Ashford Formula may be used to provide a sufficiently impervious floor, in accordance with 40 CFR 264.175(b)(1).
- The PF-II process area will be inspected each operating day. Leaks or spills from the system will be cleaned up immediately upon detection or as soon as it is practicable and safe to do so.

- The system is located within the TOB; i.e., the system is physically separated from the subsurface environment and groundwater.
- PFF maintains a Contingency Plan to provide a framework for PFF responses to emergencies such as spills, fires, or explosions. This plan provides procedures to respond to threats to human health or the environment from the PF-II process.

### **Prevention of Releases to Surface Water, Wetlands, or Soil Surface**

Releases to surface water, wetlands, or soil surface from the PF-II process are also extremely unlikely for the reasons listed above.

### **Prevention of Releases to Air**

Releases to air from the PF-II process are extremely unlikely for the following reasons:

- The system is located within an enclosure inside the TOB. The enclosure is equipped with an emissions control system. The emissions control system is designed to handle the volume of organic emissions anticipated from the process. See air emissions control system description below.
- Organic vapors released from the waste streams in the reactor vessel during processing will be routed to a condenser. Liquids from the condenser will be transferred to the separator, while uncondensed vapors are routed through the absorber tank, which absorbs additional vapors.
- Emissions at the reactor vessel loading point are minimized by limiting the time the containers are open prior to processing.
- Emissions during unloading of the reactor vessel are minimal because the potential air contaminants will be significantly removed or destroyed during processing.

### **Air Emissions Control System**

PFF has installed and operates an organic emissions control system consisting of a regenerative (heat recovering) thermal oxidizer designed to control the emission of volatile organic compounds (VOCs) from the LSV processing area and the PF-II treatment operations enclosure in the TOB. The oxidizer will use thermal energy to destroy VOCs. The following provides an overview of the current system. Figures I-21 through I-23 in Part I of this application are system layout, P&ID, and general arrangement drawings detailing this system.

Process VOCs are delivered to the air emission control system fan. This fan provides the motive force for the system. From the fan, the airstream moves to a switching valve for distribution into one of two heat recovery chambers filled

with ceramic media to provide heat transfer. Recovery of up to 95% of thermal energy is accomplished using ceramic media. The airstream travels upward through the ceramic media and is preheated by the heat previously absorbed (retained in the ceramic media) to a temperature of approximately 1,300°F prior to entry into the combustion chamber. In the combustion chamber, the temperature is raised to approximately 1,500°F by a burner, and the VOCs in the airstream are destroyed.

After destruction in the combustion chamber, the cleaned hot gases (airstream) pass downward through the second heat recovery chamber, where heat is absorbed by the ceramic media. The cooled airstream then discharges from the heat recovery chamber through a valve to the exhaust stack.

The destruction efficiency specified in the system design is 95% minimum. The system is based on the following design criteria:

<u>Process</u>	<u>LSV Processing</u>	<u>PF-II Treatment Area</u>	<u>Combined</u>
Airflow	4,000 CFM	3,600 CFM	7,600 CFM
Temperature	70°F	70°F	70°F
VOC Concentration	571 ppm	500 ppm (est.)	500 ppm <sup>1</sup>

- 1 It should be noted that the assumptions used for the design criteria (i.e., air flow and VOC concentration) are purposely conservative to ensure the effectiveness of the thermal oxidizer.

The regenerative thermal oxidizer was designed, installed, and is operated in accordance with the applicable requirements of 40 CFR 264 Subpart AA (Air Emission Standards for Process Vents). See also Part II Section R of this permit application.

### **Monitoring and Inspections**

The PF-II process will be monitored by PFF personnel during process operations. The PF-II process area and equipment will be visually inspected each operating day for evidence of leaks or spills. The inspection will be in accordance with the requirements of the PFF inspection plan. The secondary containment system will also be inspected each operating day for evidence of cracks or breaches in containment as specified in the PFF inspection schedule found in Table II-6.

### **I.3 POTENTIAL PATHWAYS OF EXPOSURE OF HUMANS OR ENVIRONMENTAL RECEPTORS**

PFF workers within the PF-II treatment enclosure are the most likely human receptors of exposure to chemicals or chemical constituents released from the PF-II process. The exposure is anticipated to be minimal because of the negative pressure maintained in the process area and the air emission control system provided for the PF-II process area. The primary pathway for human exposure from the PF-II process is air emissions (volatiles or particulates) generated during the loading and unloading of the preconditioning and reactor vessels.

Personnel operating the system (or personnel present in the PF-II treatment enclosure for any other reason) are required to wear personal protective equipment (PPE) selected to address the potential hazards identified for the wastes to be managed and the operating parameters of the system. The PPE selected will be in accordance with OSHA standards.

Environmental receptors outside of the PF-II treatment enclosure, such as soil, surface water, groundwater, and air, are unlikely to be impacted by the PF-II system due to the air pollution control system, the containment system, and the location of process equipment within a building that physically separates the process area from groundwater, the subsurface environment, and precipitation.

### **I.4 EFFECTIVENESS OF PERMA-FIX II PROCESS**

Experience has shown that >95% of target organic constituents concentrations are removed during the pre-conditioning phase of the PF-II process. Wastes introduced into the reactor following preconditioning have minimal volatile organic emissions. The wastes are primarily wetted sludge. As stated, the organic constituents are removed through solvent extraction during preconditioning. Analytical screening has shown LDR universal treatment standard levels are frequently achieved by pre-conditioning prior to thermal desorption.

The manufacturer's specifications for the reactor vessel and condenser indicate a 67% recovery efficiency for freon. Bench scale testing has indicated worst-case heat exchanger (condenser) efficiencies for typical organic constituents of 69% to 90%. The operation of the accumulator and absorber tanks (liquid-liquid extraction) substantially improves the organic constituent removal/recovery efficiency. Current test results indicate that the thermal desorption and liquid-liquid extraction process will remove more than 90% of the organics contained in the pretreated wastes. This efficiency level has been achieved with low volatility organics such as PCBs as well. It is anticipated that subsequent chemical oxidation, when selected, will effectively destroy the remaining residual organic constituents. VOC emissions from the process will be vented to and/or captured and destroyed by the air emissions control system. The thermal oxidizer will reduce VOCs a minimum of 95%.

The effectiveness of the PF-II process is dependent on the complexity of individual waste streams and individual hazardous waste organic constituents. Waste streams are subjected to the PF-II process until a sample of the treated waste indicates that it meets applicable land disposal restriction treatment levels. Experience has shown that preconditioning of the waste streams followed by thermal desorption has been highly successful and repeat processing cycles are rare. In fact, chemical oxidation is almost never required following the two initial treatment steps.

The treatment steps of the PF-II process (i.e., thermal desorption, condensation, organic separation and absorption, and chemical oxidation) are established technologies comprising the technology-based treatment standards of 40 CFR 268.42, Table 1 based on the following technology codes: chemical or electrolytic oxidation (CHOXD), deactivation (DEACT), liquid-liquid extraction (LLEXT), and recovery of organics (RORGs).

## **I.5 APPLICABLE TANK STANDARDS**

The PF-II process contains several components that have been certified in accordance with certain tank standards, as specified in 40 CFR 264.192. This certification is included as Appendix II-I-5 to this permit application section. Management practices for ignitable, reactive, and incompatible wastes at the facility have been designed to minimize the potential for fires, explosions, gaseous emission, leaching, or other discharge of hazardous waste or hazardous waste constituents that could result from the mixing of incompatible wastes or materials if tank systems ruptured or failed. PFF will not place incompatible wastes or incompatible wastes and materials in the same tank or tank-like system per the requirements of 40 CFR 264.17(b). In addition, hazardous waste will not be placed in a tank or tank-like system that previously held an incompatible waste or material and has not been decontaminated per the requirements of 40 CFR 264.17(b).

Where ignitable or reactive waste will be stored or treated in a tank or tank-like system, the permittee will comply with the requirements for the maintenance of protective distances between the waste management area and any public ways, streets, alleys, or an adjoining property line that can be built upon as required in the NFPA code.<sup>1</sup>

In addition, ignitable or reactive waste will not be placed in tank or tank-like systems, unless the waste is treated, rendered, or mixed before or immediately after placement in the tank system so that:

- The resulting waste, mixture, or dissolved material no longer meets the definition of ignitable or reactive waste under 40 CFR 261.21 or 261.23 and the requirements of 40 CFR 264.17(b) are complied with; or

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<sup>1</sup> National Fire Protection Association (NFPA), "Flammable and Combustible Liquids Code," Tables 2-1 through 2-6, 1990. NFPA Tables 2-1 through 2-6, 1977 or 1981, are incorporated by reference into 40 CFR 260.11.

- The waste is stored or treated in such a way that it is protected from any material or conditions that may cause the waste to ignite or react; or
- The tank system is used solely for emergencies

### **New Tank Standards – Tank Assessment**

An as-built written certification by an independent, qualified, registered professional engineer for the PF-II process components for handling hazardous waste was submitted to the DEP in October 2000. Please see Appendix II-I-5 for tank certification documentation.

### **External Corrosion Protection**

The PF-II process equipment is located indoors; hence, it is protected from the weather.

### **Tank Installation and Testing**

Prior to placement of a tank or tank-like system in hazardous waste service, an independent, qualified installation inspector or an independent, qualified registered professional engineer inspected the tank system for the following items:

- Weld breaks.
- Punctures.
- Scrapes of protective coatings.
- Cracks.
- Corrosion.
- Other structural damage or inadequate construction/installation.

This inspection report is included as Appendix II-I-5.

### **Dimensions and Capacity**

Details regarding dimensions and capacity of the PF-II process unit and components are included in the engineering certification provided as Appendix II-I-5 of this permit application section.

### **Descriptions of Feed Systems, Safety Cut-offs, Bypass Systems, and Pressure Controls**

The PF-II process includes enclosed vessels equipped with loading and unloading ports and vents. The reactor vessel is loaded at the top, and contents are piped through downstream equipment via hard piping. The unloading of treatment residuals from the reactor vessel is accomplished from the bottom of the unit. As appropriate, manways are used for inspection and cleaning operations.

Piping between components is regulated by valves (or equivalent devices). Typically, the rigid lines are attached to the tanks by flange couplings. The pressure control system for components consists of thief hatches with a combination of normal venting and a vacuum breaker. A nitrogen purge system is used to minimize the potential for fires or explosions. Additional details of feed systems, safety cutoff, bypass systems, and pressure controls for tank systems are provided in Appendix II-I-1.

### **Piping, Instrumentation, and Process Flow**

The normal process flow for the batch treatment is summarized in the process description provided above. See Figure II-I-2 for the PF-II process flow diagram. See also Figure I-7 in Part I of this permit application.

### **High/Low Pressure Piping**

The PF-II process incorporates the use of flexible hoses as well as semi-rigid or rigid piping. Hazardous waste transfer on-site will be classified as low-pressure transfer.

### **Ancillary Equipment**

Ancillary equipment consists of piping between the PF-II system components as well as loading and unloading equipment and other container management equipment used in association with the process. Additional details regarding ancillary equipment are provided in Appendix II-I-4 in Part II and Figure I-7 in Part I of this permit application.

### **Containment of Releases**

The PF-II process line is located within secondary containment in accordance with the applicable requirements of 40 CFR 264.192. PFF operating procedures include inspections designed to identify spilled liquids in a timely manner. Detailed inspection logs are maintained in the Facility Operating Record for a period of at least three years. After discovery, spilled liquids will be removed from the collection area in as timely a manner as is necessary to prevent overflow of the collection system. Spilled liquids will be identified by visual observation, review of Facility records, and, if necessary, by chemical analysis. If required, analyses will be conducted in accordance with the Facility Waste Analysis Plan.

## **I.6 CLOSURE PLAN**

A copy of the Facility Closure Plan is included in Section K of this permit application.

## **K CLOSURE**

### **K.1 INTRODUCTION**

This section contains a discussion of the steps that shall be taken should PFF decide to partially or completely close hazardous waste operations at the Facility during the intended operating life. Procedures to be used for an unplanned partial closure are, as applicable, similar to the procedures outlined for final closure.

The Closure Plan has been prepared to meet the requirements of Subpart G of 40 CFR 264 and included as Appendix II-K-1. This written plan for closure of hazardous waste management units will be amended, and written notification of or request for a permit modification to authorize the change in the approved Closure Plan will be submitted to the DEP, whenever:

- Changes in operating plans or Facility design affect the Closure Plan.
- In conducting partial or final closure activities, unexpected events require a modification of the approved Closure Plan.

Any modifications to this Closure Plan after the Part B permit is renewed for PFF will be made in accordance with the requirements of 40 CFR 270.42 and Rule 62-730.290, F.A.C. Copies of the approved Closure Plan for the Facility will be maintained at the Facility office until the DEP has notified PFF of satisfactory closure after reviewing the closure certification.

PFF will submit the notification or request for a permit modification including a copy of the amended Closure Plan, for approval by DEP, at least sixty (60) days prior to any proposed change in Facility design or operation, or no later than sixty (60) days after an unexpected event has occurred which has affected the Closure Plan. If an unexpected event occurs during the partial or final closure period, PFF will notify DEP as soon as possible and will submit a request for a permit modification no later than thirty (30) days after the unexpected event; or will not submit a permit modification request (if agreed to by DEP), and changes to the approved Closure Plan will be documented in the Closure Report. PFF will attempt to meet or discuss with DEP prior to submitting a permit modification regarding any rule changes that could affect the closure plan.

A closure schedule is provided in Table II-8. PFF will close hazardous waste tank and container management units in accordance with this Closure Plan unless an alternate partial or final Closure Plan has been approved by DEP. In accordance with 40 CFR 264.112(e), this Closure Plan shall not preclude PFF from removing hazardous wastes and decontaminating or dismantling equipment in accordance with the approved partial or final Closure Plan at any time before or after notification of partial or final closure.

At the time of closure, all regulated hazardous waste management units and ancillary equipment will be decontaminated and left in place or dismantled and disposed of properly. Within 180 days of receipt of the final waste shipment, the complete waste inventory will be taken for off-site treatment, storage, or disposal, as appropriate. Closure of the permitted units will be completed within 180 days of initiation of closure. In accordance with the requirements of 40 CFR 264.115, PFF will submit to DEP, by registered mail, a certification that the hazardous waste facility has been closed in accordance with specifications in the approved Closure Plan. The certification, to be submitted within 60 days of the completion of final closure, will be signed by PFF and by a qualified professional engineer registered in the state of Florida.

PFF will close the facility in a manner that minimizes the need for further maintenance; controls, minimizes, or eliminates, to the extent necessary to protect human health and the environment, post-closure escape of hazardous waste, hazardous constituents, leachate, contaminated run-off, or hazardous waste decomposition products to the ground, surface waters, or atmosphere; and complies with the closure requirements of 40 CFR 264, Subpart G.

A description of the closure procedures to be used to close the existing hazardous waste container storage areas and tank is located in Section K.7. Closure procedures for the proposed units (i.e. Continuous PF-II process) are also presented in Section K.7. Closure of the hazardous waste container storage areas and tank and the proposed Continuous PF-II process will be conducted such that no post-closure care shall be necessary.

In the event that the clean closure criteria presented in Section K6 cannot be achieved, a closure/post-closure plan will be submitted to the DEP. The Closure Cost Estimate presented in Appendix II-K-2 conservatively assumes that hazardous waste inventory will be treated or disposed of off-site; closure activities will be carried out by third party personnel; and decontaminated equipment will remain on-site. This scenario assumes a “worst case” closure situation.

There is no on-site disposal activity of hazardous waste at the Facility; therefore, there is no disposal capacity to be exhausted. It is anticipated that the Facility will remain in operation at least until the year 2050.

## **K.2 FACILITY DESCRIPTION**

The Facility is located in Gainesville, Florida. The street and the mailing address for the operation is:

Perma-Fix of Florida, Inc.  
1940 N.W. 67th Place  
Gainesville, FL 32653

A copy of the Closure Plan or the most recent plan revision is maintained at the Facility. It is intended that all closure work will be completed and final with processing and/or removal of all hazardous waste, followed by cleaning and decontamination of the Facility and equipment used in hazardous waste receipt, storage, processing, transfer, and handling; and disposing of wastes generated during closure activities.

### **K.2.1 IDENTIFICATION OF RCRA PERMITTED UNITS**

Closure procedures will be performed on the following units which are/will be utilized for the storage and treatment of hazardous waste during operation of the RCRA facility:

- Processing and Storage Building
- Container Storage Area
- 3,000-Gallon Storage Tank

#### **LSV Building**

110-Gallon LSV Fluids Tank Underneath the Outfeed Belt  
275-Gallon Test Tank  
521-Gallon Portable Debris Vat (Dip Tank) Shredder  
Container Storage Area

#### **Treatment and Operations Building**

317-Gallon Reactor Vessel  
120-Gallon Accumulator Tank  
30-Gallon Absorber Tank  
16-Gallon Condenser  
Container Storage Area  
300-Gallon Non-Elementary Neutralization Tank  
Maximum 55-Gallon Capacity Deactivation Unit



Maximum 170-Gallon Capacity Dual Drum Rotator

Maximum 15-Gallon Mercury Amalgamation Unit

The last four units listed above for the TOB are portable and can be used in the PSB and LSV buildings.

The locations of the existing and proposed units are shown in Figures II-K-1, II-K-2, and II-K-3 (see also Figure I-1 in Part I of this application). The proposed units are vibrating screen, crusher, shredder, pug mills when a continuous PF-II process is constructed.

Ancillary equipment scheduled for closure will consist of the following:

- Pumps
- Piping
- Hoses
- Connectors
- Valves
- Flanges

Other equipment scheduled for closure will consist of the following:

- Grinders
- Strainers
- Forklifts
- Conveyors
- Screens
- Sorting Table

#### **K.2.2 OPERATING RECORDS**

The operating records associated with the Closure Plan include:

- Closure Plan (A copy of the Closure Plan and current amendments is maintained in the Facility Operating Record.).

- Closure Cost Estimate (The Closure Cost Estimate and all amendments or annual adjustments for inflation will be maintained in the Facility Operating Record).
- Financial Assurance document(s) to cover the closure cost estimate.

### **K.3 MAXIMUM CLOSURE INVENTORY**

The required estimate for maximum waste inventory at the time of closure is based on the condition that Facility tanks and container storage areas are full of material. The maximum capacity of the existing Facility is 166,574 gallons of hazardous waste. The tabulated compilation of this maximum inventory is tabulated in Table II-9.

### **K.4 CLOSURE TIME SCHEDULES**

An outline of the Closure Time Schedule is included in Table II-8. As indicated in Table II-8, some of the closure activities will be occurring simultaneously.

If it is expected that closure activities will take longer than 180 days to complete, PFF will apply for an extension to the closure period from the DEP. This request will be made at least 30 days prior to expiration of the allowable 180-day period.

### **K.5 AMENDMENTS TO CLOSURE PLAN**

PFF can foresee possible future needs for modifications to this Closure Plan. These could be associated with changes in Facility design or in operating plans. Specific requirements for amending the Closure Plan, if applicable, are contained in 40 CFR 264.112(c)(2) and (3) and will be met. Written requests for approval of Closure Plan amendments, if required, will be in accordance with 40 CFR 264.112(c). If an unexpected event affects the Closure Plan, a written request for a modification to the Plan will be submitted within 60 days of the event.

### **K.6 CLOSURE PERFORMANCE STANDARDS**

Closure procedures will be performed on the RCRA units, identified in Section K.2.1, which are utilized for the processing and/or storage of hazardous waste during operation of the Facility.

The RCRA units will be closed in a manner that will eliminate the need for further post-closure maintenance or remediation and will be protective of human health and the environment. The potential for release of hazardous waste or hazardous waste constituents to groundwater, surface water, soil, or to the atmosphere after final closure of the Facility will be eliminated as a result of successful implementation of this Closure Plan.



During closure, all wastes that exist on-site will be shipped off-site for proper treatment and/or disposal. The contaminated equipment will either be decontaminated as appropriate to provide for future reuse, recycled as scrap, or disposed of off-site. The decontamination residues generated will be disposed of off-site for proper treatment and/or disposal.

If, due to naturally-occurring or pre-hazardous waste operating conditions, the following clean closure standards cannot be applied, an alternate (hybrid) closure standard may be established for individual units. PFF will submit to the DEP copies of analytical results obtained during closure activities and proceed with additional investigations around suspect sample locations, if deemed necessary. Any additional subsurface investigations will define the extent and magnitude, as is practical, for that unit.

Additional investigation procedures will be similar to those specified in Appendix II-K-1 and will continue until the extent of potential contamination is assessed. Once the additional investigation activities are completed, the resulting data will be evaluated to determine if a risk assessment will be performed or if corrective action activities will be implemented. Closure verification data, analytical results, and certification reports will be submitted to the DEP.

Prior to conducting additional investigation activities or performing a risk assessment, PFF will submit a written work plan to DEP, and a permit modification request will be made if advised by DEP.

All final rinsewater samples will exhibit constituent concentrations that meet Florida's groundwater standards and minimum criteria listed in Chapter 62-777, Florida Administrator Code (F.A.C.). For the parameters that are not listed in these Chapters, final rinsewater samples shall exhibit constituent concentrations that are protective of human health and the environment.

Adequate protection of human health and the environment may be demonstrated either by using Florida's risk assessment methodology found in Rule 62-780.650, F.A.C., or alternatively PFF may use Florida's groundwater and/or soil cleanup Target Levels listed in Chapter 62-777, F.A.C.

#### **K.6.1 TANK CLOSURE STANDARDS**

In order to verify that the tanks have been properly decontaminated, the tanks shall be considered clean-closed when sampling verifies that each final rinsate sample exhibits constituent concentrations below those levels listed in "Table I: Groundwater and Surface Water Cleanup Target Levels for Chapter 62-777, F.A.C." (See Table I-10 for a

summary of closure performance standards for tanks). DEP guidance or rules pertaining to acceptable rinsate levels available at the time of closure may be used in lieu of Table I-10.

Final rinsate samples will be collected and analyzed for constituents identified in 40 CFR 261 Appendix VIII that have been stored at the facility as well as any degradation and reaction products. To achieve the clean closure standard, each tank and associated ancillary equipment will be initially emptied of all hazardous wastes (i.e., liquids and solids). Subsequently, each tank and associated equipment will be cleaned and rinsed adequately to achieve the clean closure standard. Rinsates generated during tank and equipment cleaning will be managed as a hazardous waste, with the exception of final rinsates that meet the clean closure performance standard.

Following final tank and equipment rinsing, the following options, dependent upon rinsate analysis, may be exercised.

1. If the final rinsate meets the clean closure standard, no end use restrictions shall be placed on decontaminated tanks or process equipment, and closure of each tank unit will be deemed final.
2. Tanks or process equipment that cannot meet the clean closure standard will be recycled as scrap metal.

The secondary containment structures associated with tanks will also undergo decontamination activities and will be decontaminated to the standards identified in Section K.6.2. Detailed closure procedures for tanks are further discussed in Section K.7.1.1.

#### **K.6.2 SECONDARY CONTAINMENT CLOSURE STANDARDS**

In order to verify that secondary containment areas have been properly decontaminated, the units shall be considered clean-closed when sampling verifies that either 1) the final rinsewater demonstrates compliance with either Table I Groundwater and Surface Water Cleanup Target Levels for Chapter 62-777, F.A.C., or the Risk Assessment Methodology provided in Chapter 62-780, F.A.C., or 2) concrete samples demonstrate clean closure upon meeting the Table II Soil Cleanup Target Levels for Chapter 62-777, F.A.C. See Table I-10 for a summary of closure performance standards for secondary containment areas.

Final rinsate samples or concrete samples will be collected and analyzed for hazardous constituents identified in 40 CFR 261, Appendix VIII that have been previously stored at the facility. To achieve the clean closure standard, the secondary containment areas will be decontaminated by scrubbing down all surfaces, and subsequently pressure washing and rinsing the surfaces.

Rinsates generated during decontamination activities will be managed as a hazardous waste, with the exception of the final rinsates that meet the clean closure standard.

Following final rinsing, the following options, dependent upon rinsate analysis and/or concrete analysis, may be exercised.

1. If the final rinsate or concrete samples meet the clean closure criteria, no end use restrictions shall be placed on the decontaminated units, and closure of the unit will be deemed final.
2. Concrete that cannot meet the clean closure criteria will be removed and disposed of. If the concrete is not contaminated by a known listed waste and if it passes TCLP, concrete will be managed as a non-hazardous waste.

Detailed closure procedures for secondary containment areas are further discussed in Section K.7.1.2.

### **K.6.3      ANCILLARY EQUIPMENT AND MISCELLANEOUS RCRA UNITS CLOSURE STANDARDS**

In order to verify that ancillary equipment and miscellaneous RCRA units have been properly decontaminated, the equipment shall be considered clean-closed when field sampling verifies that the final rinsate sample exhibits constituent concentrations below the Table I Groundwater and Surface Water Cleanup Target Levels for Chapter 62-777, F.A.C., or the Risk Assessment Methodology provided in Chapter 62-780, F.A.C. See Table I-10 for a summary of closure performance standards for ancillary equipment.

Final rinsate samples will be collected and analyzed for constituents identified in 40 CFR 261, Appendix VIII that have been previously stored at the facility. To achieve the clean closure standard, the ancillary equipment and miscellaneous RCRA units will be initially emptied of all hazardous wastes (i.e., liquids and solids). Subsequently, the equipment will be cleaned and rinsed adequately to achieve the clean closure standard. Rinsates generated during equipment cleaning will be managed as a hazardous waste, with the exception of final rinsates that meet the clean closure standard. Following final equipment rinsing, the following options, dependent upon rinsate analysis, may be exercised.

1. If the final rinsate meets the clean closure standard, no end use restrictions shall be placed on decontaminated equipment, and closure of the ancillary equipment or miscellaneous RCRA unit will be deemed final.
2. Equipment (composed of steel) that cannot meet the clean closure standard will be recycled as scrap metal. Non-ferrous equipment will be recycled to the extent feasible as non-hazardous waste; otherwise, it will be disposed of as hazardous waste.

Detailed closure procedures for ancillary equipment and miscellaneous RCRA units are further discussed in Section K.7.1.3.

#### **K.6.4 SUBSURFACE INVESTIGATION CLOSURE STANDARDS**

Subsurface investigations will be conducted at the secondary containment areas where hazardous wastes were previously stored. In order to verify that the soil underlying these areas has not been impacted with hazardous waste or hazardous waste constituents, the soil underlying these units shall be considered clean-closed when representative soil samples exhibit constituent concentrations below the Table II Soil Cleanup Target Levels for Chapter 62-777, F.A.C., naturally-occurring background concentrations, or the Risk Assessment Methodology provided in Chapter 62-780, F.A.C. See Table 10 for a summary of closure performance standards for subsurface investigations. To meet the clean closure criteria, any contaminant remaining in the soil below Table II Soil Cleanup Target Levels must not leach contaminants into groundwater above Groundwater Cleanup Target Levels (GCTLs), if GCTLs for such contaminant is listed in Table I of Chapter 62-777, F.A.C.

Soil samples will be collected and analyzed for constituents identified in 40 CFR 261, Appendix VIII that have been previously stored at the facility. To verify clean closure of the secondary containment areas, a subsurface investigation will be conducted at these areas as presented in Appendix II-K-1. Following receipt of analytical results, the following options may be exercised.

1. If the soil results meet the clean closure standard, no end use restrictions shall be placed on the units.
2. If soil results exceed the clean closure standard, additional subsurface investigations will be performed to define the extent and magnitude of constituent contamination, or the Facility may utilize the Risk Assessment Methodology provided in Chapter 62-780, F.A.C.
3. Upon defining the extent and magnitude of constituent contamination, a risk assessment will be performed, or corrective action activities will be conducted. Detailed subsurface investigation activities are discussed in detail in Appendix II-K-1.

#### **K.7 CLOSURE PROCEDURES**

The following subsections outline the procedures for partial and final closure of the units at the Facility. During partial and final closure of the units, a decontamination area/station will be set up for the cleaning of equipment used during closure (tools, machines, material handling equipment, etc.). Shower facilities, cleaning equipment, and decon supplies will be available to workers performing closure activities. All potentially contaminated rinsewater, debris, and personal protective equipment (PPE) will be containerized in a tank(s) or deposited in containers for subsequent characterization

and management at an off-site treatment, storage, or disposal facility (TSDF). A separate Closure Sampling and Analysis Plan is presented in Appendix II-K-1.

### **K.7.1 PARTIAL CLOSURE ACTIVITIES**

Required partial closure notices will be submitted as specified in 40 CFR 264.112(d) to the following:

Waste and Air Resources Management Administrator  
Florida Department of Environmental Protection  
7825 Baymeadows Way, Suite B200  
Jacksonville, FL 32256-7577

#### **K.7.1.1 TANK CLOSURE**

Standard tank cleaning activities associated with tank closure shall consist of the following procedures.

- Drain all liquid materials from the tank through the lowest fitting on the tank. Transfer the liquid contents to a different container for transportation off-site.
- Test for explosive vapors and oxygen content using standard instrument procedures before entering in a tank.
- Remove any solids that may have settled out of the liquid at the bottom of the tank. This may include the use of self-priming, high-clearance centrifugal pump(s) or rental vacuum pump unit(s). Some more compacted solids may have to be removed manually within the tank and transferred to externally located roll-off bins for temporary on-site storage and final disposal at an off-site TSDF. Removal procedures will follow standard confined space entry procedures.
- Use a high-pressure wash with detergent for cleaning the interior of each tank and associated fittings and piping. After use, transfer the potentially contaminated rinse water to a transport container for transport off-site.
- Open the tank access ports. Allow the tank to dry out.
- Inspect the tank interior for visual cleanliness. Repeat the above steps, if necessary.
- Analyze the final rinse water, using methods outlined in Appendix II-K-1, to check for the presence of constituents identified in Section K.6.1. The tank will be certified as clean-closed (decontaminated) when analytical results on the final rinse water indicate that levels of constituents are below the closure criteria identified in Table II-10.

The tank cleaning procedures listed above will also be followed during final closure to decontaminate the associated tank appurtenances (piping, fittings, nozzles, valves, pumps etc.). A partial closure of these items may occur during

the normal operations of the Facility and may include washing in parts washers and/or power washing and other methods to remove visible signs of contamination prior to reuse or scrapping for metal recovery.

Following cleaning/decontamination activities, one of the options identified in Section K.6.1 will be initiated.

#### **K.7.1.2 CONTAINER STORAGE FACILITIES AND SECONDARY CONTAINMENT AREA CLOSURE**

Standard cleaning activities associated with container storage facilities and secondary containment areas closure shall consist of the following procedures.

- Process all existing wastes stored in containers or ship the containers to an off-site RCRA permitted TSDF.
- Dispose of all empty containers through an authorized drum recycler/disposal facility.
- Examine the containment structures for evidence of cracks, stains, spills, or residuals, as well as review past operating records for information on past spills or leaks. These activities will form the basis for selection of sampling locations.
- Decontaminate the units by scrubbing down all surfaces and subsequently pressure washing the surfaces with detergent solution followed by a clean water rinse.
- Collect a final rinse water sample and analyze the sample, using methods outlined in Appendix K-1, to check for the presence of constituents identified in Section K.6.1. The structures will be deemed clean-closed when analytical results on the final rinse water indicate that levels of constituents are below the closure criteria identified in Table II-10, or PFF may elect to forgo collecting a rinse water sample and collect a concrete sample.

The concrete sample will be collected and analyzed utilizing the methods outlined in Appendix II-K-1, to check for the presence of constituents identified in Section K.6.1. The structures will be deemed clean-closed when analytical results of the concrete indicate that levels of constituents are below the closure criteria identified in Table II-10.

Following cleaning/decontamination activities, one of the options identified in Section K.6.2 will be initiated.

#### **K.7.1.3 ANCILLARY EQUIPMENT AND MISCELLANEOUS UNIT CLOSURES**

Routine operational replacement of ancillary equipment, such as filter canisters and baskets, shredders, grinders, pumps, valves, piping, hoses and fittings, etc., may require removal and partial closure during the life of the Facility. This section addresses the "partial closure" of these items during the normal routine operations of the Facility, prior to

reuse, recycle for scrap metal recovery, or disposal as non-hazardous waste. Additionally, this section addresses the closure of the miscellaneous RCRA unit (i.e., Perma-Fix<sup>®</sup> II process).

### **Ancillary Equipment**

Standard cleaning activities associated with ancillary equipment replacement include the following procedures.

- Isolate and remove all liquid holdup from the equipment through the fitting(s) situated at the lowest level to ensure proper drainage. A vacuum pump may be used, if necessary. Transfer the liquid contents to a tank/container that is in hazardous waste service for further processing and/or proper disposal.
- Remove any solids/slurry that may have settled out at the bottom sections, using a vacuum pump, if necessary. Transfer the solids/slurry contents to a tank/container that is in hazardous waste service for further processing and/or proper disposal.
- Cleaning of the parts and/or equipment using parts washers; recirculation of virgin, waste, or recycled solvents such as alcohols, ketones, aliphatic hydrocarbons, etc.; and/or high-pressure wash with detergent solution and other methods to remove visible signs of contamination.
- Inspect the equipment for visual cleanliness. Repeat the above steps, if necessary. Visual cleanliness will be the adequate closure criteria for ancillary equipment, prior to disposal as scrap metal.
- If rinse water is used, analyze the rinse water, using methods outlined in Appendix II-K-1, to check for presence of constituents identified in Section K.6.1. The equipment will be deemed clean-closed when analytical results of the final rinse water indicate that levels of constituents are below the closure criteria identified in Table II-10.
- Equipment that meets the clean closure criteria will be removed from service. Equipment that does not meet the criteria will have the cleaning steps repeated until it meets the requirements or will be disposed at an off-site facility as hazardous waste, or it will be disposed of as scrap metal.

Cleaning solutions, rinse waters, and other liquids resulting from cleaning activities will be collected and sent off site for proper treatment or disposal. Following cleaning and decontamination, the parts and/or equipment will be available for reuse, recycle for scrap metal recovery, or disposal as non-hazardous waste.

### **Miscellaneous Unit Closure**

- Drain all liquid materials from each piece of equipment listed in Appendix II-I-1 that is associated with the Perma-Fix<sup>®</sup> II process (i.e., miscellaneous unit). Drain liquids from the lowest fitting on the equipment or tank.
- Transfer the liquid contents to a different container (if required) for transport off-site.

- Remove any hazardous waste solids or liquids that may remain in the unit. This may include the use of self-priming, high-clearance centrifugal pump(s) or rental vacuum pump unit(s). Compacted sludge solids may have to be removed manually from each piece of the unit and transported to externally located roll-off bins for temporary on-site storage and final disposal at an off-site TSDF. Removal procedures will follow standard confined space entry procedures and will be conducted by qualified individuals.
- Pressure wash with appropriate detergent for cleaning and decontaminating the interior of each piece of equipment and all associated valves, fittings, piping, and pumps.
- Transfer the potentially contaminated rinse/wash water to a transport container for transport off-site.
- Open all access ports, drains, valves, etc. Allow the equipment's interior and exterior to dry out.
- Test for explosive vapors and oxygen content using standard instrument and industrial hygiene/safety procedures.
- Inspect the interior of each tank, reservoir, or piece of ancillary equipment.
- Gather a composite final rinsewater sample from the miscellaneous unit.
- Analyze the final rinsewater, using methods outlined in Appendix II-K-1, to check for the presence of constituents identified in Section K.6.1. The miscellaneous unit will be deemed clean-closed (i.e., decontaminated) when analytical results of the final rinse water indicate that levels of hazardous constituents are below the closure performance standard specified in Table II-10.
- Equipment that meets the clean closure criteria will be removed from service. Equipment that does not meet the criteria will have the cleaning steps repeated until it meets the requirements or will be disposed at an off-site facility as hazardous waste, or it will be disposed of as scrap metal.

Cleaning solutions, rinse waters, and other liquids resulting from cleaning activities will be collected and sent off-site for proper treatment or disposal. Following cleaning and decontamination, the parts and/or equipment will be available for reuse, recycle for scrap metal recovery, or disposal as non-hazardous waste.

#### **K.7.1.4 SUBSURFACE INVESTIGATION ACTIVITIES**

As a means of demonstrating that hazardous constituents have not impacted soils underlying and surrounding the container storage facilities, a subsurface investigation will be conducted at these units. Detailed subsurface investigation activities are provided in Appendix II-K-1. Planned boring locations are presented in Figures II-K-1 through II-K-3.

### **K.7.2 FINAL CLOSURE ACTIVITIES**

It is anticipated that the Facility will remain open and in operation until at least the year 2050. Final closure activities will follow the procedures presented in this section.

Final closure activities will basically follow the same procedures described in Section K.7. However, prior to final closure of the Facility, the DEP will be notified of the intent to close the Facility. After receiving approval from the Agency to implement the Closure Plan, final closure will start and waste will no longer be accepted at the Facility. A qualified professional engineer will provide general oversight over the Closure Activities.

No environmental impact on surrounding land surfaces and soil areas is expected, because of the widespread use of concrete for secondary containment, use of welded flanged steel piping, frequent inspection of operations, and prompt corrective action, if necessary, after inspections.

The miscellaneous residues from facility decontamination work, including debris, absorbents, supplies, and used personal protective clothing will be collected and accumulated on-site in containers. Containers will be sent off-site for treatment or disposal, as appropriate, to permitted hazardous waste facilities.

PFF will submit a certification of final closure per the requirements of 40 CFR 264.115. All supporting documentation for the certification will be made available to the Director of DEP upon request, until PFF is released from financial assurance requirements. Supporting documents to be maintained will minimally consist of the following:

- (a) A copy of the certification of closure prepared by the qualified professional engineer registered in the state of Florida;
- (b) Results of all sampling and analyses;
- (c) Activities conducted by the professional engineer or his/her designee(s) during site visits and inspections;
- (d) Field reports documenting each site visit;
- (e) List of Facility records that were reviewed in preparing the certification report; and,
- (f) Photographic documentation.

### **K.8 CLOSURE COST ESTIMATE**

The Closure Cost Estimate has been prepared utilizing CostPro® software (Version 6.0) and is unchanged from the 2015 permit renewal application. It should be noted that non-default values were used in the Closure Cost Estimate in

certain instances to estimate labor and disposal costs as well as to estimate the time it will take to conduct certain closure activities. A note to that effect is included in the appropriate CostPro® worksheet.

The Closure Cost Estimate shall be reviewed whenever a change in the closure plan increases or decreases the cost of closure. Copies of the original Closure Cost Estimate, or a revised cost estimate (if applicable), and the latest annual inflation adjusted estimate required by 40 CFR 264.142(b) shall be kept at the Facility during its operating life.

The cost of closure for the Facility is detailed in Appendix II-K-2. It does not include the closure cost for proposed units (i.e. vibrating screen, crusher, shredder, pug mills) associated with the continuous PF-II process. The closure cost of the Facility will be revised after construction of these proposed units and prior to their operation.

#### **K.9 POST-CLOSURE PLAN**

A Post Closure Plan is not required at this time since there is no hazardous waste disposal unit at the facility. However, if “clean closure” in accordance with 40 CFR 264.197(b) cannot be achieved for closure of the tank, then PFF will submit a closure/post-closure plan in accordance with the requirements for landfills (40 CFR 264.310).

#### **P INFORMATION REGARDING POTENTIAL RELEASES FROM SWMUS**

Part II.P Information Regarding Potential Releases from SWMUS (DEP Form 62-730.900(2)(c)) can be found in the attached Appendix II-P. Although unassociated with a SWMU, one release was reported by the facility recently to the DEP in January 2017. A fire was reported within a roll-off dumpster, which led to soil sampling and the removal of approximately 42 cubic yards of soil with polyaromatic hydrocarbons in September 2019. Confirmation soil sample concentrations were below Residential Direct Exposure and Groundwater Leachability Soil Cleanup Target Levels. Further details are available in the *Source Removal Report and No Further Action Request* dated November 5, 2019 (Trihydro 2019).

#### **Q. RCRA FACILITY ASSESSMENT**

RCRA Facility Assessment conducted by EPA’s contractor, A. T. Kearney, is attached as Appendix II-Q.

A Release Assessment Report for Area of Concern A (Paint Spray Booth) and Area of Concern C (Soil Mound Area) prepared by Environmental Science Associates, Inc. and dated June 2001 was submitted to DEP. This Report had concluded that no further action was warranted for Areas of Concern A and C, based on the results of the laboratory analysis of the soil samples. This investigation was required by the HSWA corrective action section of the hazardous waste permit that was in effect then.

The current hazardous waste permit issued on May 27, 2015 requires no further action for any potential SWMUs at the facility. No releases from any additional SWMUs have been identified after the issuance of this permit.

The current operational facility property was acquired by PFF from Quadrex Corporation on June 17, 1994. The Quadrex Annex Area was never owned by PFF; the Quadrex Annex Area is indicated on the SWMU map (Figure II-Q-1).

## **R PROCESS VENTS**

These standards apply to process vents associated with distillation, fractionation, thin-film evaporation, solvent extraction, and air or steam stripping operations that manage hazardous waste with organic content of at least 10 ppmw by weight (ppmw).

PFF currently operates affected process vents in association with the Liquid Scintillation Vial (LSV) waste treatment unit, the Perma-Fix® II (PF-II) process that meets the definitions of “distillation” and “steam stripping operations” as defined in Subpart AA, and chemical extraction operations for debris treatment as described in Part I of this permit application. Hence, Subpart AA will apply to each of these three units when hazardous waste of at least 10 ppmw organic content whether they are in operation or in process. Each of these three units are part of the mixed waste processing operations. The operations are conducted in totally enclosed treatment facilities with all fugitive emissions or working losses from process operations vented through HEPA systems and a regenerative thermal oxidizer in support of the nuclear waste processing. Triple rinsing of the equipment will be performed should the waste managed in the equipment change in order to confirm ppmw organic content.

In addition, PFF plans to operate a solvent distillation process at the Facility. Although this process will be exempt from permitting requirements, it will be subject to Subpart AA requirements because the unit will be located at a TSDF otherwise subject to permitting requirements of Part 270. The unit will be located in one of two radioactive control areas (RCAs) equipped with a vapor recovery system in accordance with the requirements of 40 CFR 264.1033. The RCAs are operated under negative air with all fugitive or working loss emissions routed through a HEPA system and the RTO.

Under the provisions of 40 CFR 264.1032(a), total facility organic emissions from affected process vents must be either reduced with a control device by 95 weight percent or limited to 3 pounds/hour and 3.1 tons/year.

PFF has installed a closed-vent system and air pollution control device on the PF-II unit to control volatile organic compounds (VOCs). The PF-II process is designed to vent minimal concentrations of VOCs that are not collected in the condenser and absorber units to a regenerative thermal oxidizer (RTO). The RTO is described in detail in Part II.I of this permit application. The PF-II process equipment is located within the Facility's Treatment and Operations Building. See Part I, Figure I-6.

The LSV unit is connected to a closed-vent system meeting the definition of 40 CFR 264.1031. Chemical extraction operations for debris treatment are conducted in a vat near the LSV processing area. Each of the three process areas regulated under 40 CFR 264, Subpart AA are vented through the RTO. The RTO is designed and operated to capture and control VOC air emissions. The minimum VOC control efficiency of the RTO is 95%.

### **Compliance Documentation for Process Vent Air Emission Standards**

PFF has implemented volumetric flow monitoring for the LSV process area (including debris treatment) and the PF-II process as required by 40 CFR 264.1033(f)(1). Flow monitors are located upstream of the RTO gas inlet. Process vent volumetric air flow is recorded at least once per operating hour. In addition, a temperature-monitoring device equipped with a continuous recorder is installed as specified by 40 CFR 264.1033(f)(2)(i). To demonstrate compliance with the 95% efficiency requirements of 40 CFR-264.1033(c), PFF relies on the manufacturer's guarantee of a minimum of 95% destruction efficiency.

## **S REQUIREMENTS FOR EQUIPMENT**

Pursuant to the requirements of 40 CFR 264.1050, the air emissions standards for equipment leaks apply to the equipment at the Facility that contain or come in direct contact with hazardous waste with organic chemical concentrations of 10% by weight or higher.

PFF manages hazardous waste with organic chemicals that range in concentration from 0 to 100% by weight. Therefore, all of the equipment (as defined in 40 CFR 264.1031) at the Facility that contains or is in direct contact with hazardous waste is potentially subject to the leak detection and monitoring standards.

The equipment in the following areas of the Facility is subject to 40 CFR 264, Subpart BB:

- LSV area
- Hazardous waste transfer area
- Mixed waste transfer to larger containers area

40 CFR 264.1050(f) states, “Equipment that contains or contacts hazardous waste with an organic concentration of at least 10% by weight for less than 300 hours per calendar year is excluded from the requirements of Sections 264.1052 through 264.1060, if it is identified, as required by Section 264.1064(g)(6).” Incoming waste streams historically average greater than 10 ppmw organic content. Therefore, this material is presumed to contain greater than 10 ppmw for waste management purposes in lieu of testing. PFF may choose the exemption provided in 40 CFR 264.1050(f) for the affected equipment identified in Tables II-11, II-12, and II-13 if this equipment contains or contacts hazardous waste for less than 300 hours per calendar year and keep a record of hours of operation. This exemption applies to the equipment associated with the 3,000-gallon storage tank, debris treatment area, and mixed waste tanker loading. A log identifying either by list or location (area or group) of this exempted equipment will be kept in the Facility Operating Record as required by 40 CFR 264.1064 (g)(6). Triple rinsing of the equipment will be performed should the waste managed in the equipment change in order to confirm ppmw organic content.

40 CFR 264.1050(e) states, “Equipment that is in vacuum service is excluded from the requirements of 264.1052 to 264.1060 if it is identified as required by 264.1064(g)(5).” This exemption applies to equipment used by the PF-II treatment. Table II-11 provides a comprehensive list of the PF-II treatment vacuum equipment. A log containing a list of identification numbers for equipment in vacuum service will be kept in the Facility Operating Record as required by 40 CFR 264.1064(g)(5).

Per the requirements of 40 CFR §264.1050, PFF has identified and marked each piece of existing equipment to which the equipment leak standards apply. PFF has developed process and instrumentation diagrams (P&IDs) to identify the location of each piece of equipment subject to 40 CFR 264, Subpart BB requirements and the associated hazardous waste management units. The diagrams have been provided as Figures II-S-1 through II-S-4. Exempt equipment for the 3,000-gallon tank, debris treatment, mixed waste tanker loading area, and PF-II treatment area is shown by Figures II-S-5 through II-S-11. A comprehensive list of the equipment subject to the standards of 40 CFR 264 Subpart BB has been included in Table II-12 for the hazardous waste transfer area equipment and Table II-13 for mixed waste transfer to larger containers area equipment.

The Facility storage tank is exempt from Subpart CC tank requirements by 40 CFR 264.1080(a)(6) because the 3,000-gallon tank is solely used to manage mixed waste per Radioactive Materials License 2598-1 (Table I-1). The facility storage tank is tied specifically to the Liquid Scintillation Vial (LSV) processing area through an underground (double-walled) trenched system. Any equipment tied to this tank or has ever been in use with radioactive materials are prohibited for non-radioactive use as a condition of the Radioactive Materials License. The PF-II process components, although considered tank- like for permitting, are also exempt from Subpart CC requirements because they are designated solely for the management of mixed wastes. Because Subpart CC container requirements do not apply to

containers or tanks holding mixed waste, the LSV processing equipment will not be subject to Subpart CC since only mixed wastes are processed in the equipment. For containers up to 110 gallons holding hazardous wastes with a volatile organic content of less than 500 ppmw and that are not radioactive, PFF will meet the Level 1 control requirement regulations specified in 40 CFR 264.1086 (c). For any container greater than 110 gallons (e.g., totes) holding hazardous waste that is not radioactive, PFF will meet the Level 2 control requirements specified at 40 CFR 264.1086(d). PFF receives hazardous waste and places treatment residuals which are hazardous waste in containers that meet U.S. Department of Transportation (DOT) regulations on packaging hazardous materials for transportation as specified in 40 CFR 264.1086(f). It should be noted that the PF-I stabilization and fixation process will be used to treat characteristic mixed wastes having an average VOC concentration of less than 500 ppmw. Therefore, Subpart CC does not apply to the PF-I process. Debris treatment operations conducted in the LSV Processing Area involving the use of the debris treatment vat (Dip Tank) will meet the Level 3 Subpart CC emission control requirements specified in 40 CFR 264.1086(e). The air pollution control system (regenerative thermal oxidizer) that will be used to meet the Level 3 controls is described in Part II.I of the permit application.

### **Pumps in Light Liquid Service**

All of the pumps subject to Subpart BB standards are designated for light liquid service at this time. As provided in 40 CFR 264.1052(e), all the pumps in the hazardous waste transfer area, the LSV area, and the mixed waste transfer to larger containers area are designated “no detectable emissions” (i.e., instrument reading of less than 500 ppmw above background) and will be tested prior to initial designation, annually, and at any other times as requested using Method 21 specified in 40 CFR Part 60. These pumps do not have an externally actuated shaft penetrating the pump housing.

### **Compressors**

The Facility does not have any compressors that are in direct contact with hazardous waste; therefore, 40 CFR 264.1053 is not applicable.

### **Pressure Relief Devices in Gas/Vapor Service**

Pressure relief devices (i.e., valves and conservation vents) are employed on the PF-II reactor vessel (valve), absorber (conservation vent), and accumulator (conservation vent). However, according to 40 CFR 264.1054(c), since each of these pressure relief devices is part of a closed vent system (see previous regenerative thermal oxidizer discussion) capable of capturing and transporting leakage from a pressure relief device to a control device, the requirements of 40 CFR 264.1054(a) and (b) do not apply.

### **Sampling Connection Systems**

The Facility does not have any sampling connecting systems or in-situ sampling systems. The samples for analysis are collected through open-ended valves or lines. Hence, the requirements of 40 CFR 264.1055 are not applicable.

### **Open-ended Valves or Lines**

The open-ended valves and lines that are subject to the requirements of 40 CFR 264.1056 are identified in the equipment list for the hazardous waste transfer area and the mixed waste transfer to larger containers area as shown in Table II-12 and Table II-13, respectively. These pieces of equipment are either equipped with caps, blind flanges, plugs, or second valves that seal the open end at all times except during operations requiring hazardous waste flow through the open-ended valve or line. Each open-ended valve or line equipped with a second valve is operated so that the valve on the hazard waste side is closed before the second valve is closed.

### **Valves in Gas/Vapor Service or in Light Liquid Service**

All existing valves that come into direct contact with hazardous waste liquid are designated for light liquid service at this time and are identified in the equipment list. All valves in light liquid service and in gas/vapor service will meet the standards specified by 40 CFR 264.1057.

As provided in 40 CFR 264.1057(f), all valves in the hazardous waste transfer area, the LSV area, and the mixed waste transfer to larger containers area are designated for no detectable emissions (i.e., instrument reading of less than 500 ppmw above background) and will be monitored annually using Method 21 specified in 40 CFR Part 60. These valves do not have an external actuating mechanism in contact with the hazardous waste.

### **Pumps and Valves in Heavy Liquid Service, Pressure Relief Devices in Light Liquid or Heavy Liquid Service, and Flanges and other Connectors**

At the present time, all pumps and valves in contact with hazardous waste liquid are designated for light liquid service. There are no pressure relief devices in liquid service at the facility. Flanges and other connectors subject to the requirements of 40 CFR 264.1058 are identified in the equipment list and will be monitored within 5 days if evidence of a potential leak is found by a visual, audible, or olfactory method during the daily inspection of piping.

If a leak is detected using Method 21 specified in 40 CFR Part 60 (i.e., an instrument reading of 10,000 ppmw or greater above the background), the flange or connector will be repaired as soon as practicable, but no later than 15 calendar days after detection. The first attempt at repair will be made within 5 days of detection. Repair of a leaking flange/other connector may extend beyond 15 days if at least one of the conditions specified in the subsection titled "Delay of Repair" is met.

## Recordkeeping Requirements

Recordkeeping is required by the facility in accordance with 40 CFR 264.1064, including the following records:

### § 264.1064 Recordkeeping requirements.

(a)

(1) PFF is subject to the provisions of this subpart and shall comply with the recordkeeping requirements of this section.

(2) PFF operates more than one hazardous waste management unit subject to the provisions of this subpart and will comply with the recordkeeping requirements for these hazardous waste management units in one recordkeeping system. The system will identify each record by each hazardous waste management unit.

(b) PFF will record the following information in the facility operating record:

(1) For each piece of equipment to which subpart BB of part 264 applies:

(i) Equipment identification number and hazardous waste management unit identification.

(ii) Approximate locations within the facility (e.g., identify the hazardous waste management unit on a facility plot plan).

(iii) Type of equipment (e.g., a pump or pipeline valve).

(iv) Percent-by-weight total organics in the hazardous waste stream at the equipment.

(v) Hazardous waste state at the equipment (e.g., gas/vapor or liquid).

(vi) Method of compliance with the standard (e.g., “monthly leak detection and repair” or “equipped with dual mechanical seals”).

(2) The provisions of § 264.1033(a)(2) do not apply to PFF and an implementation schedule as specified in § 264.1033(a)(2) is not required.

(3) PFF chooses to not use test data to demonstrate the organic removal efficiency or total organic compound concentration achieved by the control device. A performance test plan as specified in § 264.1035(b)(3) is not in place.

(4) Documentation of compliance with § 264.1060, including the detailed design documentation or performance test results specified in § 264.1035(b)(4).

(c) When each leak is detected as specified in §§ 264.1052, 264.1053, 264.1057, and 264.1058, the following requirements apply:

(1) A weatherproof and readily visible identification, marked with the equipment identification number, the date evidence of a potential leak was found in accordance with § 264.1058(a), and the date the leak was detected, shall be attached to the leaking equipment.

(2) The identification on equipment, except on a valve, may be removed after it has been repaired.

(3) The identification on a valve may be removed after it has been monitored for 2 successive months as specified in § 264.1057(c) and no leak has been detected during those 2 months.

(d) When each leak is detected as specified in §§ 264.1052, 264.1053, 264.1057, and 264.1058, the following information shall be recorded in an inspection log and shall be kept in the facility operating record:

- (1) The instrument and operator identification numbers and the equipment identification number.
- (2) The date evidence of a potential leak was found in accordance with § 264.1058(a).
- (3) The date the leak was detected and the dates of each attempt to repair the leak.
- (4) Repair methods applied in each attempt to repair the leak.
- (5) "Above 10,000" if the maximum instrument reading measured by the methods specified in § 264.1063(b) after each repair attempt is equal to or greater than 10,000 ppmw.
- (6) "Repair delayed" and the reason for the delay if a leak is not repaired within 15 calendar days after discovery of the leak.
- (7) Documentation supporting the delay of repair of a valve in compliance with § 264.1059(c).
- (8) The signature of the owner or operator (or designate) whose decision it was that repair could not be effected without a hazardous waste management unit shutdown.
- (9) The expected date of successful repair of the leak if a leak is not repaired within 15 calendar days.
- (10) The date of successful repair of the leak.

(e) Design documentation and monitoring, operating, and inspection information for each closed-vent system and control device required to comply with the provisions of § 264.1060 shall be recorded and kept up-to-date in the facility operating record as specified in § 264.1035(c). Design documentation is specified in § 264.1035 (c)(1) and (c)(2) and monitoring, operating, and inspection information in § 264.1035 (c)(3)-(c)(8).

(f) For a control device other than a thermal vapor incinerator, catalytic vapor incinerator, flare, boiler, process heater, condenser, or carbon adsorption system, the Regional Administrator will specify the appropriate recordkeeping requirements.

(g) The following information pertaining to all equipment subject to the requirements in §§ 264.1052 through 264.1060 shall be recorded in a log that is kept in the facility operating record:

- (1) A list of identification numbers for equipment (except welded fittings) subject to the requirements of this subpart.
- (2)
  - (i) A list of identification numbers for equipment that the owner or operator elects to designate for no detectable emissions, as indicated by an instrument reading of less than 500 ppmw above background, under the provisions of §§ 264.1052(e), 264.1053(i), and 264.1057(f).
  - (ii) The designation of this equipment as subject to the requirements of §§ 264.1052(e), 264.1053(i), or 264.1057(f) shall be signed by the owner or operator.

- (3) A list of equipment identification numbers for pressure relief devices required to comply with § 264.1054(a).
- (4)
  - (i) The dates of each compliance test required in §§ 264.1052(e), 264.1053(i), 264.1054, and 264.1057(f).
  - (ii) The background level measured during each compliance test.
  - (iii) The maximum instrument reading measured at the equipment during each compliance test.
- (5) A list of identification numbers for equipment in vacuum service.
- (6) Identification, either by list or location (area or group) of equipment that contains or contacts hazardous waste with an organic concentration of at least 10 percent by weight for less than 300 hours per calendar year.
- (h) The following information pertaining to all valves subject to the requirements of § 264.1057 (g) and (h) shall be recorded in a log that is kept in the facility operating record:
  - (1) A list of identification numbers for valves that are designated as unsafe to monitor, an explanation for each valve stating why the valve is unsafe to monitor, and the plan for monitoring each valve.
  - (2) A list of identification numbers for valves that are designated as difficult to monitor, an explanation for each valve stating why the valve is difficult to monitor, and the planned schedule for monitoring each valve.
- (i) The following information shall be recorded in the facility operating record for valves complying with § 264.1062:
  - (1) A schedule of monitoring.
  - (2) The percent of valves found leaking during each monitoring period.
- (j) The following information shall be recorded in a log that is kept in the facility operating record:
  - (1) Criteria required in § 264.1052(d)(5)(ii) and § 264.1053(e)(2) and an explanation of the design criteria.
  - (2) Any changes to these criteria and the reasons for the changes.
- (k) The following information shall be recorded in a log that is kept in the facility operating record for use in determining exemptions as provided in the applicability section of this subpart and other specific subparts:
  - (1) An analysis determining the design capacity of the hazardous waste management unit.
  - (2) A statement listing the hazardous waste influent to and effluent from each hazardous waste management unit subject to the requirements in §§ 264.1052 through 264.1060 and an analysis determining whether these hazardous wastes are heavy liquids.
  - (3) An up-to-date analysis and the supporting information and data used to determine whether or not equipment is subject to the requirements in §§ 264.1052 through 264.1060. The record shall include supporting documentation as required by § 264.1063(d)(3) when application of the knowledge of the nature of the hazardous waste stream or the process by which it was produced is used. If PFF takes any action (e.g., changing the process that produced the waste) that could result in an increase in the total organic content of the

waste contained in or contacted by equipment determined not to be subject to the requirements in §§ 264.1052 through 264.1060, then a new determination is required.

(l) Records of the equipment leak information required by paragraph (d) of this section and the operating information required by paragraph (e) of this section will be kept a minimum of 3 years.

(m) PFF, as the operator of a facility with equipment that is subject to this subpart and to regulations at 40 CFR part 60, part 61, or part 63 may elect to determine compliance with this subpart either by documentation pursuant to § 264.1064 of this subpart, or by documentation of compliance with the regulations at 40 CFR part 60, part 61, or part 63 pursuant to the relevant provisions of the regulations at 40 part 60, part 61, or part 63. The documentation of compliance under regulations at 40 CFR part 60, part 61, or part 63 shall be kept with or made readily available with the facility operating record.

PFF has identified each affected piece of equipment by number and location as shown in Tables II-11, II-12, and II-13.

The following information will be maintained at the Facility to demonstrate compliance with the requirements of 40 CFR 264 Subpart BB:

1. Type of equipment - valve, pump, flange, etc.
2. Service - designated as light liquid at this time, based on knowledge of the hazardous waste received and managed at the Facility for all equipment contacting liquids.
3. Method of compliance with the standard.
4. Leak monitoring results and any repairs conducted at the Facility.
5. Notification record(s) to the Florida DEP if a detected leak is not repaired within the designated time period.
6. Records associated with the Test Methods and Procedures outlined in 40 CFR 264.1063. These records typically include VOC Analyzer Calibration, Response Time, and Calibration Precision Logs (typical forms included in Appendix II-S-1). A copy of Reference Method 21 (40 CFR Part 60) has been included in Appendix II-S-2. Copies of sample inspection forms and the VOC analyzer logs are included in Tables II-14-1 and II-14-2, respectively.

**PFF may choose the exemption provided in 40 CFR 264.1050(f) for the affected equipment identified in Tables II-11, II-12, and II-13 if this equipment contains or contacts hazardous waste for less than 300 hours per calendar year and keep a record of hours of operation.**

PFF currently presumes that all incoming waste is greater than 10 ppmw organic concentration, therefore this material is presumed to contain greater than 10 ppmw for waste management purposes in lieu of testing.

### **Delay of Repair**

All detected leaks will be repaired as soon as practicable, but not later than 15 days for all equipment after detection unless the following conditions arise as described in 40 CFR 264.1059.

- The repair is not technically feasible without shutdown of a hazardous waste management unit. In such a case, the leak repair will be completed before the end of the next shutdown of the hazardous waste management unit.
- The leaking equipment is isolated and does not continue to contain or contact hazardous waste with an organic concentration of at least 10% by weight.
- The emissions resulting from immediate repair of a leaking valve would be greater than the emissions likely to result from delay of repair.
- The repair of a leaking pump requires the use of a dual mechanical seal system, which includes a barrier fluid system. In such a case, the repair will be completed as soon as practical, but no later than six months after leak detection.

### **Reporting Requirements**

For each semi-annual reporting period designated by the Florida DEP Director, a report will be submitted including the information required by 40 CFR 264.1065(a) if the following condition occurs during that reporting period.

- Leak repair is not performed within 15 calendar days of leak detection and/or the first attempt at repair is not performed within 5 calendar days of the leak detection for valves in gas/vapor service or in light liquid service.

This report will include:

- EPA identification number, name, and address of the facility;
- Dates of hazardous waste management unit shutdowns that occurred during the reporting period; and,
- Equipment identification number of each pump or valve for which leak repair was not performed within 15 calendar days after leak detection or the first attempt at repair was not performed within 5 calendar days.

### **T CERTIFICATION**

DEP Form 62-730.900(2)(d) Certification has been included as Appendix II-T.



**ATTACHMENT B-2**

**RESPONSE TO EPA COMMENTS 4, 9, AND 11**

**REVISED TABLE II-11. EQUIPMENT LIST – PF-II VACUUM EQUIPMENT**

**REVISED TABLE II-12. EQUIPMENT LIST – HAZARDOUS WASTE TRANSFER  
AREA (PSB)**

**REVISED TABLE II-13. EQUIPMENT LIST – MIXED WASTE TRANSFER TO  
LARGER CONTAINERS AREA**

**TABLE II-11 EQUIPMENT LIST - PF-II VACUUM EQUIPMENT  
RCRA PERMIT RENEWAL APPLICATION  
PERMA-FIX FLORIDA, 1940 NW 67TH PLACE, GAINESVILLE, FLORIDA**

<b>PART NO.</b>	<b>Equipment Description</b>	<b>Exemption from Subpart Requirements</b>	<b>Applicable Regulation</b>
15A06TM/XX5XZ5	Vacuum Pump	<b>1</b>	40 CFR 264.1050(e)
247254	Drive Assembly w/Aluminum Guard	<b>1</b>	40 CFR 264.1050(e)
M-133022	Bare Assembly C.S.	<b>1</b>	40 CFR 264.1050(e)
223000	Vacuum Guage SS	<b>1</b>	40 CFR 264.1050(e)
T-133022-1	Air/Water Separator SS	<b>1</b>	40 CFR 264.1050(e)
41604,843-12	Level Guage and Valves SS XP	<b>1</b>	40 CFR 264.1050(e)
1/2" GLOBE VLV	Balancing Globe Valve 316SS	<b>1</b>	40 CFR 264.1050(e)
1 1/2 " 9NB3600TT	Vacuum Inlet Isolation Valve 316SS	<b>1</b>	40 CFR 264.1050(e)
5002-316-1 1/2	Inlet Check Valve 316SS Teflon Seals	<b>1</b>	40 CFR 264.1050(e)
3/4" 9NB3600TT	Recirculating Liquid Iso/Reg Valve 316SS	<b>1</b>	40 CFR 264.1050(e)
581SS-3/4 SS	Recirculating Liquid Y-Strainer SS	<b>1</b>	40 CFR 264.1050(e)
223001	Compound Gauge SS	<b>1</b>	40 CFR 264.1050(e)
1 1/2" 9NB3600TT	Drain Valve SS	<b>1</b>	40 CFR 264.1050(e)
518SS-1/2	Y-Strainer SS	<b>1</b>	40 CFR 264.1050(e)
T-133022-2	Accumulator Tank SS	<b>1</b>	40 CFR 264.1050(e)
03048-1-375-4	Heat Exchanger SS Tubes	<b>1</b>	40 CFR 264.1050(e)
223002	Temperature Gauge SS	<b>1</b>	40 CFR 264.1050(e)
249000	Formed Base	<b>1</b>	40 CFR 264.1050(e)
B-83066	Temperature Gauge SS 3" Dial, 0-250, 6" Stem	<b>1</b>	40 CFR 264.1050(e)
1" 9NB3600TT	Ball Valve SS	<b>1</b>	40 CFR 264.1050(e)
1/2" AK200UOM	Check Valve, Swing SS	<b>1</b>	40 CFR 264.1050(e)
3/4" AK200UJM	Recirulating Liquid Control Valve	<b>1</b>	40 CFR 264.1050(e)
MTS	Level Gauge	<b>1</b>	40 CFR 264.1050(e)

**TABLE II-12. EQUIPMENT LIST - HAZARDOUS WASTE TRANSFER AREA (PSB)  
RCRA PERMIT RENEWAL APPLICATION  
PERMA-FIX FLORIDA, 1940 NW 67TH PLACE, GAINESVILLE, FLORIDA**

<b>Equipment ID# (Tag Number)</b>	<b>Equipment Type/Location</b>	<b>Exemption from Subpart Requirements</b>	<b>Applicable Regulation</b>
BV-1	Valve, Ball, 2" @ KN-1 and CA-1 on Pump Suction, wand end. Open ended valve.	<b>2</b>	40 CFR 264.1057
BV-2	Valve, Ball, 2" @ KN-2 and CA-2 on Pump Suction, pump end. Open ended valve.	<b>2</b>	40 CFR 264.1057
BV-3	Valve, Ball, 2" @ suction side of Pump PU-5. Open ended valve.	<b>2</b>	40 CFR 264.1057
BV-4	Valve, Ball, 2" @ discharge side of pump PU-5. Open ended valve.	<b>2</b>	40 CFR 264.1057
BV-5	Valve, Ball, 2" @ CA-6 on 2" Sch 40 pipe on bulk tank wall. (Drop pipe). Open ended valve.	<b>2</b>	40 CFR 264.1057
BV-6	Valve, Ball, 2" @ CA-10 on 2" Sch 40 pipe at discharge end (to tanker). Open ended valve.	<b>2</b>	40 CFR 264.1057
BV-7	Valve, Ball, 2" @ CA-9 on 2" Chemhose, from 2" tanker discharge end of pipe. Open ended valve.	<b>2</b>	40 CFR 264.1057
BV-8	Valve, Ball, 2" @ CA-8 on tanker end of discharge hose. Open ended valve.	<b>2</b>	40 CFR 264.1057
BV-9	Valve, Ball, 2" @ Discharge side of pump PU-4. Open ended valve.	<b>2</b>	40 CFR 264.1057
BV-10	Valve, Ball, 2" @ Suction side of pump PU-4. Open ended valve.	<b>2</b>	40 CFR 264.1057
CA-1	Camlock, Male, 2" @ BV-1 on wand end of suction hose.	n/a	40 CFR 264.1058
CA-2	Camlock, Male, 2" @ BV-2 on pump end of suction hose.	n/a	40 CFR 264.1058
CA-3	Camlock, Female, 2" @ CP-1 and CA-2 on suction of pump PU-5	n/a	40 CFR 264.1058
CA-4	Camlock, Male, 2" @ CP-2 on discharge side of pump PU-5	n/a	40 CFR 264.1058
CA-5	Camlock, Female, 2" @ KN-3 on jumper hose connecting to ovhd.	n/a	40 CFR 264.1058
CA-6	Camlock, Female, 2" @ BV-5 on 2" Sch 40 pipe on bulk tank wall. (Drop pipe)	n/a	40 CFR 264.1058
CA-7	Camlock, Male, 2" @ KN-4 on 2" Chemhose jumper to overhead.	n/a	40 CFR 264.1058
CA-8	Camlock, Male, 2" @ BV-8 Tanker end of discharge hose.	n/a	40 CFR 264.1058
CA-9	Camlock, Female, 2" @ BV-7 on pipe end (Overhead) of tanker fill hose.	n/a	40 CFR 264.1058
CA-10	Camlock, Male, 2" @ BV-6 on discharge (tanker) end of overhead pipe.	n/a	40 CFR 264.1058
CA-11	Camlock, Female, 2" @ EL-6 on suction wand	n/a	40 CFR 264.1058
CA-12	Camlock, Male, 2" on Discharge side of pump PU-4	n/a	40 CFR 264.1058
CA-13	Camlock, Female, 2" on Suction side of pump PU-4	n/a	40 CFR 264.1058

**TABLE II-12. EQUIPMENT LIST - HAZARDOUS WASTE TRANSFER AREA (PSB)  
RCRA PERMIT RENEWAL APPLICATION  
PERMA-FIX FLORIDA, 1940 NW 67TH PLACE, GAINESVILLE, FLORIDA**

<b>Equipment ID# (Tag Number)</b>	<b>Equipment Type/Location</b>	<b>Exemption from Subpart Requirements</b>	<b>Applicable Regulation</b>
CP-1	Coupling, 2" @ BV-3 on suction side of pump PU-5	n/a	40 CFR 264.1058
CP-2	Coupling, 2" @ BV-4 on discharge side of pump PU-5	n/a	40 CFR 264.1058
CP-3	Coupling, 2" @ BV-9 on discharge of pump PU-4	n/a	40 CFR 264.1058
CP-4	Coupling, 2" @ BV-10 on suction side of pump PU-4	n/a	40 CFR 264.1058
CV-1	Check Valve, 1/4" Backflow preventer on PU-5 Discharge (Blowback lines)	<b>2</b>	40 CFR 264.1057
CV-2	Check Valve, 1/4" Backflow preventer on PU-5 Suction (Blowback Lines)	<b>2</b>	40 CFR 264.1057
CV-3	Check Valve, 1/4" Backflow preventer on PU-4 Discharge (Blowback lines)	<b>2</b>	40 CFR 264.1057
CV-4	Check Valve, 1/4" Backflow preventer on PU-4 Suction (Blowback Lines)	<b>2</b>	40 CFR 264.1057
EL-1	Elbow, 45 deg., Galv., 2" @ BV-5 @ jumper hose connection to drop pipe on wall.	n/a	40 CFR 264.1058
EL-2	Elbow, 45 deg., Galv., 2" @ KN-6 on pulse dampener hose to overhead.	n/a	40 CFR 264.1058
EL-3	Elbow, 45 deg., Galv., 2" @ KN-6 on pulse dampener hose to overhead.	n/a	40 CFR 264.1058
EL-4	Elbow, 90 deg., Galv., 2" @ pump end of overhead pipe	n/a	40 CFR 264.1058
EL-5	Elbow, 90 deg., Galv., 2" @ tanker end of overhead pipe after U-2	n/a	40 CFR 264.1058
EL-6	Elbow, 90 deg., Galv., 2" on drum suction wand.	n/a	40 CFR 264.1058
KN-1	Nipple, King, 2" @ BV-1 on wand end of suction hose.	n/a	40 CFR 264.1058
KN-2	Nipple, King, 2" @ BV-1 on wand end of suction hose.	n/a	40 CFR 264.1058
KN-3	Nipple, King, 2" @ CA-5 on pump end of jumper hose connecting to ovhd.	n/a	40 CFR 264.1058
KN-4	Nipple, King, 2" @ CA-7 on overhead end of jumper hose, connected to CA-6	n/a	40 CFR 264.1058
KN-5	Nipple, King, 2" @ 45 deg Elbow EL-2 @ dampener hose connecting to overhead.	n/a	40 CFR 264.1058
KN-6	Nipple, King, 2" @ 45 deg Elbow EL-3 @ dampener hose connecting to overhead.	n/a	40 CFR 264.1058
KN-7	Nipple, King, 2" @ BV-7 on pipe end of tanker fill hose.	n/a	40 CFR 264.1058
KN-8	Nipple, King, 2" @ BV-8 on tanker end of tanker fill hose.	n/a	40 CFR 264.1058
PU-4	Pump, Sandpiper, 2", SB-2 series diaphragm pump	<b>1</b>	40 CFR 264.1052

**TABLE II-12. EQUIPMENT LIST - HAZARDOUS WASTE TRANSFER AREA (PSB)  
RCRA PERMIT RENEWAL APPLICATION  
PERMA-FIX FLORIDA, 1940 NW 67TH PLACE, GAINESVILLE, FLORIDA**

Equipment ID# (Tag Number)	Equipment Type/Location	Exemption from Subpart Requirements	Applicable Regulation
PU-5	Pump, Sandpiper, 2", SB-2 series diaphragm pump	<b>1</b>	40 CFR 264.1052
U-1	Union, 2" Galv. On 2" galv. Overhead pipe @ EL-4 end of pipe. (Pump End)	n/a	40 CFR 264.1058
U-2	Union, 2" Galv. On 2" galv. Overhead pipe @ EL-5 end of pipe. (Tanker end)	n/a	40 CFR 264.1058

**LEGEND:**

CA – CAMLOCK BV – VALVES CP- Coupling FA – FLANGE CP - COUPLING  
KN- KING NIPPLE EL - ELBOW M - MOTOR CV- CHECK VALVE U - UNION  
VP - VACUUM PUMP T - TEE TK - TANK X - CROSS  
PSB - Processing and Storage Building

**Exemptions:**

**PUMPS (1): 40 CFR 264.1052(e)** Pumps without externally actuated shafts, which penetrate the pump housing (e.g. sandpiper pumps), will be monitored. If the results of the monitoring indicate no detectable emissions (instrument reading of < 500 ppm), the pump is exempt from monthly monitoring and weekly inspection and is subject to annual monitoring. The exempted pump identification numbers will be kept in a list as required by 40CFR264.1064(g)(2).

**VALVES (2): 40 CFR 264.1050(f)** Equipment that contains or contacts hazardous waste with an organic concentration of at least 10 percent by weight for less than 300 hours per calendar year is excluded from the requirements of section 264.1052 through 264.1060 of this subpart if it is identified, as required in section 264.1064(g)(6) of this subpart.

**All repairs must be performed within 15 days of discovery.**

**TABLE II-13. EQUIPMENT LIST - MIXED WASTE TRANSFER TO LARGER CONTAINERS AREA  
RCRA PERMIT RENEWAL APPLICATION  
PERMA-FIX FLORIDA, 1940 NW 67TH PLACE, GAINESVILLE, FLORIDA**

Tag No.	Equipment Type/Location	Exemption from Subpart Requirements	Applicable Regulation
BV-1	Valve, Ball, 1-1/2" on Pump Discharge. Open ended valve.	<b>2</b>	40 CFR 264.1057
BV-2	Valve, Ball, 1-1/2" on Pump Suction. Open ended valve.	<b>2</b>	40 CFR 264.1057
BV-3	Valve, Ball, 1-1/2" @ CA-3 and KN-1 on Pump Discharge. Open ended valve.	<b>2</b>	40 CFR 264.1057
BV-4	Valve, Ball, 1-1/2" on Pump Discharge Hose @ CA-2 and KN-4. Open ended valve.	<b>2</b>	40 CFR 264.1057
BV-5	Valve, Ball, 1-1/2" on Pump Suction Hose @ CA-5 and KN-3. Open ended valve.	<b>2</b>	40 CFR 264.1057
BV-6	Valve, Ball, 1-1/2" on Pump Suction Hose @ KN-4 and CA-6. Open ended valve.	<b>2</b>	40 CFR 264.1057
CA-1	CAMLOCK, Male, 1-1/2" @ BV-1 on Pump Discharge	n/a	40 CFR 264.1058
CA-2	CAMLOCK, Female, 1-1/2" @ BV-5 and KN-3 on Pump Suction	n/a	40 CFR 264.1058
CA-3	CAMLOCK, Male, 1-1/2" @ BV-3 on Pump Discharge Hose	n/a	40 CFR 264.1058
CA-4	CAMLOCK, Male, 1-1/2" @ KN-2 and BV-4 on Tank End of Discharge Hose	n/a	40 CFR 264.1058
CA-5	CAMLOCK, Male, 1-1/2" @ BV-5 and KN-3 on Pump End of Suction Hose	n/a	40 CFR 264.1058
CA-6	CAMLOCK, Female, 1-1/2" @ BV-6, on hose @ Wand End of Suction Hose	n/a	40 CFR 264.1058
CA-7	CAMLOCK, Male, 1-1/2" on Wand	n/a	40 CFR 264.1058
KN-1	Nipple, King, 1-1/2" @ BV-3, Pump Discharge Hose	n/a	40 CFR 264.1058
KN-2	Nipple, King, 1-1/2" @ CA-4 and BV-4 on Tank End of Pump Discharge Hose	n/a	40 CFR 264.1058
KN-3	Nipple, King, 1-1/2" @ BV-5 on Pump end of Pump Suction Hose	n/a	40 CFR 264.1058
KN-4	Nipple, King, 1-1/2" @ BV-6, Pump Suction, Wand End of Hose	n/a	40 CFR 264.1058
PU-3	Pump, Sandpiper, 1-1/2", Diaphragm Type	<b>1</b>	40 CFR 264.1052

**LEGEND:**

CA – Camlock BV - Valves CP- Coupling FA – Flange  
KN- King Nipple EL – Elbow M - Motor CV- Check Valve  
U – Union VP - Vacuum Pump T – Tee TK - Tank X - Cross

**Exemptions:**

**Pumps (1): 40 CFR 264.1052(e)** Pumps without externally actuated shafts, which penetrate the pump housing (e.g. sandpiper pumps), will be monitored. If the results of the monitoring indicate no detectable emissions (instrument reading of < 500 ppm), the pump is exempt from monthly monitoring and weekly inspection and is subject to annual monitoring. The exempted pump identification numbers will be kept in a list as required by 40CFR264.1064(g)(2). Pumps with externally actuated shafts will be monitored monthly and visually inspected weekly. Examples of this pump are the Gorman-Rupp pumps in LSV. An instrument reading of >10,000 ppm indicates a leak which requires repair.

**VALVES (2): 40 CFR 264.1050(f)** Equipment that contains or contacts hazardous waste with an organic concentration of at least 10 percent by weight for less than 300 hours per calendar year is excluded from the requirements of section 264.1052 through 264.1060 of this subpart if it is identified, as required in section 264.1064(g)(6) of this subpart.

**ALL repairs must be performed within 15 days of discovery.**