

**WASTEWATER STREAM
CHARACTERIZATION FOR
TA-3-35, 67, 141, 145, 147, 159,
160, 161, 169, 187, 317, 541, 1264,
1504, 1505, 1514, 1524, 1525,
1796, 2132 and 2165**

**at
Los Alamos National Laboratory**

ENVIRONMENTAL STUDY

CHARACTERIZATION REPORT # 60

Los Alamos



15335

**MENT DIVISION
I Laboratory
exico 87545**

WASTEWATER STREAM CHARACTERIZATION
TA 3-35, 67, 141, 145, 147, 159,
160, 161, 169, 187, 317, 541, 1264,
1504, 1505, 1514, 1524, 1525, 1796,
2132 AND 2165

ENVIRONMENTAL STUDY

Prepared for:
THE LOS ALAMOS NATIONAL LABORATORY
LOS ALAMOS, NEW MEXICO

under subcontract 9-XG8-2874P-1

by:
Santa Fe Engineering, Ltd.
1429 Second Street
Santa Fe, New Mexico 87505
(505) 988-7438

October, 1993

Updated Per ESH-8 Comments February 1994

EXECUTIVE SUMMARY

Buildings TA-3-35, 67, 141, 145, 147, 159, 160, 161, 169, 187, 317, 541, 1264, 1504, 1505, 1514, 1524, 1525, 1796, 2132 and 2165 were visited to verify existing drain systems and to characterize existing and/or potential waste streams. Pipes exiting the buildings are as follows:

1) from building 3-35: one (1) outfall to the site sanitary sewer system, one (1) outfall to the site radioactive liquid waste system, six (6) storm water discharges to daylight, seven (7) fire suppression system discharges to daylight, seven (7) gas vents to atmosphere, one (1) steam condensate drain to daylight, one (1) gas bottle connection and two (2) stubs to daylight,

2) from building 3-67: one (1) outfall to the site sanitary sewer system and one (1) discharge to daylight from a water heater pressure relief valve,

3) from building 3-141: two (2) outfalls to the site sanitary sewer system, two (2) outfalls to the site radioactive liquid waste system, one (1) discharge to daylight from a coolant tank drain, one (1) discharge to daylight from an exterior pit sump pump, three (3) storm water outfalls to daylight, six (6) fire suppression system drains to daylight, five (5) vacuum pump air discharges to atmosphere, five (5) compressed gas vents to atmosphere, three (3) pipe stubs, one (1) nitrogen tank drain, three (3) plumbing vents to atmosphere, one (1) steam system vent to atmosphere, two (2) exterior sump pit air vents to atmosphere and one (1) sump pump discharge to daylight,

4) from building 3-145: one (1) cable vault floor drain to a below grade dry well (storm water),

5) from buildings 3-147, 159, 160, 161, 317, 541, 1504, 1505, 1514, 1524, 1525, 1796, 2132, and 2165: there are no drains or discharges,

6) from building 3-169: five (5) fire suppression system drains to daylight,

7) from building 3-187: one (1) outfall to daylight from a cooling tower blowdown (03A024) that is not in use,

8) from building 3-1264: two (2) outfalls to the site radioactive liquid waste system, one (1) above grade radioactive liquid waste tank truck connections and one (1) backflow preventer drain to daylight.

EPA outfall O4A140 has been eliminated by previous corrective action. EPA outfall O3A024 has not been used in several years and the source is scheduled for demolition. Therefore, no EPA forms are included.

Recommendations for repiping are provided to allow outfall consolidation which will minimize permit maintenance requirements and to bring the facility into compliance with the Laboratory's NPDES Permit. Floor drain plugging is recommended where the potential of discharge of pollutants exists.

A waste stream database has been prepared listing waste source and flow rate for applicable outfalls.

TABLE OF CONTENTS

1.0 INTRODUCTION.....	1
2.0 FIELD INVESTIGATION.....	3
3.0 RECOMMENDATIONS FOR BUILDINGS WITH NO DRAINS.....	4
4.0 RECOMMENDATIONS FOR BUILDING 3-35.....	4
4.1 Outfall 3-35-OPN-1.....	4
4.2 Outfall 3-35-OPN-2.....	4
4.3 Outfalls 3-35-OPN-3, 3-35-OPN-4, 3-35-OPN-5, 3-35-OPN-6, 3-35-OPN-7 and 3-35-OPN-8.....	5
4.4 Outfalls 3-35-OPN-9, 3-35-OPN-10, 3-35-OPN-11, 3-35-OPN-12, 3-35-OPN-13, 3-35-OPN-14 and 3-35-OPN-15.....	5
4.5 Outfalls 3-35-OPN-16 and 3-35-OPN-22.....	5
4.6 Outfall 3-35-OPN-17.....	5
4.7 Outfalls 3-35-OPN-18, 3-35-OPN-19 and 3-35-OPN-20.....	5
4.8 Outfalls 3-35-OPN-21 and 3-35-OPN-23.....	5
4.9 Outfalls 3-35-OPN-24 and 3-35-OPN-26.....	6
4.10 Outfall 3-35-OPN-25.....	6
5.0 RECOMMENDATION FOR BUILDING 3-67.....	6
5.1 Outfall 3-67-OPN-1.....	6
5.2 Outfall 3-67-OPN-2.....	6
6.0 RECOMMENDATIONS FOR BUILDING 3-141.....	6
6.1 Outfall 3-141-OPN-1.....	6
6.2 Outfall 3-141-OPN-2.....	7
6.3 Outfall 3-141-OPN-3.....	7
6.4 Outfall 3-141-OPN-4.....	7
6.5 Outfall 3-141-OPN-5.....	7
6.6 Outfall 3-141-OPN-6.....	8
6.7 Outfalls 3-141-OPN-7, 3-141-OPN-8, 3-141-OPN-9.....	8
6.8 Outfalls 3-141-OPN-10, 3-141-OPN-11, 3-141-OPN-12, 3-141-OPN-13, 3-141-OPN-14 and 3-141-OPN-15.....	8
6.9 Outfalls 3-141-OPN-16, 3-141-OPN-17, 3-141-OPN-18, 3-141-OPN-19 and 3-141-OPN-20.	8
6.10 3-141-OPN-21, 3-141-OPN-22, 3-141-OPN-23, 3-141-OPN-24 and 3-141-OPN-25.....	8
6.11 Outfalls 3-141-OPN-26, 3-141-OPN-33, 3-141-OPN-34.....	9
6.12 Outfall 3-141-OPN-27.....	9

6.13	Outfalls 3-141-OPN-28, 3-141-OPN-35 and 3-141-OPN-36.....	9
6.14	Outfalls 3-141-OPN-29, 3-141-OPN-30 and 3-141-OPN-32.....	9
6.15	Outfalls 3-141-OPN-31.....	9
7.0	RECOMMENDATIONS FOR BUILDING 3-145.....	10
8.0	RECOMMENDATIONS FOR BUILDING 3-169.....	10
8.1	Outfalls 3-169-OPN-1, 3-169-OPN-2, 3-169-OPN-3, 3-169-OPN-4 and 3-169-OPN-5.....	10
9.0	RECOMMENDATIONS FOR BUILDING 3-187.....	10
10.0	RECOMMENDATIONS FOR BUILDING 3-1264.....	11
10.1	Outfall 3-1264-OPN-1.....	11
10.2	Outfall 3-1264-OPN-2.....	11
10.3	Outfall 3-1264-OPN-3.....	11
10.4	Outfall 3-1264-OPN-4.....	11
11.0	CONCLUSION.....	12

APPENDICES

- APPENDIX 1 - DRAIN SUMMARY TABLES
- APPENDIX 2 - WASTE STREAM CHARACTERIZATION
DATABASE
- APPENDIX 3 - EPA FORMS
- APPENDIX 4 - DYE STUDY INFORMATION
- APPENDIX 5 - DRAIN SCHEMATICS

LIST OF TABLES

- 1. TA-3-35 DRAIN SUMMARY
- 2. TA -3-67 DRAIN SUMMARY
- 3. TA-3-141 DRAIN SUMMARY
- 4. TA-3-145 DRAIN SUMMARY
- 5. TA-3-169 DRAIN SUMMARY
- 6. TA-3-187 DRAIN SUMMARY
- 7. TA-3-1264 DRAIN SUMMARY
- 8. NON - DRAIN RECOMMENDATIONS
- 9. SUMMARY OF ABBREVIATIONS

LIST OF FIGURES

- 1. TA-3-35 BUILDING DRAIN SCHEMATIC
- 2. TA-3-67 BUILDING DRAIN SCHEMATIC
- 3. TA-3-141 BUILDING DRAIN SCHEMATIC
- 4. TA-3-145 BUILDING DRAIN SCHEMATIC
- 5. TA-3-169 BUILDING DRAIN SCHEMATIC
- 6. TA-3-187 BUILDING DRAIN SCHEMATIC
- 7. TA-3-1264 BUILDING DRAIN SCHEMATIC

1.0 INTRODUCTION

During November and December, 1992, Stephen C. Diamond, P.E. of Santa Fe Engineering (SFE) toured buildings 35, 67, 141, 145, 147, 159, 160, 161, 169, 187, 317, 541, 1264, 1504, 1505, 1514, 1524, 1525, 1796, 2132 and 2165 with Joe Mitchell of MST-DO and Dave Moss of EM-7 (3-1264 only). The purpose of this study is to identify building drain piping, locate outfalls which discharge into the environment and to characterize the wastewater flows and sources existing at the time of the visit. This report will not reflect any subsequent changes in piping or operation. The Waste Stream Characterization policy of September 10, 1992, was followed for this study. The following tasks were performed for this purpose:

1. Building drains and all piping exiting the building were identified and laid out in schematic form;
2. Wastewater sources were identified at each drain and the wastewater was characterized according to the flow rate and quality. The location of outfalls and their potential sources of discharges were determined. Potential pollutants were also noted;
3. Permit applications for discharges of clean water were not prepared since these discharges do not require permitting at this time and
4. Potential problems were identified and recommendations were made for repiping, floor drain plugging and spill containment, where deemed appropriate.

The field investigation proceeded by verifying drain schematic drawings prepared by SFE for the appropriate buildings (Figures 1 through 7) from drawings provided by Los Alamos National Laboratory (LANL) Facilities Engineering Division (ENG-7). The other buildings were visited to insure that no drains exist for the buildings.

The following process was used to define drain piping and characterize the wastewater streams:

1. Laboratory engineering drawings were used to prepare the SFE drain piping schematic. The Solid Waste Stream Characterization conducted by IT Corporation was reviewed. The National Pollutant Discharge Elimination System (NPDES) Permit, the 1990 NPDES Permit Application submitted by LANL in September, 1990, the latest Federal

Facilities Compliance Agreement (FFCA) between the Department of Energy (DOE) and the Environmental Protection Agency (EPA) and the Administrative Order (AO) docket Number VI-92-1306 issued by EPA to the University of California were used for reference.

2. A site visit was performed to verify the SFE drain schematics and to identify potential outfall pipes exiting the building. The visit entailed a room by room inspection of wastewater sources and drains. Interviews with site personnel were conducted to assist in waste stream characterization and

3. SFE verified drain piping by dye checking.

2.0 Field Investigation

The pipes exiting the building have been assigned an Outlet Piping Number. The four part number, sequentially, identifies the Technical Area where the pipe is located, the building from which the pipe discharges, the letters OPN to indicate that it is an outlet piping number and the unique number for the pipe. The piping exiting the building will be labeled for easy identification in the future.

Each drain has a unique identification number. Each number consists of three parts. The first part is the floor the drain is on. The second part has letters that indicate the drain type (abbreviations used are summarized in Table 10). The final part is a unique number for each drain. For example, the floor drain numbering on the first floor would start with 1FD1. The roof drains do not have the number identifying the floor such as RD1 for Roof Drain 1.

The function of each pipe exiting from the buildings are listed in Appendix 1, Tables 1 through 7. Appendix 2 contains the wastestream characterization database output, listing wastewater source, flow rates and periodicity information for each outfall drain. Appendix 3 contains a statement indicating no EPA forms were required for this group of buildings. Appendix 4 provides information about the dye study of building drains. Flow schematics of the drains from each building are attached in Appendix 5 as Figures 1 through 7.

3.0 RECOMMENDATIONS FOR BUILDINGS WITH NO DRAINS

Buildings 147, 159, 160, 161, 317, 541, 1504, 1505, 1514, 1524, 1525, 1796, 2132 and 2165 at TA-3 were inspected and found to have no drains or discharges. No modifications or permitting are recommended. No EPA forms were prepared.

4.0 RECOMMENDATIONS FOR BUILDING 3-35

Building 3-35 is the old press building at the Sigma complex. This building has not been in use for approximately five years and is scheduled for decommissioning and demolition according to Joe Mitchell of MST-DO. Several areas of the building are considered potentially contaminated. Table 1 of Appendix 1 lists the 26 outfalls and the contributing drains. Figure 1 of Appendix 5 is a schematic of the drain systems.

4.1 Outfall 3-35-OPN-1

This outfall to the site sanitary sewer system receives flow from basement level area drains (6), basement mechanical room floor sinks (5), lavatories (2), sink drain (1), non-emergency shower (1), toilet (1), urinal (1) and water fountains (2). The basement level area drains are located in exterior air intake wells adjacent to the building. Area drains BAD2, BAD3, BAD4 and BAD6 are exposed to the weather and receive storm water that discharges to the sanitary system. These wells should have "portal" type covers installed to eliminate storm water or should be plugged. Basement floor sink BFS1 receives flow from a pipe that appears to originate in a controlled area, this pipe should be removed. BFS5 receives discharge from an air compressor drain. Discharge from the air compressor should be containerized. Water fountain 1WF2 is located in a controlled shop that is potentially contaminated and should be removed. No permitting is recommended for this outfall and no EPA forms were prepared.

4.2 Outfall 3-35-OPN-2

This outfall discharges to the site radioactive liquid waste (RLW) collection system. Drains contributing to this outfall include one trench drain and one equipment drain, both located in controlled area shops. It is recommended that signs indicating these are RLW drains be installed. No permitting is recommended and no EPA forms were prepared.

4.3 Outfalls 3-35-OPN-3, 3-35-OPN-4, 3-35-OPN-5, 3-35-OPN-6, 3-35-OPN-7 and 3-35-OPN-8

These 6 (six) outfalls to daylight discharge at the grade level of the building and receive flow from a total of seven (7) roof drains. Storm water piping is exposed inside the structure and was visually traced. No piping changes or permitting are recommended for these outfalls. No EPA forms were prepared.

4.4 Outfalls 3-35-OPN-9, 3-35-OPN-10, 3-35-OPN-11, 3-35-OPN-12, 3-35-OPN-13, 3-35-OPN-14 and 3-35-OPN-15

These discharges to daylight are fire suppression system (sprinkler) drains and connections. Discharges are occasional and occur during annual sprinkler system testing. It is recommended that these discharges be included in a general Laboratory Notice of Intent (NOI) to discharge. No permitting is recommended and no EPA forms were prepared.

4.5 Outfalls 3-35-OPN-16 and 3-35-OPN-22

These discharges to the atmosphere are gas vents from heat treatment furnaces located in the building. No changes or permitting are recommended. No EPA forms were prepared.

4.6 Outfall 3-35-OPN-17

This outfall to daylight is a condensate drain from the steam heating system. It is recommended that this occasional discharge be included in a general Laboratory NOI. No permitting is recommended and no EPA forms were prepared.

4.7 Outfalls 3-35-OPN-18, 3-35-OPN-19 and 3-35-OPN-20

These discharges to daylight are vapor vents from the building steam heating system (no liquid). No changes or permitting are recommended. No EPA forms were prepared.

4.8 Outfalls 3-35-OPN-21 and 3-35-OPN-23

These discharges to the atmosphere are vacuum pump air discharges. No changes or permitting are recommended. No EPA forms were prepared.

4.9 Outfalls 3-35-OPN-24 and 3-35-OPN-26

These outfalls to daylight are a pipe stub and electrical conduit stub, respectively. No changes or permitting are recommended. No EPA forms were prepared.

4.10 Outfall 3-35-OPN-25

This outfall to daylight is a gas bottle connector line. No changes or permitting are recommended. No EPA forms were prepared.

5.0 **RECOMMENDATIONS FOR BUILDING 3-67**

This building is a guard station located at the main entrance to the Sigma complex. Table 2 of Appendix 1 lists the two outfalls from the building and the contributing drains. Figure 2 of Appendix 5 is a schematic of the drain system.

5.1 Outfall 3-67-OPN-1

This outfall to the site sanitary sewer system receives input from one lavatory, one toilet and one water fountain. No changes or permitting are recommended and no EPA forms were prepared.

5.2 Outfall 3-67-OPN-2

This discharge to daylight is from a pressure relief valve (PRV) on a small water heater. It is recommended that this occasional discharge be included in a general Laboratory NOI. No permitting is recommended and no EPA forms were prepared.

6.0 **RECOMMENDATIONS FOR BUILDING 3-141**

This structure is known as the Rolling Mill Building and houses a variety of laboratories, shops and offices. Some areas are controlled space. Table 3 of Appendix 1 lists the 36 outfalls from the building and their contributing drains. Figure 3 of Appendix 5 is a schematic of the drain systems.

6.1 Outfall 3-141-OPN-1

This outfall to the site sanitary sewer system receives flow from floor drains (6), lavatories (5), sink drain (1), toilets (4) and urinal (1). Floor drains 1FD19 and 1FD20 in the restrooms and sink drain 1SD11 in the janitor's closet should be labeled as sanitary drains - no chemicals allowed. Floor drain 2FD7 in the mechanical equipment mezzanine receives discharge from an air compressor. The

air compressor discharges should be containerized to eliminate oil from the sanitary sewer. No permitting is recommended and no EPA forms were prepared.

6.2 Outfall 3-141-OPN-2

This outfall to the site sanitary sewer system receives flow from four (4) floor drains in the mechanical equipment mezzanine. The discharge from an air compressor to floor drain 2FD2 should be containerized. No permitting is recommended and no EPA forms were prepared.

6.3 Outfall 3-141-OPN-3

This outfall discharges to the site RLW system. Drains contributing to this outfall include cup drains (2), a dishwasher, a floor drain, a lavatory, sink drains (12), showers (3) and three (3) RLW sump pumps. It is recommended that all drains be labeled as part of the RLW system. Three of the sink drains, 1SD4, 1SD7 and 1SD8, have been removed with capped stubs remaining. No permitting is recommended and no EPA forms were prepared.

6.4 Outfall 3-141-OPN-4

This outfall to daylight is a coolant tank drain (not flowing at this time). The coolant tank contains water with a rust inhibitor chemical. It is recommended that any discharge of this mixture be containerized. No permitting is recommended and no EPA forms were prepared.

6.5 Outfall 3-141-OPN-5

This outfall now discharges to the site RLW system. Drains contributing to this outfall include 17 floor drains and one previously removed sink drain. Eleven of the floor drains have temporary removable plugs. It is recommended that all drains be labeled as part of the RLW system. Drains that are not absolutely necessary should be permanently plugged. No permitting is recommended and no EPA forms were prepared. It should be noted that this outfall previously discharged to daylight as EPA permitted outfall 04A140. A LANL corrective action project (LANL Project #13050), sponsored by EM-8 and the operating group, has eliminated this outfall. It is recommended, therefore, that this permit be eliminated.

6.6 Outfall 3-141-OPN-6

This outfall to daylight is the discharge of a sump pump located in an exterior pump pit. The pit houses RLW system pumps. The purpose of the sump pump is to expel storm water that accumulates in the open pit. It is recommended that the sump pit be tested once for possible contamination from the RLW system. If contamination is present, the sump pump discharge should be repiped to flow into the RLW sump. If no contamination is present, then the discharge should be included in a general Laboratory NOI. No permitting is recommended and no EPA forms have been prepared.

6.7 Outfalls 3-141-OPN-7, 3-141-OPN-8 and 3-141-OPN-9

These outfalls to daylight are storm water discharges from a total of seven roof drains. No changes or permitting are recommended and no EPA forms have been prepared.

6.8 Outfalls 3-141-OPN-10, 3-141-OPN-11, 3-141-OPN-12, 3-141-OPN-13, 3-141-OPN-14 and 3-141-OPN-15

These outfalls to daylight are fire suppression system (sprinkler) drains and connections. Discharges are occasional and occur during annual sprinkler system testing. It is recommended that these discharges be included in a general laboratory Notice of Intent (NOI) to discharge. No permitting is recommended and no EPA forms were prepared.

6.9 Outfalls 3-141-OPN-16, 3-131-OPN-17, 3-141-OPN-18, 3-141-OPN-19 and 3-141-OPN-20

These discharges to the atmosphere are vacuum pump air exhausts. The vacuum pump connected to 3-141-OPN-19 is no longer in use and the exhaust pipe should be removed. No permitting is recommended and no EPA forms were prepared.

6.10 Outfalls 3-141-OPN-21, 3-141-OPN-22, 3-141-OPN-23, 3-141-OPN-24 and 3-141-OPN-25

These discharges to the atmosphere are compressed gas vents (hydrogen, helium, nitrogen and argon). No changes or permitting are recommended and no EPA forms were prepared.

6.11 Outfalls 3-141-OPN-26, 3-141-OPN-33 and 3-141-OPN-34

These outfalls are pipe stubs (no connections) that protrude through the building wall. It is recommended that they be removed. No permitting is recommended and no EPA forms have been prepared.

6.12 Outfall 3-141-OPN-27

This discharge to daylight is a nitrogen tank drain. No changes or permitting are recommended and no EPA forms were prepared.

6.13 Outfalls 3-141-OPN-28, 3-141-OPN-35 and 3-141-OPN-36

These pipes are plumbing system vents to allow gravity flow. Outfalls 3-141-OPN-28 and 3-141-OPN-35 are sanitary sewer system vents and 3-141-OPN-36 is an RLW system vent. It is recommended that the RLW system vent be labeled to avoid possible misuse. No permitting is recommended and no EPA forms were prepared.

6.14 Outfalls 3-141-OPN-29, 3-141-OPN-30 and 3-141-OPN-32

These discharges to the atmosphere are a steam system vapor vent and two sump pit air vents respectively. No changes or permitting are recommended and no EPA forms were prepared.

6.15 Outfall 3-141-OPN-31

This outfall to daylight is the discharge of a sump pump located in an exterior pit that houses a steam condensate tank. The sump pump only discharges storm water that accumulates in the exposed pit. It is recommended that this occasional discharge be included in a general Laboratory NOI. No permitting is recommended and no EPA forms were prepared.

7.0 RECOMMENDATIONS FOR BUILDING 3-145

Building 3-145 is an electrical switchgear station belonging to Johnson Controls, Inc. (JCI) Utilities Branch. Table 4 of Appendix 1 lists the single outfall from this structure and Figure 4 of Appendix 5 is a schematic of the drain system. The single outfall from this building is from a floor drain in the basement level cable vault that discharges to a drywell immediately beneath the floor drain. The purpose of this drain and drywell is to remove any storm water that may enter the cable vault if site flooding was to occur. The only contents of this vault are high voltage cables. The cable vault is considered "Confined space" and access was not possible. Verification of the floor drain/drywell is based upon discussion with the JCI electrical engineer who has been in the vault. No changes or permitting are recommended and no EPA forms have been prepared.

8.0 RECOMMENDATIONS FOR BUILDING 3-169

Building 3-169 is a materials storage warehouse composed of a single large room. Table 5 of Appendix 1 lists the five outfalls from the building and Figure 5 of Appendix 5 is a schematic of the outfalls.

8.1 Outfalls 3-169-OPN-1, 3-169-OPN-2, 3-169-OPN-3, 3-169-OPN-4 and 3-169-OPN-5

These five (5) identical outfalls to daylight are fire suppression system (sprinkler) drains and connections. It is recommended that the occasional discharges (annual testing) be included in a general Laboratory NOI. No permitting is recommended and no EPA forms were prepared.

9.0 RECOMMENDATIONS FOR BUILDING 3-187

Building 3-187 is a cooling tower that previously served the Sigma press building. This tower has been out of service for approximately five (5) years and is scheduled for decommissioning and demolition along with building 3-35, according to Joe Mitchell of MST-DO. The single outfall from this structure is listed in Table 6 of Appendix 1 and is shown schematically in Figure 6 of Appendix 5. The single outfall previously discharged to EPA permitted outfall 03A024. Since this outfall has been unused for several years and will not be reused, it is recommended that the permit be deleted. No EPA forms were prepared for this outfall.

10.0 RECOMMENDATIONS FOR BUILDING 3-1264

This building belongs to Group EM-7 and consists of a storage/maintenance building and an exterior underground RLW holding tank (no separate structure number). The building and tank are part of the site RLW collection system. Table 7 of Appendix 1 lists the four (4) outfalls from the structures and Figure 7 of Appendix 5 is a schematic of the piping.

10.1 Outfall 3-1264-OPN-1

This outfall from a single trench drain in the storage/truck bay portion of the building discharges into the underground RLW holding tank. It's purpose is to catch any spills that may occur when RLW is pumped out of the holding tank to a transport truck (rare occurrence). It is recommended that the trench drain be labeled as a RLW drain. No permitting is recommended and no EPA forms were prepared.

10.2 Outfall 3-1264-OPN-2

This outfall is a connection line from the underground RLW holding tank to a standpipe in the building for pumping out the holding tank to a transport truck. It is recommended that this standpipe be labeled as part of the RLW system. No permitting is recommended and no EPA forms were prepared.

10.3 Outfall 3-1264-OPN-3

This outfall to the site RLW system is the gravity flow discharge point of the RLW holding tank. No changes or permitting are recommended and no EPA forms were prepared.

10.4 Outfall 3-1264-OPN-4

This discharge to daylight is a single backflow preventer drain. It is recommended that this occasional discharge be included in a general Laboratory NOI. No permitting is recommended and no EPA forms were prepared.

11.0 CONCLUSION

This document provides the information to characterize buildings 35, 67, 141, 145, 147, 159, 160, 161, 169, 187, 317, 541, 1264, 1504, 1505, 1514, 1524, 1525, 1796, 2132, and 2165 at TA-3. None of the outfalls associated with the listed buildings require EPA permits due to their current status. No EPA forms have been prepared. The outfalls are listed below:

Existing EPA permits to be deleted:

1. 3-141-OPN-5 (04A140) has been repiped.
2. 3-187-OPN-1 (03A024) is no longer in use.

Buildings without drains and/or water sources:

- | | | | |
|------------|------------|------------|------------|
| 1. 3-147 | 2. 3-159 | 3. 3-160 | 4. 3-161 |
| 5. 3-317 | 6. 3-541 | 7. 3-1504 | 8. 3-1505 |
| 9. 3-1514 | 10. 3-1524 | 11. 3-1525 | 12. 3-1796 |
| 13. 3-2132 | 14. 3-2165 | | |

Discharges to the Site Sanitary Sewer System:

- | | | |
|----------------|---------------|----------------|
| 1. 3-35-OPN-1 | 2. 3-67-OPN-1 | 3. 3-141-OPN-1 |
| 4. 3-141-OPN-2 | | |

Discharges to the Site RLW system:

- | | | |
|-----------------|-----------------|-----------------|
| 1. 3-25-OPN-2 | 2. 3-141-OPN-3 | 3. 3-141-OPN-5 |
| 4. 3-1264-OPN-1 | 5. 3-1264-OPN-2 | 6. 3-1264-OPN-3 |

Discharges of storm water drainage:

- | | | |
|----------------|----------------|----------------|
| 1. 3-35-OPN-3 | 2. 3-35-OPN-4 | 3. 3-35-OPN-5 |
| 4. 3-35-OPN-6 | 5. 3-35-OPN-7 | 6. 3-35-OPN-8 |
| 7. 3-141-OPN-7 | 8. 3-141-OPN-8 | 9. 3-141-OPN-9 |

Discharges from fire water drains:

- | | | |
|------------------|------------------|------------------|
| 1. 3-35-OPN-9 | 2. 3-35-OPN-10 | 3. 3-35-OPN-11 |
| 4. 3-35-OPN-12 | 5. 3-35-OPN-13 | 6. 3-35-OPN-14 |
| 7. 3-35-OPN-15 | 8. 3-141-OPN-10 | 9. 3-141-OPN-11 |
| 10. 3-141-OPN-12 | 11. 3-141-OPN-13 | 12. 3-141-OPN-14 |
| 13. 3-141-OPN-15 | 14. 3-169-OPN-1 | 15. 3-169-OPN-2 |
| 16. 3-169-OPN-3 | 17. 3-169-OPN-4 | 18. 3-169-OPN-5 |

Discharges from vacuum pump air exhausts:

- | | | |
|-----------------|-----------------|-----------------|
| 1. 3-35-OPN-21 | 2. 3-35-OPN-23 | 3. 3-171-OPN-16 |
| 4. 3-141-OPN-17 | 5. 3-141-OPN-18 | 6. 3-141-OPN-19 |
| 7. 3-141-OPN-20 | | |

Miscellaneous discharges, stubs and gas vents:

- | | | |
|------------------|------------------|------------------|
| 1. 3-35-OPN-24 | 2. 3-35-OPN-25 | 3. 3-35-OPN-26 |
| 4. 3-67-OPN-2 | 5. 3-141-OPN-21 | 6. 3-141-OPN-22 |
| 7. 3-141-OPN-23 | 8. 3-141-OPN-24 | 9. 3-141-OPN-25 |
| 10. 3-141-OPN-26 | 11. 3-141-OPN-27 | 12. 3-141-OPN-28 |
| 13. 3-141-OPN-30 | 14. 3-141-OPN-31 | 15. 3-141-OPN-32 |
| 16. 3-141-OPN-33 | 17. 3-141-OPN-34 | 18. 3-141-OPN-35 |

Recommended permitting and corrective actions are outlined in Tables 1 through 8 as well as in the above text. Corrective actions should be performed as soon as practical to minimize the chance of unpermitted discharge of pollutants.

TABLE 1 : TA 3-35 DRAIN SUMMARY

OUTFALL NUMBER	ID NUMBER	ROOM ACTIVITY	ROOM NUMBER	STATUS OR RECOMMENDATIONS	EPA FORM PREPARED
3-35-OPN-1 SANITARY	BAD1	BSMT STAIR WELL	N/A	NO CHANGE	NO
	BAD2	BSMT MECH WELL	EXT	COVER/PLUG	
	BAD3	BSMT MECH WELL	EXT	COVER/PLUG	
	BAD4	BSMT MECH WELL	EXT	COVER/PLUG	
	BAD5	BSMT MECH WELL	B2	NO CHANGE	
	BAD6	BSMT MECH WELL	EXT	COVER/PLUG	
	BFS1	BSMT MECH RM	B1	REMOVE PIPE	
	BFS2	BSMT MECH RM	B1	NO CHANGE	
	BFS3	BSMT MECH RM	B1	NO CHANGE	
	BFS4	BSMT MECH RM	B1	NO CHANGE	
	BFS5	BSMT MECH RM	B1	CONTAIN	
	1LV1	REST/CHANGE RM	109	NO CHANGE	
	1LV2	REST/CHANGE RM	109	NO CHANGE	
	1SD1	JANITOR CLOSET	107	NO CHANGE	
	1SH1	REST/CHANGE RM	109	NO CHANGE	
	1TL1	REST/CHANGE RM	109	NO CHANGE	
	1UR1	REST/CHANGE RM	109	NO CHANGE	
	1WF1	REST/CHANGE RM	109	NO CHANGE	
1WF2	SHOP(CONTROLLED)	105	REMOVE		
3-35-OPN-2 RLW	1ED1	SHOP(CONTROLLED)	104	LABEL	NO
	1TD1	SHOP(CONTROLLED)	105	LABEL	
3-35-OPN-3	RD1	ROOF	EXT	NO CHANGE	NO
3-35-OPN-4	RD2	ROOF	EXT	NO CHANGE	NO
	RD3	ROOF	EXT	NO CHANGE	
3-35-OPN-5	RD4	ROOF	EXT	NO CHANGE	NO
3-35-OPN-6	RD5	ROOF	EXT	NO CHANGE	NO
3-35-OPN-7	RD6	ROOF	EXT	NO CHANGE	NO
3-35-OPN-8	RD7	ROOF	EXT	NO CHANGE	NO

TABLE 1 : TA 3-35 DRAIN SUMMARY

OUTFALL NUMBER	ID NUMBER	ROOM ACTIVITY	ROOM NUMBER	STATUS OR RECOMMENDATIONS	EPA FORM PREPARED
3-35-OPN-10	N/A	FIRE SYS DR	101	NOI	NO
3-35-OPN-10	N/A	FIRE SYS DR	101	NOI	NO
3-35-OPN-11	N/A	FIRE SYS DR	101B	NOI	NO
3-35-OPN-12	N/A	FIRE SYS DR	B1	NOI	NO
3-35-OPN-13	N/A	FIRE SYS DR	B1	NOI	NO
3-35-OPN-14	N/A	FIRE SYS DR	B1	NOI	NO
3-35-OPN-15	N/A	FIRE SYS DR	112	NOI	NO
3-35-OPN-16	N/A	FURNACE VENT	101	NO CHANGE	NO
3-35-OPN-17	N/A	STM COND DR	B1	NOI	NO
3-35-OPN-18	N/A	STM PRV VENT	B1	NO CHANGE	NO
3-35-OPN-19	N/A	STM SYS VENT	ROOF	NO CHANGE	NO
3-35-OPN-20	N/A	STM SYS VENT	112	NO CHANGE	NO
3-35-OPN-21	N/A	VAC PUMP AIR DISCH	101	NO CHANGE	NO
3-35-OPN-22	N/A	FURNACE VENT	101	NO CHANGE	NO
3-35-OPN-23	N/A	VAC PUMP AIR DISCH	105	NO CHANGE	NO
3-35-OPN-24	N/A	STUB	101	NO CHANGE	NO
3-35-OPN-25	N/A	GAS BOTTLE CONN	DOCK	NO CHANGE	NO
3-35-OPN-26	N/A	CONDUIT STUB	101	NO CHANGE	NO

TABLE 2 : TA 3-67 DRAIN SUMMARY

OUTFALL NUMBER	ID NUMBER	ROOM ACTIVITY	ROOM NUMBER	STATUS OR RECOMMENDATIONS	EPA FORM PREPARED
3-67-OPN-1 SANITARY	1LV1	RESTROOM	102	NO CHANGE	NO
	1TL1	RESTROOM	102	NO CHANGE	
	1WF1	OFFICE	101	NO CHANGE	
3-67-OPN-2	WH	RESTROOM	102	NOI	NO

TABLE 3 : TA 3-141 DRAIN SUMMARY

OUTFALL NUMBER	ID NUMBER	ROOM ACTIVITY	ROOM NUMBER	STATUS OR RECOMMENDATIONS	EPA FORM PREPARED
3-141-OPN-1 SANITARY	1FD19	RESTROOM	117	LABEL	NO
	1FD20	RESTROOM	113	LABEL	
	1LV2	RESTROOM	117	NO CHANGE	
	1LV3	RESTROOM	117	NO CHANGE	
	1LV4	RESTROOM	116	NO CHANGE	
	1LV5	RESTROOM	113	NO CHANGE	
	1LV6	RESTROOM	112	NO CHANGE	
	1SD11	JANITOR CLOSET	N/A	LABEL	
	1TL1	RESTROOM	117	NO CHANGE	
	1TL2	RESTROOM	117	NO CHANGE	
	1TL3	RESTROOM	116	NO CHANGE	
	1TL4	RESTROOM	113	NO CHANGE	
	1UR1	RESTROOM	117	NO CHANGE	
	2FD5	MECH ROOM	MEZZ	NO CHANGE	
	2FD6	MECH ROOM	MEZZ	NO CHANGE	
	2FD7	MECH ROOM	MEZZ	CONTAINERIZE	
	2FD8	MECH ROOM	MEZZ	NO CHANGE	
3-141-OPN-2 SANITARY	2FD1	MECH ROOM	MEZZ	NO CHANGE	NO
	2FD2	MECH ROOM	MEZZ	CONTAINERIZE	
	2FD3	MECH ROOM	MEZZ	NO CHANGE	
	2FD4	MECH ROOM	MEZZ	NO CHANGE	
3-141-OPN-3 RLW	1CD1	BERYLLIUM SHOP	136B	LABEL	NO
	1CD2	TESTING LAB	130	LABEL	
	1DW1	CHEM LAB	126	LABEL	
	1FD9	BERYLLIUM SHOP	136B	LABEL	
	1LV1	PWDR METAL PROC	144	LABEL	
	1SD1	RAD MAT'L PROC	150	LABEL	
	1SD2	ROLLING MILL RM	148	LABEL	
	1SD4	DP PROC/FURNACES	136	REMOVED	
	1SD5	DP PROC/FURNACES	136	LABEL	
	1SD6	BERYLLIUM SHOP	136B	LABEL	
	1SD7	ENTRY ROOM	139	REMOVED	
	1SD8	PWDR MTL CHARACT	137	REMOVED	
	1SD9	TESTING LAB	130	LABEL	
1SD10	TESTING LAB	130	LABEL		

TABLE 3 : TA 3-141 DRAIN SUMMARY

OUTFALL NUMBER	ID NUMBER	ROOM ACTIVITY	ROOM NUMBER	STATUS OR RECOMMENDATIONS	EPA FORM PREPARED
3-141-OPN-3 CONT	1SD12	CHEM LAB	126A	LABEL	NO
	1SD13	CHEM LAB	126A	LABEL	
	1SD14	CHEM LAB	126A	LABEL	
	1SH1	RESTROOM	117	LABEL	
	1SH2	RESTROOM	117	LABEL	
	1SH3	RESTROOM	113	LABEL	
	1SP1	RLW SUMP PUMP	EXT	LABEL	
	1SP2	RLW SUMP PUMP	EXT	LABEL	
	1SP3	RLW SUMP PUMP	126	LABEL	
3-141-OPN-4 DAYLIGHT	N/A	COOLANT TANK W/ RUST INHIB MIX	126	CONTAINERIZE	NO
3-141-OPN-5 RLW (PREVIOUS 04A140)	1FD1	THERM SPRAY LAB	144(A)	LABEL	NO
	1FD2	RAD MAT'L PROC	150	TEMP PLUGGED	
	1FD3	ROLLING MILL RM	148	TEMP PLUGGED	
	1FD4	ROLLING MILL RM	148	TEMP PLUGGED	
	1FD5	PWDR METAL PROC	144(B)	TEMP PLUGGED	
	1FD6	PWDR METAL PROC	144(B)	TEMP PLUGGED	
	1FD7	ELECTRONICS LAB	142	LABEL	
	1FD8	BERYLLIUM SHOP	136A	TEMP PLUGGED	
	1FD10	BERYLLIUM SHOP	136A	TEMP PLUGGED	
	1FD11	BERYLLIUM SHOP	136A	TEMP PLUGGED	
	1FD12	FLOOR PIT	136	LABEL	
	1FD13	DP PROC/FURNACES	136	LABEL	
	1FD14	DP PROC/FURNACES	136	TEMP PLUGGED	
	1FD15	DP PROC/FURNACES	136	TEMP PLUGGED	
	1FD16	BERYLLIUM SHOP	141	LABEL	
	1FD17	BERYLLIUM SHOP	141	TEMP PLUGGED	
	1FD18	BERYLLIUM SHOP	141	LABEL	
	1SD3	PWDR METAL PROC	144	REMOVED	
	3-141-OPN-6 DAYLIGHT	N/A	RLW SUMP PIT STORM WTR DISCH.	EXT	
3-141-OPN-7 STORM	RD1	STORM DRAIN	ROOF	NO CHANGE	NO
	RD2	STORM DRAIN	ROOF	NO CHANGE	
	RD3	STORM DRAIN	ROOF	NO CHANGE	
	RD4	STORM DRAIN	ROOF	NO CHANGE	
3-141-OPN-8 STORM	RD6	STORM DRAIN	ROOF	NO CHANGE	NO
	RD7	STORM DRAIN	ROOF	NO CHANGE	

TABLE 3 : TA 3-141 DRAIN SUMMARY

OUTFALL NUMBER	ID NUMBER	ROOM ACTIVITY	ROOM NUMBER	STATUS OR RECOMMENDATIONS	EPA FORM PREPARED
3-141-OPN-9 STORM	RD5	STORM DRAIN	ROOF	NO CHANGE	NO
3-141-OPN-10	N/A	FIRE SYS DRAIN	144(A)	NOI	NO
3-141-OPN-11	N/A	FIRE SYS DRAIN	144(A)	NOI	NO
3-141-OPN-12	N/A	FIRE SYS DRAIN	126	NOI	NO
3-141-OPN-13	N/A	FIRE SYS DRAIN	100	NOI	NO
3-141-OPN-14	N/A	FIRE SYS DRAIN	116	NOI	NO
3-141-OPN-15	N/A	FIRE SYS DRAIN	116	NOI	NO
3-141-OPN-16	N/A	VAC PUMP VENT	144(A)	NO CHANGE	NO
3-141-OPN-17	N/A	VAC PUMP VENT	144(A)	NO CHANGE	NO
3-141-OPN-18	N/A	VAC PUMP VENT	136A	NO CHANGE	NO
3-141-OPN-19	N/A	VAC PUMP VENT	104	REMOVE	NO
3-141-OPN-20	N/A	VAC PUMP VENT	104	NO CHANGE	NO
3-141-OPN-21	N/A	H2 GAS VENT	136A	NO CHANGE	NO
3-141-OPN-22	N/A	ARGON GAS VENT	136A	NO CHANGE	NO
3-141-OPN-23	N/A	HE GAS VENT	136A	NO CHANGE	NO
3-141-OPN-24	N/A	HE GAS VENT	136A	NO CHANGE	NO
3-141-OPN-25	N/A	N2 GAS VENT	EXT	NO CHANGE	NO
3-141-OPN-26	N/A	PIPE STUB	126	REMOVE	NO
3-141-OPN-27	N/A	TANK DRAIN	EXT	NO CHANGE	NO
3-141-OPN-28	N/A	PLB VENT	EXT	NO CHANGE	NO
3-141-OPN-29	N/A	STM SYS VENT	EXT	NO CHANGE	NO
3-141-OPN-30	N/A	SUMP PIT AIR VENT	EXT	NO CHANGE	NO
3-141-OPN-31	N/A	SUMP PIT STORM DISCH	EXT	NOI	NO
3-141-OPN-32	N/A	SUMP PIT AIR VENT	EXT	NO CHANGE	NO
3-141-OPN-33	N/A	PIPE STUB	126	REMOVE	NO
3-141-OPN-34	N/A	PIPE STUB	MEZZ	REMOVE	NO
3-141-OPN-35	N/A	PLB VENT	117	REMOVE	NO
3-141-OPN-36	N/A	RLW PLB VENT	126	LABEL	NO

TABLE 4 : TA 3-145 DRAIN SUMMARY

OUTFALL NUMBER	ID NUMBER	ROOM ACTIVITY	ROOM NUMBER	STATUS OR RECOMMENDATIONS	EPA FORM PREPARED
3-145-OPN-1	BFD1	CABLE VAULT	N/A	NO CHANGE	NO

TABLE 5 : TA 3-169 DRAIN SUMMARY

OUTFALL NUMBER	ID NUMBER	ROOM ACTIVITY	ROOM NUMBER	STATUS OR RECOMMENDATIONS	EPA FORM PREPARED
3-169-OPN-1	N/A	FIRE SYS DRAIN	N/A	NOI	NO
3-169-OPN-2	N/A	FIRE SYS DRAIN	N/A	NOI	NO
3-169-OPN-3	N/A	FIRE SYS DRAIN	N/A	NOI	NO
3-169-OPN-4	N/A	FIRE SYS DRAIN	N/A	NOI	NO
3-169-OPN-5	N/A	FIRE SYS DRAIN	N/A	NOI	NO

TABLE 6 : TA 3-187 DRAIN SUMMARY

OUTFALL NUMBER	ID NUMBER	ROOM ACTIVITY	ROOM NUMBER	STATUS OR RECOMMENDATIONS	EPA FORM PREPARED
3-187-OPN-1 03A024	N/A	COOLING TOWER BLOWDOWN	N/A	DELETE PERMIT	NO

TABLE 7 : TA 3-1264 DRAIN SUMMARY

OUTFALL NUMBER	ID NUMBER	ROOM ACTIVITY	ROOM NUMBER	STATUS OR RECOMMENDATIONS	EPA FORM PREPARED
3-1264-OPN-1 RLW	1TD1	STORAGE	N/A	LABEL	NO
3-1264-OPN-2 RLW	N/A	TK HOSE CONN	N/A	LABEL	NO
3-1264-OPN-3 RLW	N/A	HOLD TK OUTLET	EXT	NO CHANGE	NO
3-1264-OPN-4	BFP	BFP DRAIN	N/A	NOI	NO

TABLE 8 - NON-DRAIN RECOMMENDATIONS

BLDG. #	ROOM/AREA	RECOMMENDATION
141	EXTERIOR	VERIFY/REPAIR POSS RLW LEAK BG
141	EXTERIOR	DELETE PERMIT 04A140 (TO RLW)
187	TOWER	DELETE PERMIT 03A024
ALL	ALL	LABEL ALL RLW DRAINS

TABLE 9
SUMMARY OF ABBREVIATIONS

ABBREVIATION	MEANING
A/C	AIR CONDITIONER
A/H	AIR HANDLER
BFP	BKFLW PREVENTER
CA	COMPRESS AIR
CD	CUP DRAIN
FD	FLOOR DRAIN
FS	FLOOR SINK
EC	EVAP COOLER
LV	LAVATORY
MH	MANHOLE
NOI	NOTICE OF INTENT
PRV	PRESS RELIEF VALVE
RD	ROOF DRAIN
--RLW--	RAD LIQ WASTE
SD	SINK DRAIN
--SD--	STORM DRAIN
SH	NON-EMER SHOWER
--SS--	SANITARY SEWER
TD	TRENCH DRAIN
TL	TOILET
UR	URINAL
WF	WATER FOUNTAIN
WH	WATER HEATER

REPORT #

60

TA	BLDG	OUTLET PIPING NO	EPA OUTFALL #	DRAIN #	ROOM #	ROOM DESCRIPTION	FLOW RATE	PERIODICITY	SEASONAL	SOURCE TYPES
3	35	3-35-OPN-01	01S/SWSC	1LV01	109	REST/CHANGE ROOM		NOT USED	No	LAVATORY
3	35	3-35-OPN-01	01S/SWSC	1LV02	109	REST/CHANGE ROOM		NOT USED	No	LAVATORY
3	35	3-35-OPN-01	01S/SWSC	1SD01	107	JANITOR CLOSET		NOT USED	No	JANITORIAL
3	35	3-35-OPN-01	01S/SWSC	1SH01	109	REST/CHANGE ROOM		NOT USED	No	SHOWER
3	35	3-35-OPN-01	01S/SWSC	1TL01	109	REST/CHANGE ROOM		NOT USED	No	TOILET
3	35	3-35-OPN-01	01S/SWSC	1UR01	109	REST/CHANGE ROOM		NOT USED	No	URINAL
3	35	3-35-OPN-01	01S/SWSC	1WF01	109	REST/CHANGE ROOM		NOT USED	No	WATER FOUNTAIN
3	35	3-35-OPN-01	01S/SWSC	1WF02	105	SHOP (CONTROLLED)		NOT USED	No	WATER FOUNTAIN
3	35	3-35-OPN-01	01S/SWSC	BAD01	N/A	BSMT STAIR WELL		MOSTLY SUMMER	Yes	STORM WATER
3	35	3-35-OPN-01	01S/SWSC	BAD02	EXT	BSMT MECH WELL		MOSTLY SUMMER	Yes	STORM WATER
3	35	3-35-OPN-01	01S/SWSC	BAD03	EXT	BSMT MECH WELL		MOSTLY SUMMER	Yes	STORM WATER
3	35	3-35-OPN-01	01S/SWSC	BAD04	EXT	BSMT MECH WELL		MOSTLY SUMMER	Yes	STORM WATER
3	35	3-35-OPN-01	01S/SWSC	BAD05	B2	BSMT MECH WELL		NO FLOW	No	NONE
3	35	3-35-OPN-01	01S/SWSC	BAD06	EXT	BSMT MECH WELL		MOSTLY SUMMER	Yes	STORM WATER
3	35	3-35-OPN-01	01S/SWSC	BFS01	B1	BSMT MECH RM		7 DAYS PER WEEK	No	A/H CONDENSATES (2)
3	35	3-35-OPN-01	01S/SWSC	BFS01	B1	BSMT MECH RM		NOT USED	No	UNKNOWN PIPE
3	35	3-35-OPN-01	01S/SWSC	BFS02	B1	BSMT MECH RM		NOT USED	No	AIR WASHER DRAIN
3	35	3-35-OPN-01	01S/SWSC	BFS02	B1	BSMT MECH RM		NOT USED	No	WATER SYSTEM DRAIN
3	35	3-35-OPN-01	01S/SWSC	BFS03	B1	BSMT MECH RM		NOT USED	No	AIR WASHER DRAIN
3	35	3-35-OPN-01	01S/SWSC	BFS03	B1	BSMT MECH RM		NOT USED	No	HEAT EXCH DRAINS (2)
3	35	3-35-OPN-01	01S/SWSC	BFS04	B1	BSMT MECH RM		NOT USED	No	HOT WATER TANK DRAIN
3	35	3-35-OPN-01	01S/SWSC	BFS04	B1	BSMT MECH RM		7 DAYS PER WEEK	No	STEAM CONDENSATE DRAIN
3	35	3-35-OPN-01	01S/SWSC	BFS04	B1	BSMT MECH RM		7 DAYS PER WEEK	No	BFP DRAINS (2)
3	35	3-35-OPN-01	01S/SWSC	BFS05	B1	BSMT MECH RM		7 DAYS PER WEEK	No	AIR COMPRESSOR DRAIN
3	35	3-35-OPN-01	01S/SWSC	BFS05	B1	BSMT MECH RM		NOT USED	No	WTR COOLED MOTOR DR
3	35	3-35-OPN-02	RLW	1ED01	104	SHOP (CONTROLLED)		NOT USED	No	NONE
3	35	3-35-OPN-02	RLW	1TD01	105	SHOP (CONTROLLED)		FLOW IS NIL	No	TRENCH DRAIN
3	35	3-35-OPN-03	DAYLIGHT	1RD01	EXT	ROOF		MOSTLY SUMMER	Yes	STORM WATER
3	35	3-35-OPN-04	DAYLIGHT	1RD02	EXT	ROOF		MOSTLY SUMMER	Yes	STORM WATER
3	35	3-35-OPN-04	DAYLIGHT	1RD03	EXT	ROOF		MOSTLY SUMMER	Yes	STORM WATER
3	35	3-35-OPN-05	DAYLIGHT	1RD04	EXT	ROOF		MOSTLY SUMMER	Yes	STORM WATER
3	35	3-35-OPN-06	DAYLIGHT	1RD05	EXT	ROOF		MOSTLY SUMMER	Yes	STORM WATER
3	35	3-35-OPN-07	DAYLIGHT	1RD06	EXT	ROOF		MOSTLY SUMMER	Yes	STORM WATER

REPORT # 60

TA	BLDG	OUTLET PIPING NO	EPA OUTFALL #	DRAIN #	ROOM #	ROOM DESCRIPTION	FLOW RATE	PERIODICITY	SEASONAL	SOURCE TYPES
3	35	3-35-OPN-08	DAYLIGHT	1RD07	EXT	ROOF		MOSTLY SUMMER	Yes	STORM WATER
3	35	3-35-OPN-09	DAYLIGHT	N/A	110	FIRE SYS DRAIN		ANNUAL TESTING	No	FIRE WATER
3	35	3-35-OPN-10	DAYLIGHT	N/A	101	FIRE SYS DRAIN		ANNUAL TESTING	No	FIRE WATER
3	35	3-35-OPN-11	DAYLIGHT	N/A	101B	FIRE SYS DRAIN		ANNUAL TESTING	No	FIRE WATER
3	35	3-35-OPN-12	DAYLIGHT	N/A	B1	FIRE SYS DRAIN		ANNUAL TESTING	No	FIRE WATER
3	35	3-35-OPN-13	DAYLIGHT	N/A	B1	FIRE SYS DRAIN		ANNUAL TESTING	No	FIRE WATER
3	35	3-35-OPN-14	DAYLIGHT	N/A	B1	FIRE SYS DRAIN		ANNUAL TESTING	No	FIRE WATER
3	35	3-35-OPN-15	DAYLIGHT	N/A	112	FIRE SYS DRAIN		ANNUAL TESTING	No	FIRE WATER
3	35	3-35-OPN-16	ATMOSPHERE	N/A	101	FURNACE VENT		NO FLOW	No	FURNACE CONDENSATE
3	35	3-35-OPN-17	DAYLIGHT	N/A	B1	STEAM COND DRAIN		FLOW IS NIL	No	STEAM CONDENSATE
3	35	3-35-OPN-18	ATMOSPHERE	N/A	B1	STEAM PRV		FLOW IS NIL	No	STEAM PRV
3	35	3-35-OPN-19	ATMOSPHERE	N/A	ROOF	STEAM PRV		FLOW IS NIL	No	STEAM
3	35	3-35-OPN-20	ATMOSPHERE	N/A	112	STEAM PRV		FLOW IS NIL	No	STEAM
3	35	3-35-OPN-21	ATMOSPHERE	N/A	101	VAC PUMP AIR DISC		FLOW IS NIL	No	VAC PUMP
3	35	3-35-OPN-22	ATMOSPHERE	N/A	101	FURNACE VENT		NO FLOW	No	FURNACE
3	35	3-35-OPN-23	ATMOSPHERE	N/A	105	VAC PUMP AIR DISC		FLOW IS NIL	No	VAC PUMP
3	35	3-35-OPN-24	N/A	N/A	101	STUB		NO FLOW	No	NONE
3	35	3-35-OPN-25	DAYLIGHT	N/A	DOCK	GAS BOTTLE CONN		NO FLOW	No	GAS BOTTLE CONN
3	35	3-35-OPN-26	ATMOSPHERE	N/A	101	CONDUIT STUB		NO FLOW	No	NONE
3	67	3-67-OPN-01	01S/SWSC	1LV01	102	RESTROOM		5 DAYS PER WEEK	No	LAVATORY
3	67	3-67-OPN-01	01S/SWSC	1TL01	102	RESTROOM		5 DAYS PER WEEK	No	TOILET
3	67	3-67-OPN-01	01S/SWSC	1WF01	101	OFFICE		5 DAYS PER WEEK	No	WATER FOUNTAIN
3	67	3-67-OPN-02	DAYLIGHT	WH	102	RESTROOM		FLOW IS NIL	No	WATER HEATER PRV
3	141	3-141-OPN-01	01S/SWSC	1FD19	117	RESTROOM		FLOW IS NIL	No	FLOOR WASHING
3	141	3-141-OPN-01	01S/SWSC	1FD20	113	RESTROOM		FLOW IS NIL	No	FLOOR WASHING
3	141	3-141-OPN-01	01S/SWSC	1LV02	117	RESTROOM		5 DAYS PER WEEK	No	LAVATORY
3	141	3-141-OPN-01	01S/SWSC	1LV03	117	RESTROOM		5 DAYS PER WEEK	No	LAVATORY
3	141	3-141-OPN-01	01S/SWSC	1LV04	116	RESTROOM		5 DAYS PER WEEK	No	LAVATORY
3	141	3-141-OPN-01	01S/SWSC	1LV05	113	RESTROOM		5 DAYS PER WEEK	No	LAVATORY
3	141	3-141-OPN-01	01S/SWSC	1LV06	112	RESTROOM		5 DAYS PER WEEK	No	LAVATORY
3	141	3-141-OPN-01	01S/SWSC	1SD11	N/A	JANITOR CLOSET		5 DAYS PER WEEK	No	JANITORIAL
3	141	3-141-OPN-01	01S/SWSC	1TL01	117	RESTROOM		5 DAYS PER WEEK	No	TOILET
3	141	3-141-OPN-01	01S/SWSC	1TL02	117	RESTROOM		5 DAYS PER WEEK	No	TOILET

REPORT # 60

TA	BLDG	OUTLET PIPING NO	EPA OUTFALL #	DRAIN #	ROOM #	ROOM DESCRIPTION	FLOW RATE	PERIODICITY	SEASONAL	SOURCE TYPES
3	141	3-141-OPN-01	01S/SWSC	1TL03	116	RESTROOM		5 DAYS PER WEEK	No	TOILET
3	141	3-141-OPN-01	01S/SWSC	1TL04	113	RESTROOM		5 DAYS PER WEEK	No	TOILET
3	141	3-141-OPN-01	01S/SWSC	1UR01	117	RESTROOM		5 DAYS PER WEEK	No	URINAL
3	141	3-141-OPN-01	01S/SWSC	2FD05	MEZZ	MECH ROOM		FLOW IS NIL	No	BFP'S (2)
3	141	3-141-OPN-01	01S/SWSC	2FD06	MEZZ	MECH ROOM		FLOW IS NIL	No	NONE
3	141	3-141-OPN-01	01S/SWSC	2FD07	MEZZ	MECH ROOM		FLOW IS NIL	No	CA TANK DRAIN
3	141	3-141-OPN-01	01S/SWSC	2FD08	MEZZ	MECH ROOM		FLOW IS NIL	No	WH TANK PRV
3	141	3-141-OPN-01	01S/SWSC	2FD08	MEZZ	MECH ROOM		FLOW IS NIL	No	STEAM SYS DRAINS (4)
3	141	3-141-OPN-01	01S/SWSC	2FD08	MEZZ	MECH ROOM		FLOW IS NIL	No	DHW TANK DRAIN
3	141	3-141-OPN-01	01S/SWSC	2FD08	MEZZ	MECH ROOM		FLOW IS NIL	No	STEAM COND. DRAIN
3	141	3-141-OPN-02	01S/SWSC	2FD01	MEZZ	MECH ROOM		FLOW IS NIL	No	A/H CONDENSATE
3	141	3-141-OPN-02	01S/SWSC	2FD02	MEZZ	MECH ROOM		FLOW IS NIL	No	WH PRV
3	141	3-141-OPN-02	01S/SWSC	2FD02	MEZZ	MECH ROOM		FLOW IS NIL	No	CA TANK DRAIN
3	141	3-141-OPN-02	01S/SWSC	2FD03	MEZZ	MECH ROOM		FLOW IS NIL	No	A/H CONDENSATE
3	141	3-141-OPN-02	01S/SWSC	2FD04	MEZZ	MECH ROOM		FLOW IS NIL	No	A/H CONDENSATE
3	141	3-141-OPN-02	01S/SWSC	2FD04	MEZZ	MECH ROOM		FLOW IS NIL	No	BFP
3	141	3-141-OPN-03	RLW	1CD01	136B	BERYLLIUM SHOP		5 DAYS PER WEEK	No	LAB CLEAN-UP
3	141	3-141-OPN-03	RLW	1CD02	130	TESTING LAB		5 DAYS PER WEEK	No	LAB CLEAN-UP
3	141	3-141-OPN-03	RLW	1DW01	126	CHEM LAB		5 DAYS PER WEEK	No	DISH WASHER
3	141	3-141-OPN-03	RLW	1FD09	136B	BERYLLIUM SHOP		FLOW IS NIL	No	FLOOR WASHING
3	141	3-141-OPN-03	RLW	1LV01	144	PWDR METAL PROC		5 DAYS PER WEEK	No	LAVATORY
3	141	3-141-OPN-03	RLW	1SD01	150	RAD MAT'L PROC		5 DAYS PER WEEK	No	SHOP CLEAN-UP
3	141	3-141-OPN-03	RLW	1SD02	148	ROLLING MILL RM		5 DAYS PER WEEK	No	SHOP CLEAN-UP
3	141	3-141-OPN-03	RLW	1SD04	136	DP PROC/FURNACES		NO FLOW	No	NONE
3	141	3-141-OPN-03	RLW	1SD05	136	DP PROC/FURNACES		5 DAYS PER WEEK	No	SHOP CLEAN-UP
3	141	3-141-OPN-03	RLW	1SD06	136B	BERYLLIUM SHOP		5 DAYS PER WEEK	No	SHOP CLEAN-UP
3	141	3-141-OPN-03	RLW	1SD07	139	ENTRY ROOM		NO FLOW	No	NONE
3	141	3-141-OPN-03	RLW	1SD08	137	PWDR MTL CHARAC		NO FLOW	No	NONE
3	141	3-141-OPN-03	RLW	1SD09	130	TESTING LAB		5 DAYS PER WEEK	No	LAB CLEAN-UP
3	141	3-141-OPN-03	RLW	1SD10	130	TESTING LAB		5 DAYS PER WEEK	No	LAB CLEAN-UP
3	141	3-141-OPN-03	RLW	1SD12	126A	CHEM LAB		5 DAYS PER WEEK	No	LAB CLEAN-UP
3	141	3-141-OPN-03	RLW	1SD13	126A	CHEM LAB		5 DAYS PER WEEK	No	LAB CLEAN-UP
3	141	3-141-OPN-03	RLW	1SD14	126A	CHEM LAB		5 DAYS PER WEEK	No	LAB CLEAN-UP

REPORT #

60

TA	BLDG	OUTLET PIPING NO	EPA OUTFALL #	DRAIN #	ROOM #	ROOM DESCRIPTION	FLOW RATE	PERIODICITY	SEASONAL	SOURCE TYPES
3	141	3-141-OPN-03	RLW	1SH01	117	RESTROOM		5 DAYS PER WEEK	No	SHOWER
3	141	3-141-OPN-03	RLW	1SH02	117	RESTROOM		5 DAYS PER WEEK	No	SHOWER
3	141	3-141-OPN-03	RLW	1SH03	126	RESTROOM		5 DAYS PER WEEK	No	SHOWER
3	141	3-141-OPN-03	RLW	1SP01	113	RLW SUMP PUMP		7 DAYS PER WEEK	No	SUMP PUMP
3	141	3-141-OPN-03	RLW	1SP02	EXT	RLW SUMP PUMP		7 DAYS PER WEEK	No	SUMP PUMP
3	141	3-141-OPN-03	RLW	1SP03	EXT	RLW SUMP PUMP		7 DAYS PER WEEK	No	SUMP PUMP
3	141	3-141-OPN-04	DAYLIGHT	N/A	126	COOLANT TANK		7 DAYS PER WEEK	No	COOLANT TANK
3	141	3-141-OPN-05	RLW	1FD01	144(A)	THERMAL SPRAY LAB		FLOW IS NIL	No	FLOOR WASHING
3	141	3-141-OPN-05	RLW	1FD02	150	RAD MAT'L PROC		NO FLOW	No	NONE
3	141	3-141-OPN-05	RLW	1FD03	148	ROLLING MILL RM		NO FLOW	No	NONE
3	141	3-141-OPN-05	RLW	1FD04	148	ROLLING MILL RM		NO FLOW	No	NONE
3	141	3-141-OPN-05	RLW	1FD05	144(B)	PWDR METAL PROC		NO FLOW	No	NONE
3	141	3-141-OPN-05	RLW	1FD06	144(B)	PWDR METAL PROC		NO FLOW	No	NONE
3	141	3-141-OPN-05	RLW	1FD07	142	ELECTRONICS LAB		FLOW IS NIL	No	FLOOR WASHING
3	141	3-141-OPN-05	RLW	1FD08	136A	BERYLLIUM SHOP		NO FLOW	No	NONE
3	141	3-141-OPN-05	RLW	1FD10	136A	BERYLLIUM SHOP		NO FLOW	No	NONE
3	141	3-141-OPN-05	RLW	1FD11	136A	BERYLLIUM SHOP		NO FLOW	No	NONE
3	141	3-141-OPN-05	RLW	1FD12	136	FLOOR PIT		FLOW IS NIL	No	FLOOR WASHING
3	141	3-141-OPN-05	RLW	1FD13	136	DP PROC/FURNACES		FLOW IS NIL	No	FLOOR WASHING
3	141	3-141-OPN-05	RLW	1FD14	136	DP PROC/FURNACES		NO FLOW	No	NONE
3	141	3-141-OPN-05	RLW	1FD15	136	DP PROC/FURNACES		NO FLOW	No	NONE
3	141	3-141-OPN-05	RLW	1FD16	141	BERYLLIUM SHOP		FLOW IS NIL	No	FLOOR WASHING
3	141	3-141-OPN-05	RLW	1FD17	141	BERYLLIUM SHOP		FLOW IS NIL	No	NONE
3	141	3-141-OPN-05	RLW	1FD18	141	BERYLLIUM SHOP		FLOW IS NIL	No	FLOOR WASHING
3	141	3-141-OPN-05	RLW	1SD03	144	PWDR METAL PROC		NO FLOW	No	NONE
3	141	3-141-OPN-05	04A140	N/A	N/A	PERMITTED OUTFALL		NO FLOW	No	NONE
3	141	3-141-OPN-06	DAYLIGHT	N/A	EXT	RLW SUMP PUMP DISC		7 DAYS PER WEEK	No	SUMP PIT DISC
3	141	3-141-OPN-07	DAYLIGHT	RD01	ROOF	STORM DRAIN		MOSTLY SUMMER	Yes	STORM WATER
3	141	3-141-OPN-07	DAYLIGHT	RD02	ROOF	STORM DRAIN		MOSTLY SUMMER	Yes	STORM WATER
3	141	3-141-OPN-07	DAYLIGHT	RD03	ROOF	STORM DRAIN		MOSTLY SUMMER	Yes	STORM WATER
3	141	3-141-OPN-07	DAYLIGHT	RD04	ROOF	STORM DRAIN		MOSTLY SUMMER	Yes	STORM WATER
3	141	3-141-OPN-08	DAYLIGHT	RD06	ROOF	STORM DRAIN		MOSTLY SUMMER	Yes	STORM WATER
3	141	3-141-OPN-08	DAYLIGHT	RD07	ROOF	STORM DRAIN		MOSTLY SUMMER	Yes	STORM WATER

REPORT # 60

TA	BLDG	OUTLET PIPING NO	EPA OUTFALL #	DRAIN #	ROOM #	ROOM DESCRIPTION	FLOW RATE	PERIODICITY	SEASONAL	SOURCE TYPES	
3	141	3-141-OPN-09	DAYLIGHT	RD05	ROOF	STORM DRAIN			MOSTLY SUMMER	Yes	STORM WATER
3	141	3-141-OPN-10	DAYLIGHT	N/A	144(A)	FIRE SYS DRAIN			ANNUAL TESTING	No	FIRE DRAIN
3	141	3-141-OPN-11	DAYLIGHT	N/A	144(A)	FIRE SYS DRAIN			ANNUAL TESTING	No	FIRE DRAIN
3	141	3-141-OPN-12	DAYLIGHT	N/A	126	FIRE SYS DRAIN			ANNUAL TESTING	No	FIRE DRAIN
3	141	3-141-OPN-13	DAYLIGHT	N/A	100	FIRE SYS DRAIN			ANNUAL TESTING	No	FIRE DRAIN
3	141	3-141-OPN-14	DAYLIGHT	N/A	116	FIRE SYS DRAIN			ANNUAL TESTING	No	FIRE DRAIN
3	141	3-141-OPN-15	DAYLIGHT	N/A	116	FIRE SYS DRAIN			ANNUAL TESTING	No	FIRE DRAIN
3	141	3-141-OPN-16	DAYLIGHT	N/A	144(A)	VAC PUMP VENT			NO FLOW	No	VAC PUMP VENT
3	141	3-141-OPN-17	DAYLIGHT	N/A	144(A)	VAC PUMP VENT			NO FLOW	No	VAC PUMP VENT
3	141	3-141-OPN-18	DAYLIGHT	N/A	136A	VAC PUMP VENT			NO FLOW	No	VAC PUMP VENT
3	141	3-141-OPN-19	DAYLIGHT	N/A	104	VAC PUMP VENT			NO FLOW	No	VAC PUMP VENT
3	141	3-141-OPN-20	DAYLIGHT	N/A	104	VAC PUMP VENT			NO FLOW	No	VAC PUMP VENT
3	141	3-141-OPN-21	DAYLIGHT	N/A	136A	H2 GAS VENT			NO FLOW	No	H2 GAS VENT
3	141	3-141-OPN-22	DAYLIGHT	N/A	136A	ARGON GAS VENT			NO FLOW	No	ARGON GAS VENT
3	141	3-141-OPN-23	DAYLIGHT	N/A	136A	HE GAS VENT			NO FLOW	No	HE GAS VENT
3	141	3-141-OPN-24	DAYLIGHT	N/A	EXT	HE GAS VENT			NO FLOW	No	HE GAS VENT
3	141	3-141-OPN-25	DAYLIGHT	N/A	126	HE GAS VENT			NO FLOW	No	H2 GAS VENT
3	141	3-141-OPN-26	DAYLIGHT	N/A	EXT	PIPE STUB			NO FLOW	No	PIPE STUB
3	141	3-141-OPN-27	DAYLIGHT	N/A	EXT	TANK DRAIN			FLOW IS NIL	No	TANK DRAIN
3	141	3-141-OPN-28	DAYLIGHT	N/A	EXT	PLB VENT			NO FLOW	No	PLB VENT
3	141	3-141-OPN-29	DAYLIGHT	N/A	EXT	STEAM SYS VENT			NO FLOW	No	STEAM SYS VENT
3	141	3-141-OPN-30	DAYLIGHT	N/A	EXT	SUMP PIT AIR VENT			NO FLOW	No	SUMP PIT
3	141	3-141-OPN-31	DAYLIGHT	N/A	EXT	SUM PIT PUMP DISC			7 DAYS PER WEEK	No	SUMP PIT
3	141	3-141-OPN-32	DAYLIGHT	N/A	EXT	SUMP PIT AIR VENT			NO FLOW	No	SUMP PIT
3	141	3-141-OPN-33	DAYLIGHT	N/A	126	PIPE STUB			NO FLOW	No	PIPE STUB
3	141	3-141-OPN-34	DAYLIGHT	N/A	MEZZ	PIPE STUB			NO FLOW	No	PIPE STUB
3	141	3-141-OPN-35	DAYLIGHT	N/A	117	PLB VENT			NO FLOW	No	PLB VENT
3	141	3-141-OPN-36	DAYLIGHT	N/A	126	RLW PLB VENT			NO FLOW	No	RLW VENT
3	145	3-145-OPN-01	DRY WELL	BFD01	N/A	CABLE VAULT			FLOW IS NIL	No	STORM WATER
3	147	3-147	ND	N/A	N/A	BUILDING W/O DRAINS			NO FLOW	No	NONE
3	159	3-159	ND	N/A	N/A	BUILDING W/O DRAINS			NO FLOW	No	NONE
3	160	3-160	ND	N/A	N/A	BUILDING W/O DRAINS			NO FLOW	No	NONE
3	161	3-161	ND	N/A	N/A	BUILDING W/O DRAINS			NO FLOW	No	NONE

REPORT # 60

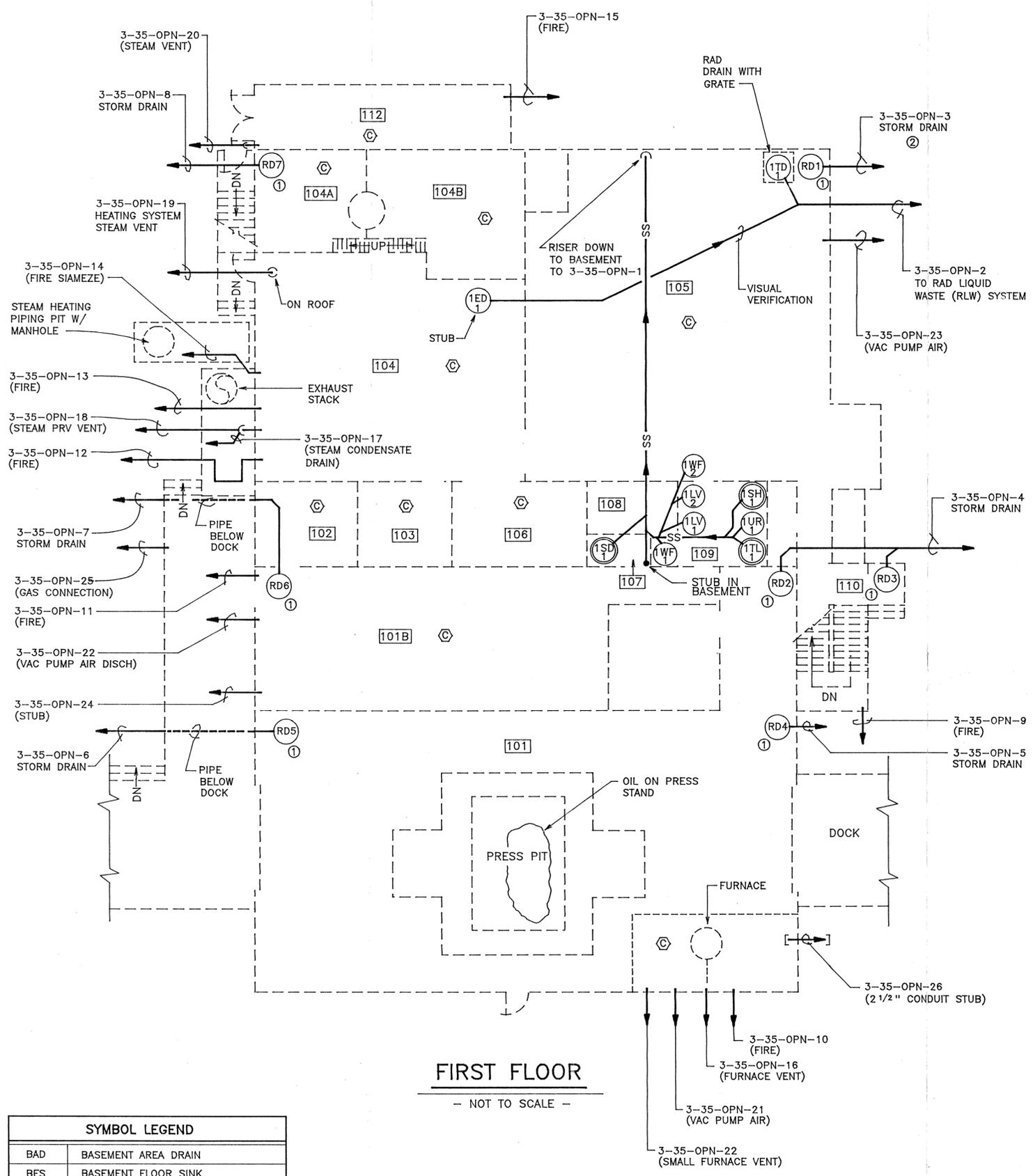
TA	BLDG	OUTLET PIPING NO	EPA OUTFALL #	DRAIN #	ROOM #	ROOM DESCRIPTION	FLOW RATE	PERIODICITY	SEASONAL	SOURCE TYPES
3	169	3-169-OPN-01	DAYLIGHT	N/A	N/A	FIRE SYS DRAIN		ANNUAL TESTING	No	FIRE WATER
3	169	3-169-OPN-02	DAYLIGHT	N/A	N/A	FIRE SYS DRAIN		ANNUAL TESTING	No	FIRE WATER
3	169	3-169-OPN-03	DAYLIGHT	N/A	N/A	FIRE SYS DRAIN		ANNUAL TESTING	No	FIRE WATER
3	169	3-169-OPN-04	DAYLIGHT	N/A	N/A	FIRE SYS DRAIN		ANNUAL TESTING	No	FIRE WATER
3	169	3-169-OPN-05	DAYLIGHT	N/A	N/A	FIRE SYS DRAIN		ANNUAL TESTING	No	FIRE WATER
3	187	3-187-OPN-01	03A024	N/A	N/A	COOLING TOWER BLDN		NOT USED	No	COOLING TOWER BLDN
3	317	3-317	ND	N/A	N/A	BUILDING W/O DRAINS		NO FLOW	No	NONE
3	541	3-541	ND	N/A	N/A	BUILDING W/O DRAINS		NO FLOW	No	NONE
3	1264	3-1264-OPN-01	DAYLIGHT	1TD01	N/A	STORAGE		FLOW IS NIL	No	TRENCH DRAIN
3	1264	3-1264-OPN-02	DAYLIGHT	N/A	N/A	TANK HOSE CONN		FLOW IS NIL	No	TANK HOSE CONN
3	1264	3-1264-OPN-03	DAYLIGHT	N/A	N/A	HOLD TANK OUTLET		7 DAYS PER WEEK	No	TANK HOSE OUTLET
3	1264	3-1264-OPN-04	DAYLIGHT	BFP	N/A	BFP DRAIN		FLOW IS NIL	No	BFP DRAIN
3	1504	3-1504	ND	N/A	N/A	BUILDING W/O DRAINS		NO FLOW	No	NONE
3	1505	3-1505	ND	N/A	N/A	BUILDING W/O DRAINS		NO FLOW	No	NONE
3	1514	3-1514	ND	N/A	N/A	BUILDING W/O DRAINS		NO FLOW	No	NONE
3	1524	3-1524	ND	N/A	N/A	BUILDING W/O DRAINS		NO FLOW	No	NONE
3	1525	3-1525	ND	N/A	N/A	BUILDING W/O DRAINS		NO FLOW	No	NONE
3	1796	3-1796	ND	N/A	N/A	BUILDING W/O DRAINS		NO FLOW	No	NONE
3	2132	3-2132	ND	N/A	N/A	BUILDING W/O DRAINS		NO FLOW	No	NONE
3	2165	3-2165	ND	N/A	N/A	BUILDING W/O DRAINS		NO FLOW	No	NONE

NO

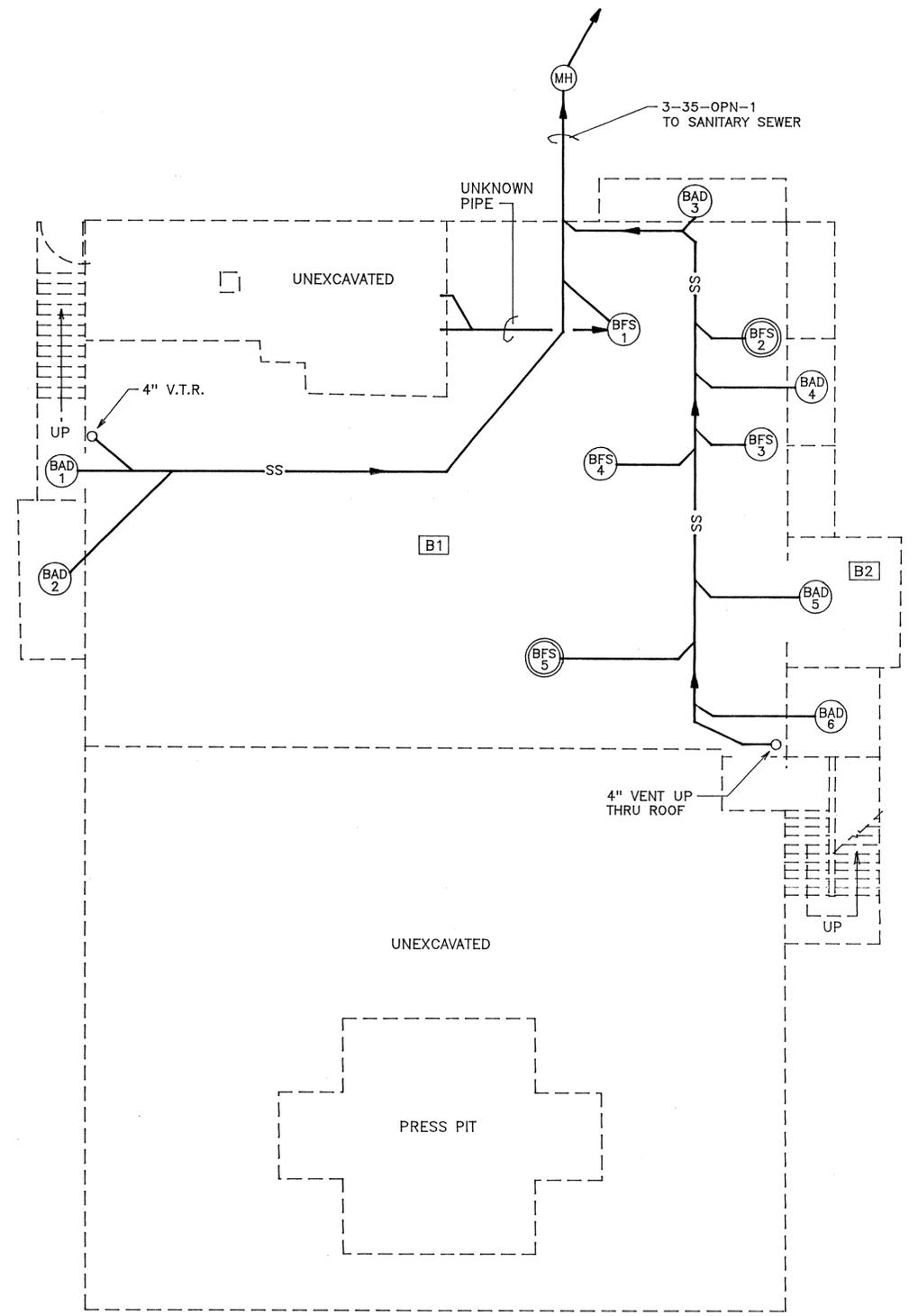
EPA FORMS

DYE STUDY INFORMATION

BUILDIN NUMBER	DRAIN NUMBER	DID DYE REACH EXPECTED DESTINATION?	COMMENTS
3-35	BFS2	YES	OPN-1 SANITARY
3-35	BFS5	YES	OPN-1 SANITARY
3-35	1SD1	YES	OPN-1 SANITARY
3-35	1SH1	YES	OPN-1 SANITARY
3-35	1TL1	YES	OPN-1 SANITARY
3-67	1TL1	YES	OPN-1 SANITARY
3-141	1LV2	YES	OPN-1 SANITARY
3-141	1LV4	YES	OPN-1 SANITARY
3-141	1LV6	YES	OPN-1 SANITARY
3-141	1SD11	YES	OPN-1 SANITARY
3-141	1TL1	YES	OPN-1 SANITARY
3-141	1TL3	YES	OPN-1 SANITARY
3-141	1TL4	YES	OPN-1 SANITARY
3-141	2FD2	YES	OPN-1 SANITARY
3-141	1SH2	YES(DID NOT FLOW TO SAN SEWER)	OPN-3 RLW
3-141	2FD8	YES	OPN-1 SANITARY
3-141	1SD10	YES(DID NOT FLOW TO SAN SEWER)	OPN-3 RLW



FIRST FLOOR
- NOT TO SCALE -



BASEMENT
- NOT TO SCALE -

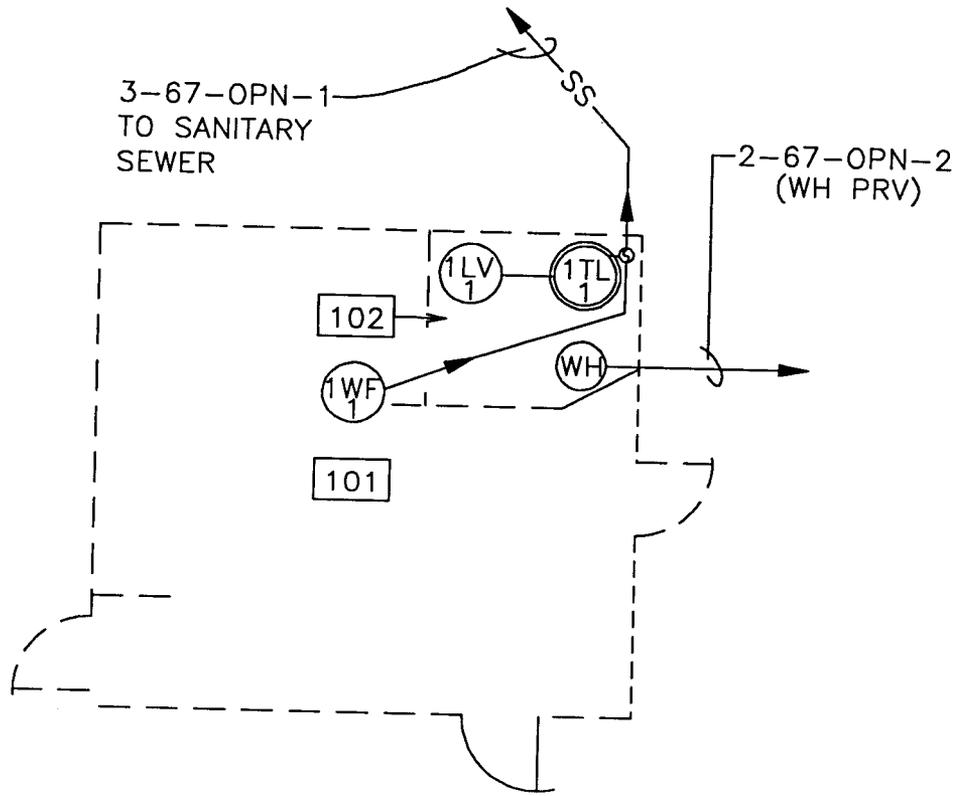
SYMBOL LEGEND	
BAD	BASEMENT AREA DRAIN
BFS	BASEMENT FLOOR SINK
LV	LAVATORY
RD	ROOF DRAIN
SD	SINK DRAIN
TD	TRENCH DRAIN
TL	TOILET
UR	URINAL
WF	WATER FOUNTAIN

- SS - SANITARY SEWER
 DYE TESTED DRAIN
 CONTROLLED AREA (RADIATION)

- KEYED NOTES:**
- ① ROOF DRAINS & PIPING EXPOSED (VISIBLE) FROM INTERIOR OF BUILDING.
 - ② ALL STORM DRAINS DISCHARGE TO DAYLIGHT AT GRADE.

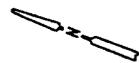
15335-A

SANTA FE ENGINEERING, LTD.			
TA-3-35		DRAIN SCHEMATIC	
DESIGN	S.C.D.	DRAWN	G.S.
CHECKED	P.E.B.	RELEASED	DATE
DATE		1-22-93	
SUBMITTED	RECOMMENDED	APPROVED	
Los Alamos Los Alamos National Laboratory Los Alamos, New Mexico 87545			
CLASSIFICATION	REVIEWER	DATE	SHEET
REQUESTING DIVISION	LAB JOB NO.	DRAWING NO.	REV.
REQUESTING GROUP	11056-60	FIGURE 1	
EM-8			



TA-3-67 FLOOR PLAN

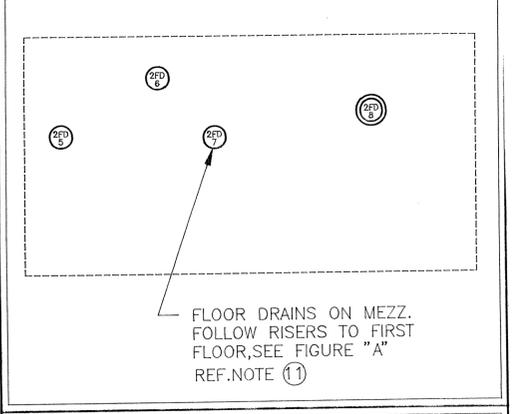
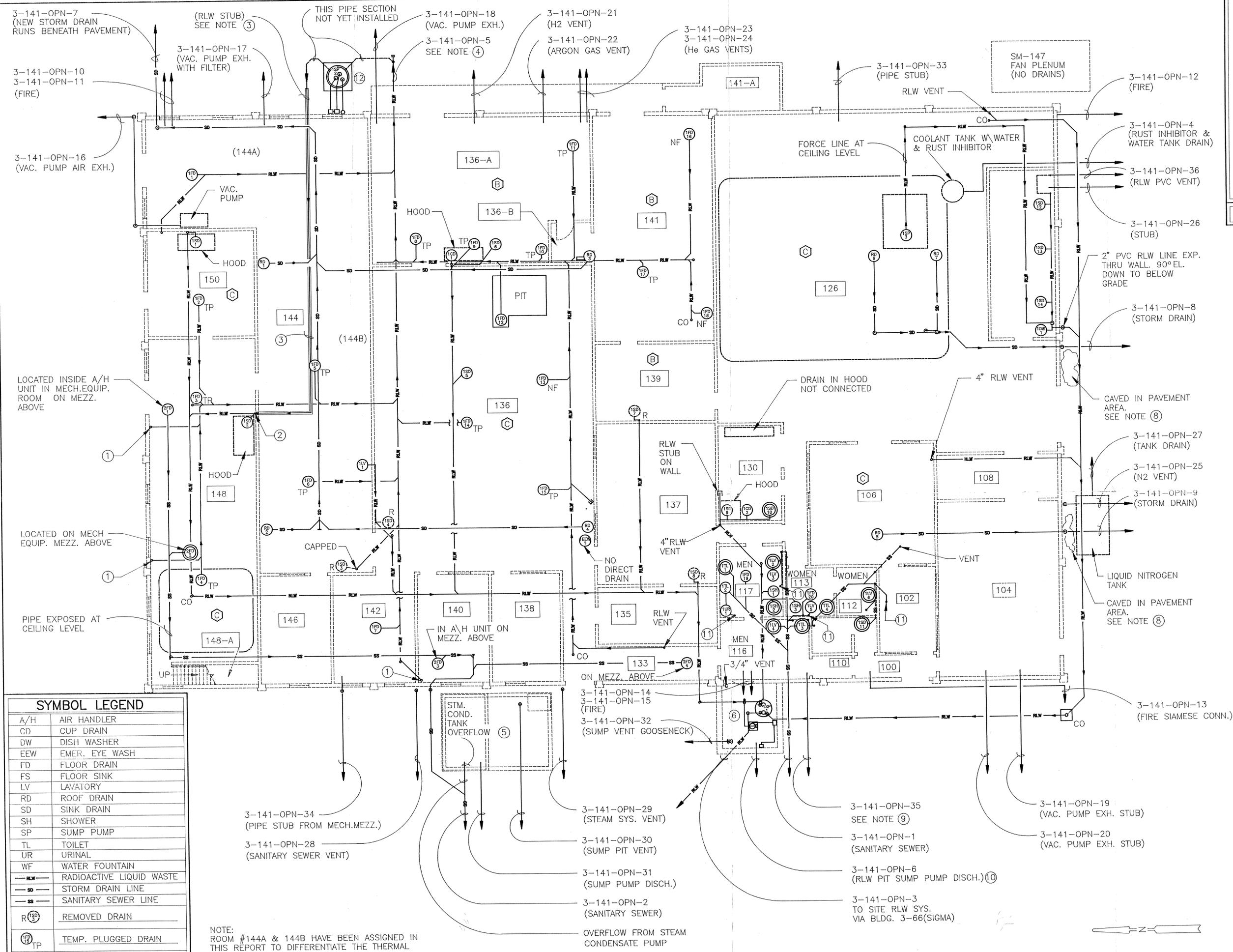
- NOT TO SCALE -



SYMBOL LEGEND	
LV	LAVATORY
PRV	PRESS. RELIEF VALVE
TL	TOILET
WF	WATER FOUNTAIN
WH	WATER HEATER
-SS-	SANITARY SEWER

 DYE TESTED DRAIN

SANTA FE ENGINEERING, LTD.			
<p>TA-3-67 DRAIN SCHEMATIC</p>		DRAWN	G.S.
		DESIGN	S.C.D.
		CHECKED	P.E.B.
		DATE	12-22-92
SUBMITTED	RECOMMENDED	APPROVED	
<p>Los Alamos Los Alamos National Laboratory Los Alamos, New Mexico 87545</p>		SHEET	OF
CLASSIFICATION	REVIEWER	DATE	
REQUESTING DIVISION	LAB JOB NO.	DRAWING NO.	REV.
REQUESTING GROUP	11056-60	FIGURE 2	
EM-8			



MEZZANINE FIGURE "B"

KEYED NOTES:

- ① PIPE STUB CAPPED AT FLOOR LEVEL (RLW).
- ② FUTURE RLW FORCE LINE CONN. FROM 1SP2 TO BE INSTALLED AT THIS LOCATION UNDER LANL PROJ.#13050.
- ③ DOUBLE WALL RLW FORCE LINE AT CEILING LEVEL. CURRENTLY STUBBED OUT AT REAR WALL PENDING COMPLETION OF NEW RLW COLLECTION SUMP.
- ④ THIS LINE ORIGINALLY DISCHARGED AS 04A 140 TO DAYLIGHT AT REAR OF 141. CURRENT PROJECT DELETES THIS LINE & ROUTES TO NEW COLLECTION SUMP.
- ⑤ STEAM CONDENSATE PUMP EXTERIOR TO BLDG. OVERFLOW FEEDS TO SANITARY SEWER.
- ⑥ RADIOACTIVE LIQUID WASTE (RLW) COLLECTION SUMP. EFFLUENT IS PUMPED TO SITE RLW SYSTEM THROUGH BLDG. 3-66 (SIGMA).
- ⑦ RLW LINE BELOW GRADE AT EXTERIOR OF BUILDING.
- ⑧ PAVEMENT AREA IS CAVED-IN, IN THIS LOCATION. POSSIBLE BREAK IN RLW LINE IS SUSPECTED. INVESTIGATION & REPAIR IS BEING INITIATED BY USER GROUP.
- ⑨ THIS LINE EXITS BLDG. ABOUT 6" ABOVE GRADE. TRACING OF THIS LINE FOUND THAT IT CONNECTS TO A SANITARY SEWER RISER.
- ⑩ A SMALL SUMP PUMP DISCHARGES ACCUMULATED STORM WATER AND/OR OTHER FLUID THAT MAY ACCUMULATE IN RLW SUMP PIT.
- ⑪ RISER DOWN FROM FLOOR DRAIN ON MECH. EQUIPMENT MEZZ. ABOVE. SEE FIG."B" ABOVE.
- ⑫ THIS SUMP PUMP WAS ON-SITE BUT NOT YET INSTALLED AT TIME OF THIS INSPECTION.

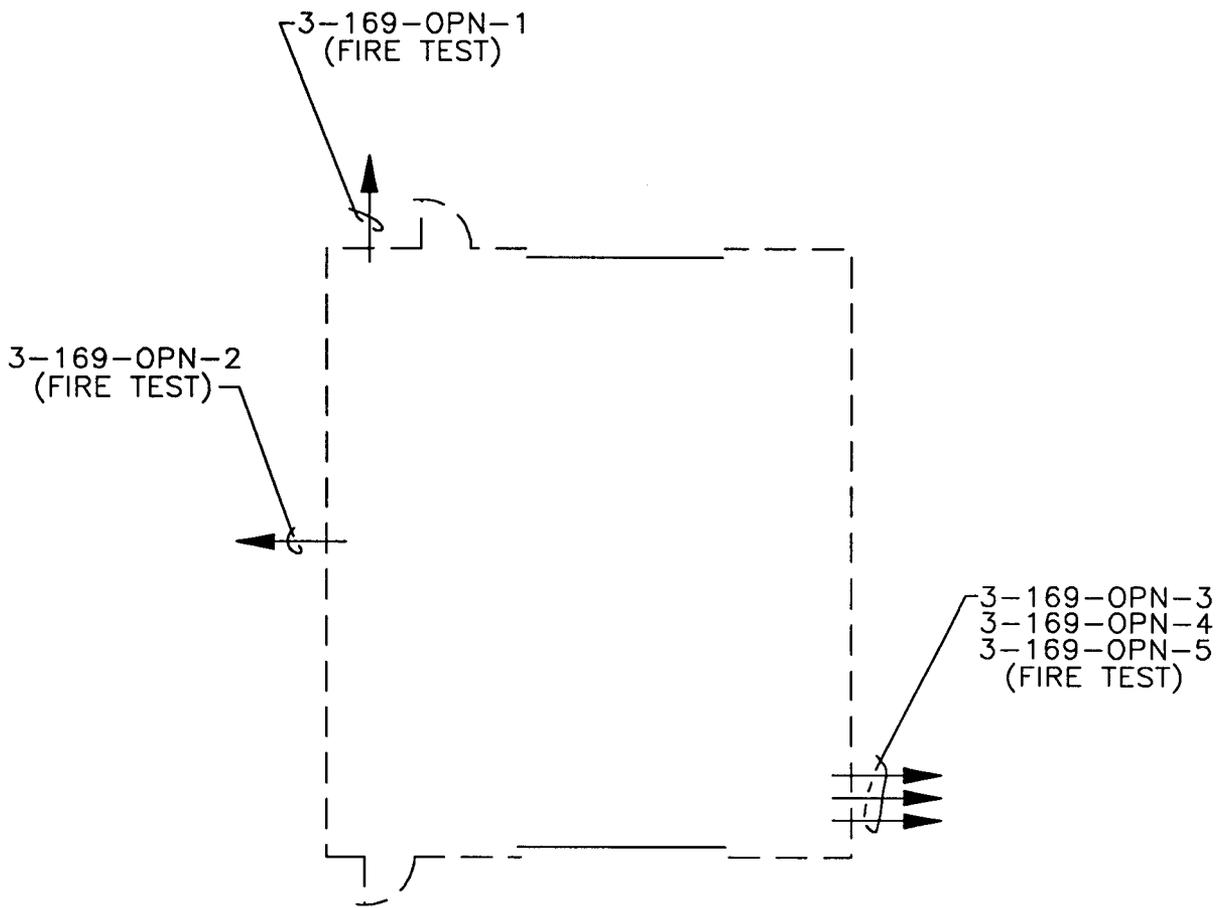
SYMBOL LEGEND	
A/H	AIR HANDLER
CD	CUP DRAIN
DW	DISH WASHER
EEW	EMER. EYE WASH
FD	FLOOR DRAIN
FS	FLOOR SINK
LV	LAVATORY
RD	ROOF DRAIN
SD	SINK DRAIN
SH	SHOWER
SP	SUMP PUMP
TL	TOILET
UR	URINAL
WF	WATER FOUNTAIN
RLW	RADIOACTIVE LIQUID WASTE
SD	STORM DRAIN LINE
SS	SANITARY SEWER LINE
R ^{SP}	REMOVED DRAIN
TP	TEMP. PLUGGED DRAIN
Ⓟ	CONTROLLED AREA DUE TO PRESENCE OF BERYLLIUM
Ⓠ	CONTROLLED AREA DUE TO POSSIBLE RAD. MATERIALS

NOTE:
ROOM #144A & 144B HAVE BEEN ASSIGNED IN THIS REPORT TO DIFFERENTIATE THE THERMAL SPRAY & POWERED METALS PROCESSING AREAS OF ROOM 144.

FIRST FLOOR FIGURE "A"

15335-B

SANTA FE ENGINEERING, LTD.			
TA-3-141		DESIGN	R.L.P.
DRAIN SCHEMATIC		CHECKED	S.C.D.
		RELEASED	P.E.B.
BLDG.141	TA-3	DATE	2/5/93
SUBMITTED	RECOMMENDED	APPROVED	
Los Alamos National Laboratory Los Alamos, New Mexico 87545			
CLASSIFICATION	REVIEWER	DATE	SHEET
REQUESTING DIVISION	LAB JOB NO.	DRAWING NO.	OF
REQUESTING GROUP	11056-60	FIGURE 3	REV.
EM-B			



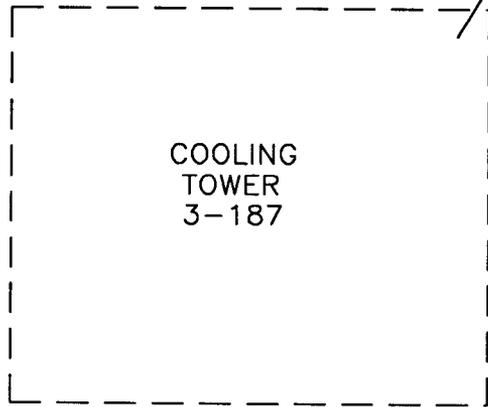
TA-3-169 FLOOR PLAN

- NOT TO SCALE -



SANTA FE ENGINEERING, LTD.				
<p>TA-3-169 DRAIN SCHEMATIC</p>			DRAWN	G.S.
			DESIGN	S.C.D.
			CHECKED	P.E.B.
			DATE	12-22-92
SUBMITTED	RECOMMENDED	APPROVED		
<p>Los Alamos Los Alamos National Laboratory Los Alamos, New Mexico 87545</p>			SHEET	OF
CLASSIFICATION	REVIEWER		DATE	
REQUESTING DIVISION	LAB JOB NO.	DRAWING NO.		REV.
REQUESTING GROUP EM-8	11056-60	FIGURE 5		

3-187-OPN-1
 03A024
 TO STORM DRAINAGE
 DITCH



COOLING
 TOWER
 3-187

NOTE:

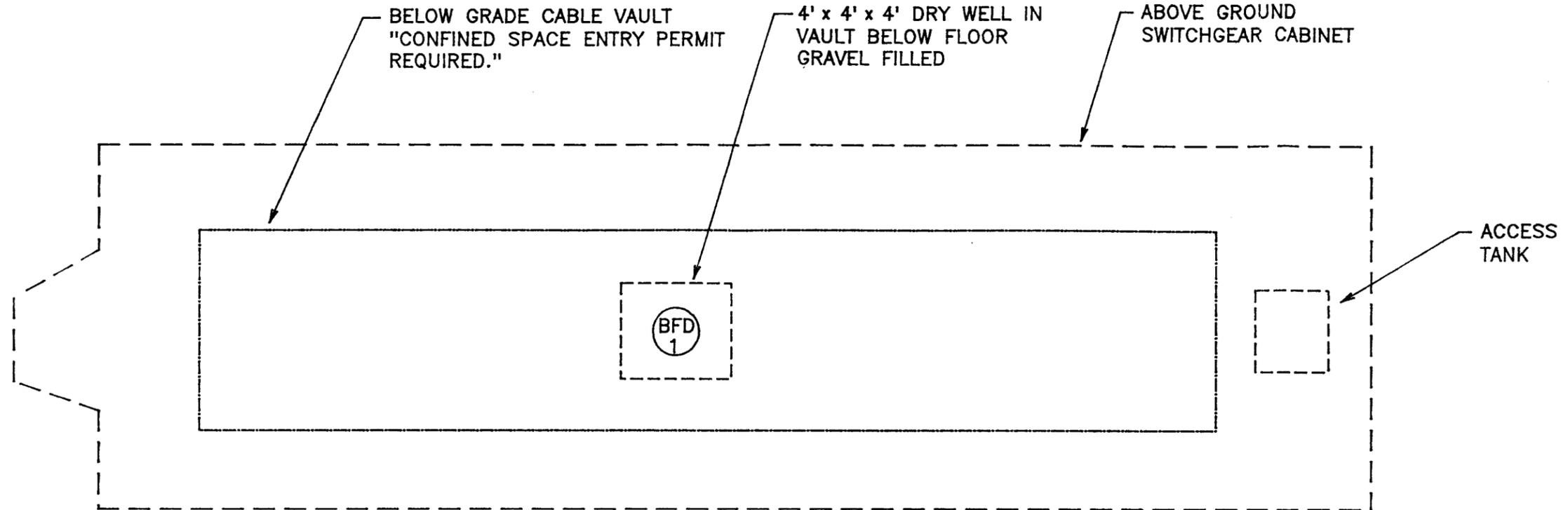
TOWER HAS NOT BEEN
 USED FOR SEVERAL
 YEARS AND IS
 SCHEDULED FOR
 DECOMMISSIONING
 PER J.MITCHELL

DELETION OF THIS PERMIT
 IS RECOMMENDED

TA-3-187
 - NOT TO SCALE -

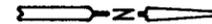


SANTA FE ENGINEERING, LTD.			
TA-3-187 DRAIN SCHEMATIC		DRAWN	G.S.
		DESIGN	S.C.D.
		CHECKED	P.E.B.
		DATE	3-14-93
SUBMITTED		RECOMMENDED	
		APPROVED	
Los Alamos		Los Alamos National Laboratory Los Alamos, New Mexico 87545	
		SHEET	OF
CLASSIFICATION		REVIEWER	
REQUESTING DIVISION		DATE	
REQUESTING GROUP	LAB JOB NO.	DRAWING NO.	REV.
EM-8	11056-60	FIGURE 6	



TA-3-145

- NOT TO SCALE -



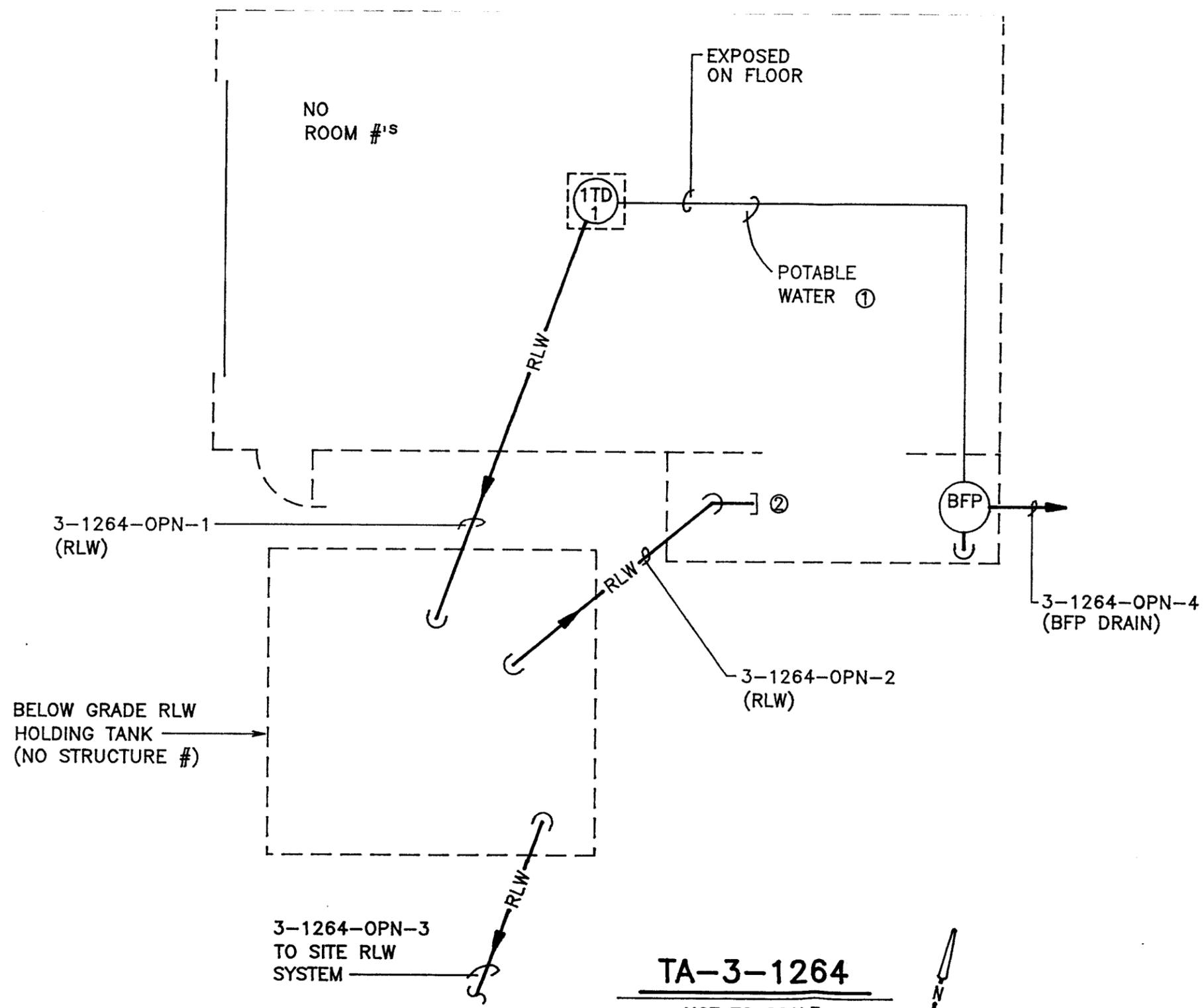
PREPARED FROM SITE VISIT &
DISCUSSION WITH JCI ELEC. ENGINEER.

NOTES:

- ① ACCESS TO VAULT REQUIRES A "CONFINED SPACE ENTRY PERMIT."
- ② CONVERSATION WITH MR. DON BRYANT OF JCI INDICATED THAT THE FLOOR DRAIN & DRY WILL EXIST AS SHOWN.
- ③ THE VAULT AREA CONTAINS ONLY CABLES. NO TRANSFORMERS OR OTHER OIL CONTAINING EQUIPMENT.

SYMBOL LEGEND	
BFD	BSMT. FLOOR DRAIN

SANTA FE ENGINEERING, LTD.			
TA-3-145 DRAIN SCHEMATIC		DRAWN	G.S.
		DESIGN	S.C.D.
		CHECKED	P.E.B.
		RELEASED	
		DATE	4-14-83
SUBMITTED	RECOMMENDED	APPROVED	
Los Alamos		Los Alamos National Laboratory Los Alamos, New Mexico 87545	
CLASSIFICATION	REVIEWER	DATE	SHEET
REQUESTING DIVISION	LAB JOB NO.	DRAWING NO.	OF
REQUESTING GROUP	11056-60	FIGURE 4	REV.
EM-8			



NOTES:

- ① REMOTE CONTROLLED BY EM-7 TO FILL RLW HOLDING TANK.
- ② CONNECTION TO MANUALLY PUMP OUT TANK.

SYMBOL LEGEND	
BFP	BACKFLOW PREVENTER
TD	TRENCH DRAIN
RLW	RADIOACTIVE LIQUID WASTE

3-1264-OPN-3
TO SITE RLW
SYSTEM

TA-3-1264

- NOT TO SCALE -

SANTA FE ENGINEERING, LTD.

**TA-3-1264
DRAIN SCHEMATIC**

DRAWN	G.S.
DESIGN	S.C.D.
CHECKED	P.E.B.
RELEASED	
DATE	2-4-83

SUBMITTED	RECOMMENDED	APPROVED	
Los Alamos Los Alamos National Laboratory Los Alamos, New Mexico 87545		SHEET	OF
CLASSIFICATION	REVIEWER	DATE	
REQUESTING DIVISION	LAB JOB NO.	DRAWING NO.	REV.
REQUESTING GROUP EM-8	11056-60	FIGURE 7	