WASTEWATER STREAM CHARACTERIZATION FOR TA-53-44, 45, 46, 47, 411, 417, 423, 424, 425, 435, 439, 442, 445, 446, 458, 466, 467, 474, 485, 486, 491, 493, 494, 495, 512, 513, 545, 595, 597, 602, 604, 642, 677, 743, 746, 747, 755, 765, 778, 803, 812, 817, 818, 878 AND 894

at

Los Alamos National Laboratory

ENVIRONMENTAL STUDY

CHARACTERIZATION REPORT # 39

15227

ENVIRONMENTAL MANAGEMENT DIVISION
Los Alamos
Los Alamos National Laboratory
Los Alamos, New Mexico 87545

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WASTEWATER STREAM CHARACTERIZATION FOR TA-53-44, 45, 46, 47, 411, 417, 423, 424, 425, 435, 439, 442, 445, 446, 458, 466, 467, 474, 485, 486, 491, 493, 494, 495, 512, 513, 545, 595, 597, 602, 604, 642, 677, 743, 746, 747, 755, 765, 778, 803, 812, 817, 818, 878 and 894

ENVIRONMENTAL STUDY

prepared for:
THE LOS ALAMOS NATIONAL LABORATORY
Los Alamos, New Mexico

under subcontract 9XG8-2874P-1

by:
Santa Fe Engineering, Ltd.
1429 Second Street
Santa Fe, New Mexico 87501
(505) 988-7438

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EXECUTIVE SUMMARY

This report is one in a series of reports for the TA-53 area. It addresses buildings TA-53-44, 45, 46, 47, 411, 417,423, 424, 425, 435, 439, 442, 445, 446, 458, 466, 467, 474, 485, 486, 491, 493, 494, 495, 512, 513, 545, 595, 597, 602, 604, 642, 677, 743, 746, 747, 755, 765, 778, 803, 812, 817, 818, 878 and 894.

All buildings noted above were visited to verify existing drain systems and to characterize existing and/or potential waste streams.

Verified piping systems exiting the buildings are as follows:

1) The following buildings have been removed from the site (salvaged): TA-53-417, 466 and 517.

2) The following building has been removed from the site, transferred to another TA and renumbered: TA-53-493 (now TA-3-535).

3) The following building, a cyrogenics semi-trailer, is in the process of being dismantled (interior equipment) and will be sent to salvage when demolition work is completed: TA-53-642.

4) The following structures have no drains or drain systems: TA-53-45, 411, 423, 424, 435, 445, 446, 458, 467, 474, 485, 486, 491, 494, 495, 513, 545, 595, 597, 602, 604, 677, 743, 747, 748, 755, 765, 778, 803, 812, 817, 818, 878 and 894. All of these structures are either instrument trailers, transportainers or detector sheds.

5) From building 53-44: one (1) outfall to the site sanitary sewer, one (1) incoming gas service line and one (1) outfall from an evaporative cooler drain (NOI).

6) From building 53-46: one (1) outfall to the site sanitary sewer system, one (1) incoming gas service line, one (1) outfall from an evaporative cooler drain (NOI), one (1) capped stub and one (1) disconnected pipe stub.

7) From building 53-47: one (1) outfall to the site sanitary sewer line and two (2) disconnected pipe stubs.

8) From building 53-439: one disconnected pipe stub from a humidifier which has been removed.

9) From building 53-442: one (1) outfall to a site septic tank sanitary sewer, one (1) insulated incoming water line and one (1) water heater PRV discharge to below the trailer floor.

As noted in Tables 1 through 6 of Appendix 1, no EPA permits are

required for the subject buildings and no EPA forms are included in this report.

Recommendations for repiping are provided to allow outfall consolidation to minimize permit maintenance requirements and to bring the facility into compliance with the Laboratory's NPDES Permit.

A waste stream database has been prepared listing wastewater type and flow rate for each outfall.

TABLE OF CONTENTS

1.0	**INTRODUCTION**	1
2.0	**FIELD INVESTIGATION**	3
3.0	**RECOMMENDATIONS FOR BUILDING REMOVED FROM SITE (SALVAGED OR RELOCATED)**	4
4.0	**RECOMMENDATIONS FOR BUILDING WITH NO DRAINS**	4
5.0	**RECOMMENDATIONS FOR BUILDING 53-44**	4
5.1	Outfall 53-44-OPN-1	5
5.2	Outfall 54-44-OPN-2	5
5.3	Outfall 53-44-OPN-3	5
6.0	**RECOMMENDATIONS FOR BUILDING 53-46**	5
6.1	Outfall 53-46-OPN-1	5
6.2	Outfall 53-46-OPN-2	6
6.3	Outfall 53-46-OPN-3	6
6.4	Outfall 53-46-OPN-4	6
6.5	Outfall 53-46-OPN-5	6
7.0	**RECOMMENDATIONS FOR BUILDING 53-47**	7
7.1	Outfall 53-47-OPN-1	7
7.2	Outfall 53-47-OPN-2	7
7.3	Outfall 53-47-OPN-3	7
8.0	**RECOMMENDATIONS FOR BUILDING 53-439**	8
9.0	**RECOMMENDATIONS FOR BUILDING 53-442**	8
9.1	Outfall 53-442-OPN-1	8
9.2	Outfall 53-442-OPN-2	9
9.3	Outfall 53-442-OPN-3	9
10.0	**CONCLUSION**	10

APPENDICES

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

LIST OF TABLES

1. TA-53-44 DRAIN SUMMARY
2. TA-53-46 DRAIN SUMMARY
3. TA-53-47 DRAIN SUMMARY
4. TA-53-439 DRAIN SUMMARY
5. TA-53-442 DRAIN SUMMARY
6. NON-DRAIN RECOMMENDATIONS
7. SUMMARY OF ABBREVIATIONS

LIST OF FIGURES

1. TA-53-44, 45, 46 AND 47 BUILDING DRAIN SCHEMATIC
2. TA-53-439 BUILDING DRAIN SCHEMATIC
3. TA-53-442 BUILDING DRAIN SCHEMATIC
4. TA-53 KEY MAP

1.0 INTRODUCTION

During June and July, 1992, Stephen C. Diamond, P.E. of Santa Fe Engineering (SFE) toured the subject buildings of TA53. 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 flow rate and quality. The location of outfalls and their potential sources of discharge were determined. Potential pollutants were also noted;

3. Permit applications for discharges of clean water discharges 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 4) 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 in 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 schematics. 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 Los Alamos National Laboratory (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 schematic 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

Pipes exiting each 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 each 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 located on. The second part has letters that indicate the drain type (abbreviations used are summarized in Table 7, Appendix 1). The final part is a unique number for each drain. For example, floor drain numbering on the first floor would start with 1FD1. Roof drains do not have the number identifying the floor location, such as RD1 for Roof Drain 1.

The function of each pipe exiting from buildings are listed in Tables 1 through 5 in Appendix 1 with non-drain recommendations in Table 6. 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 3.

3.0 RECOMMENDATIONS FOR BUILDINGS REMOVED FROM THE SITE (SALVAGED OR RELOCATED)

Buildings 53-417, 466 and 512 have been removed from the site and sent to salvage according to ENG-2 personnel. No changes or permitting are recommended. No EPA forms were prepared. Again, according to ENG-2 personnel (Kevin Kennedy), building 53-493 was relocated to TA-3 and renumbered as TA-3-534. This building will be investigated during TA-3 inspections.

Building 53-642 is a semi-trailer housing cyrogenic process equipment. All equipment in the trailer is being removed (demolished) and the trailer is to be sent to salvage when this work is complete. Existing piping exiting the trailer is all cyrogenic gas piping and/or cooling water connections.

4.0 RECOMMENDATIONS FOR BUILDINGS WITH NO DRAINS

Buildings TA-53-45, 411, 423, 424, 435, 445, 446, 458, 467, 474, 485, 486, 491, 494, 495, 513, 545, 595, 597, 602, 604, 677, 743, 746, 748, 755, 765, 778, 803, 812, 817, 818, 878 and 894 do not have drains. All of these buildings are either transportainers, portable metal sheds or office/instrument trailers. No changes or permitting are recommended. No EPA forms were completed.

5.0 RECOMMENDATIONS FOR BUILDING 53-44

Building 53-44 is a modular office building occupied by ENG-5. The building includes office, closets and a hallway, there are no restrooms. It is one of four interconnected modular structures. Table 1 of Appendix addresses the three outfalls for this building and the contributing drains. Figure 1 of Appendix 5 is a building drain schematic.

5.1 Outfall 53-44-OPN-1

This outfall discharges to the site sanitary sewer and receives discharge from a single water fountain. No changes are recommended. No EPA permit is required and no EPA forms have been prepared.

5.2 Outfall 53-44-OPN-2

This is an incoming natural gas service line to the building heating equipment. No changes are recommended. No EPA permit is required and no EPA forms have been prepared.

5.3 Outfall 53-44-OPN-3

This outfall is the overflow/drain to daylight from an exterior evaporative cooler. It is recommended that this occasional discharge be included in the Laboratory Notice of Intent (NOI) to Discharge. No EPA permit is required and no EPA forms have been prepared.

6.0 RECOMMENDATIONS FOR BUILDING 53-46

Building 53-46 is a modular office building occupied by MP-14. The building includes offices, closets, restrooms and a hallway. It is one of four interconnected modular structures. Table 2 of Appendix 1 lists the five outfalls for this building. Figure 1 of Appendix 5 shows a building drain schematic.

6.1 Outfall 53-46-OPN-1

This outfall drains to the site sanitary sewer system. Drains contributing to this outfall included toilets (3), lavatories (3), sink drains (1), urinals (2) and one water heater pressure relief valve (PRV) via the sink drain. No changes are

recommended. No EPA permit is required and no EPA forms have been prepared.

6.2 Outfall 53-46-OPN-2

This is an open pipe stub disconnected in the crawlspace beneath the building. The pipe was previously a plumbing connection for the building at a previous location (building was relocated to this site). It is recommended that the pipe stub be removed or permanently labeled as an abandoned connection. No EPA permit is required and no EPA forms have been prepared.

6.3 Outfall 53-46-OPN-3

This outfall is a capped pipe stub protruding from the west face of the structure. This is an old insulated heating line dating from the building's previous installation. The pipe is disconnected and open to atmosphere in the crawlspace beneath the building. Removal of the pipe stub is recommended. No EPA permit is required and no EPA forms have been prepared.

6.4 Outfall 53-46-OPN-4

This outfall is the overflow/drain to daylight from an exterior evaporative cooler. It is recommended that this occasional discharge be included in the laboratory NOI. No EPA permit is required and no EPA forms have been prepared.

6.5 Outfall 53-46-OPN-5

This is an incoming natural gas service line to the building heating equipment. No changes are recommended. No EPA permit is required and no EPA forms have been prepared.

7.0 RECOMMENDATIONS FOR BUILDING 53-47

Building 53-47 is a modular office building occupied by MP-14. The building includes offices, closets and a hallway, with no restrooms. It is one of four interconnected modular structures. Table 3 of Appendix 1 lists the three outfalls from the building. Figure 1 of Appendix 5 is a building drain schematic.

7.1 Outfall 53-47-OPN-1

This outfall discharges to the site sanitary sewer. It receives flow from a single water fountain. No changes are recommended. No EPA permit is required and no EPA forms have been prepared.

7.2 Outfall 53-47-OPN-2

This is an open pipe stub protruding from the building and is disconnected in the crawlspace below the structure. This pipe was originally a plumbing connection for this building prior to its relocation to TA-53. It is recommended that the stub be removed or permanently labeled as abandoned. No EPA permit is required and no EPA forms have been prepared.

7.3 Outfall 53-47-OPN-3

This is an open pipe stub protruding from the building and is disconnected in the crawlspace below the structure. This pipe was originally a plumbing connection for this building prior to its relocation to TA-53. It is recommended that the stub be removed or permanently labeled as abandoned. No EPA permit is required and no EPA forms have been prepared.

8.0 RECOMMENDATIONS FOR BUILDING 53-439

Building 53-439 is a trailer utilized as one-half of a calibration laboratory. The single outfall to daylight is an insulated pipe stub which served as water supply to a humidifier. This humidifier has been removed and the pipe is no longer in use. No piping changes or permitting is required. No EPA forms have been prepared.

9.0 RECOMMENDATIONS FOR BUILDING 53-442

Building 53-442 is a small office trailer located behind building 53-44 and occupied by MP-10. This office trailer has two offices and a restroom. Table 5 of Appendix 1 lists the three outfalls and their contributing drains. Figure 3 of Appendix 5 is a schematic of the building drain systems.

9.1 Outfall 53-442-OPN-1

This outfall discharges to a small dedicated septic tank/leach field located east of the trailer. This septic system is identified as TA-53-1016 (state req. #SF890023). Drains contributing to this outfall include toilets (1), shower (1) and sink drains (2). Dye testing of the drains was inconclusive and should be verified by the operating group. The access hatch to the septic tank is apparently located over the second compartment (outflow). Although this system is acceptable as-is, it is recommended that consideration be given to installing an access hatch over the first compartment where solids buildup will occur. According to building occupants, the system "does not drain well". This is indicative of solids overloading in the first compartment. An alternate recommendation is to decommission this septic system and install a small lift station to connect this structure to the site sanitary sewer. Since no access currently exists, this tank has probably never been pumped out. No EPA permit is required and no EPA forms have been prepared.

9.2 Outfall 53-442-OPN-2

This is an exposed, insulated water line entering the building. No changes are recommended. No EPA permit is required and no EPA forms have been prepared.

9.3 Outfall 53-442-OPN-3

This is the discharge to daylight (beneath trailer) of a water heater PRV. It is recommended that this occasional discharge be included in the Laboratory NOI. No EPA permit is required and no EPA forms have been prepared.

10.0 CONCLUSION

This document provides the information to characterize the following buildings at TA-53:

TA-53-44, 45, 46, 47, 411, 417,423, 424, 425, 435, 439, 442, 445, 446, 458, 466, 467, 474, 485, 486, 491, 493, 494, 495, 512, 513, 545, 595, 597, 602, 604, 642, 677, 743, 746, 747, 755, 765, 788, 803, 712, 817, 818, 878 and 894.

None of the outfalls associated with the buildings listed above require EPA permits. No EPA forms have been prepared.

Buildings removed from site (salvaged or relocated):

1. 53-417 2. 53-466 3. 53-403 4. 53-512

Buildings to be removed from site (salvaged) in the near future:

1. 53-642 (Cryo-trailer)

Buildings without drains or water sources:

1. 53-45	2. 53-411	3. 53-423	4. 53-424
5. 53-425	6. 53-435	7. 53-445	8. 53-446
9. 53-458	10. 53-467	11. 53-474	12. 53-485
13. 53-486	14. 53-491	15. 53-494	16. 53-495
17. 53-513	18. 53-545	19. 53-595	20. 53-597
21. 53-602	22. 53-604	23. 53-677	24. 53-743
25. 53-747	26. 53-748	27. 53-755	28. 53-765
29. 53-778	30. 53-803	31. 53-812	32. 53-817
33. 53-818	34. 53-878	35. 53-894	

Discharges to the TA-53 Sanitary Sewer System:

1. 53-44-OPN-1 2. 52-46-OPN-1 3. 53-47-OPN-1

Discharge to dedicated site septic system:

1. 53-442

Discharges from PRV's or evaporative cooler equipment to daylight to be listed in Laboratory NOI:

1. 53-44-OPN-3 2. 53-46-OPN-4 3. 53-442-OPN-3

Miscellaneous discharges to daylight:

1. 53-439-OPN-1

Abandoned or disconnected pipe stubs:

1. 53-46-OPN-2 2. 53-46-OPN-3 3. 53-47-OPN-2
4. 53-47-OPN-3

TABLE 1 : TA 53-44 DRAIN SUMMARY

OUTFALL NUMBER	ID NUMBER	ROOM ACTIVITY	ROOM NUMBER	STATUS OR RECOMMENDATIONS	EPA FORM PREPARED
53-44-OPN-1 SAN SEWER	1WF1	HALLWAY	N/A	NO CHANGE	NO
53-44-OPN-2	N/A	NAT GAS LINE	N/A	NO CHANGE	NO
53-44-OPN-3	N/A	EVAP COOLER	N/A	NOI	NO

TABLE 2 : TA 53-46 DRAIN SUMMARY

OUTFALL NUMBER	ID NUMBER	ROOM ACTIVITY	ROOM NUMBER	STATUS OR RECOMMENDATIONS	EPA FORM PREPARED
53-46-OPN-1 SAN SEWER	1LV1	RESTROOM	N/A	NO CHANGE	NO
	1LV2	RESTROOM	N/A	NO CHANGE	
	1LV3	RESTROOM	N/A	NO CHANGE	
	1SD1	RESTROOM	N/A	NO CHANGE	
	1TL1	RESTROOM	N/A	NO CHANGE	
	1TL2	RESTROOM	N/A	NO CHANGE	
	1TL3	RESTROOM	N/A	NO CHANGE	
	1UR1	RESTROOM	N/A	NO CHANGE	
	1UR2	RESTROOM	N/A	NO CHANGE	
53-46-OPN-2	N/A	PIPE STUB	N/A	REMOVE/LABEL	NO
53-46-OPN-3	N/A	CAPPED STUB	N/A	REMOVE/LABEL	NO
53-46-OPN-4	N/A	EVAP COOLER	N/A	NOI	NO
53-46-OPN-5	N/A	NAT GAS LINE	N/A	NO CHANGE	NO

TABLE 3 : TA 53-47 DRAIN SUMMARY

OUTFALL NUMBER	ID NUMBER	ROOM ACTIVITY	ROOM NUMBER	STATUS OR RECOMMENDATIONS	EPA FORM PREPARED
53-47-OPN-1 SAN SEWER	1WF1	HALLWAY	N/A	NO CHANGE	NO
53-47-OPN-2	N/A	PIPE STUB	N/A	REMOVE/LABEL	NO
53-47-OPN-3	N/A	PIPE STUB	N/A	REMOVE/LABEL	NO

TABLE 4 : TA 53-439 DRAIN SUMMARY

OUTFALL NUMBER	ID NUMBER	ROOM ACTIVITY	ROOM NUMBER	STATUS OR RECOMMENDATIONS	EPA FORM PREPARED
53-439-OPN-1	N/A	CALIBRATION LAB	N/A	REMOVE/LABEL	NO

TABLE 5 : TA 53-442 DRAIN SUMMARY

OUTFALL NUMBER	ID NUMBER	ROOM ACTIVITY	ROOM NUMBER	STATUS OR RECOMMENDATIONS	EPA FORM PREPARED
53-442-OPN-1	1SD1	RESTROOM	N/A	VERIFY	NO
SAN SEWER	1SD2	RESTROOM	N/A	VERIFY	
SEPTIC TANK	1SH1	RESTROOM	N/A	VERIFY	
SF890023	1TL1	RESTROOM	N/A	VERIFY	
53-442-OPN-2	N/A	EXTERIOR	N/A	LABEL	NO
53-442-OPN-3	WH	RESTROOM	N/A	NOI	NO

TABLE 6: NON-DRAIN RECOMMENDATIONS

TA #	BLDG. #	ROOM/AREA	RECOMMENDATION
53	ALL	ALL S.S. SINK DRAINS	POST "NO CHEMICAL DN THIS DRAIN" SIGN
53	442	SEPTIC SYSTEM SF890023	CONSIDER DECOMMISSIONING AND INSTALLING LIFT STATION

TABLE 7
SUMMARY OF ABBREVIATIONS

ABBREVIATION	MEANING
LV	LAVATORY
MH	MANHOLE
NOI	NOTICE OF INTEN
PRV	PRESS RELIEF VA
(R)	RISER (UP/DOWN)
SD	SINK DRAIN
SH	NON-EMER SHOW
SS	SANITARY SEWER
TL	TOILET
UR	URINAL
WF	WATER FOUNTAIN
WH	WATER HEATER

REPORT # 39

TA	BLDG	OUTLET PIPING NO	EPA OUTFALL #	DRAIN #	ROOM #	DESCRIPTION	ROOM RATE	FLOW	PERIODICITY	SEASONAL	SOURCE TYPES
53	44	53-44-OPN-1	09S/SWSC	1WF01	N/A	HALLWAY			5 DAYS A WEEK	No	DRINKING FOUNTAIN
53	44	53-44-OPN-2	N/A	N/A	N/A	EXTERIOR			NO FLOW	No	NAT. GAS PIPE
53	44	53-44-OPN-3	DAYLIGHT	N/A	N/A	EXTERIOR	100	GPY	FLOW IS NIL	Yes	EVAP COOLER DRAIN (NOI)
53	45	53-45	ND	N/A	N/A	TRANSPORTAINER			NO FLOW	No	NONE
53	46	53-46-OPN-1	09S/SWSC	1LV01	104	RESTROOM			5 DAYS A WEEK	No	HAND WASH
53	46	53-46-OPN-1	09S/SWSC	1LV02	104	RESTROOM			5 DAYS A WEEK	No	HAND WASH
53	46	53-46-OPN-1	09S/SWSC	1LV03	102	RESTROOM			5 DAYS A WEEK	No	HAND WASH
53	46	53-46-OPN-1	09S/SWSC	1SD01	104	RESTROOM			5 DAYS A WEEK	No	JANITORIAL/WTR HTR PRV DISCH
53	46	53-46-OPN-1	09S/SWSC	1TL01	104	RESTROOM			5 DAYS A WEEK	No	TOILET
53	46	53-46-OPN-1	09S/SWSC	1TL02	104	RESTROOM			5 DAYS A WEEK	No	TOILET
53	46	53-46-OPN-1	09S/SWSC	1TL03	102	RESTROOM			5 DAYS A WEEK	No	TOILET
53	46	53-46-OPN-1	09S/SWSC	1UR01	104	RESTROOM			5 DAYS A WEEK	No	URINAL
53	46	53-46-OPN-1	09S/SWSC	1UR02	104	RESTROOM			5 DAYS A WEEK	No	URINAL
53	46	53-46-OPN-2	N/A	N/A	N/A	EXTERIOR			NO FLOW	No	ABANDONED PIPE STUB
53	46	53-46-OPN-3	N/A	N/A	N/A	EXTERIOR			NO FLOW	No	ABANDONED PIPE STUB
53	46	53-46-OPN-4	DAYLIGHT	N/A	N/A	EXTERIOR	100	GPY	FLOW IS NIL	Yes	EVAP COOLER DRAIN (NOI)
53	46	53-46-OPN-5	N/A	N/A	N/A	EXTERIOR			NO FLOW	No	NAT GAS PIPE
53	47	53-47-OPN-1	09S/SWSC	1WF01	N/A	HALLWAY			5 DAYS A WEEK	No	DRINKING FOUNTAIN
53	47	53-47-OPN-2	N/A	N/A	N/A	EXTERIOR			NO FLOW	No	ABANDONED PIPE STUB
53	47	53-47-OPN-3	N/A	N/A	N/A	EXTERIOR			NO FLOW	No	ABANDONED PIPE STUB
53	411	53-411	ND	N/A	N/A	OFFICE TRAILER			NO FLOW	No	NONE
53	423	53-423	ND	N/A	N/A	OFFICE TRAILER			NO FLOW	No	NONE
53	424	53-424	ND	N/A	N/A	OFFICE TRAILER			NO FLOW	No	NONE
53	435	53-435	ND	N/A	N/A	OFFICE TRAILER			NO FLOW	No	NONE
53	439	53-439-OPN-1	N/A	N/A	N/A	EXTERIOR			NO FLOW	No	ABANDONED PIPE STUB
53	442	53-442-OPN-1	ST SF890023	1SD01		RESTROOM			5 DAYS A WEEK	No	HAND WASH
53	442	53-442-OPN-1	ST SF890023	1SD02		RESTROOM			5 DAYS A WEEK	No	HAND WASH
53	442	53-442-OPN-1	ST SF890023	1SH01		RESTROOM			5 DAYS A WEEK	No	NON-EMER SHOWER
53	442	53-442-OPN-1	ST SF890023	1TL01		RESTROOM			5 DAYS A WEEK	No	TOILET
53	442	53-442-OPN-2	N/A	N/A	N/A	EXTERIOR			NO FLOW	No	INCOMING POTABLE WATER
53	442	53-442-OPN-3	DAYLIGHT	N/A	N/A	RESTROOM			FLOW IS NIL	No	WTR HTR PRV DISCH (NOI)
53	445	53-445	ND	N/A	N/A	LABORATORY TRAILER			NO FLOW	No	NONE
53	446	53-446	ND	N/A	N/A	STORAGE TRAILER			NO FLOW	No	NONE

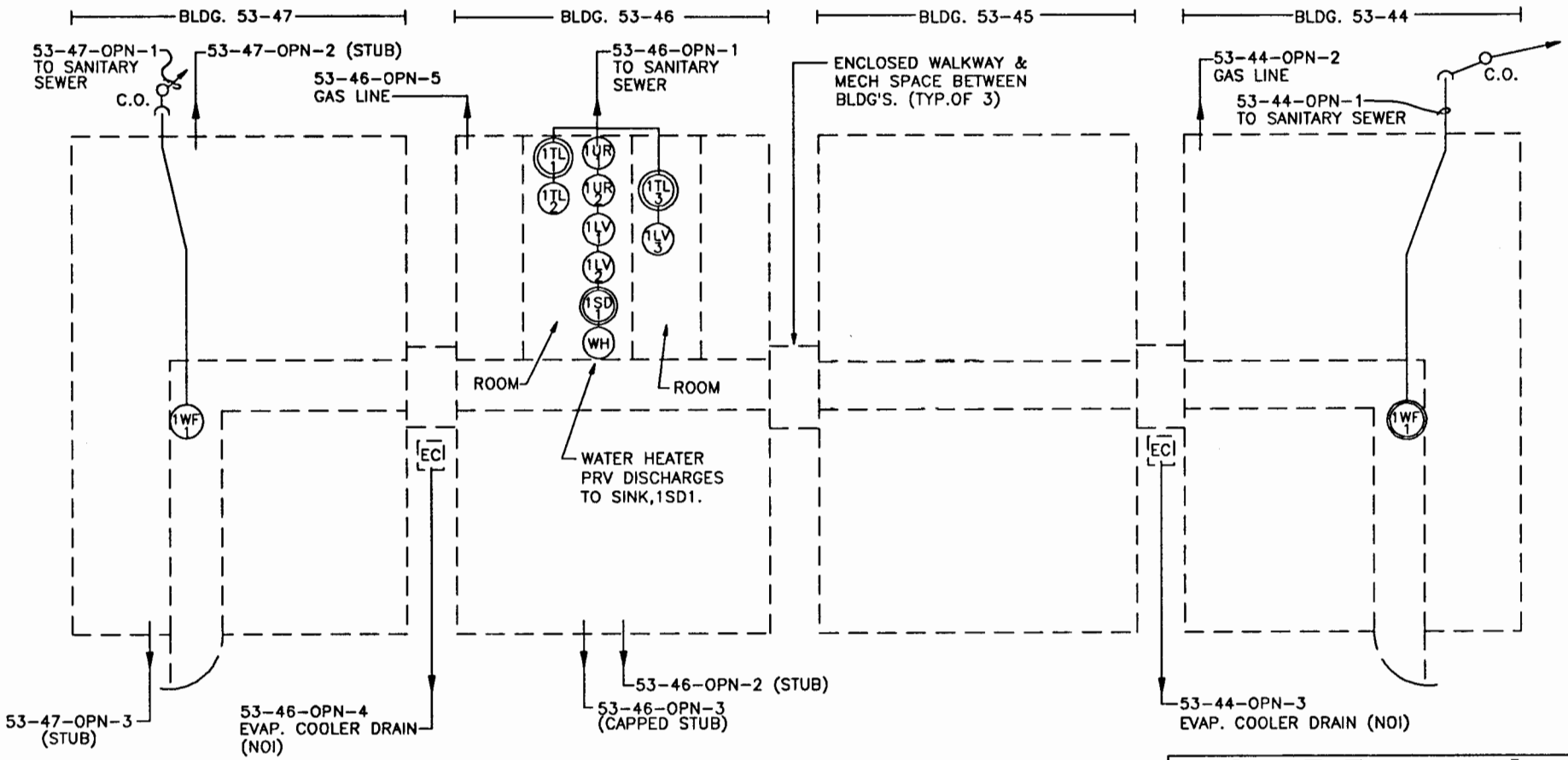
REPORT # 39

TA	BLDG	OUTLET PIPING NO	EPA OUTFALL #	DRAIN #	ROOM #	DESCRIPTION	ROOM RATE	FLOW	PERIODICITY	SEASONAL	SOURCE TYPES
53	458	53-458	ND	N/A	N/A	OFFICE TRAILER			NO FLOW	No	NONE
53	467	53-467	ND	N/A	N/A	OFFICE TRAILER			NO FLOW	No	NONE
53	474	53-474	ND	N/A	N/A	OFFICE TRAILER			NO FLOW	No	NONE
53	485	53-485	ND	N/A	N/A	STORAGE TRAILER			NO FLOW	No	NONE
53	486	53-486	ND	N/A	N/A	STORAGE TRAILER			NO FLOW	No	NONE
53	491	53-491	ND	N/A	N/A	STORAGE TRAILER			NO FLOW	No	NONE
53	494	53-494	ND	N/A	N/A	STORAGE TRAILER			NO FLOW	No	NONE
53	495	53-495	ND	N/A	N/A	STORAGE TRAILER			NO FLOW	No	NONE
53	513	53-513	ND	N/A	N/A	OFFICE TRAILER			NO FLOW	No	NONE
53	545	53-545	ND	N/A	N/A	LABORATORY TRAILER			NO FLOW	No	NONE
53	595	53-595	ND	N/A	N/A	TRANSPORTAINER			NO FLOW	No	NONE
53	597	53-597	ND	N/A	N/A	TRANSPORTAINER			NO FLOW	No	NONE
53	602	53-602	ND	N/A	N/A	TRANSPORTAINER			NO FLOW	No	NONE
53	604	53-604	ND	N/A	N/A	TRANSPORTAINER			NO FLOW	No	NONE
53	677	53-677	ND	N/A	N/A	STORAGE SHED			NO FLOW	No	NONE
53	743	53-743	ND	N/A	N/A	EQUIPMENT TRAILER			NO FLOW	No	NONE
53	746	53-746	ND	N/A	N/A	EQUIPMENT SHED			NO FLOW	No	NONE
53	748	53-748	ND	N/A	N/A	TRANSPORTAINER			NO FLOW	No	NONE
53	755	53-755	ND	N/A	N/A	TRANSPORTAINER			NO FLOW	No	NONE
53	765	53-765	ND	N/A	N/A	TRANSPORTAINER			NO FLOW	No	NONE
53	778	53-778	ND	N/A	N/A	TRANSPORTAINER			NO FLOW	No	NONE
53	803	53-803	ND	N/A	N/A	TRANSPORTAINER			NO FLOW	No	NONE
53	812	53-812	ND	N/A	N/A	TRANSPORTAINER			NO FLOW	No	NONE
53	817	53-817	ND	N/A	N/A	TRANSPORTAINER			NO FLOW	No	NONE
53	818	53-818	ND	N/A	N/A	TRANSPORTAINER			NO FLOW	No	NONE
53	878	53-878	ND	N/A	N/A	TRANSPORTAINER			NO FLOW	No	NONE
53	894	53-894	ND	N/A	N/A	TRANSPORTAINER			NO FLOW	No	NONE

NO EPA FORMS WERE PREPARED

DYE STUDY INFORMATION

BUILDING NUMBER	DRAIN NUMBER	DID DYE REACH EXPECT DESTINATION?	COMMENTS
53-44	1WF1	YES	OPN-1 (SANITARY)
53-46	1SD1	YES	OPN-1 (SANITARY)
53-46	1TL1	YES	OPN-1 (SANITARY)
53-46	1TL3	YES	OPN-1 (SANITARY)
53-442	1SD1	UNKNOWN	OPN-1 (SEPTIC TANK)
53-442	1TL1	UNKNOWN	OPN-1 (SEPTIC TANK)



TA-53-44,45,46,47

– NOT TO SCALE –

NOTES:

1) ALL FOUR (4) OF THESE BLDGS. WERE RELOCATED TO TA-53. PIPE STUBS ARE OLD PLUMBING CONNECTIONS FROM PREVIOUS INSTALLATIONS.

LEGEND

LV	LAVATORY	—SS—	SANITARY SEWER
SD	SINK DRAIN	(1SD 1)	DYE TESTED DRAIN
TL	TOILET		
UR	URINAL		
WF	WATER FOUNTAIN		
WH	WATER HEATER		
— — —	EXISTING FLOOR PLAN		

SANTA FE ENGINEERING, LTD.

TA-53-44,45,46,47
DRAIN SCHEMATIC

DRAWN	G.S.
DESIGN	S.C.D.
CHECKED	P.E.B.
DATE	6-17-92

SUBMITTED | RECOMMENDED | APPROVED

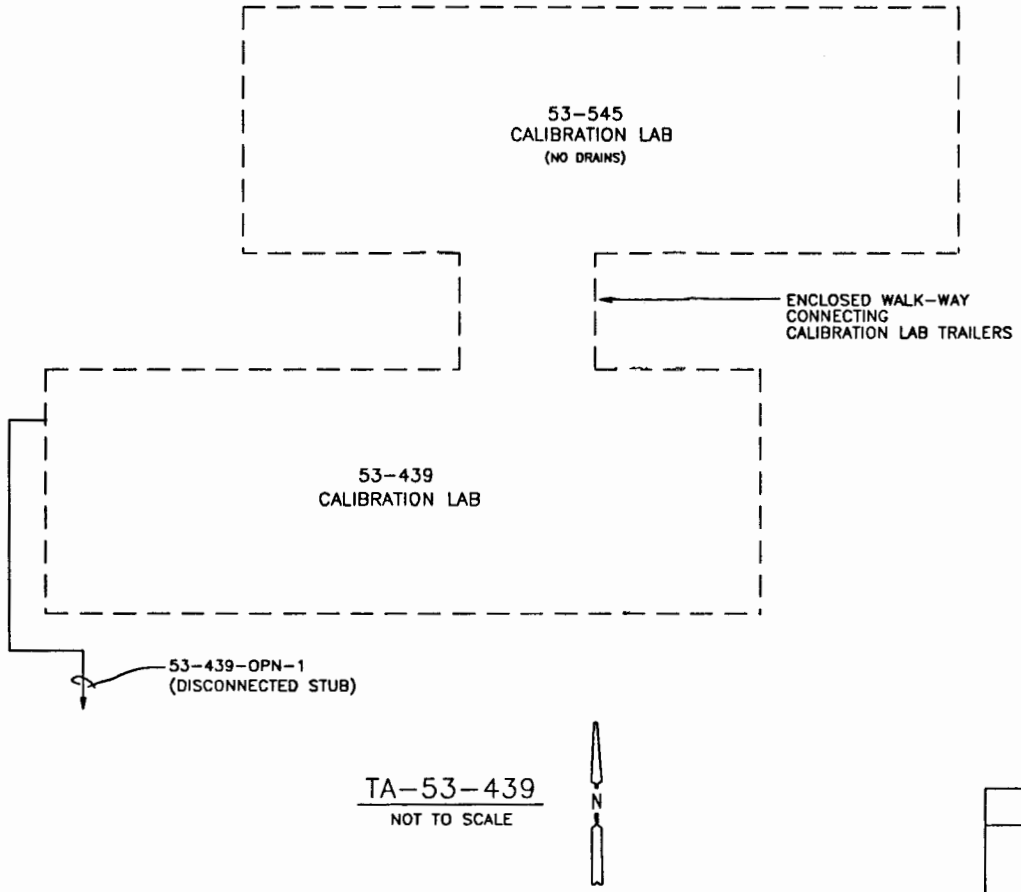
Los Alamos — Los Alamos National Laboratory, Los Alamos, New Mexico 87545

SHEET / OF

CLASSIFICATION | REVIEWER | DATE

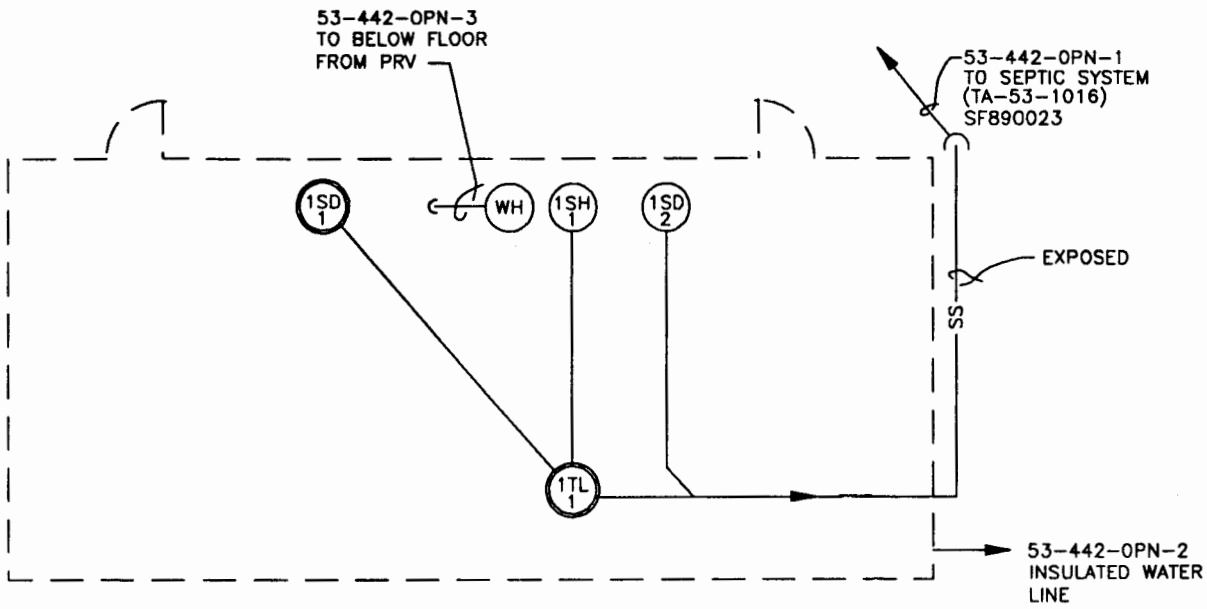
REQUESTING DIVISION | LAB JOB NO. | DRAWING NO. | REV.

REQUESTING GROUP EM-8 | 11056-39 | FIGURE 1



TA-53-439
NOT TO SCALE

SANTA FE ENGINEERING, LTD.		
TA-53-439 DRAIN SCHEMATIC	DRAWN	G.S.
	DESIGN	S.C.D.
	CHECKED	P.E.B.
	DATE	7-13-92
SUBMITTED	RECOMMENDED	APPROVED
Los Alamos — Los Alamos National Laboratory, Los Alamos, New Mexico 87545	SHEET	OF
CLASSIFICATION	REVIEWER	DATE
REQUESTING DIVISION / REQUESTING GROUP EM-8	LAB JOB NO. 11056-39	DRAWING NO. FIGURE 2 / REV.



LEGEND

SD	SINK DRAIN
SH	SHOWER
TL	TOILET
WH	WATER HEATER
— — —	EXISTING FLOOR PLAN
—SS—	SANITARY SEWER
◯	DYE TESTED DRAIN

TA-53-442
OFFICE TRAILER,MP-10
DRAIN SCHEMATIC

- NOT TO SCALE -

SANTA FE ENGINEERING, LTD.

TA-53-442 OFFICE TRAILER,MP-10 DRAIN SCHEMATIC	DRAWN	G.S.
	DESIGN	S.C.D.
	CHECKED	P.E.B.
	DATE	6-15-92

SUBMITTED | RECOMMENDED | APPROVED

Los Alamos — Los Alamos National Laboratory, Los Alamos, New Mexico 87545 — SHEET / OF

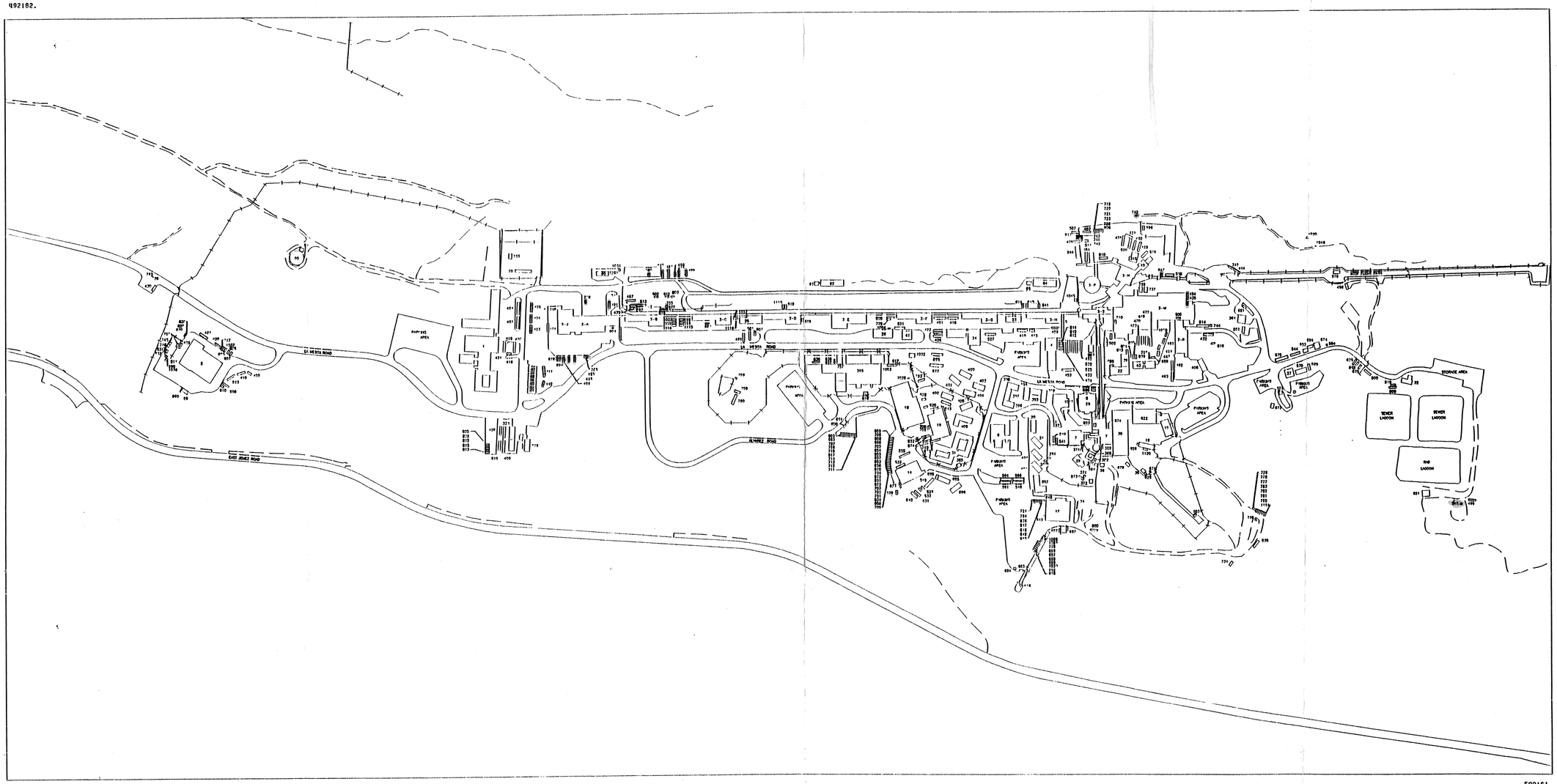
CLASSIFICATION | REVIEWER | DATE

REQUESTING DIVISION	LAB JOB NO.	DRAWING NO.	REV.
REQUESTING GROUP EM-8	11056-39	FIGURE 3	

TA-53

492182. 500161.

1772063. 1772063.



1769226. 1769226.

492182. 500161.

SCALE 1: 3600.

300 0 300 600 FEET

N

TA-53 SITE PLAN			DRAWN	MEW
			DESIGN	MEW
			CHECKED	SCD
			DATE	6-17-92
SUBMITTED	RECOMMENDED	APPROVED		
Los Alamos	Los Alamos National Laboratory Los Alamos, New Mexico 87545		SHEET	1 OF 1
CLASSIFICATION	REVIEWER		DATE	
REQUESTING DIVISION	LAB JOB NO.	DRAWING NO.		REV.
REQUESTING GROUP CM-8	11056-39	FIGURE 4		

15227