

ATTACHMENT G
CONTINGENCY PLANS

EASTMAN KODAK COMPANY and RED-ROCHESTER, LLC
EASTMAN BUSINESS PARK
HAZARDOUS WASTE MANAGEMENT FACILITY
EPA ID NUMBER NYD 980592497

Table of Contents

Multiple Hearth Incinerator (HWMU-32) Contingency Plan.

Appendix G-1: HWMU-32 Emergency Equipment Locations

Figure G-6: HWMU-32 Evacuation Routes and Assembly Points

Table G-1: Hazardous Waste Management Unit Operations Summary

Building 322 Hazardous Waste Storage Tank System (HWMU-33) Contingency Plan

Table G-2: HWMU-33 Emergency Equipment

Figure G-2: HWMU-33 Emergency Equipment Location & Emergency Evacuation Routes

**Title: King's Landing Multiple Hearth Incinerator (HWMU-32)
Contingency Plan**

Date: December 1, 2014

1.0 Purpose:

This Contingency Plan has been developed for the Multiple Hearth Incinerator (MHI) at the King's Landing Wastewater Treatment Plant, Eastman Business Park. Eastman Business Park is owned and operated by the Eastman Kodak Company, and is located at 1669 Lake Avenue, Rochester, New York. The MHI (HWMU-32) is owned and operated by RED-Rochester, LLC.

The Contingency Plan has been designed to minimize hazards to human health and/or the environment from fires, explosions, or any sudden or non-sudden release of hazardous waste or hazardous waste constituents to the air, soil or surface water. The provisions of the plan will be carried out immediately whenever there is a fire, explosion, or release of hazardous waste or hazardous waste constituents that could threaten human health and/or the environment.

2.0 Scope:

This plan outlines the following information:

- General facility description
- Emergency coordinators
- Implementation of the contingency plan
- Emergency response procedures
- Emergency equipment
- Coordination agreements
- Evacuation plans
- Required reports

To the extent possible, tables and figures have been used to present the required information in a concise format. In addition, **Appendix G-1** has been attached to indicate the location of MHI specific emergency response equipment.

3.0 Procedure:

1. GENERAL INFORMATION; § 373-2.4(c)
 - 1.a. FACILITY INFORMATION
 - 1.a.1. FACILITY NAME: Eastman Business Park, Eastman Kodak Company
 - 1.a.2. FACILITY OWNER AND OPERATOR: RED Rochester, LLC
 - 1.a.3. FACILITY LOCATION: 1669 Lake Avenue, Rochester, New York 14652
 - 1.a.3. FACILITY HAZARDOUS WASTE IDENTIFICATION NUMBER: NYD 980592497

2. SITE PLAN; § 373-2.4(c)
 - 2.a. See Appendix B-2, for a site plan of the Eastman Business Park facility and general facility information including:
 - 2.a.1. Facility boundaries, locations of HWMUs, locations of Eastman Business Park fire and emergency response units, locations of Eastman Business Park medical facilities, Eastman Business Park entrances, and exits.
 - 2.b. **Figure G-6** shows HWMU-32 (MHI) in more detail, and indicates evacuation routes and assembly areas.

3. DESCRIPTION OF FACILITY OPERATIONS; § 373-2.4(c)
 - 3.a. The Eastman Business Park site is a large, integrated manufacturing plant producing photographic products and chemicals. It covers over 800 acres and contains nearly 100 major manufacturing buildings. Approximately 8500 people work at Eastman Business Park. Eastman Kodak Company has operated at this location since the turn of the century.
 - 3.b. The Multiple Hearth Incinerator is located at the King's Landing Wastewater Treatment Plant (King's Landing) which is located in Eastman Business Park, in the City of Rochester, New York. King's Landing is bounded by the Genesee River on the east, Maplewood Drive to the west, and vacant lots to the north and south. All the King's Landing operations including the wastewater treatment plant and the associated multiple hearth incinerator are owned and operated by RED.
 - 3.b.1. The Multiple Hearth Incinerator typically treats wastes generated by the wastewater treatment process at King's landing. The Multiple Heath Incinerator, located in Building 95 (B-95), was installed in 1975.

4. EMERGENCY COORDINATORS; § 373-2.4(f)
 - 4.a. Kodak has overall responsibility for emergency response at EBP including King's Landing. At all times there is at least one Kodak employee either on Eastman Business Park premises or on call, available to respond to an emergency by reaching the facility within a short period of time, with the responsibility for coordinating all emergency response measures. The Primary and Alternate Emergency Coordinators are familiar with the Contingency Plan, the operations and activities conducted at the facility, the location and characteristics of wastes handled, the location of records, and the facility layout.

5. PRIMARY EMERGENCY COORDINATOR; § 373-2.4(c)(4) & (f)
 - 5.a. The Manager of the Kodak Safety Department is the Eastman Business Park Emergency Coordinator. Currently, the Emergency Coordinator is:

NAME: Paul A. Statt

TITLE: Supervisor/Chief, Kodak Fire Department
HOME ADDRESS: 41 Monaco Drive, Rochester, New York 14624
WORK PHONE: (585) 722-3722
HOME PHONE: (585) 247-8267

5.b. The EHS manager for RED-Rochester is:

NAME: Karin Klock
TITLE: EHS Manager
HOME ADDRESS: 6 Creek Hill Lane, Rochester, New York 14625
WORK PHONE: (585) 362-3655
HOME PHONE: (585) 362-3655

6. ALTERNATE EMERGENCY COORDINATORS; § 373-2.4(c)(4) & (f)

6.a. The Line Deputy Chief of the Eastman Business Park Fire Department performs the function of Alternate Emergency Coordinator. There is a Line Deputy Chief at Eastman Business Park available 24 hours per day, seven days per week. The designated Line Deputy Chief at the plant site will become the Alternate Emergency Coordinator in the event that an emergency associated with the hazardous waste management units arises. Because there is always a Line Deputy Chief at the plant, no home phone number or address is given below. The Line Deputy Chiefs are full-time fire career service officers and serve as the Senior Fire Official during normal emergency response. They have full responsibility for all fire fighting functions, emergency response, and personnel supervision. The Line Deputy Chief can be contacted at phone ext. 911.

6.a.1. The Line Deputy Chiefs possess extensive knowledge of all Eastman Business Park site activities, having received and participated in training and reporting procedures under CERCLA, RCRA, SARA Title III, and OSHA Hazard Communication. In addition, they continually enhance their skills by attendance at classes at the Federal Emergency Management Agency (FEMA) and the New York State Academy of Fire Science, as well as with individual professional study.

6.b. AUTHORIZATION STATEMENT

6.b.1. The Emergency Coordinator, and in his absence or with his authorization, the Alternate Emergency Coordinator, has been delegated the authority to commit Eastman Kodak Company resources needed to carry out the Contingency Plan and enlist the support of local agency responders.

7. IMPLEMENTATION OF THE CONTINGENCY PLAN; § 373-2.4(g)(1) & (2)
 - 7.a. The Emergency Coordinator, or in his absence the Alternate Emergency Coordinator, is responsible for making the decision for implementing the Contingency Plan. The decision is based on whether or not a release of hazardous waste or hazardous waste constituents could threaten human health and/or the environment. The Emergency Coordinator first assesses the character, source, amount, and aerial extent of any released materials, then uses the criteria presented below for guidance in making his decision. Additional information on identification of hazardous materials and hazard assessment is presented in Sections 8 & 9 (as well as **Table G-1**) of this Plan.
8. FIRE AND/OR EXPLOSIONS; § 373-2.4(g)(3)
 - 8.a. The Contingency Plan will be implemented in the event that a fire or explosion associated with HWMU-32 results in one or more of the following situations. These criteria do not encompass every situation possible, but only those where human health and/or the environment are threatened.
 - 8.a.1. The fire causes a release of fumes in toxic concentrations. This is determined by an assessment of the area where the fire is located and the types of materials or operations in that area.
 - 8.a.2. The fire spreads and could possibly ignite materials at other locations on-site or could cause heat-induced explosions.
 - 8.a.3. The fire spreads and could possibly threaten off-site areas.
 - 8.a.4. Use of water or water and chemical fire suppressant could result in contaminated runoff that would not enter the wastewater treatment process.
 - 8.a.5. An imminent danger exists that an explosion could occur, causing a hazard because of flying fragments or shock waves.
 - 8.a.6. An imminent danger exists that an explosion could ignite other hazardous wastes at the facility.
 - 8.a.7. An imminent danger exists that an explosion could result in a release of a toxic material or if an explosion has occurred.
9. SPILLS OR RELEASE OF HAZARDOUS WASTES; § 373-2.4(g)(3)
 - 9.a. The Contingency Plan will be implemented if an unplanned sudden or non-sudden release of hazardous wastes could result in one or more of the following situations:
 - 9.a.1. The spill or release could result in flammable concentrations of liquids or vapors, thereby creating a fire or explosion hazard sufficient to threaten human health and/or the environment.

- 9.a.2. The spill could cause the release of toxic liquids or fumes in sufficient quantities or concentrations to create a threat to human health and/or the environment.
- 9.a.3. The spill can be contained on-site, but there is evidence of soil contamination sufficient to create a threat to human health and/or the environment.
- 9.a.4. The spill cannot be contained on-site, resulting in off-site soil contamination and/or surface water pollution sufficient to create a threat to human health and/or the environment.

10. EMERGENCY RESPONSE PROCEDURES; § 373-2.4(g)(4)

- 10.a. Eastman Kodak Company has emergency plans for Eastman Business Park. The objective of the emergency plans for Eastman Business Park site are to ensure that fully qualified and certified personnel from both Kodak and the community, when necessary, are rapidly mobilized to deal with emergency situations and conditions which may adversely impact human health and the environment. These emergency plans contain the following information:
 - 10.a.1. How personnel should respond in the event of an emergency and whom they should contact.
 - 10.a.2. Who responds to an emergency situation; the delegation of authority; and the roles and responsibilities of the responder(s).
 - 10.a.3. Eastman Kodak Company arrangements with appropriate civil authorities, local hospitals, and other community agencies.
- 10.b. The procedures outlined in this plan are followed in the event of an emergency at Eastman Business Park whether or not the situation occurs at HWMU-32. Implementation of these procedures does not necessarily result in implementation of the Contingency Plan.
- 10.c. As the person in charge of the Command Post, the Emergency Coordinator or Alternate Emergency Coordinator will decide when it is necessary to implement the Contingency Plan based on the criteria given in Section 7 of this Plan.

11. NOTIFICATION; § 373-2.4(g)(1)

- 11.a. RED personnel working at HWMU-32 have access to a communications device (e.g., telephone, intercom, or two-way radio) or alarm system capable of summoning help or providing instruction in the event of an emergency.
- 11.b. The Emergency Coordinator will direct the appropriate Eastman Business Park organizational unit to notify appropriate state or local civil authorities of the emergency. A listing of authorities is provided in Section 22 of this Plan.

12. IDENTIFICATION OF HAZARDOUS MATERIALS; § 373-2.4(g)(3)

- 12.a. The Emergency Coordinator is familiar with the general character of wastes managed at HWMU-32. **Table G-1** provides the waste description, major constituents, and waste sources of the materials at HWMU-32.
- 12.b. In the event of an emergency, the Emergency Coordinator will review **Table G-1** for general information. If additional information is required, the Emergency Coordinator will contact the appropriate Kodak and RED personnel through the list of contacts maintained at the Kodak Communications Center. In the event assistance is needed from outside agencies, the Emergency Coordinator will be responsible for communicating potential hazard information to other agencies.
- 12.c. Responsible RED operating personnel are on duty at HWMU-32 on a continuous 24-hour, seven-day basis. Information on releases from HWMU-32 will be readily available to the Emergency Coordinator from the operating supervision. This will make possible rapid identification of the character, and an estimate of the amount and aerial extent of any released materials. The operating record maintained at HWMU-32 is another source of information, if necessary, on the character of the release.
13. HAZARD ASSESSMENT; § 373-2.4(g)(4)
- 13.a. The Emergency Coordinator may call on the capabilities of RED Environmental, Health and Safety (EHS) resources to assist in the assessment and control of an emergency. If an assessment indicates a potential threat to human health and/or the environment outside of the facility, notification of state and local civil authorities will take place.
14. CONTROL PROCEDURES; § 373-2.4(g)(6)
- 14.a. The possibility of a fire or explosion at HWMU-32 exists, although the potential is low due to established safety procedures and equipment design. The spread of fire to other areas of Eastman Business Park site beyond the Multiple Hearth Incinerator is unlikely due to the characteristics of the aqueous materials managed at the facility and the physical location of the unit. In addition, the facility is equipped with fire suppression systems and instrumentation with associated cutoffs, in response to emergency conditions. Specific control procedures are set forth in RED's Emergency Response Procedures.
- 14.b. Plant roadways are maintained by Kodak to allow for the access of fire equipment to the King's Landing where HWMU-32 is located.
15. PREVENTION OF RECURRENCE OR SPREAD OF FIRES, EXPLOSIONS, OR RELEASES; § 373-2.4(g)(5)
- 15.a. When necessary to ensure that fires, explosions, or hazardous waste releases do not occur, recur, or spread, the Emergency Coordinator will direct operating personnel to shut down pumps, close valves, discontinue MHI operations and close the auxiliary fuel supply valves, if this can be done safely, although systems are programmed to do this automatically in the event of an emergency. While equipment is shut down, temperature,

pressure, level, etc. gauges will be inspected, if it can be done safely, at frequent intervals to ensure there are no leaks, pressure buildup, gas generation, or rupture of valves, piping or other equipment.

- 15.b. In the event of a fire or explosion, after it is deemed safe, any residue remaining will be handled and managed appropriately to provide for clean up.

16. STORAGE AND TREATMENT OF RELEASED MATERIAL; § 373-2.4(g)(7)

- 16.a. As soon as the immediate risk to life and/or property no longer exists at the emergency scene or the site of a hazardous waste release, the clean-up effort and restoration of services will begin.
- 16.b. Small spills or leaks will be absorbed using an appropriate absorbent whenever possible. In some instances, spilled material may also be flushed to the wastewater treatment process. The contaminated absorbent will be cleaned up and packaged in drums for treatment or disposal.
- 16.c. Larger spills or leaks of liquids will be contained to the extent possible through the use of temporary dams and dikes established using materials carried on the spill response vehicles or available from the operating unit.
- 16.d. The area impacted by any spill will be adequately cleaned up. Visual inspection or appropriate analytical verification will be used to determine when the cleanup has been completed.
- 16.e. If necessary, a subsurface environmental quality assessment will be performed. Consideration will be given to identifying the nature and quantity of the spilled material, review of available soil and groundwater data for the area, and a review of available potential remedial options. Any long-term environmental effect resulting from the release, not captured by the initial response will be addressed under the RED Corrective Action Program.
- 16.f. Contaminated materials will be evaluated for the applicability of state and federal hazardous waste land disposal restrictions. Contaminated materials will be properly characterized and managed at an appropriate storage treatment, or disposal facility.

17. INCOMPATIBLE WASTE; § 373-2.4(g)(8)

- 17.a. Compatibility is based on solvent type and characteristics of the wastes. Decisions as to the compatibility and joint storage of the wastes are based on an evaluation of the solubility and potential reactivity of the mixture. Compatibility is determined through a review of the individual processes generating the waste. Where the compatibility of a waste with other wastes is unknown, it will be determined based on the judgment of a chemist, engineer, or other person trained, experienced, and designated to make such a determination based upon the known characteristics of the waste involved.

In addition, bench scale and analytical testing may be conducted to verify the compatibility of material prior to acceptance.

18. POST-EMERGENCY EQUIPMENT MAINTENANCE; § 373-2.4(g)(8) & (9)

18.a. Any on-site emergency equipment used will be inspected, and cleaned or replaced as necessary, before hazardous waste management operations are resumed at the unit. Any equipment used in response to an emergency that requires decontamination, will be cleaned at an existing temporary decontamination facility, or if necessary one will be constructed. The basic design criteria used in the construction of a temporary decontamination facility are:

18.a.1. Prevent over spray from contaminating the surrounding area.

18.a.2. Contain liquids and/or solids generated as a result of decontaminating the equipment.

18.a.3. Properly manage liquids and/or solids generated as a result of decontaminating the equipment.

18.b. The Commissioner of the New York State Department of Environmental Conservation (NYSDEC) and appropriate state and local authorities will be notified that all emergency equipment has been cleaned and is fit for its intended use before operations are resumed in any affected area of the hazardous waste management unit.

19. EMERGENCY EQUIPMENT; § 373-2.4(c)(5)

19.a. Kodak has its own Fire Department that is able to mobilize initial spill control equipment, fire control equipment, and personnel protective equipment in the event that the Contingency Plan is implemented.

19.b. Emergency response equipment at HWMU-32 is listed in **Table G-1**. Local emergency responders will provide additional equipment as needed.

19.c. Kodak medical personnel are aware of the properties of materials handled and are familiar with the types of injuries or illnesses that could result from emergency situations.

19.d. Kodak maintains good relationships with the major hospitals in Monroe County and periodically discusses emergency capabilities with these hospitals.

20. COORDINATION AGREEMENTS; § 373-2.4(d)(4)

20.a. Response to emergency situations at the Eastman Business Park site by community emergency response and support services is coordinated under the provisions of the Comprehensive Monroe County Hazardous Materials Emergency Plan (MCHMEP). The MCHMEP outlines the role of all agencies and government units expected to participate in any phase of a significant emergency and provides for the public sector coordination of

those units. When the services of these agencies are needed, the Kodak Communications Center will contact the Monroe County Office of Emergency Communications (911 Center) via direct telephone line.

- 20.b. Community emergency management and response command personnel who are likely to deal with the Eastman Business Park site during an emergency have been provided with copies of this Contingency Plan. Organizations included are:

- City of Rochester Fire Department
- City of Rochester Police Department
- Greece-Ridge Fire Department
- Town of Greece Police Department
- Town of Irondequoit Police Department
- St. Paul Fire Department
- Park Ridge Hospital
- Rochester General Hospital
- Strong Memorial Hospital
- NYSDEC-Emergency Response Team
- Monroe County Local Emergency Planning Committee
- Monroe County Fire Bureau (HazMat Team)

- 20.c. A copy of the Contingency Plan will also be available to all contractors performing work at HWMU-32.

21. EVACUATION PLAN; § 373-2.4(c)(6)

- 21.a. The primary and secondary emergency evacuation routes (and associated assembly points) are illustrated in **Figure G-6**.

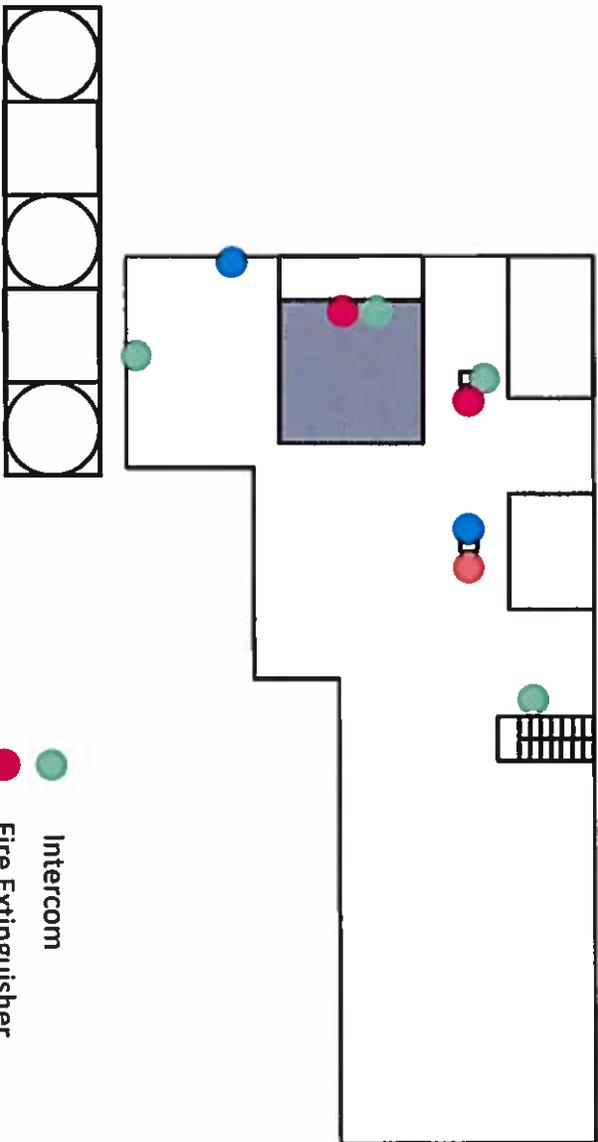
22. REPORTING REQUIREMENTS; § 373-2.4(g)(9) & (10)

- 22.a. RED has a representative at the plant site or on call 24 hours a day. If notified by the Emergency Coordinator that the Contingency Plan is being implemented, the representative will be directed to notify as appropriate:

	<u>Agency</u>	<u>Telephone Number</u>
1.	Monroe County Office of Emergency Preparedness	585-473-0710
2.	Monroe County Department of Health	585-274-6052 or 274-6050 or 274-6051 or 274-6067 or Non-working hours 428-5141
3.	New York State Department of Environmental Conservation, Region 8 Office, Avon, NY	585-226-2466
	Non-working hours	607-324-4504
	NYSDEC Spill Hot Line Number	800-457-7362
4.	National Response Center	800-424-8802

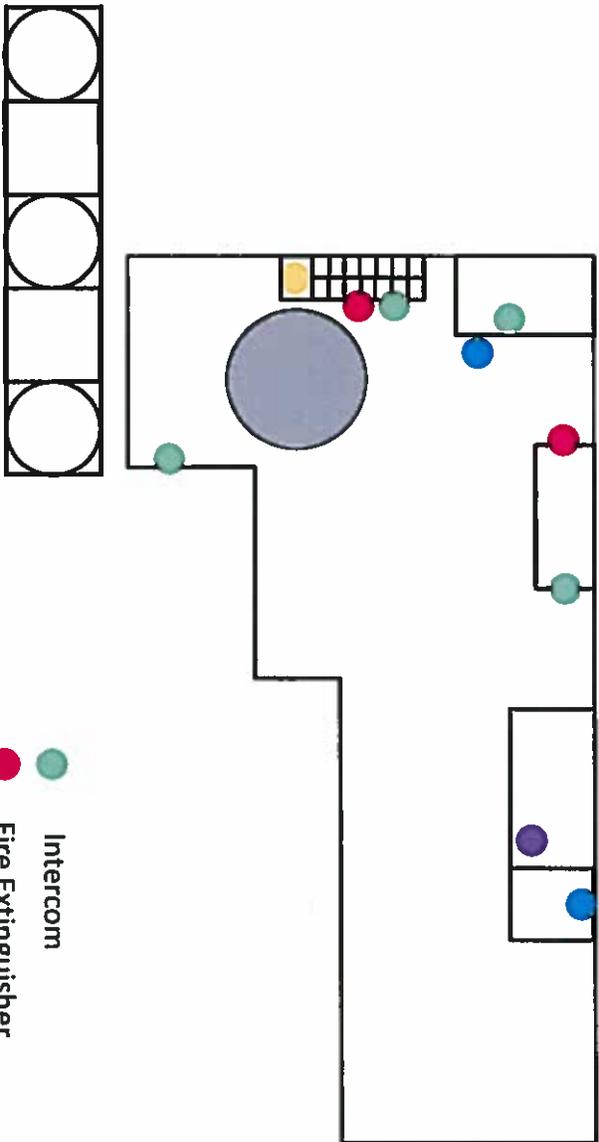
- 22.b. The report will include:

- 22.b.1. Name and telephone number of the reporter;
 - 22.b.2. Name and address of facility; which is:
 - Eastman Kodak Company
 - 1669 Lake Avenue
 - Rochester, NY 14652
 - EPA ID No. NYD 980592497
 - 22.b.3. Time and type of incident (e.g. release, fire, etc.);
 - 22.b.4. Name and quantity of material(s) involved, to the extent known;
 - 22.b.5. The extent of injuries, if any; and
 - 22.b.6. The possible hazards to human health or the environment beyond the fence line or within company property.
- 22.c. Within fifteen days after an incident requiring implementation of the Contingency Plan, a written report on the incident will be submitted to the Commissioner of the NYSDEC. Submission of the written report is the responsibility of the Emergency Coordinator. A copy of the report will be placed in the operating record of HWMU-32. The report will include, at a minimum:
- 22.c.1. Name, address, and telephone number of the owner or operator;
 - 22.c.2. Name, address, and telephone number of the facility;
 - 22.c.3. Date, time, and type of incident;
 - 22.c.4. Name and quantity of materials involved;
 - 22.c.5. The extent of injuries, if any;
 - 22.c.6. An assessment of the potential hazards to human health and/or the environment, where this is applicable; and
 - 22.c.7. Estimated quantity and disposition of recovered material that resulted from the incident.



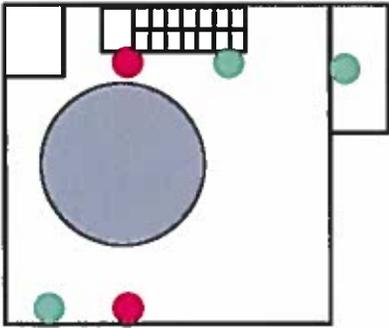
- Intercom
- Fire Extinguisher
- Eye Bath
- Safety Shower

Building 95 Basement



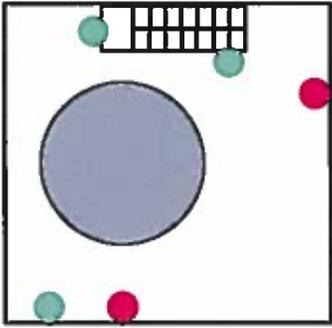
- Intercom
- Fire Extinguisher
- Eye Bath
- Fire Alarm
- Telephone

Building 95 First Floor



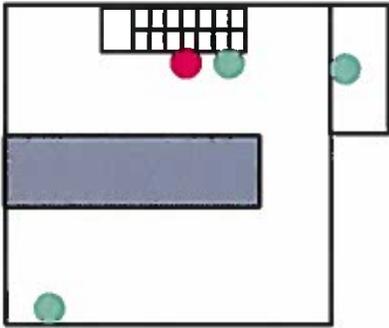
-  Intercom
-  Fire Extinguisher

Building 95 Second Floor



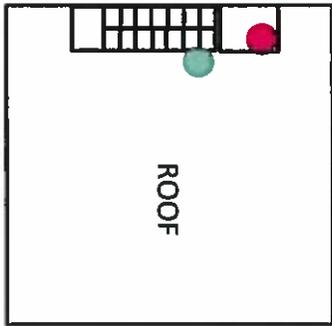
-  Intercom
-  Fire Extinguisher

Building 95 Third Floor



-  Intercom
-  Fire Extinguisher

Building 95 Fourth Floor

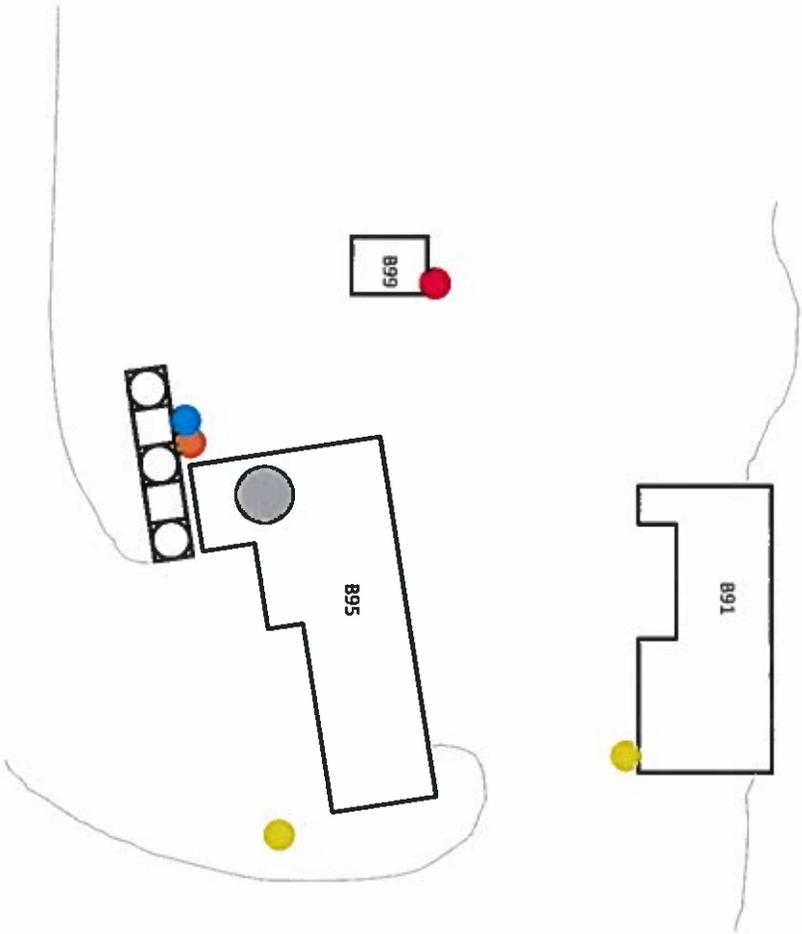


-  Intercom
-  Fire Extinguisher

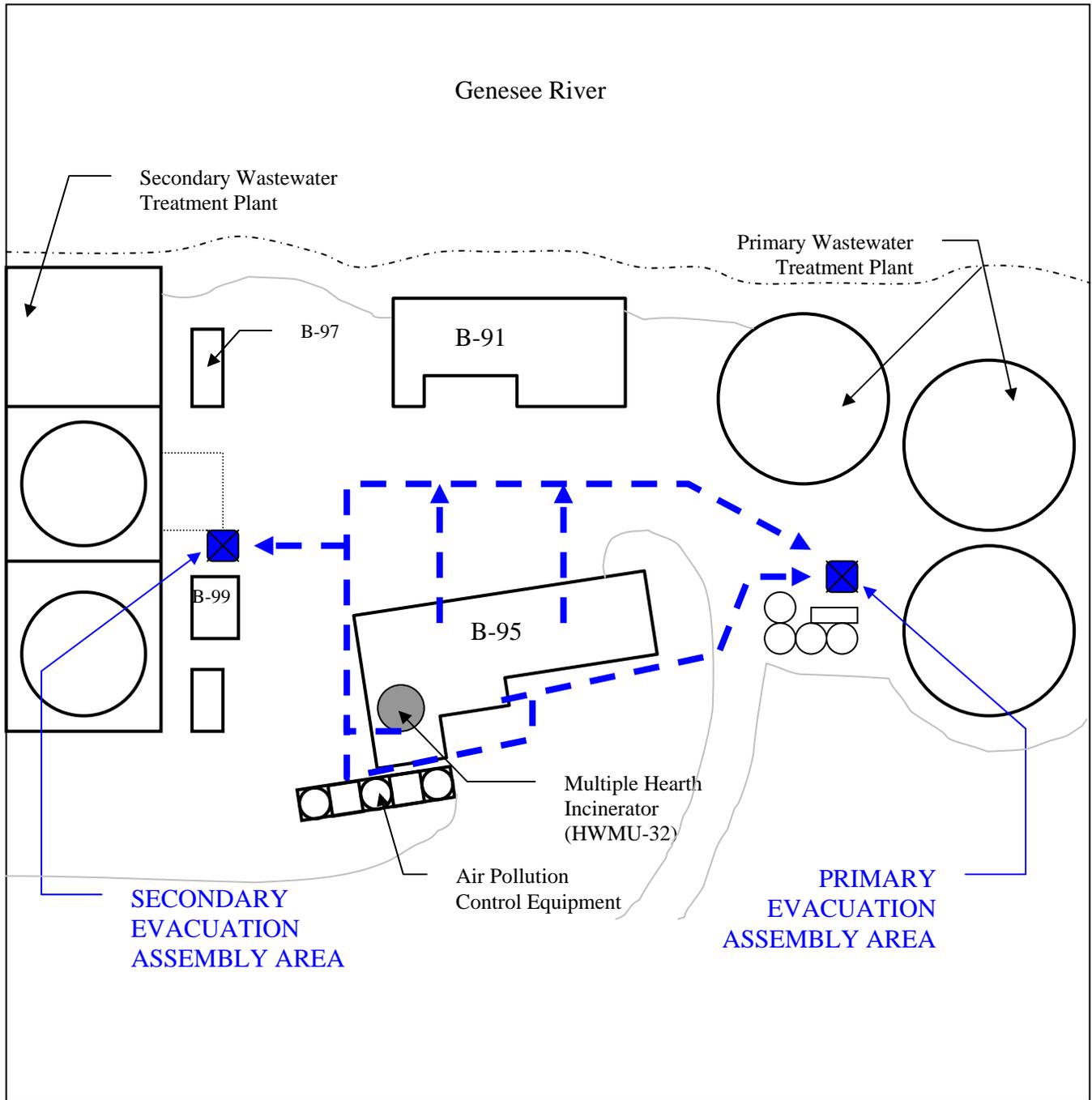
Building 95 Fifth Floor



Outside



- Fire Extinguisher
- Fire Hydrant
- Eye Bath
- Safety Shower



Appendix G-6

HWMU-32

Evacuation Routes and Assembly Points

**Table G-1
Hazardous Waste Management Unit (HWMU) Operations Summary**

HWMU ID No.	Operating Unit Location	Description of Storage/Treatment Unit	Major Waste Constituents	Description of Waste	Waste Material Source(s)
32	King's Landing Wastewater Treatment Plant, Building 95	One Multiple Hearth Incinerator and ancillary equipment including waste conveyor and ash handling equipment.	Water Wastewater Treatment Sludge Common Inorganic Materials Common Organic Solvents Metals	Wastewater Treatment Sludge and Grit generated from the treatment of industrial wastewater	Waste materials scheduled for incineration
33	KPM, Building 322	Two horizontal underground storage tanks, with individual capacities of 30,000 and 35,000 gallons	Acetone Ethanol Ethyl Acetate Methanol Methyl Ethyl Ketone Heptane Isopropyl Alcohol Toluene Water Xylene	Mixed non-halogenated solvents, potentially ignitable and toxic	Waste solvents undergoing reclamation

**Title: Building 322 Hazardous Waste Storage Tank System
(HWMU-33) Contingency Plan**

Date: September 10, 2012

1.0 Purpose:

This Contingency Plan has been developed for the Building 322 Hazardous Waste Storage Tank System (HWMU-33), located at the West Distilling complex of Eastman Business Park site. Eastman Business Park is owned and operated by the Eastman Kodak Company, and is located at 1669 Lake Avenue, Rochester, New York.

The Contingency Plan has been designed to minimize hazards to human health and/or the environment from fires, explosions, or any sudden or non-sudden release of hazardous waste or hazardous waste constituents to the air, soil or surface water. The provisions of the plan will be carried out immediately whenever there is a fire, explosion, or release of hazardous waste or hazardous waste constituents that could threaten human health and/or the environment.

2.0 Scope:

This plan outlines the following information:

- General facility description
 - Emergency coordinators
 - Implementation of the contingency plan
 - Emergency response procedures
 - Emergency equipment
 - Coordination agreements
 - Evacuation plans
 - Required reports

3.0 Procedure:

1. GENERAL INFORMATION; § 373-2.4(c)
 - 1.a. FACILITY INFORMATION
 - 1.a.1. FACILITY NAME: Eastman Business Park, Eastman Kodak Company
 - 1.a.2. FACILITY OWNER AND OPERATOR: Eastman Kodak Company
 - 1.a.3. FACILITY LOCATION: 1669 Lake Avenue, Rochester, New York 14652
 - 1.a.3. FACILITY HAZARDOUS WASTE IDENTIFICATION NUMBER: NYD 980592497
2. SITE PLAN; § 373-2.4(c)
 - 2.a. See Appendix B-2, for a site plan of the Eastman Business Park facility and general facility information including:

- 2.a.1. Facility boundaries, locations of HWMUs, locations of Eastman Business Park fire and emergency response units, locations of Eastman Business Park medical facilities, Eastman Business Park entrances, and exits.
- 2.b. Figure G-2 shows HWMU-33 (Building 322) in more detail, and indicates evacuation routes and assembly areas.

3. DESCRIPTION OF FACILITY OPERATIONS; § 373-2.4(c)

- 3.a. The Eastman Business Park site is a large, integrated manufacturing plant producing photographic products and chemicals. It covers over 800 acres and contains nearly 100 major manufacturing buildings. Approximately 8500 people work at Eastman Business Park. Eastman Kodak Company has operated at this location since the turn of the century.
- 3.b. HWMU-33 is located at Building 322, which is located in the KPM section of Eastman Business Park, in the City of Rochester, New York. KPM is bounded by Mt. Read Boulevard on the east, Ridgeway Avenue on the south, Latona Road on the west, and the Koda Vista neighborhood on the north.
 - 3.b.1. HWMU-33 consists of two horizontal underground storage tanks (Tk-682 & Tk-675) and their ancillary equipment, installed as part of the Kodak Storage Tank Improvement Program (STIP). Tk-682 has a capacity of 30,000 gallons and was installed in 1995. Tk-675 has a capacity of 35,000 gallons and was installed in 1996. More detailed information and specifications for each tank may be found in Attachment D-2 of the 6 NYCRR Part 373 Permit.

4. EMERGENCY COORDINATORS; § 373-2.4(f)

- 4.a. At all times there is at least one employee either on Eastman Business Park premises or on call, available to respond to an emergency by reaching the facility within a short period of time, with the responsibility for coordinating all emergency response measures. The Primary and Alternate Emergency Coordinators are familiar with the Contingency Plan, the operations and activities conducted at the facility, the location and characteristics of wastes handled, the location of records, and the facility layout.

5. PRIMARY EMERGENCY COORDINATOR; § 373-2.4(c)(4) & (f)

- 5.a. The Manager of the Kodak Safety Department is the Eastman Business Park Emergency Coordinator. Currently, the Emergency Coordinator is:

<u>NAME:</u>	Paul A. Statt
<u>TITLE:</u>	Supervisor/Chief, Kodak Fire Department
<u>HOME ADDRESS:</u>	41 Monaco Drive, Rochester, New York 14624
<u>WORK PHONE:</u>	(585) 722-3722

HOME PHONE:

(585) 247-8267

6. ALTERNATE EMERGENCY COORDINATORS; § 373-2.4(c)(4) & (f)
 - 6.a. The Line Deputy Chief of the Eastman Business Park Fire Department performs the function of Alternate Emergency Coordinator. There is a Line Deputy Chief at Eastman Business Park available 24 hours per day, seven days per week. The designated Line Deputy Chief at the plant site will become the Alternate Emergency Coordinator in the event that an emergency associated with the hazardous waste management units arises. Because there is always a Line Deputy Chief at the plant, no home phone number or address is given below. The Line Deputy Chiefs are full-time fire career service officers and serve as the Senior Fire Official during normal emergency response. They have full responsibility for all fire fighting functions, emergency response, and personnel supervision. The Line Deputy Chief can be contacted at phone ext. 911.
 - 6.a.1. The Line Deputy Chiefs possess extensive knowledge of all Eastman Business Park site activities, having received and participated in training and reporting procedures under CERCLA, RCRA, SARA Title III, and OSHA Hazard Communication. In addition, they continually enhance their skills by attendance at classes at the Federal Emergency Management Agency (FEMA) and the New York State Academy of Fire Science, as well as with individual professional study.
 - 6.b. AUTHORIZATION STATEMENT
 - 6.b.1. The Emergency Coordinator, and in his absence or with his authorization, the Alternate Emergency Coordinator, has been delegated the authority to commit Eastman Kodak Company resources needed to carry out the Contingency Plan and enlist the support of local agency responders.
7. IMPLEMENTATION OF THE CONTINGENCY PLAN; § 373-2.4(g)(1) & (2)
 - 7.a. The Emergency Coordinator, or in his absence the Alternate Emergency Coordinator, is responsible for making the decision for implementing the Contingency Plan. The decision is based on whether or not a release of hazardous waste or hazardous waste constituents could threaten human health and/or the environment. The Emergency Coordinator first assesses the character, source, amount, and aerial extent of any released materials, then uses the criteria presented below for guidance in making his decision. Additional information on identification of hazardous materials and hazard assessment is presented in Sections 8 & 9 (as well as Table G-1) of this Plan.
8. FIRE AND/OR EXPLOSIONS; § 373-2.4(g)(3)

- 8.a. The Contingency Plan will be implemented in the event that a fire or explosion associated with HWMU-33 results in one or more of the following situations. These criteria do not encompass every situation possible, but only those where human health and/or the environment are threatened.
 - 8.a.1. The fire causes a release of fumes in toxic concentrations. This is determined by an assessment of the area where the fire is located and the types of materials or operations in that area.
 - 8.a.2. The fire spreads and could possibly ignite materials at other locations on-site or could cause heat-induced explosions.
 - 8.a.3. The fire spreads and could possibly threaten off-site areas.
 - 8.a.4. Use of water or water and chemical fire suppressant could result in contaminated runoff that would not enter the wastewater treatment process.
 - 8.a.5. An imminent danger exists that an explosion could occur, causing a hazard because of flying fragments or shock waves.
 - 8.a.6. An imminent danger exists that an explosion could ignite other hazardous wastes at the facility.
 - 8.a.7. An imminent danger exists that an explosion could result in a release of a toxic material or if an explosion has occurred.
- 9. SPILLS OR RELEASE OF HAZARDOUS WASTES; § 373-2.4(g)(3)
 - 9.a. The Contingency Plan will be implemented if an unplanned sudden or non-sudden release of hazardous wastes could result in one or more of the following situations:
 - 9.a.1. The spill or release could result in flammable concentrations of liquids or vapors, thereby creating a fire or explosion hazard sufficient to threaten human health and/or the environment.
 - 9.a.2. The spill could cause the release of toxic liquids or fumes in sufficient quantities or concentrations to create a threat to human health and/or the environment.
 - 9.a.3. The spill can be contained on-site, but there is evidence of soil contamination sufficient to create a threat to human health and/or the environment.
 - 9.a.4. The spill cannot be contained on-site, resulting in off-site soil contamination and/or surface water pollution sufficient to create a threat to human health and/or the environment.
- 10. EMERGENCY RESPONSE PROCEDURES; § 373-2.4(g)(4)
 - 10.a. Eastman Kodak Company has emergency plans for Eastman Business Park. The objective of the emergency plans for Eastman Business Park site are to ensure that fully qualified and certified personnel from both Kodak and the

community, when necessary, are rapidly mobilized to deal with emergency situations and conditions which may adversely impact human health and the environment. These emergency plans contain the following information:

- 10.a.1. How personnel should respond in the event of an emergency and whom they should contact.
- 10.a.2. Who responds to an emergency situation; the delegation of authority; and the roles and responsibilities of the responder(s).
- 10.a.3. Eastman Kodak Company arrangements with appropriate civil authorities, local hospitals, and other community agencies.

10.b. The procedures outlined in this plan are followed in the event of an emergency at Eastman Business Park whether or not the situation occurs at HWMU-33. Implementation of these procedures does not necessarily result in implementation of the Contingency Plan.

10.c. As the person in charge of the Command Post, the Emergency Coordinator or Alternate Emergency Coordinator will decide when it is necessary to implement the Contingency Plan based on the criteria given in Section 7 of this Plan.

11. NOTIFICATION; § 373-2.4(g)(1)

- 11.a. Personnel working at HWMU-33 have access to a communications device (e.g., telephone, intercom, or two-way radio) or alarm system capable of summoning help or providing instruction in the event of an emergency.
- 11.b. The Emergency Coordinator will direct the appropriate Eastman Business Park organizational unit to notify appropriate state or local civil authorities of the emergency. A listing of authorities is provided in Section 22 of this Plan.

12. IDENTIFICATION OF HAZARDOUS MATERIALS; § 373-2.4(g)(3)

- 12.a. The Emergency Coordinator is familiar with the general character of wastes managed at HWMU-33. Table G-1 provides the waste description, major constituents, and waste sources of the materials stored at HWMU-33.
- 12.b. In the event of an emergency, the Emergency Coordinator will review Table G-1 for general information. If additional information is required, the Emergency Coordinator will contact the appropriate Kodak personnel through the list of contacts maintained at the Kodak Communications Center. In the event assistance is needed from outside agencies, the Emergency Coordinator will be responsible for communicating potential hazard information to other agencies.
- 12.c. Responsible operating personnel are on duty at HWMU-33 on a continuous 24-hour, seven-day basis. Information on releases from HWMU-33 will be readily available to the Emergency Coordinator from the operating supervision. This will make possible rapid identification of the character, and an estimate of the amount and aerial extent of any released materials.

The operating record maintained at HWMU-33 is another source of information, if necessary, on the character of the release.

13. HAZARD ASSESSMENT; § 373-2.4(g)(4)
 - 13.a. The Emergency Coordinator may call on the capabilities of Kodak Health, Safety and Environmental (HSE) resources to assist in the assessment and control of an emergency. If an assessment indicates a potential threat to human health and/or the environment outside of the facility, notification of state and local civil authorities will take place.
14. CONTROL PROCEDURES; § 373-2.4(g)(6)
 - 14.a. The possibility of a fire or explosion at HWMU-33 exists, although the potential is low due to established safety procedures and equipment design. The spread of fire to other areas of Eastman Business Park site beyond the West Distilling complex is unlikely due to the physical location of the unit. In addition, the West Distilling complex is equipped with an automatic fire suppression system, as well as a hardwired Emergency Shutdown System (ESD). The ESD automatically shuts down all equipment within the West Distilling complex when it is activated by pushing one of the approximately ten dedicated buttons located throughout the complex.
 - 14.b. Plant roadways are maintained to allow for the access of fire equipment to the entire West Distilling complex where HWMU-33 is located.
15. PREVENTION OF RECURRENCE OR SPREAD OF FIRES, EXPLOSIONS, OR RELEASES; § 373-2.4(g)(5)
 - 15.a. When necessary to ensure that fires, explosions, or hazardous waste releases do not occur, recur, or spread, the Emergency Coordinator will direct operating personnel to shut down pumps, close valves, and otherwise discontinue HWMU-33 operations, if this can be done safely, although systems are programmed to do this automatically in the event of an emergency. Also continue to monitor tank processes, if it can be done safely.
 - 15.b. In the event of a fire or explosion, after it is deemed safe, any residue remaining will be handled and managed appropriately to provide for clean up.
16. STORAGE AND TREATMENT OF RELEASED MATERIAL; § 373-2.4(g)(7)
 - 16.a. As soon as the immediate risk to life and/or property no longer exists at the emergency scene or the site of a hazardous waste release, the clean-up effort and restoration of services will begin.
 - 16.b. Small spills or leaks will be absorbed using an appropriate absorbent whenever possible. In some instances, spilled material may also be flushed to the wastewater treatment process. The contaminated absorbent will be cleaned up and packaged in drums for treatment or disposal.

- 16.c. Larger spills or leaks of liquids will be contained to the extent possible through the use of temporary dams and dikes established using materials carried on the spill response vehicles or available from the operating unit.
 - 16.d. The area impacted by any spill will be adequately cleaned up. Visual inspection or appropriate analytical verification will be used to determine when the cleanup has been completed.
 - 16.e. If necessary, a subsurface environmental quality assessment will be performed. Consideration will be given to identifying the nature and quantity of the spilled material, review of available soil and groundwater data for the area, and a review of available potential remedial options. Any long-term environmental effect resulting from the release, not captured by the initial response will be addressed under the Kodak Corrective Action Program.
 - 16.f. Contaminated materials will be evaluated for the applicability of state and federal hazardous waste land disposal restrictions. Contaminated materials will be properly characterized and managed at an appropriate storage treatment, or disposal facility.
17. INCOMPATIBLE WASTE; § 373-2.4(g)(8)
- 17.a. Compatibility is based on solvent type and characteristics of the wastes. Decisions as to the compatibility and joint storage of the wastes are based on an evaluation of the solubility and potential reactivity of the mixture. Compatibility is determined through a review of the individual processes generating the waste. Where the compatibility of a waste with other wastes is unknown, it will be determined based on the judgment of a chemist, engineer, or other person trained, experienced, and designated to make such a determination based upon the known characteristics of the waste involved. In addition, bench scale and analytical testing may be conducted to verify the compatibility of material prior to acceptance.
18. POST-EMERGENCY EQUIPMENT MAINTENANCE; § 373-2.4(g)(8) & (9)
- 18.a. Any on-site emergency equipment used will be inspected, and cleaned or replaced as necessary, before hazardous waste management operations are resumed at the unit. Any equipment used in response to an emergency that requires decontamination, will be cleaned at an existing temporary decontamination facility, or if necessary one will be constructed. The basic design criteria used in the construction of a temporary decontamination facility are:
 - 18.a.1. Prevent over spray from contaminating the surrounding area.
 - 18.a.2. Contain liquids and/or solids generated as a result of decontaminating the equipment.

18.a.3. Properly manage liquids and/or solids generated as a result of decontaminating the equipment.

18.b. The Commissioner of the New York State Department of Environmental Conservation (NYSDEC) and appropriate state and local authorities will be notified that all emergency equipment has been cleaned and is fit for its intended use before operations are resumed in any affected area of the hazardous waste management unit.

19. EMERGENCY EQUIPMENT; § 373-2.4(c)(5)

19.a. Kodak has its own Fire Department that is able to mobilize initial spill control equipment, fire control equipment, and personnel protective equipment in the event that the Contingency Plan is implemented.

19.b. Emergency response equipment at HWMU-33 is listed in Table G-2. The location of emergency response equipment at HWMU-33 is illustrated in Figure G-2. Local emergency responders will provide additional equipment as needed.

19.c. Kodak medical personnel are aware of the properties of materials handled and are familiar with the types of injuries or illnesses that could result from emergency situations.

19.d. Kodak maintains good relationships with the major hospitals in Monroe County and periodically discusses emergency capabilities with these hospitals.

20. COORDINATION AGREEMENTS; § 373-2.4(d)(4)

20.a. Response to emergency situations at the Eastman Business Park site by community emergency response and support services is coordinated under the provisions of the Comprehensive Monroe County Hazardous Materials Emergency Plan (MCHMEP). The MCHMEP outlines the role of all agencies and government units expected to participate in any phase of a significant emergency and provides for the public sector coordination of those units. When the services of these agencies are needed, the Kodak Communications Center will contact the Monroe County Office of Emergency Communications (911 Center) via direct telephone line.

20.b. Community emergency management and response command personnel who are likely to deal with the Eastman Business Park site during an emergency have been provided with copies of this Contingency Plan. Organizations included are:

- City of Rochester Fire Department
- City of Rochester Police Department
- Greece-Ridge Fire Department
- Town of Greece Police Department
- Town of Irondequoit Police Department
- St. Paul Fire Department
- Park Ridge Hospital

Rochester General Hospital
 Strong Memorial Hospital
 NYSDEC-Emergency Response Team
 Monroe County Local Emergency Planning Committee
 Monroe County Fire Bureau (HazMat Team)

20.c. A copy of the Contingency Plan will also be available to all contractors performing work at HWMU-33.

21. EVACUATION PLAN; § 373-2.4(c)(6)

21.a. The primary and secondary emergency evacuation routes (and associated assembly points) are illustrated in Figure G-2.

22. REPORTING REQUIREMENTS; § 373-2.4(g)(9) & (10)

22.a. Kodak's Corporate Health, Safety and Environment Organization (HSE) has a representative at the plant site or on call 24 hours a day. If notified by the Emergency Coordinator that the Contingency Plan is being implemented, the HSE representative will be directed to notify as appropriate:

	<u>Agency</u>	<u>Telephone Number</u>
1.	Monroe County Office of Emergency Preparedness	585-473-0710
2.	Monroe County Department of Health	585-274-6052 or 274-6050 or 274-6051 or 274-6067 or Non-working hours 428-5141
3.	New York State Department of Environmental Conservation, Region 8 Office, Avon, NY	585-226-2466
	Non-working hours	607-324-4504
	NYSDEC Spill Hot Line Number	800-457-7362
4.	National Response Center	800-424-8802

22.b. The report will include:

22.b.1. Name and telephone number of the reporter;

22.b.2. Name and address of facility; which is:

Eastman Kodak Company
 1669 Lake Avenue
 Rochester, NY 14652
 EPA ID No. NYD 980592497

22.b.3. Time and type of incident (e.g. release, fire, etc.);

22.b.4. Name and quantity of material(s) involved, to the extent known;

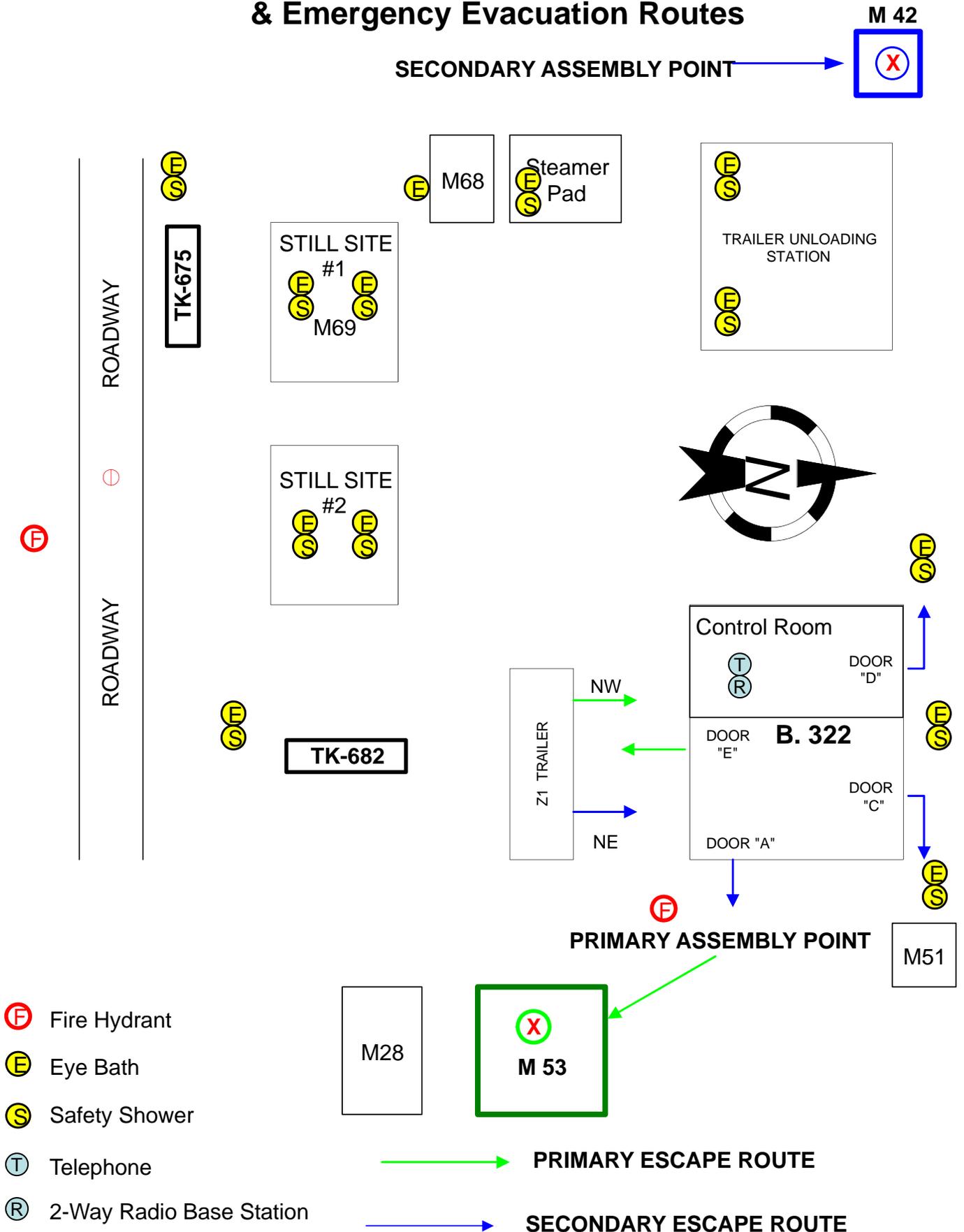
22.b.5. The extent of injuries, if any; and

- 22.b.6. The possible hazards to human health or the environment beyond the fence line or within company property.
- 22.c. Within fifteen days after an incident requiring implementation of the Contingency Plan, a written report on the incident will be submitted to the Commissioner of the NYSDEC. Submission of the written report is the responsibility of the Emergency Coordinator. A copy of the report will be placed in the operating record of HWMU-33. The report will include, at a minimum:
 - 22.c.1. Name, address, and telephone number of the owner or operator;
 - 22.c.2. Name, address, and telephone number of the facility;
 - 22.c.3. Date, time, and type of incident;
 - 22.c.4. Name and quantity of materials involved;
 - 22.c.5. The extent of injuries, if any;
 - 22.c.6. An assessment of the potential hazards to human health and/or the environment, where this is applicable; and
 - 22.c.7. Estimated quantity and disposition of recovered material that resulted from the incident.

Table G-2 HWMU-33 Emergency Equipment

Type of Equipment	Area	Location
Fire Alarm & Notification	680-series tank farm	South end of Egress catwalk
	680-series tank farm	East end of Egress catwalk
	670-series tank farm	South end of Egress catwalk
Eyebath & Safety Shower	680-series tank farm	South Egress catwalk
	670-series tank farm	South Egress catwalk
Two-way radio Base Station	Building 322	Control Room
Telephone	Building 322	Control Room
Fire Hydrant	B-322 Site	South of Still Site #2
Plant Emergency Shutdown Activation	Still Site #1	South Egress
	680-series tank farm	East end of Egress catwalk

Figure G-2 HWMU-33 Emergency Equipment Locations & Emergency Evacuation Routes



ATTACHMENT H

**PERSONNEL TRAINING
(HWMU-32 & HWMU-33)**

**EASTMAN KODAK COMPANY and RED-ROCHESTER, LLC
EASTMAN BUSINESS PARK
HAZARDOUS WASTE MANAGEMENT FACILITY
EPA ID NUMBER NYD 980592497**

ATTACHMENT H PERSONNEL TRAINING HWMU-32 & HWMU-33

Training Program

The training program for new employees (and any contract employees, as appropriate) and the annual training conducted at HWMU-32 addresses the following areas:

- A. emergency response/contingency plan
- B. hazardous waste management, handling and operations
- C. recordkeeping and operating record.

Training is carried out by a combination of written communications and procedures, classroom instruction, and on-the-job training. Both introductory training and refresher training follow the same basic program, with the on-the-job training providing more detailed follow-up to the introductory training.

New employees receive the appropriate supervision until they have completed the required training. Facility personnel must successfully complete the training program within six months after the date of their employment or assignment to HWMU-32 or HWMU-33. Employees are considered qualified to perform the job duties through evaluation of their knowledge and performance by their direct supervisor. Annual refresher training is required for all employees.

Attached is a listing of specific training requirements for job positions. The training is designed to provide instruction relevant to the particular job duties of the individuals involved. For example:

1. Specific training in proper maintenance procedures for repairing or replacing emergency or monitoring equipment is given to maintenance mechanics at both HWMU-32 and HWMU-33.
2. Incinerator operators at HWMU-32 receive extensive training on proper operation of the Multiple Hearth Incinerator including appropriate control adjustments necessary to meet all specified parameters.

All employees being trained receive instruction on site-specific emergency/evacuation procedures.

Training covers the requirements of 6 NYCRR Part 373-2 as specifically related to the operating procedures, organization, waste characteristics, and nature of expected response to spills or other releases of hazardous waste, fires, or explosions as indicated in the Contingency Plan in Attachment G. Evacuation signals and the evacuation plan are discussed, as are the proper procedures in using internal communications system and the use of the telephone to call for assistance. Appropriate response to potential groundwater contamination incidents is reviewed where applicable. This training segment covers both operating personnel and, where applicable, maintenance personnel assigned to HWMU-32 or HWMU-33.

Current employees have successfully completed applicable required training. New or reassigned employees do not work in an unsupervised position until they have completed the appropriate training.

On-the-job training is provided, as necessary, when new or revised equipment or procedures are introduced to the operating personnel. Annual refresher training is provided for all employees.

Completed training is recorded in the training history maintained for each employee. When training is completed, the employee is allowed to work in an unsupervised position. Training records are kept as long as the employee is assigned to HWMU-32 or HWMU-33, and for three years following the date the employee last worked at the facility.

HWMU-32 Multiple Hearth Incinerator (MHI) & HWMU-33:

Job Title	Summary of Duties Related to Hazardous Waste Management
1) Facility Management	Directs, coordinates, and assures day-to-day operations are carried out to keep the facility operational and in compliance with the Permit. Ensures maintenance work and appropriate inspections are conducted.
2) Operators and Support Personnel	Responsible for operating HWMU-32 (MHI) and HWMU-33 within permit parameters. Manages and transfers waste. Prepares waste for treatment. Performs inspections and maintains associated information necessary for operating record.
3) Engineering and Technical Support Personnel	Provides detailed engineering and technical support to operations for new installations, modifications to existing equipment, instrumentation/processes, and upkeep, preventative maintenance, and guidance for day-to-day operations.
4) Maintenance Support Personnel	Maintains equipment required to operate the incineration and air pollution control system at HWMU-32, and maintains equipment required to operate HWMU-33. Maintains records of actions taken to correct deficiencies noted during inspections.
5) Environmental Support Personnel	Provides environmental support and guidance to management and operations to maintain compliance with permit requirements.

HWMU-32 & HWMU-33:

SEGMENT	1*	2	3	4	5
General Requirements:	X	X	X	X	X
Emergency Response:					
- Communications/Alarms	X	X	X	X	X
- Location and use of Safety/Emergency Equipment	X	X	X	X	X
- Response to Fires/Explosions	X	X	X	X	X
- Spill Response	X	X	X	X	X
- Response to Groundwater Contamination	X	NA	NA	NA	X
- Contingency Plan Implementation	X	X	X	X	X
Hazardous Waste Management Handling/Operations:					
- Operating Procedures	X	X	X	X	X
- Automatic Waste Feed Cutoff (HWMU-32 only)	X	X	X	X	X
- Monitoring Systems	X	X	X	X	NA
- Shutdown Procedures	X	X	X	X	NA
- Maintenance Procedures	X	NA	X	X	NA
- Maintenance of Emergency/Monitoring Equipment	X	X	X	X	NA
- Inspection Procedures	X	X	X	X	X
Recordkeeping and Operating Record:					
- Inspection Reports	X	X	NA	NA	X
- Waste Analyses	X	X	NA	NA	X
- Monitoring Data	X	X	X	X	X
- Contingency Plan Incident Report	X	NA	NA	NA	X
- Environmental Concerns, including types of emissions	X	X	X	X	X
- Basic Combustion Principles (HWMU-32 only)	X	X	X	NA	X

*Job Titles Associated with Numbers in Table Above:

1 - Facility Management
2 - Operators and Support Personnel

3 - Engineering and Technical Support Personnel
4 - Maintenance Support Personnel
5 - Environmental Support Personnel

ATTACHMENT I

CLOSURE PLANS CONTINGENT POST-CLOSURE PLAN FINANCIAL REQUIREMENTS

**EASTMAN KODAK COMPANY and RED-ROCHESTER, LLC
EASTMAN BUSINESS PARK
ROCHESTER, NEW YORK
HAZARDOUS WASTE MANAGEMENT FACILITY
EPA ID NO. 980592497**

ATTACHMENT I

CHECKLIST

**EASTMAN BUSINESS PARK
ROCHESTER, NEW YORK
HAZARDOUS WASTE MANAGEMENT FACILITY
EPA ID NO. 980592497**

TABLE OF CONTENTS

<u>SECTION</u>	<u>PAGE</u>
1. CLOSURE PROCEDURES	3
1.1 Introduction	3
1.2 Closure Performance Standards	4
1.3 Reserved	4
1.4 Maximum Extent of Operations	4
1.5 Estimate of Maximum Waste Inventory	5
1.6 Closure Schedule	5
1.7 Health & Safety	5
1.8 Verification and Documentation of Decontamination	6
1.8.1 Sampling	6
1.8.1.1 Rinsate Sampling	6
1.8.1.2 Wipe Sampling	8
1.8.1.3 Sampling & Analysis Requirements	9
1.8.2 Acceptance Criteria	11
1.9 Recordkeeping, Reporting and Certification of Closure	11
2. UNIT SPECIFIC CLOSURE ACTIVITIES	13
2.1 Unit Descriptions	13
2.1.1 Incinerator System	13
2.1.1.1 HWMU-32-Multiple Hearth Incinerator Unit	13
2.1.2 Process Information, Tanks	16
2.1.2.1 Cleaning, Decontamination, Removal, Reuse	16
2.1.3. Management and Disposal of Generated Materials	19
3. CLOSURE COST ESTIMATES	20
4. FINANCIAL ASSURANCE FOR CLOSURE	21
5. LIABILITY REQUIREMENTS	22
TABLE I-1: Estimates of Maximum Waste Inventory	5
TABLE I-2: Hazardous Waste Management Facilities	23
TABLE I-3: Closure Schedule	24
TABLE I-4: Acceptance Criteria and Required Actions	26
Appendix I-1 Basis for Costs	27
Appendix I-2 Itemized Cost Estimates	32

1. CLOSURE PROCEDURES

1.1 Introduction

This closure plan covers specific operating units of the Eastman Business Park Hazardous Waste management Facility, U.S. Environmental Protection Agency (USEPA) ID No. NYD980592497. It has been developed to meet the regulatory requirements contained in 40 CFR 264 Subparts G and H, 264.178, 264.197, 264.351, and 6 NYCRR 373-2.7, 373-2.8, and 373-2.15(h) and includes descriptions of how and when hazardous waste management units (HWMUs) will be finally closed, when the permitted units reach the end of their intended use for treatment or storage.

Upon issuance of the final status 6 NYCRR Part 373-2 operating permit for the Eastman Business Park facility by the New York State Department of Environmental Conservation (NYSDEC), this plan will become effective. This plan will be amended, in accordance with the procedures in 6 NYCRR 373-2.7(c), whenever changes in operation or facility design affect the plan. A copy of the approved plan, including any revisions will be kept at the facility until closure is completed and certification has been accepted by NYSDEC.

This plan presents information that applies to closure of HWMU-32 and 33 at the Eastman Business Park facility, including:

- Maximum extent of operations during the active life of the facility;
- Estimate of maximum inventory;
- Identification of off-site hazardous waste management facilities which may be used during closure;
- Schedule for closure; and
- Notification of final closure.

Information presented in this plan includes:

- Description of how the hazardous waste management units will be closed;
- Description of methods for removing, transporting, treating, storing, and disposing of hazardous wastes;
- Description of steps needed to remove or decontaminate hazardous waste residues from system components;
- Identification of decontamination criteria and methods for verification; and
- Description of other related activities during closure that may be appropriate.

Upon determination by Permittee that hazardous waste management units are to be closed, Permittee will provide the Department with a specific schedule, maximum waste inventory, and proposed destinations for wastes to be generated. Specific sampling and cleaning processes as described in this document will

be dependent upon waste disposition:

- direct reuse in non-hazardous waste or non-waste duty
- direct reuse in hazardous waste duty,
- reclamation,
- hazardous waste disposal, or
- nonhazardous waste disposal

For material that will be directly reused, Permittee will clean and test the items as described in Section 1.8.

For material that will be managed as scrap metal, Permittee will clean the item as discussed in Section 2 (Unit Specific Closure Activities). After the cleaning has been completed, Permittee will comply with the regulations of 6 NYCRR 371.1(g)(1)(iii)('b') which dictate management practices for scrap metal.

For material that will be sent to an off site treatment, storage or disposal facility (TSDF) for treatment / disposal, that facility's waste analysis plan will determine what sampling and analysis is required.

Disposal of hazardous waste debris will be subject to the requirements specified in 40 CFR Part 268 and the off-site hazardous waste disposal facility permit requirements.

1.2 Closure Performance Standards

All closure activities have been designed to control, minimize, or eliminate, to the extent necessary to protect human health and/or the environment, post-closure escape of hazardous waste, hazardous constituents, leachate, contaminated runoff, or hazardous waste decomposition products to the groundwater or surface water or to the atmosphere. This will be accomplished through the removal of the hazardous waste inventory, decontamination of the respective unit and related equipment, and, where appropriate and if feasible, removal of contaminated soil in the vicinity of the unit. If possible, salvageable equipment may be decontaminated and moved for reuse at another area of the facility or sold for scrap value. It is assumed that the Kings Landing Industrial Wastewater Purification Plant will continue to operate during closure activities, and for post closure treatment of groundwater from the existing remedial measures systems. In the case of hazardous waste storage tank units, where removal of contaminated soils may not be feasible, post-closure releases will be minimized through application of post-closure requirements.

1.3 Reserved

1.4 Maximum Extent of Operations

The maximum extent of operations during the active life of the unit, in accordance with 6 NYCRR 373-2.7(c)(2)(ii), is the full capacity of the treatment or storage operation as described in Attachment D of this Permit.

1.5 Estimate of Maximum Waste Inventory

Table I-1 summarizes the estimates of maximum inventory for the specified hazardous waste management units. All untreated hazardous wastes remaining on-site at closure will either be treated on-site using available treatment operations or shipped off-site to approved hazardous waste management facilities. Any hazardous wastes shipped off-site for treatment or disposal during the closure process will be shipped by highway transport vehicles permitted to handle such wastes, in accordance with applicable state regulations. All waste shipments will also be in accordance with regulations of the U.S. Department of Transportation governing the shipment of hazardous materials. **Table I-2** lists potential facilities for treatment or disposal of the wastes, as appropriate, and the possible transport distance involved. These are examples of the types of facilities that might be used. Wastes shipped off-site during closure activities may be shipped to any appropriate permitted hazardous waste management facility in operation at that time.

TABLE I-1: Estimates of Maximum Waste Inventory

TOTAL MAXIMUM VOLUME (GALS.)	ESTIMATED WASTE GENERATED DURING CLOSURE
HWMU-32 425 - 55-gallon drums (109 cy)	425 drums 182 cy refractory brick/slag 25 cy residual ash
HWMU-33	65,000 gallons HW solvents

1.6 Closure Schedule

As required by 6 NYCRR Part 373-2.7(c)(4)(i), Permittee will notify the NYSDEC in writing at least 45 days prior to the date on which Permittee expects to begin closure of the hazardous waste management units. According to 6 NYCRR Part 373-2.7(d)(1) within 90 days after receiving the final volume of hazardous wastes, Permittee will treat, remove from the unit or facility, or dispose of off-site, all hazardous wastes in accordance with the approved closure plan. The commissioner may approve a longer period if the owner or operator complies with all applicable requirements for requesting a modification to the permit and provides further regulatory demonstrations.

Closure will be completed within 180 days of receiving the final volume of hazardous waste, unless an extension is approved by the Commissioner of the NYSDEC. Schedules for typical closure are presented in **Table I-3**. At this time, it is not possible to predict with any accuracy, the closure schedule for the entire facility or the estimated year of closure.

1.7 Health & Safety

Appropriate precautions must be taken to ensure that the closure activities are performed safely and using good industrial hygiene practices. As a result, personnel performing closure will need to have the appropriate OSHA 1910.120 training.

Task appropriate personal protective equipment (PPE) will need to be provided. If closure activities are performed by Permittee personnel, the level of personal protective equipment required will be determined by Permittee. Otherwise, contractors will need to determine activity specific PPE requirements, based on the potential hazards present.

PPE for most activities will most likely include hard hats, safety glasses or goggles, chemical resistant coveralls, gloves, steel-toed boots, and air purifying respirators. A positive-pressure self-contained breathing apparatus with full-face masks may be necessary for initial vessel entry where applicable. OSHA confined space entry procedures will be followed at all times for vessel entry. Organic vapor-acid gas respirators with hard hat and appropriate eye protection may be used for later stages of the decontamination or when workers are performing moderate hazard activities.

Also, appropriate personnel decontamination procedures will be followed. Facilities will be provided for personnel decontamination at the completion of each work interval. PPE cleaning solutions associated with closure activities related to the waste management unit will be disposed of appropriately with the building or equipment cleaning rinse waters generated from the decontamination of the same unit.

1.8 Verification and Documentation of Decontamination

1.8.1 Sampling

After completion of decontamination, as described in Section 2, appropriate verification techniques will be used based on the type of equipment or surface, specific area conditions at the time of closure and intended final disposition of materials (see **Table I-2** for details/specifics). These techniques will include visual inspection, screening for volatile organic vapors, wipe sampling or rinsate sampling to confirm the effectiveness of decontamination procedures. Any required sampling (including determining the exact location of samples) will be performed in coordination with a representative of the NYSDEC. Permittee will notify NYSDEC a minimum of five (5) business days prior to verification sampling.

Sampling and analysis is not required for materials being sent to a hazardous waste landfill, or being sent for scrap metal, however, the material going for scrap must adhere to the requirements in Section 2.1.1.2, and be cleaned in accordance with the Alternative Treatment Standards for Hazardous Debris. Permittee may choose to send decontaminated non-hazardous waste to a hazardous waste disposal facility. By choosing this option, Permittee may forgo waste testing requirements that would be needed to send the waste to a non-hazardous waste facility. Any ancillary equipment that is cleaned and decontaminated in accordance with the procedures outlined in this plan will be considered rendered clean.

1.8.1.1 Rinsate Sampling

In addition to visual inspection, rinsate sampling using water shall be performed for the floors surrounding MHI hearths and sludge transport lines at HWMU-32, along with the tank system ancillary equipment and piping at HWMU-33. The following procedures provide a description of the sampling to be conducted at each HWMU.

HWMU – 32 MHI Hearths and Sludge Transport Lines

This procedure is to be used to obtain representative samples for analysis from concrete floors to establish whether or not there is any contamination on the concrete surfaces. This procedure is to be performed after the surfaces have been cleaned and decontaminated, pursuant to the approved Closure Plan.

1. Create an exclusion zone with colored (e.g., yellow) ribbon to keep extraneous personnel from entering area.
2. Sketch the area to be sampled. Sketches should include locations of building columns, walls, fixed equipment, and the proposed rinsate sampling locations themselves (to accurately locate the rinsate sampling points within the buildings) for Department concurrence. The sample locations must be chosen to include any areas of staining, discoloration or other evidence of spills. The sample locations will be approved by a NYSDEC staff person usually on-site on the day of sampling (unless NYSDEC chooses not to be present or states that such approval is not needed). Each sample location should be approximately 2500cm² (say 50cm by 50cm) or 400in² (say 20in by 20in), but size may be adjusted to the extent necessary to accommodate field conditions with NYSDEC approval.
3. Assemble and clean all equipment necessary for sample collection. Equipment needs to be cleaned, if not already pre-cleaned by the laboratory.
4. Create a temporary containment area on the storage zone floor using an inert, clean or cleaned, flexible boom (e.g., water filled polyethylene tube, nonabsorbent spill containment berm), if necessary. If the floor is relatively level and water will puddle without flowing out of the sample location, a boom may not be necessary.
5. Label the sample containers with a unique sample code, information on the site, sample locations and the date and time samples were collected. Affix appropriate labels for test parameters on the sample containers. Put on a new pair of disposable nitrile gloves.
6. De-ionized water is to be used for this protocol for the floors surrounding the MHI. The de-ionized water may be provided by the laboratory. For each sampling location, start with two liters or 2 quarts of de-ionized water to allow for the collection of a sufficient sample size for all parameters to be tested for, as specified by the laboratory, including QC samples. If necessary, additional de-ionized water may be used, but no more than the minimum amount needed to provide a sufficient sample size. Record the temperature of the room and of the de-ionized water. At each sampling location, slowly pour the de-ionized water onto the surface to be sampled. A clean/cleaned wash bottle may be utilized to cover the area uniformly with the de-ionized water. If the individual area is sloped, start pouring at the highest elevation. Record the volume of de-ionized water used for each sample location. (Revised June, 2009)
7. Allow de-ionized water to collect and remain in the sample location for 10

minutes.

8. For each sampling location, collect the number and type of samples as specified in the closure plan along with appropriate QA/QC samples. Samples shall be collected using dedicated, sterile glass pipettes provided by the laboratory. The pipettes will be used to transfer the sample fluids into the appropriate bottles provided by the laboratory. Volatile sample bottles shall be filled first to minimize loss of volatiles. Record the volume of water collected for each sample for each sample location.
9. Samples must not be composited.
10. Cap the sample containers and place them in a laboratory cooler with ice to maintain a temperature of 4 °C.
11. Measure the exact wetted area for each sampling location sampled using a tape measure or other suitable device. Place all measurements and the sketch of the area in the site field book. Measurements should include all appropriate or unusual conditions observed while collecting each sample (i.e., drainage patterns followed, stained areas present, condition of storage zone floor, etc.).
12. Remove and discard the gloves. Place all disposable gloves into a plastic bag designated for proper disposal.
13. Enter information on procedures followed including details of samples and sampling in the field book. Photographs of the sample locations, wetted areas, equipment, and actual sampling events may be taken by the facility or Department staff and a list of the photographs shall be recorded in the field book.
14. Fill out chain-of-custody forms. Prepare the samples for storage and shipping in laboratory cooler with sufficient ice to maintain a temperature of 4 °C. Ship overnight to the laboratory for analysis.
15. Follow chain-of custody procedures as detailed in the Quality Assurance Program Plan.

HWMU-33 Ancillary Equipment and Piping

Testing for decontamination shall commence after all hazardous waste has been removed from the tank system equipment surfaces have been thoroughly cleaned. Once the cleaning solutions have been used and removed, fresh water shall be introduced into the system (the rinsate test shall be one that minimizes the use of water – approximately 1.2 gallons/sq. ft.). This water shall be recirculated for a minimum of four hours prior to testing. At a minimum, all samples will be analyzed for the hazardous waste, including hazardous constituents, that had been managed at HWMU-33.

1.8.1.2 Wipe Sampling

In addition to visual inspection, wipe sampling shall be performed for the following equipment when the items will be directly reused in non-hazardous waste or non-waste

duty after decontamination per Section 2 (i.e., not sent to scrap metal reclamation or for disposal,):

HWMU-32

- MHI metal shell;
- rabble arms and floors;
- SCC metal shell;
- sludge handling system;
- ash handling system;
- quench;
- condenser;
- venturi scrubber;
- entrainment separator;
- WESP; and
- recycling water tank.

HWMU-33

- Two Tanks

The following protocol shall be employed for HWMU-32 and HWMU-33 :

- A wipe sample is taken by first applying a suitable solvent (such as isooctane or hexane for organic sampling, or DI water for metals sampling) to a piece of 11 cm filter paper or gauze pad.
- The moistened filter paper or gauze pad is then held with a pair of stainless steel forceps or rubber gloves and rubbed thoroughly over a 100 cm² area (delineated by a template - if possible) of the sample surface to obtain the sample.
- The filter or pad is placed in a precleaned sample bottle, which is then capped, labeled, and placed in an ice chest (to keep the sample at about 4° C). If samples are to be analyzed soon, the cold storage requirements may be relaxed as long as sample integrity is maintained.

1.8.1.3 Sampling & Analysis Requirements

All sampling and analysis associated with closure will be conducted in accordance with procedures and methods specified in 6 NYCRR 371 or, EPA Publication SW- 846, "Test Methods for Evaluation of Solid Waste, Physical/Chemical Methods," 3rd Edition (SW-846) and its latest revisions and updates, or equivalent methods, as approved by NYSDEC.

Other sampling techniques that may be appropriate include methods in:

- Industrial Hygiene Technical Manual Chapter VIII, "Sampling for Surface Contamination," Occupational Safety and Health Administration (OSHA) Instruction CPL 2-2.20A, March 30, 1984.
- Field Methods for Grid Sampling of PCB Spill Sites to Verify Cleanup. USEPA contract No. 68-02-3938, May 1986.

Rinsate Samples

The following apply to rinsate sampling and analysis:

- Analytical Methods - All of the samples need to be analyzed by a laboratory certified by NYS DOH ELAP for the parameters of interest. The following preparation and analytical methods may be used.

PARAMETER	PREPARATION*	ANALYSIS
TCL Volatiles	Method 5030	Method 8260
TCL Semi- Volatiles	Method 3640	Method 8270
TAL Metals (HWMU-32 only)	Method 3010/3015/3020 as appropriate	Method 6010 and 7000 series as appropriate

* Preparation Methods should be used where appropriate, prior to analysis. • Target Detection Limits and QA/QC - The target detection limits for TCL volatiles and TCL semi-volatiles is 5ug/L. The target detection limits for the metals is as per the table from the NYSDEC ASP.

The quality control results shall be submitted along with the sample results. This QC data shall include surrogate recoveries, MS/MSD percent recoveries, internal standard area counts and retention times (as applicable), and blank results for the organics. For the metals, submit CRDL standard for AA and ICP, spike sample recovery, duplicates, blanks, ICP interference check sample, post digestion spike sample recoveries (if applicable), laboratory control sample results, and ICP serial dilution results. The QC analysis should be performed on site specific samples. The QA/QC requirements of SW-846 shall be met.

Proper procedures will be followed for sample collection, preservation, shipment and chain-of- custody and quality control as established in the referenced documents.

Wipe Samples

The samples will be analyzed by a NYSDEC approved and certified lab. The analytical methods to be used for the wipe samples are listed below:

PARAMETER	PREPARATION*	ANALYSIS
TCL Volatiles	Method 5030	Method 8260
TCL Semi- Volatiles	Method 3640	Method 8270
2,3,7,8 TCDD (HWMU – 32 only)	3500 series method as appropriate	Method 8280
TAL Metals (HWMU-32 only)	Method 3010/3015/3020 as appropriate	Method 6010 and 7000 series as appropriate

* additional clean-up methods may be used where appropriate, prior to analysis

The exact reference and edition to be followed for each method is listed in the Waste Analysis Plan. The analyses to be performed will be based on the constituents associated with the wastes managed in the unit.

1.8.2 Acceptance Criteria

Requirements for waste sampling are dependent upon the destination of the material, or reuse of the equipment / area. **Table I-4** summarizes the sampling required and acceptance criteria, based on waste destination.

After the equipment and surfaces are cleaned, they will be visually inspected for evidence of contamination. For construction related and field equipment, they will be visually inspected for evidence of contamination and screened for organic vapors with a FID and a PID organic vapor meter. If elevated levels (greater than environmental background) are measured with either instrument, the cleaning procedure will be repeated. The on-site NYSDEC monitor shall be provided an opportunity to visually inspect the equipment to verify decontamination.

In certain situations for the clean closure of specific areas, a clean surface may be required to be verified by collecting wipe samples, or rinse water samples using a minimal amount of water appropriate to the type of equipment or structure involved. The results of the sampling will be used to determine the effectiveness of the decontamination.

Where rinse sampling is specified (Section 1.8.1.1), the criteria that will be used to determine surface cleanliness is a verification that rinse sample results do not exceed the New York State Water Quality Standards for Class GA groundwater, 6NYCRR Part 703.5 which are available at www.dec.state.ny.us/website/regs/703.htm. If a sample does not meet the cleanup criteria, the washing process will be repeated and another sample collected.

For the incinerator and post-incineration units (including APCE units) where wipe sampling is specified, the criteria that will be used to determine surface cleanliness is a verification that the wipe sample results do not exceed 0.01 ug/100 cm² of 2,3,7,8 TCDD. For the waste feed system, the criteria that will be used to determine surface cleanliness is a verification that the wipe sample results do not exceed 1 ug/100 cm² for organic constituents that, from past analyses, are known to be in the waste stream.

In the event that verification of decontamination for clean closure of a specific location(s) or material(s) within a hazardous waste management area cannot be demonstrated by the above techniques, Permittee may collect additional samples (e.g. core samples) for analyses with NYSDEC approval.

Sampling and analyses may also be used to determine disposal requirements in the event Permittee decides that a structure or materials would be removed and sent for off-site disposal. Results of all decontamination verification will be summarized and submitted with the closure certification.

1.9 Recordkeeping, Reporting and Certification of Closure

Certification of closure is required whenever a hazardous waste management unit is closed. After completion of the closure activities, the following will be performed:

- Records of all waste removal, decontamination procedures, and verification sampling and analysis will be maintained as documentation in support of the Closure Certification.
- The certifying engineer, who is an independent Professional Engineer registered in New York State, will review all records and make a final inspection of the closure area to document that closure has been conducted as described in the approved closure plan.
- A certificate of closure will be prepared by the certifying engineer and forwarded to the Commissioner within 60 days of completion of closure or partial closure.
- Following closure and closure certification, the area may be used for other activities not involving hazardous waste management, as long as use is not restricted by post closure requirements.
- Following certification of closure, specific areas may be used for other purposes not constituting hazardous waste management.

Within 60 days of the completion of the field closure activities, a written notification will be issued certifying that the systems have been closed in accordance with the approved Work Plan and submitted to the NYSDEC in accordance with 6 NYCRR Part 373-3.7(f)(1). The certification will be signed by a responsible Permittee representative and an independent Professional Engineer registered in New York and will include the results of decontamination verification.

The report, including the Closure Certification and documentation including results of decontamination, verification/determination in support of certification will be submitted to the NYSDEC.

2. UNIT SPECIFIC CLOSURE ACTIVITIES

2.1 Unit Descriptions

HWMU specific descriptions covered under this Closure Plan and described in this section are provided in the Part 373 Permit, Attachment D - Incinerator Systems and Attachment D-2 Tank Systems.

Specific closure activities are identified in the following sections.

2.1.1 Incinerator System

The following sections describe the procedures that will be used to close the hazardous waste incinerator that is part of the Eastman Business Park facility. Unit closure occurs, the entire area permitted for treatment for hazardous wastes may be used and is considered to be active. A complete description of the unit, major system components, current and past usage, and wastes managed is presented in Attachment D of this Permit.

Procedures for closure are provided that are applicable to the HWMU-32 Building 95 - King's Landing Multiple Hearth Incinerator system.

2.1.1.1 HWMU-32 - Multiple Hearth Incinerator Unit

This section describes procedures for the closure of the Multiple Hearth Incinerator Unit (HWMU-32). Major operating areas and items of equipment which must be closed at this unit are:

- Multiple Hearth Waste Feed System
- Multiple Hearth Incinerator Including Ash Handling System
- APCE Including Secondary Combustion Chamber and Stack

Equipment Removal and Decontamination Procedures

The basic tasks involved for closure of the incinerator include the following:

- Task 1 - Deslag and then bring to ambient conditions;
- Task 2 - Utilities isolation;
- Task 3 - Removal of residues and refractory brick from combustion zone and air pollution control systems; and
- Task 4 - Dismantling of components; and
- Task 5 - Decontamination and evaluation.

After final shutdown for closure the following steps will be taken relating to each of the major items comprising the incinerator.

- Multiple Hearth Waste Feed System: The sludge conveyor and elevator is inspected on a regular basis during normal operations and evidence of waste spillage is immediately cleaned up. At closure, the sludge conveyor and elevator system will be cleaned of remaining sludge and washed with an aqueous abrasive mixture to ensure remaining traces of

hazardous waste will be completely removed prior to sampling. The abrasive mixture will be collected and managed as a hazardous waste. Rinse waters used in final cleaning will either be managed as containerized hazardous waste or discharged to the King's Landing Wastewater Purification Plant.

- Multiple Hearth Incinerator and Ash Handling System: The refractory will be removed and treated and managed in an appropriately permitted facility as a hazardous waste. Steel from the incinerator will be cleaned, and sampled to verify that it is non-hazardous, and sent to metal salvage. Any remaining ash will be removed from the ash handling system and ash which is collected will be removed by physical cleaning and handled in the same manner as the ash from the incinerator (i.e., managed for recovery of precious metals). A visual inspection of the ash handling system will be made to ensure that the ash has been completely removed from the system prior to any required sampling.
- Secondary Combustion Chamber: Ash which may have settled on the bottom of the secondary combustion chamber will be removed and added to the ash which was removed from the ash handling system. Refractory material will be managed as a hazardous waste and steel will be cleaned, as specified in this plan and/or sent to metal salvage.
- Air Pollution Control Equipment (APCE): The quench refractory material will be managed as a hazardous waste. The APCE (including ductwork and/or piping) will be thoroughly flushed with water to remove particulates. The quench reactor, condenser, venturi scrubber, entrainment separator and wet electrostatic precipitator will be physically inspected to ensure that the particulates have been removed. Cleaning and flushing will continue until particulates have been removed. Where necessary, the interior surfaces will be mechanically scraped, wire brushed or hydroblasted until visual inspection indicates the surfaces are clean (prior to sampling, if not disposed as a hazardous waste). Permittee may dismantle the APC system and send it off for scrap metal reclamation and/or characterize if for disposal as a hazardous waste, in conformance with the recipient facility's waste management requirements. Or, Permittee may undertake sampling as described in Section 1.8.1.2. If the sampling indicates that the contaminants are below acceptable criteria, then Permittee may reuse or dismantle and dispose of the system as a nonhazardous waste.

Solids found in the drained APC system will be physically removed and managed as a hazardous waste. The waste water from the APC system will either be managed as a containerized hazardous waste or discharged to the King's Landing Wastewater Purification Plant.

- ID Fan and Stack: The system will be inspected and particulates observed in the duct work or the base of the stack will be removed by flushing with water which will either be managed as containerized hazardous waste or discharged to the King's Landing Wastewater Purification Plant. The stack may also be managed as scrap metal per **Table I-4**.

Each sub-component of the incinerator will be dismantled. The associated piping and ductwork will be removed and cut into manageable lengths. The dismantled components, piping and ductwork will be visually inspected for the presence of waste, ash, and/or scale. If the component and/or piping is visually free of waste, ash, and/or scale, or flame ionization detector (FID)/photo ionization detector (PID) readings are at or below the environmental background, it will be made available for inspection by the NYSDEC representative. In accordance with Section 2.1.1.2, the component and/or piping will be placed in an appropriate container and transported to an appropriate metal salvage area.

Components and/or sections of piping and ductwork that are not visibly clean or have FID/PID readings greater than environmental background will have all open ends wrapped with plastic. They will be placed in a lugger or appropriate container properly labeled and may be sent to an appropriate disposal/treatment facility or transported to the decontamination pad where any residual waste, ash, and/or scale will be physically removed. The pad is lined with high density polyethylene plastic (HDPE) with the liner sloped to an inlet to a drain which discharges to the waste water treatment plant. These components will be washed until their FID/PID readings are at or close to background levels.

It is not anticipated that asbestos will be encountered during the closure activity. However, if identified, Permittee will immediately contact an asbestos abatement specialist to evaluate and manage the removal of any asbestos bearing materials.

Following dismantlement and removal of piping, ductwork, and components of the MHI systems, the concrete bases of these areas will be cleaned by removing the coatings by scarification and then pressure washing/hydroblasting clean. The concrete pads will be visually inspected for evidence of any waste residuals which may remain in the area. Any waste residuals detected by the inspection will be removed using the cleaning procedures listed above, as appropriate for the waste residual observed.

Sampling and Analysis

Sampling and analysis of the MHI system components (including ductwork and/or piping) not being disposed of as a hazardous waste or going for scrap metal, shall be performed, in consultation with NYSDEC, and in accordance with Section 1.8.1.2, as follows:

- 10 samples total (8260/8270 organics) of the MHI feed system;
- 1 sample for dioxins from each hearth of the MHI (shell, rabble arms, floor, etc.);
- 2 samples for dioxins from the ash handling system;
- Dioxin samples for each of the following APCE:
 - quench (incl. shell) - 1 sample
 - A/C - 1 sample
 - venturi scrubber - 1 sample
 - entrainment separator - 1 sample
 - WESP - 1 sample
 - SCC - 1 sample
- 2 samples for dioxins + 2 samples for metals, for the sump system;
- 2 samples for dioxins from the fans and stack.

Sampling and analysis of the following MHI system components shall be performed in consultation with NYSDEC, and in accordance with Section 1.8.1.1, as follows:

- 1 sample each for metals per floor of B-95 surrounding MHI,
- 5 samples for metals from the sludge feed system;

2.1.2 Process Information, Tanks

This section presents the unit-specific details and requirements that will be performed during closure of the HWMU-33 tank system:

2.1.2.1 Cleaning, Decontamination, Removal and/or Potential Reuse of Tank Systems

Inventory Removal

At closure, the contents will be removed from these tanks to the degree practicable. All pumpable free liquids will be transferred into bulk liquid transporters, drums, other suitable transport vehicles (i.e. “Super suckers” or vactrucks) or containers for disposal at off-site hazardous waste management facilities. Any remaining residual semi-solid or solid materials will also be removed from the tanks, containerized and shipped to an appropriate off-site waste management facility.

Inspection records and records relating to implementation of the Contingency Plan or other records of spills at the unit will be reviewed to determine if any leakage occurred in the storage area and to evaluate cleanup action taken at the time of detection.

Tank Cleaning

After the waste has been removed, one or more of the following cleaning procedures will be used, as appropriate:

- Solvent Cleaning
 1. Rinse tank with a solvent compatible with the waste. This may be a nonpolar solvent, such as heptane or xylene, or a polar solvent, such as acetone or methanol. Manage the solvent waste mixture obtained as a hazardous waste or recover the washing solvent. Any residue remaining after recovery will be managed as a hazardous waste. Applicable safety precautions to prevent ignition while handling solvents must be followed.
 2. Rinse tank with a solvent miscible with the solvent waste mixture and compatible with water, such as acetone or methanol. Handle this rinse solvent the same as the mixture from Step 1. Where the rinse solvent used in Step 1 is a polar solvent mixable with water, this step may be omitted.
 3. Rinse tank with water repeatedly. Check the solvent content of representative rinses once water rinsing is believed to be complete. Pump the waste water rinse to the industrial

sewer for treatment after verifying the sewerage criteria are met.

· High Pressure Water Cleaning

Where deemed necessary by Permittee, following a water rinsing, the tank will be cleaned with hydroblast cleaning. This consists of using high pressure water to remove any remaining scale and residues from the interior surface of the tank. Any sludge or solids created during the cleaning will be removed and managed as a hazardous waste. The water generated by the cleaning will be discharged to the industrial sewer.

· Caustic Cleaning

Where deemed necessary by Permittee, based upon known characteristics of the waste or waste residues remaining in the tank, a caustic cleaning procedure may be used. Applicable safety precautions must be followed when handling caustic:

1. Fill tank approximately ½ to ¾ full with a 1 to 5 percent solution of caustic soda. Heat and agitate with steam injection for approximately 24 hours while monitoring solution temperature. The caustic solution temperature should reach at least 120 degrees Fahrenheit during this time, and should be kept below 180 degrees Fahrenheit by the addition of water. Pump or drain the caustic solution to the industrial sewer for treatment, in accordance with the criteria presented in **Table I-4**, while diluting continuously with approximately two to three times the volume of rinse water.
2. Flush and multiple-rinse tank with water as in Step 3 under Solvent Cleaning. Check rinse water pH and continue rinsing until pH is less than 8.0.
3. Following completion of the tank cleaning, the tank will be checked for presence of flammable vapors or caustic odors. The tank will be visually inspected for residue. Any residue will be managed appropriately as hazardous waste.

If any residue is detected on the outside of the tank, the area will be physically cleaned using appropriate safe working methods. Cleaning will employ scraping, wire brushing, hydroblasting, or similar methods as appropriate for the residue encountered.

Visually inspect the tank thoroughly following completion of cleaning. If visual evidence of contamination is still present, the steps described above will be repeated, as appropriate. Decontamination of tanks will be verified by visual inspection, screening for organic vapors using a FID and PID meter and confirmation by the NYSDEC representative.

Pumps, Valves, Strainers and Other Liquid Handling Equipment

All of this equipment will be cleaned during the cleaning of the piping system. Following the cleaning of the piping system, this equipment will be dismantled and visually inspected. Where residues are observed, they will be removed either mechanically or with an appropriate cleaning solution. These residues will be managed as a hazardous waste. If cleaning is not considered desirable because of the age or condition of the equipment, this equipment will be dismantled, then treated or disposed of at a hazardous waste facility

permitted to receive this type of waste. Pumps which have been decontaminated may return to hazardous waste service, or may be sent for disposal or scrap metal reclamation. Any pump that is to be returned to service for other than hazardous waste duty will be sampled in accordance with Section 1.8.1.2.

Piping and Other Tank System Equipment

Piping systems associated with the storage tank will be cleaned in conjunction with the tank using one of the procedures outlined above. Once decontaminated, piping will be sent for disposal or for scrap metal reclamation. Any pipe or other tank system equipment that is to be returned to service for other than hazardous waste duty will be sampled in accordance with Section 1.8.1.2. The system shall be dismantled for inspection to verify all hazardous wastes and residues have been removed from the piping system. Dismantled equipment will be cut, if necessary, into manageable sections, wrapped in plastic or placed into a suitable container and transported to the decontamination pad. The pad is lined with high density polyethylene plastic (HDPE) with the liner sloped to an inlet to a drain which discharges to the industrial sewer. External surfaces will be cleaned with high pressure/low volume water or steam. Decontaminated piping will be sent to the salvage department or reused for other service or disposed of off-site at a permitted facility.

Insulation and Pipe Covering

All insulation and pipe covering which shows any evidence of contamination with hazardous waste following visual inspection of the piping system will be removed and packaged for treatment or disposal at a facility such as those shown in **Table I-2**, or equivalent. Appropriate personal protective equipment will be worn while removing and handling the insulation.

Tank Removal/Excavation

The removal of the tanks will be performed using conventional equipment such as backhoes or cranes as appropriate to the tank location. It is not expected that removal of soils will be required at these specific units because the concrete and containment areas will be left in place.

Soil Sampling

Should there be any indication of a release, a sampling and analyses plan will be submitted to the NYSDEC, for review and approval and will describe:

- The location of all proposed soil sampling points;
- The sampling methods; depth of all samples;
- Parameters for analysis and corresponding threshold values; and
- Chain-of-custody and quality assurance procedures.

2.1.3 Management and Disposal of Generated Materials

Generated materials will be shipped and disposed of off-site at an approved hazardous waste management facility appropriate for the wastes which are involved. The facility will be selected from those listed in **Table I-2** or another facility permitted to receive the type of waste to be removed. Ash will be sent off-site for silver reclamation. Wastes shipped off-site during closure activities may be shipped to any appropriate permitted hazardous waste management facility in operation at that time. Analytical results and/or Permittee's generator process knowledge of the wastes will be used to characterize any residues prior to on-site treatment or off-site disposal.

Any hazardous wastes shipped off-site for treatment or disposal during the closure process will be shipped by highway transport vehicles permitted to handle such wastes in accordance with applicable state regulations. All waste shipments will be in accordance with regulations of the U.S. Department of Transportation governing the shipment of hazardous materials.

If excavation of soil or other material is necessary as part of the closure process, all excavated materials will be managed in accordance with the appropriate regulations.

Rinse water which may be generated during closure operations will either be managed as containerized hazardous waste or discharged to the King's Landing Wastewater Purification Plant. Prior to discharge, the rinse water will be characterized to ensure that it can be properly managed at the King's Landing Wastewater Purification Plant. The treated waste waters upon discharge to the Genesee River are not hazardous in accordance with the exclusions of 6 NYCRR 371.1(e)(1)(ii).

Salvageable equipment may be processed as scrap metal, or used for other services once decontamination procedures are complete, and the items are adequately cleaned (metals to be processed as scrap metal will meet the 'clean debris surface' as defined in 6 NYCRR Part 376, Table 1 - Alternative Treatment Standards for Hazardous Debris). Permittee shall submit notification of the final disposition of scrapped material to the Department in the Closure Report.

Disposable equipment such as Tyvek clothing or gloves that come into contact with hazardous waste during closure activities will be managed as hazardous waste.

3. CLOSURE COST ESTIMATES

Itemized closure cost estimates for individual HWMUs are presented in **Appendix I-1**. A summary of the HWMU closure and post closure cost estimates are provided in **Appendix I-2**. These cost estimates were based on the following:

- Third party disposal and treatment costs based on actual costs that would be incurred by Permittee with commercial waste transporters and at commercial hazardous waste treatment and disposal facilities, or costs to Permittee, such as the cost of treating waste water at KLWPP;
- The estimate reflects the costs for off-site disposal of generated waste. However, it is anticipated that the on-site Eastman Business Park disposal and/or treatment options described in this Closure Plan will be available at the time of closure;
- The estimate does not incorporate any salvage value that may be realized with the sale of hazardous wastes, facility structures or equipment, land or other assets associated with the facility at the time of closure;

Closure, contingent closure, and post-closure costs will be adjusted for inflation annually, within 30 days following March 1st of each year, and whenever a revision in the closure plan results in a corresponding price increase. Permittee will adjust these estimates annually as required by 6 NYCRR 373-2.8(c)(2) and 373.2.8(e)(2) without the need for a permit modification. The adjustment will be made by multiplying the most recent cost estimate by ratio of the annual Implicit Price Deflator for Gross Domestic Product (GDP) for the first quarter of the year (as published by the U.S. Department of Commerce and its “Survey of Current Business”) to the annual Implicit Price Deflator for Gross Domestic Product (GDP) for the first quarter in which the last revision of the closure cost estimate was made. This ratio is the inflation factor.

For example:

$$\begin{aligned} &\text{Closure Cost Estimate April 1, 2008} \times \frac{\text{GDP Deflator, 4}^{\text{th}} \text{ Quarter 2009}}{\text{GDP Deflator, 4}^{\text{th}} \text{ Quarter 2008}} \\ &= \text{Adjusted Cost Estimate (2009)} \end{aligned}$$

If no revision of the cost estimates was made since the last adjustment, then the previous adjusted cost estimates will be adjusted by the appropriate inflation factor. The latest closure, contingent closure, and post-closure cost estimates and the latest adjusted cost estimates will be maintained at the facility.

4. FINANCIAL ASSURANCE FOR CLOSURE

The financial assurance mechanism used by the Eastman Business Park facility for closure and post-closure shall be maintained in accordance with 6 NYCRR 373-2.8.

5. LIABILITY REQUIREMENTS

Permittee will use the mechanisms authorized by 6 NYCRR 373-2.8(h) to demonstrate liability insurance for closure, post-closure, and corrective action.

TABLE I-2

HAZARDOUS WASTE MANAGEMENT FACILITIES
WHICH MAY BE USED FOR TREATMENT OR DISPOSAL OF WASTES REMOVED
DURING CLOSURE

FACILITY NAME	ADDRESS	EPA I.D. NUMBER	APPROXIMATE HIGHWAY TRANSPORT DISTANCE, MILES
<u>TREATMENT FACILITIES</u>			
Eastman Business Park	1669 Lake Avenue Rochester, NY 14650	NYD980592497	-0-
Rollins-Environmental Services, Inc.	P.O. Box 221 Bridgeport, NJ 08014	NJ0053288239	325
Ross Incineration Services	Grafton, OH	OHD048415665	250
Norlite Corporation	628 Saratoga St. Cohoes, NY 12047	NYD080469935	200
Heritage (WTI)	East Liverpool OH 43920	OHD980613541	250
EQ Industrial Services	1923 Frederick Detroit, MI 48211	MID980991566	300
SET Environmental Inc.	5738 Cheswood Houston, TX 77087	TXD055135388	1200
<u>DISPOSAL FACILITIES</u>			
Chemical Waste Management SCA, Model City Facility	1550 Balmer Road Model City, NY 14107	NYD049836679	85

(*) - Also may be used as a storage facility for partial closure of some operating units where wastes in storage may be transferred within the facility.

TABLE I-3

CLOSURE SCHEDULE ⁽⁹⁾

MULTIPLE HEARTH INCINERATOR (HWMU-32)

STEP	TIME ALLOWED ⁽¹⁰⁾ (DAYS)	TOTAL DAYS FROM START OF CLOSURE
1) Removal of all hazardous waste	Average of 75	75
2) Final thermal decontamination of incinerator system	5	80
3) Simultaneous cleaning of incinerator system.	60	140
a) Multiple Hearth Feed System	30	
b) Multiple Hearth Incinerator	60	
c) Air Pollution Control Equipment	60	
4) Simultaneous cleaning of support areas	70	150
5) Complete final verification sampling and analysis	20	170
6) Submittal of certification to Commissioner	5	175
7) Allowance for potential delays in completing individual steps in closure plan.	5	180

Notes:

(9) . Start of closure will be at least 45 days after notification to the Commissioner of intent of final closure, except under authorization provided by the Department.

(10) - After receiving the final volume of hazardous waste.

Table I-3: CLOSURE SCHEDULE (Con.) ⁽¹⁾

STORAGE TANKS		
Step	TIME ALLOWED ⁽²⁾ (DAYS)	TOTAL DAYS FROM START OF CLOSURE
Remove all hazardous waste from storage tank.	60	60
Solvent and/or caustic clean tank and piping systems.	30	90
Physically inspect tank interior and exterior where possible. Perform necessary secondary cleaning	25	115
Simultaneously, with Step 3, examine secondary containment structures and clean or remove visibly contaminated gravel, as	15	
Perform verification sampling and analysis	40	155
Submit closure certificate to Commissioner	5	160
Allowance for potential delays in completing individual steps in closure plan	20	180

(1)- Start of closure will be at least 45 days after notification to the Commissioner of intent to close, except under authorization provided by the Department.

(2)- After receiving the final volume of hazardous waste.

Table I-4: Acceptance Criteria and Required Actions

Waste Destination	Must decontamination ¹ be done?	Needs FID / PID screen ?	Must meet the “clean surface debris” definition of Part 376 ² ?	Independent PE consultation with DEC to verify decontamination	Rinsate Sampling ⁴ With DI Water Sec 1.8.1.1	Wipe Sampling ⁴ Sec 1.8.1.2	Administrative closure requires approval?	Waste Characterization which may involve sampling?
HW TSDF	No	No	No	No	No	No	No	Yes ⁷
NHW Facility	Yes	No	No	Yes	Maybe	Maybe	No	Yes ⁷
Smelter / Recycler	Yes	No	Yes	Yes – for clean debris surface	No	No	No	No
Direct Reuse in HW duty	No	No	No	No	No	No	Yes	No
Direct reuse NOT in HW duty	Yes	No	No	Yes	Yes-criteria 6NYCRR R 703.5 standards ⁵	Yes ⁶	No	Yes
Return to service – (field / construction equipment)	Yes	Yes ²	No	Yes	No	No	No	No

Notes:

1. Decontamination includes surface cleaning and visual inspection for evidence of further contamination. Results of all decontamination verification will be summarized and submitted with the closure certification
2. If greater than background levels are observed, the equipment must be re-cleaned
3. Metals to be processed as scrap metal will meet the ‘clean debris surface’ as defined in 6 NYCRR Part 376, Table 1 - Alternative Treatment Standards for Hazardous Debris
4. See referenced section for units/equipment to which the specific sampling applies.
5. Rinse samples are not to exceed the New York State Water Quality Standards for Class GA groundwater, 6 NYCRR Part 703.5, or other standards to be determined by the NYSDEC at the time of closure.
6. For incinerators and post-incineration units (including APCE units) where wipe sampling is specified, the criteria that will be used to determine surface cleanliness is a verification that the wipe sample results do not exceed 0.01 ug/100 cm² of 2,3,7,8 TCDD. For waste feed systems, the criteria that will be used to determine surface cleanliness is a verification that the wipe sample results do not exceed 1 ug/100 cm² for organic constituents that, from past analyses, are known to be in the waste stream. Or, other standards determined to be appropriate by NYSDEC at the time of closure may be used.
7. Nonhazardous waste sent to a hazardous waste disposal facility will require waste characterization, but may not require waste testing. Hazardous waste sent to a hazardous waste disposal facility will require waste characterization in keeping with the recipient facility’s waste analysis plan.
8. During the closure period, all contaminated equipment, structures and soils must be properly disposed of or decontaminated.

APPENDIX I-1

BASIS FOR COSTS

HAZARDOUS WASTE MANAGEMENT UNIT
COMPREHENSIVE CLOSURE PLAN

EASTMAN BUSINESS PARK
ROCHESTER, NEW YORK

APPENDIX I-1: Basis for Costs

TABLE OF CONTENTS

1.1	LABOR COSTS	1
1.2	INVENTORY AND HAZARDOUS WASTE RESIDUALS DISPOSAL COSTS	1
1.21	Disposal costs	2
1.22	Transportation costs.....	2
1.23	Wastewater Treatment.....	2
1.3	DECONTAMINATION	2
1.4	PERSONAL PROTECTIVE EQUIPMENT (PPE).....	3
1.5	ANALYTICAL COSTS	3
1.6	MISCELLANEOUS COSTS.....	3
1.7	ADMINISTRATIVE CONTINGENCY	3
1.8	GENERAL CONTINGENCY	3
1.9	POST-CLOSURE CONTINGENCY	3

BASIS FOR COSTS

This appendix describes the basis for the costs used in the Eastman Business Park (EBP) Closure and Post Closure Cost Estimates.

1.1 LABOR COSTS

Costs below equate to costs that would be charged for labor by a third party conducting closure/post-closure activities:

Basic labor	\$240 per work day - or - \$30 per hour
Environmental Technician	\$40 per hour
Professional Engineer (P.E.)	Lump sum cost estimates based on previous EBP closure projects.
Supervisor	Lump sum cost estimates based on previous EBP closure projects.
Health and Safety Officer	Lump sum cost estimates based on previous EBP closure projects.

Above costs include hourly labor rate plus contractor overhead and profit.

1.2 INVENTORY AND HAZARDOUS WASTE RESIDUALS DISPOSAL COSTS

Generated materials will be treated on-site or treated or disposed of off-site at an approved hazardous waste management facility appropriate for the wastes which are involved. The facility will be selected from those listed in **Table I-2** or another facility permitted to receive the type of waste to be removed. Analytical results and/or Permittee's generator knowledge of the waste types will be used to characterize any residues prior to on-site treatment or off-site disposal. Disposal costs are based on the following:

Third party disposal and treatment costs based on actual costs that would be incurred by Permittee with commercial waste transporters and at commercial hazardous waste treatment and disposal facilities, or costs to Permittee, such as the cost of treating waste water at KLWPP;

The estimate reflects the costs for off-site disposal of generated waste. However, it is anticipated that the on-site Eastman Business Park disposal and/or treatment options described in the unit closure plans will be available at the time of closure;

The estimate does not incorporate any salvage value that may be realized with the sale of hazardous wastes, facility structures or equipment, land or other assets associated with the facility at the time of closure; and

The Kings Landing Wastewater Purification Plant (KLWPP) will continue to operate during closure activities, and for post closure treatment of groundwater from the existing remedial measures systems.

1.2.1 Disposal Costs

Drums are in 55-gallon equivalents.

<u>Waste Type</u>	<u>Disposal Method</u>	<u>Per unit cost</u>
Bulk Liquid	Treatment	\$2.50/gallon
Refractory Brick Ash	Metal/Mineral Recovery	\$133.00/cubic yard
Brick/Cinders	Landfill (non-hazardous)	\$40.00/cubic yard
Refractory Brick	Landfill (hazardous)	\$300.00/cubic yard
Debris	Landfill (hazardous)	\$90.00/cubic yard
Drum (liquid)	Incineration	\$340.00/drum
Drum (solids)	Landfill	\$100.00/drum
Drum (solids)	Incineration/Metal Recovery	\$400.00/drum

1.2.2 Transportation Costs

Drums will be transported by flatbed or van trailer, which can transport approximately 80 drums per load. Any bulk liquids will go by tanker truck.

<u>Waste Type</u>	<u>Per unit cost</u>
Drum (solids)	\$8.00/drum
Drum (hazardous solids)	\$40.00/drum
Drum (liquid)	\$30.00/drum
Refractory Brick/Ash (to Noranda)	\$75.00/cubic yard
Refractory Brick (to CWM Model City)	\$20.00/cubic yard
Bulk Liquid	\$0.45/gallon
Bulk Solid (hazardous)	\$25.00/cubic yard
Bulk Solid (non-hazardous)	\$6.00/cubic yard
Roll Off Box (hazardous)	\$300.00/box

1.2.3 Wastewater Treatment

All wash, rinse, and storm waters generated on site during closure activities will be treated on site in the KLWPP. For purposes of calculating treatment costs at a publicly owned treatment works (POTW), Permittee has applied a cost factor of \$0.00247/gallon. This figure is consistent with the current cost structure at the Van Lare POTW, in the vicinity of Eastman Business Park; and assumes that the groundwater will be piped to the treatment plant, rather than transported in containers.

1.3 Decontamination

Decontamination costs and wastes including wastewater volumes are based on extensive historical data from site maintenance and tank closures. Some costs of decontamination are those associated with pressure washing and vacuuming.

<u>Equipment</u>	<u>Rental cost/hour</u>
Cleaning Equipment (pressure washer/steam cleaner)	\$ 50.00
Equipment (heavy equipment, vacuum truck, power tools, etc.)	\$150.00
Crane	\$250.00

1.4 Personal Protective Equipment (PPE)

The demolition activities have the PPE costs built in. Estimates for Level C and Level D PPE are based on typical costs such as:

<u>Level D</u>		<u>Level C</u>	
Tyvek	\$3.50	2 Tyveks	\$ 7.00
Gloves	\$2.50	2 pr. Gloves	\$ 5.00
Disposal Boots	\$3.00	2 pr. Disposal Boots	\$ 6.00
	<u>\$9.00/day</u>	1 pr. Respirator Cartridges	<u>\$ 7.00</u>
			\$25.00/day

Specific materials and quantities will vary depending on the type of waste material being managed.

1.5 ANALYTICAL COSTS

Except where specifically noted, analytical costs related to documenting decontamination are based on typical analytical costs for groundwater, and rinse water analysis cost quotes from third party laboratories.

1.6 MISCELLANEOUS COSTS

These costs include rental units, materials/solvents, protective equipment, and equipment decontamination. Except where specifically noted, these costs have been expressed as a percentage of the subtotal labor, materials/solvents, transportation and disposal based on specific areas and Permittee operational experience with similar closures, generally estimated at 5%.

1.7 ADMINISTRATIVE COSTS

This is estimated at 10% of subtotal labor, materials, transportation and disposal costs for closure.

1.8 GENERAL CONTINGENCY

This is estimated at 20% of subtotal labor, materials, transportation and disposal costs for the closure of the incinerator unit.

1.9 POST-CLOSURE CONTINGENCY

Due to the low variability/uncertainty of the estimated costs, the general contingency for unit closure activities (estimated at 20%) is expected to be adequate to address contingent closure actions.

Appendix I-2

**ITEMIZED COST ESTIMATES FOR
INDIVIDUAL HAZARDOUS WASTE MANAGEMENT UNITS**

**EASTMAN BUSINESS PARK ROCHESTER, NEW YORK
HAZARDOUS WASTE MANAGEMENT FACILITY
EPA ID NO. 980592497**

**INCINERATOR CLOSURE COSTS
HWMU-32**

Cost breakout by components (Includes disposal of maximum inventory (including grit & sludge) of approximately 40 cy and equipment dismantlement) from 1995 closure costs as submitted by Eastman Kodak, and subsequently revised by NYSDEC.

1 Multiple Hearth Feed System (1, 2)

Labor	1000 hours @	\$ 30/hour	\$30,000
Equipment Rentals	240 hours @	\$ 150/hour	\$36,000
Waste Disposal	50 drums @	\$ 400.00/drum	\$20,000
Waste Transportation	50 drums @	\$ 40.00/drum	\$2000
Residual Ash Transport	25 cy @	\$ 75.00/cy	\$1875
Sample Analysis	-5 wipe samples @	\$ 500/sample (8260/8270 organics)	\$2500
	5 DI water samples @	\$ 500/sample (8260/8270 organics)	\$2500
	5 DI water samples @	\$ 200/sample (metals)	\$1000
		Subtotal:	\$95,875

Multiple Hearth Incinerator (1, 2)

Labor	2700 hours @	\$ 30/hour	\$81,000
Equipment Rental	680 hours @	\$ 150/hour	\$102,000
Waste Disposal	200 drums @	\$ 400.00/drum	\$80,000
Waste Transportation	200 drums @	\$ 40.00/drum	\$8000
Refractory Brick Transport	182 cy @	\$ 75.00/cy	\$13,650
Refractory Brick Disposal	182 cy @	\$ 133.00/cy	\$24,206
Sample Analysis			
(1 wipe sample per hearth)	8 samples @	\$ 650/sample (dioxin)	\$5,200
(1 sample per floor- B-95)	4 DI water samples @	\$ 200/sample (metals)	\$800
		Subtotal:	\$314,856

3. Ash Handling System (1, 2)

Labor	150 hours @	\$ 30/hour	\$4500
Cleanup Waste Disposal	5 drums @	\$ 400.00/drum	\$2000
Waste Transportation	5 drums @	\$ 40.00/drum	\$200
Sample Analysis	2 samples @	\$ 650/sample (dioxin)	\$1300
		Subtotal:	\$8000

INCINERATOR CLOSURE COSTS
HWMU-32
(Continued)

4. Air Pollution Control Equipment (includes secondary combustion chamber, quench reactor, condenser, venturi scrubber, entrainment separator, wet electrostatic precipitator and exhaust stack) (1, 2)

Labor	1950 hours @	\$ 30/hour	\$58,500
Equipment Rental	480 hours @	\$ 150/hour	\$72,000
Cleaning Equipment Rental	1200 hours @	\$ 50/hour	\$60,000
Waste Disposal	150 drums @	\$ 400.00/drum	\$60,000
Waste Transportation	150 drums @	\$ 40.00/drum	\$6000
Sample Analysis (includes 1 sample for quench; 1 sample for venturi scrubber; 1 sample for entrainment separator; 1 sample for condenser; 1 sample for WESP; 1 for SCC; 2 samples for sump system - each for dioxin; 2 metals samples for sump system only)	8 samples @ 2 samples @	\$ 650/sample (dioxin) \$ 200/sample (metals)	\$5,200 \$400
		Subtotal:	\$262,100

5. ID Fans and Stack

Labor	160 hours @	\$ 30/hour	\$4800
Equipment	50 hours @	\$ 150/hour	\$7,500
Stack /Other Materials Disposal	20 cy @	\$ 40.00/cy	\$800
Stack/Other Materials Transport	20 cy @	\$ 6.00/cy	\$120
Sample Analysis	2 samples @	\$ 650/sample (dioxin)	\$1300
		Subtotal:	\$14,520

6. Disconnect Auxiliary Fuels and Caustic Supply System

Labor	25 hours @	\$ 30/hour	\$750
		Subtotal:	\$750

7. General Expenses for Entire Project

Closure of Concrete Pads (1, 2)			\$25,000
-Rental Units			
-Equipment Decontamination			
-Pressure Wash/Hydroblast			

INCINERATOR CLOSURE COSTS

HWMU-32

(Continued)

Health & Safety officer		\$10,000
Supervision/Engineering		\$50,000
Professional Engineer Certification		\$5000
Disposal of Personnel Protective Equipment		\$5000
	Subtotal:	\$95,000
	Subtotal for Items 1-7:	\$791,101
Miscellaneous (1, 2)	(5% of subtotal)	\$39,555
–Materials/Solvents		
–PPE		
–Piping and Auxiliary Equipment		
–Equipment Decontamination		
–System demolition once decontaminated		
Contingency:	(20% of subtotal)	\$158,220
Administrative:	(10% of subtotal)	\$79,110
Total Estimated Incinerator Closure Costs (in 1995 dollars):		\$1,067,986
Rounded to Nearest Hundreds Place (in 1995 dollars):		<u>\$1,068,000</u>

- MOTES: (1) Cost estimates and cleanup volumes based on King's Landing maintenance history and previous partial closure of the Kings Landing WPP's Rotary Kiln.
- Ø Wastewater will be discharged to the industrial sewer for treatment at the Kings Landing Wastewater Purification Plant. Equipment will be held in numbered luggers until approved by NYSDEC monitor as adequately decontaminated then the equipment will be transported for recycling. Ash will be sent for metal reclamation. Disposal costs are for drains of grit and sludge.

Costs are based on worst-case assumptions regarding contamination and the need for sampling during post-decontamination activities. . Actual sampling, analytical, transportation and disposal costs may be revised based on the ultimate disposition of the wastes generated during closure activities.

$$\text{Closure Cost Estimate from 1995} \times \frac{\text{GDP Deflator 2006}}{\text{GDP Deflator 1995}} = \frac{116.567}{92.106} = 1.266 \text{ (1.2656)}$$

$$1.266 \times \$1,067,986 = \$1,352,070 \text{ (2006 dollars)}$$

$$1.027 \times \$1,352,070 = \$1,388,576 \text{ (2007 dollars)}$$

HWMU-32 - Closure Costs - Annual Inflation Adjusted Values

Year	Inflation Factor	Total
2008	1.023	\$1,420,513
2009	1.0205	\$1,449,634
2010	1.0068424	\$1,459,553
2011	1.014	\$1,479,986

2012	1.021	\$1,511,066
2013	1.0183	\$1,583,718
2014	1.0138	\$1,605,579

HWMU-33 Closure Costs (in 2009 Dollars)

Labor:	Site Preparation	20 hours			
	-Lockout/Tagout				
	-Confined Space Entry Approval				
	Inventory Removal	30 hours			
	Tank Cleaning	60 hours			
	Piping & Ancillary Equipment				
	Cleaning and Removal	80 hours			
	Tank Excavation & Removal	150 hours			
		<hr/>			
		340 hours	@ \$30 / hour		\$10,200
Equipment Rental:		200 hours	@ \$50 / hour		\$10,000
Professional Engineer:					\$4,000
Supervision:					\$1,500
Materials, Transportation, and Disposal:					
	Transportation:	65,000 gallons @	\$.45 / gallon	(inventory)	\$29,250
		5,000 gallons @	\$.45 / gallon	(wash water)	\$2,250
		1,000 gallons @	\$.45 / gallon	(suitable nonpolar solvent)	\$450
		1,000 gallons @	\$.45 / gallon	(solv. Misc. with water)	\$450
		3 drums @	\$40.00 / drum	(PPE)	\$120
	Disposal:	65,000 gallons @	\$2.50 / gallon	(inventory)	\$162,500
		5,000 gallons @	\$2.50 / gallon	(wash water)	\$12,500
		1,000 gallons @	\$2.50 / gallon	(suitable nonpolar solvent)	\$2,500
		1,000 gallons @	\$2.50 / gallon	(solv. Misc. with water)	\$2,500
		3 drums @	\$400.00 / drum	(PPE)	\$1,200
Catch Tank Removal (includes cleaning & disposal, as necessary): ¹					\$5,000
Removal & Disposal of 10 yd³ Stone around Tanks (if contaminated):					\$2,000
Sampling and Analytical:					
	(5 wipe samples per tank)				
		10 wipe samples @	\$500.00 / sample	(8260/8270)	\$5,000
	(rinsate sample for ancillary equipment)				
		2 samples @	\$500.00 / sample	(8260/8270)	\$1,000
			Subtotal:		\$252,420
Miscellaneous:		(10% of subtotal)			\$25,242
	-Rental Units				
	-Materials/Solvents				

-PPE
-Equipment Decontamination

Administrative Costs:	(15% of subtotal)	\$37,863
General Contingency:	(20% of subtotal)	\$50,484
Total Estimated Tank Closure Costs (in 2009 Dollars):		\$366,009
Rounded to Nearest Hundreds Place (in 2009 Dollars):		\$366,000

¹ The B-322 catch tank is not part of HWMU-33 and any contents are managed per §373-2.10(d)(2)(iv). (Catch tank may be retained for further use after HWMU-33 is closed, but \$5000 closure cost included.)

Note:

Costs are based on worst-case assumptions regarding contamination and need for sampling post-decontamination activities. Actual sampling, analytical, transportation and disposal costs will significantly depend on ultimate disposition of the wastes generated during closure activities.

HWMU-33 Closure Costs - Annual Inflation Adjusted Values

Year	Inflation Factor	Total
2010	1.0068424	\$368,504
2011	1.014	\$373,663
2012	1.021	\$381,510
2013	1.0183	\$388,490
2014	1.0138	\$393,850

ATTACHMENT I

APPENDIX I-3

**EASTMAN BUSINESS PARK
ROCHESTER, NEW YORK
HAZARDOUS WASTE MANAGEMENT FACILITY
EPA ID NO. 980592497**

**SUMMARY OF ESTIMATED CLOSURE COSTS
(As of 2014)**

**EASTMAN BUSINESS PARK HAZARDOUS WASTE FACILITY
ROCHESTER, NEW YORK**

A.	TOTAL B-95 MHI CLOSURE COSTS:	\$1,559,950
B.	TOTAL HWMU-33 TANK SYSTEMS CLOSURE COSTS	\$393,850
C.	ESTIMATED TOTAL CLOSURE COSTS	<u>\$ 1,953,800</u>
	[C = A + B] (YEAR 2014 DOLLARS)	

Note: All costs on this page are in YEAR 2014 Dollars

ATTACHMENT I

APPENDIX I-4

EASTMAN BUSINESS PARK ENVIRONMENTAL TRUST

**COST ESTIMATES ASSOCIATED WITH PRE-EXISTING
CONTAMINATION**

**EASTMAN BUSINESS PARK
ROCHESTER, NEW YORK
HAZARDOUS WASTE MANAGEMENT FACILITY
EPA ID NO. 980592497**

1. INTRODUCTION

This document presents the cost estimates related to “pre-existing contamination” for Eastman Business Park. These costs include continued remedial measures operation, monitoring, maintenance and reporting, as well as estimated costs to conduct a Remedial Investigation/Feasibility Study of the lower Genesee River in relation to impacts associated with historic release from Eastman Business Park.

Section 2 describes the groundwater monitoring programs (see attached Table Appendix I-4 for historic HWMU post-closure cost component) and Section 3 presents the cost estimate for selected final remedial measures. Section 4 presents the cost estimate for the Weiland Road Landfill RCRA Corrective Action and Part 360 Post-Closure programs. Section 5 presents cost estimates other/miscellaneous corrective action activities (including the Remedial Investigation/Feasibility Study of lower Genesee River). Section 6 provides a summary of the estimated costs.

2. GROUNDWATER SAMPLING AND ANALYSIS PROGRAM (Post-Closure for Historically Operated Tank Systems)

The Eastman Business Park groundwater sampling and analysis program includes activities specific to post closure monitoring of historically operated Hazardous Waste Management Units (Tank Systems) and are itemized in attached Table Appendix I-4. These activities include routine sampling and analysis of selected groundwater monitoring wells Identified in the Eastman Business Park Groundwater Sampling and Analysis Plan (EBPGSAP).

3. FINAL REMEDIAL MEASURES COST

Basis

Cost data presented below are developed from actual historical cost data for 35 pump well systems as compiled by Kodak, and are shown in **2014 dollars**.

Annual Capital Costs

Capital costs for extraction well/pump replacements are projected at \$36,100/ year

Annual Operations & Maintenance Costs (O&M)

O&M Contractor Costs: \$62,000/ year

O&M Extraction Well Rehab/Cleaning projected Costs. \$7,700/ year

Annual Protective Cover Inspection & Maintenance Costs

Costs include rodent control, mowing/weed control, stone, top soil/seed, mulch, and asphalt repair is: \$26,800/yr. RCRA facility areas with engineered cover systems (WIA-

KPW, XIA-202/208) were apportioned \$5,200 per year in inspection and maintenance costs with the remaining 8 areas each having a cost of \$1,935 per year.

3.1 Final Remedial Measures Costs

Costs are shown in 2014 dollars

3.1.1 EIA-KL

Final Corrective Measures approved in 2003 (19 years remaining)
The EIA-KL final remedy consists of a concrete integrity monitoring program and continued environmental monitoring in the area.

Annual O&M Costs

Inspection and maintenance of cover systems - \$1,935

Remaining O&M costs (19 x \$1,935) = \$36,750

3.1.2 WIA-KPW

Final Corrective Measures approved in-1998. The KPW final remedy consists of the operation of 14 groundwater recovery wells, maintaining cover on contaminated soil areas, and continued environmental monitoring.

% Cost Factor = 14 wells /35 total pumping, wells = 0.4

Capital Costs

Extraction Well/Pump Replacement

0.4 x \$36,100/ year = \$14,400 per year

Remaining Capital costs (30 x \$14,400) = \$433,000

Annual O&M Costs

O & M Contractor

0.4 x \$62,000/ year = \$24,800

O & M Well Rehab/Cleaning

0.4 x \$7,700 / year = \$3,100

Inspection and maintenance of cover systems - \$5,200/ yr

Remaining O&M costs (30 x \$33,100) = \$993,000

3.1.3 MIA-329/349

Final Corrective Measures approved in 2003 (19 years remaining)

The MIA 329/349 final remedy consists of the operation of 2 groundwater recovery wells, maintaining cover on contaminated soil areas, and continued environmental monitoring in the area

$$\% \text{ Cost Factor} = 2 \text{ wells} / 35 \text{ total pump wells} = 0.057$$

Capital Costs

Extraction Well/Pump Replacement

$$0.057 \times \$36,100 / \text{year} = \$2,100 \text{ per year}$$

$$\text{Remaining Capital costs } (19 \times \$2,100) = \$39,900$$

Annual O&M Costs

O&M Contractor

$$0.057 \times \$62,000 / \text{year} = \$3,500$$

O&M Well Rehab / Cleaning

$$0.057 \times \$7,700 / \text{year} = \$450$$

$$\text{Inspection and maintenance of cover systems} = \$1,935 / \text{yr}$$

$$\text{Remaining O\&M costs } (19 \times \$5,900) = \$112,100$$

3.1.4 MIA-351/352

Final Corrective Measures approved in-2002 (30 years remaining)

The MIA 351/352 final remedy consists of the operation of 3 ground water recovery wells and continued environmental monitoring in the area.

$$\% \text{ Cost Factor} - 3 \text{ wells} / 35 \text{ total pumping wells} = 0.086$$

Capital Costs

Extraction Well/Pump Replacement

$$0.086 \times \$36,100 / \text{year} = \$3,100$$

$$\text{Remaining Capital costs } (30 \times \$3,100) = \$93,000$$

Annual O&M Costs

O & M Contractor

$$0.086 \times \$62,000 / \text{year} = \$5,300$$

O & M Well Rehab Cleaning

$$0.086 \times \$7,700 / \text{year} = \$660$$

$$\text{Inspection and maintenance of cover systems} = \$1,935 / \text{yr}$$

Remaining O&M costs (30 x \$7,900) = \$237,000

3.1.5 EIA-NEKPE

Final Corrective Measures approved in 2002 and in-place: 2003 (30 years remaining). The NEKPE final remedy consists of the operation of 8 groundwater recovery wells, maintaining cover on contaminated soil areas, and continued environmental monitoring in the area.

% Cost Factor = 7 wells / 35 total pumping wells = 0.2

Capital Cost

Extraction Well/Pomp Replacement 0.2 x \$36,100 / year = \$7,200
Remaining Capital costs (30 x \$7,200) \$216,000

Annual O&M Costs

O & M Contractor

0.2 x \$62,000/ year = \$12,400

O & M Well Rehab /Cleaning

0.2 x \$7,700 / year = \$1,550

Inspection and maintenance of cover systems \$1,935/ yr

Remaining O&M costs (30 x \$15,900) = \$477,000

3.1.6 XIA-218

Final Corrective Measures approved/in-place 2002 (18 years remaining)
The XIA 218 final remedy consists of the operation of 1 groundwater recovery well and continued environmental monitoring in the area.

% Cost Factor = 1 well / 35total pumping wells 0.029

Capital Costs

Extraction Well/Pump Replacement
0.029 x \$36,100/ year = \$1,050

Remaining Capital costs (18 x \$1,050) \$18,900

Annual O&M Cost

O & M Contractor

0.029 x \$62,000 / year = \$1,800

O&M Well Rehab / Cleaning

$$0.029 \times \$7,700 / \text{year} = \$225$$

$$\text{Inspection and maintenance of cover systems} = \$1,935/ \text{yr}$$

$$\text{Remaining O\&M costs (18 x \$3,960)} = \$71,300$$

3.1.7 MIA-301

Final Corrective Measures approved: 2003; Final Corrective Measures in-place: 2005 (23 years remaining) The MIA 301 final remedy consists of the operation of 3 groundwater recovery wells, maintaining cover on contaminated soil areas, and continued environmental monitoring in the area.

$$\% \text{ Cost Factor} = 3 \text{ well} / 35 \text{ total pumping wells} = 0.086$$

Capital Costs

$$\begin{array}{l} \text{Extraction Well / Pump Replacement} \\ 0.086 \times \$36,100 / \text{year} = \end{array} \quad \$3,100$$

$$\text{Remaining Capital costs (23 x \$3,100)} = \$71,300$$

Annual O&M Costs

$$\begin{array}{l} \text{O \& M Contractor} \\ 0.086 \times \$62,000 / \text{year} = \end{array} \quad \$5,330$$

$$\begin{array}{l} \text{O \& M Well Rehab/Cleaning} \\ 0.086 \times \$7,700 / \text{year} = \end{array} \quad \$660$$

$$\text{Inspection and maintenance of cover systems} = \$1,935/ \text{yr}$$

$$\text{Remaining O\&M costs (23 x \$7,925)} = \$182,300$$

3.1.8 XIA-202/208

Final Corrective Measures approved: 2007; Final Corrective Measures in-place: 2007 (23 years remaining) maintaining cover on contaminated soil areas, and continued environmental monitoring in the area

$$\begin{array}{l} \text{Inspection and maintenance of cover systems} = \\ \text{Remaining O\&M costs (23 x \$5,200)} = \end{array} \quad \begin{array}{l} \$5,200/ \text{yr} \\ \$119,600 \end{array}$$

3.1.9 MIA-333

Final Corrective Measures approved: 2007; Final Corrective Measures in-place: 2010 (26 years remaining) The MIA 333 final remedy consists of the operation of a vapor phase extraction system, and continued environmental monitoring in the area.

$$\% \text{ Cost Factor} = 1 \text{ wells} / 35 \text{ total pumping wells} = 0.029$$

Capital Costs

Extraction Well / Pump Replacement
 $0.029 \times \$36,100 / \text{year} = \$1,050$

$$\text{Remaining Capital costs (26 x \$1,050)} = \$27,300$$

Annual O&M Costs

O & M Contractor
 $0.029 \times \$62,000 / \text{year} = \$1,800$

O & M Well Rehab/Cleaning
 $0.029 \times \$7,700 / \text{year} = \225

$$\text{Annual O\&M} = \$2,025 / \text{yr}$$

$$\text{Remaining O\&M costs (26 x \$2,025)} = \$52,700$$

3.1.10 MIA-308

Final Corrective Measures approved: 2011; Final Corrective Measures in-place: 2011 (5 years remaining) The MIA 308 final remedy consists of the operation of 2 extraction wells, and continued environmental monitoring in the area.

$$\% \text{ Cost Factor} = 2 \text{ well} / 35 \text{ total pumping wells} = 0.057$$

Capital Costs

Extraction Well / Pump Replacement
 $0.057 \times \$36,100 / \text{year} = \$2,060$

$$\text{Remaining Capital costs (5 x \$2,060)} = \$10,300$$

Annual O&M Costs

O & M Contractor
 $0.057 \times \$62,000 / \text{year} = \$3,535$

O & M Well Rehab/Cleaning
0.057 x \$7,700/ year = \$440

Annual O&M = \$3,975/ yr

Remaining O&M costs (5 x \$3,975) = \$19,900

3.1.11 MIA-317

Final Corrective Measures approved: 2007; Final Corrective Measures in-place: 2007 (23 years remaining) maintaining cover on contaminated soil area.

Inspection and maintenance of cover systems = \$1,935

Remaining O&M costs (23 x \$1,935) = \$44,500

3.1.12 Corrective Measures Cost Subtotal

CAPITAL COSTS =	\$909,700
COSTS OF OPERATION & MAINTENANCE =	\$2,346,150
SUBTOTAL=	\$3,255,850

CONTINGENCY (administration, miscellaneous –15%)	\$488,378
(2014\$) GRAND TOTAL	\$3,744,228

4. WEILAND ROAD LANDFILL (WRLF)

4.1 Corrective Action Cost Estimate

Final Corrective Measures approved / in-place: 2003 (30 years remaining)
The landfill management system consists of the operation of groundwater recovery wells, cover system inspection and maintenance, a surface water management system, landfill gas venting system inspection and repairs, leachate, collection system inspection and maintenance, operation of the M-7 pump station, and continued environmental monitoring in the area. The Weiland Road landfill costs are categorized into RCRA and 6NYCRR Part 360 elements due to administrative regulatory history.

4.1.1 Itemized RCRA Cost Basis for WRLF

Capital Costs

% Cost Factor = 2 well / 35 total pumping wells = 0.057
Extraction Well/Pump Replacement

Annual Capital Cost $0.057 \times \$36,100/\text{year} =$ \$2,060

Remaining Capital costs $(30 \times \$2,060) =$ \$61,800

Annual O&M Costs

Well O&M Contractor
 $0.057 \times \$62,000 / \text{year} =$ \$3,535

O&M Well Rehab / Cleaning
 $0.057 \times \$7,700 / \text{year} =$ \$439

Inspection and maintenance of cover systems = \$1,935/ yr

Annual O&M Costs = \$5,810/ yr

Remaining O&M Costs $(30 \times \$5,810) =$ \$174,300

RCRA Capital and O&M Subtotal = \$236,100

Contingency @ 15% = \$35,420

WRLF RCRA Total = \$271,520

[Average flow from 2009, 1010 & 2011 from WRL extraction wells (PWRNW3 & PL73N) = 9,000,000 gallons/year]

4.1.2 Itemized 6NYCRR Part 360 Cost Basis for WRLF

4.1.2.1 Operations and Maintenance Cost Basis

COST CATEGORY	ITEM	Cost
LANDFILL COVER	Inspection	\$600/yr
	Mowing	\$8,200/yr
	Cover Repair	Liner repair = \$1,825/yr Wildlife control = \$1,600/yr
SURFACE WATER MANAGEMENT	Inspection	\$600/yr
	Dredging Basin	\$20,000 one-time amount
	Cleaning swales & channels	Weed control = \$1,000/yr
LANDFILL GAS VENTING SYSTEM	Inspection	\$600/yr
	Miscellaneous	\$250
LEACHATE SYSTEM	Inspection	\$4000/yr
	Maintenance	\$20,000 one-time amount
M7 PUMP STATION	Maintenance & Operation	\$10,000/yr <u>plus:</u> \$20,000 one-time amount for pump replacement Plus, M-7 pit cleaning = \$2,000 every 3 yrs

COST CATEGORY	ITEM	COST	FUTURE YEAR(S) FOR EXPENDITURE	30 Year Projected Cost
LANDFILL COVER	Inspection	\$600/yr	Annual Recurring	\$18,000
	Mowing	\$8,200/yr	Annual Recurring	\$246,000
	Cover Repair (Liner repair = \$1,825/yr Wildlife control = \$1,600/yr)	\$3,425/yr	Annual Recurring	\$102,750
SURFACE WATER MANAGEMENT	Inspection	\$600/yr	Annual Recurring	\$18,000
	Cleaning swales & channels (weed control)	\$1,000/yr	Annual Recurring	\$30,000
	Dredging basin	\$20,000	One Time Event	\$20,000
	Inspection & misc.	\$850/yr	Annual Recurring	\$25,500
LANDFILL GAS VENTING SYSTEM	Inspection	\$600/yr	Annual Recurring	\$18,000
LEACHATE SYSTEM	Inspection	\$4,000/yr	Annual Recurring	\$120,000
	Maintenance	\$20,000	One Time Event	\$20,000
M7 PUMP STATION	Maintenance & Operation	\$10,000/yr	Annual Recurring	\$300,000
	Replace pump	\$20,000	One Time Event	\$20,000
	Solids removal from pump station	\$2,000/yr	Every Third Year	\$22,000
Subtotal				\$960,250
Contingency (15%)				\$144,000
O&M Total				\$1,104,250

4.1.2.2 Part 360 WRLF Groundwater Monitoring Costs

Annual cost for monitoring (based on NYSDEC approval of modifications to WRL EMP dated 8/15/12):

Groundwater Monitoring Costs = \$32,000/yr

Projected Costs (30 years x 32,000/yr) = \$960,000
Contingency (15%) = \$144,000

Total Estimated Groundwater Costs = \$1,104,000

4.1.2.3 Summary of Estimated Part 360 Costs for WRLF

O&M Costs = \$1,104,250

Groundwater Monitoring Costs =	\$1,104,000
Total =	\$2,208,250

4.1.3 Summary of WRLF Combined RCRA and Part 360 Estimated Costs

WRLF RCRA Total =	\$271,520
<u>Part 360 Costs for WRLF =</u>	<u>\$2,208,250</u>
Total Combined =	\$2,479,770

5. MISCELLANEOUS CORRECTIVE ACTION ITEMS

5.1 Remedial Investigation/Feasibility Study of lower Genesee River

The scope of work for this task is under development, so a detailed estimate for this phase of work is not currently available. However, based on costs from recent projects conducted in the lower Genesee (USEPA Great Lake National Program Office, 2012), this phase of work is presently estimated at \$1,500,000.

5.2 SWMU E-156 (former Spector Tire)

Numerous interim measures have been taken to address this area. A no further remedial action determination will be documented, with confirmatory groundwater testing. These remaining activities have been estimated at \$33,000.

5.3 Hazardous Constituent/Building Wastewater Collection System (HC/BWCS) Sewer Evaluation

This is a remedial system optimization (RSO) effort that evaluates whether existing monitoring networks and corrective measures are effective for addressing potential historic releases associated with the industrial sewer system. This effort has been completed for park sections EBP-X and EBP-M. Under the permit, limited data acquisition is planned for EBP-E to address data gaps. In EBP-W, the HC/BWCS sewer integrity assessment is nearly complete. The remaining work for EBP-W will be addressed under the permit. The costs for completing the remaining actions for EBP-E and EBP-W have been estimated at \$50,000.

6. SUMMARY OF ESTIMATED COSTS

Item	Type		Capital Cost ¹	O&M Cost ¹	Totals ¹
EIA-KL	Final Corrective Measures		\$ -	\$ 36,750	
WIA-KPW	Final Corrective Measures		\$ 433,000	\$ 993,000	
MIA-349/329	Final Corrective Measures		\$ 39,900	\$ 112,100	
MIA-351/352	Final Corrective Measures		\$ 93,000	\$ 237,000	
EIA-NEKPE	Final Corrective Measures		\$ 216,000	\$ 477,000	
XIA-218	Final Corrective Measures		\$ 18,900	\$ 71,300	
MIA-301	Final Corrective Measures		\$ 71,300	\$ 182,300	
XIA-202/208	Final Corrective Measures			\$ 119,600	
MIA-333	Final Corrective Measures		\$ 27,300	\$ 52,700	
MIA-308	Final Corrective Measures		\$ 10,300	\$ 19,900	
Spector Tire	NFA Determination	monitoring 33,000 ⁴		\$ 33,000	
HC/BWCS Sewer RSO	RSO Determination	Eval/Rpt 50,000 ⁵		\$ 50,000	
MIA-317	Final Corrective Measures		\$ -	\$ 44,500	
WRLF RCRA	Final Corrective Measures		\$ 61,800	\$ 174,300	
WRLF Part 360 ²	Final Corrective Measures		\$ 960,000	\$ 960,250	
Post-Closure (EBPGSAP) ³	Former HWMU Post-Closure			\$ 2,875,680	
Genesee RI/FS	RI/FS		\$ 1,500,000		
Subtotals			\$ 3,431,500	\$ 6,439,380	\$ 9,870,880
15% Contingency					\$ 1,480,632
Grand Total					\$ 11,351,512

Notes

1. Costs on this sheet presented in 2014\$
2. WRLF Part 360 Capital cost = monitoring cost; O&M = O&M and some capital costs
3. These program costs include some capital expenses, but are not separated out here. Details for these costs are shown on Table Appendix I-4.
4. Based on Kodak projection for ORC and followup monitoring.
5. Based on DEC estimate for KPE supplemental action/report and KPW Report.

Table Appendix I-4					
Post-Closure Monitoring Costs					
for Historically Operated Tank Hazardous Waste Management Units					
(EBP Groundwater Sampling and Analysis Plan)					
Projected 30 Year Cost Estimate	2014 Unit Cost	Quantity	Annual	# of Years	Total
3rd party analytical	\$ 165	127	\$ 20,977	30	629,322
3rd party sampling labor	\$ 22,918	1	\$ 22,918	30	687,547
3rd party reporting	\$ 5,781	1	\$ 5,781	30	\$ 173,435
3rd party water level labor	\$ 10,582	1	\$ 10,582	30	\$ 317,448
3 ^r d party general sampling expenses	\$ 5,162	1	\$ 5,162	30	\$ 154,853
Well Maintenance	\$ 20,647	1	\$ 20,647	30	\$ 619,412
Water Treatment (Kodak/RED Obligation)	\$ -		\$ -		\$ -
Administrative & Contingency (15%)	\$ 9,789	1	\$ 9,789	30	\$ 293,663
			Grand Total	2014 Dollars	\$ 2,875,680

ATTACHMENT J

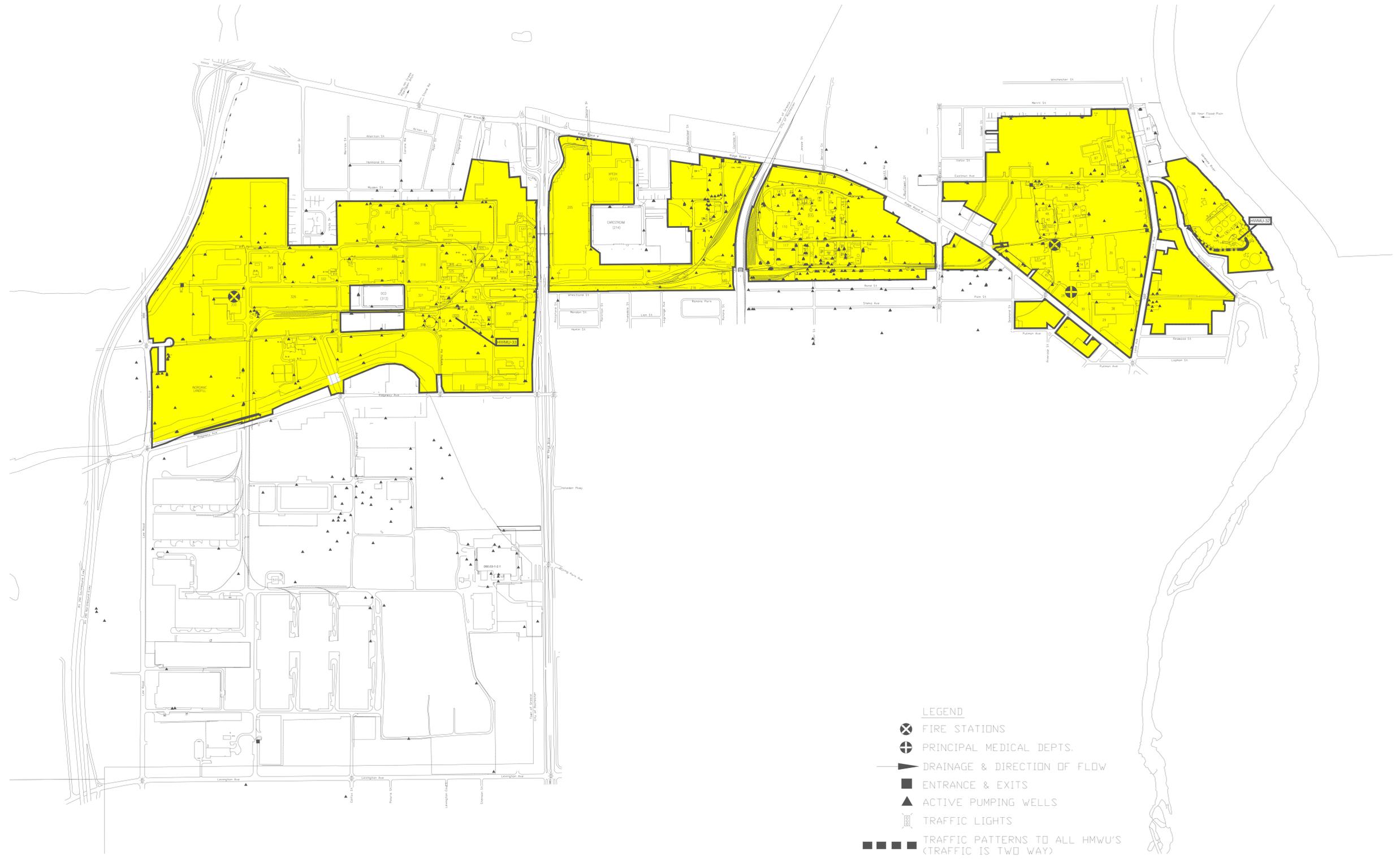
DRAWINGS

**EASTMAN BUSINESS PARK
HAZARDOUS WASTE MANAGEMENT FACILITY
EPA ID NUMBER NYD 980592497**

ATTACHMENT J

FACILITY MAPS (ATTACHMENT B)

Facility Maps	
<u>Title</u>	<u>Drawing#</u>
HWMU-33 Topology	ERKPKP-009-05DA
HWMU-32 Topology	ERKPKP-009-04DC
Eastman Business Park Site View	DRKPKP-009-04AN



LEGEND

- FIRE STATIONS
- PRINCIPAL MEDICAL DEPTS.
- DRAINAGE & DIRECTION OF FLOW
- ENTRANCE & EXITS
- ACTIVE PUMPING WELLS
- TRAFFIC LIGHTS
- TRAFFIC PATTERNS TO ALL HMWU'S (TRAFFIC IS TWO WAY)
- PARCEL BOUNDARY
- KODAK OWNED PROPERTY

SEAL WHEN REQUIRED

DATE

REFERENCE DWGS
 KPXX-000-019 KPE GENERAL MAP
 KPMXX-000-024 KPM GENERAL MAP
 KPSXX-000-020 KPS GENERAL MAP
 KPWX-000-014 KPW GENERAL MAP
 KPXX-000-008 KPX GENERAL MAP

PARCEL DATA EXCERPTED FROM MONROE COUNTY PARCEL DATABASE (NAD27)
 WATERSHED DATA FROM USGS DATA (NAD27) TRANSLATED TO AUTOCAD
 PUMPING WELLS EXCERPTED FROM EK SWIS DATABASE

SYM	REVISION	DATE	SYM	REVISION	DATE	SYM	REVISION	DATE	QTY	BLDG	OPER	SERIAL	ACAD/	D	INCHES	SCALE-ORIG DWG	EASTMAN KODAK COMPANY
	REVISED DIVESTED PROPERTIES			REVISED - SALE OF B502			ADDED DIVESTED PROPERTIES						ORDER NUMBER		1	1" = 500'	
	REVISED PROPERTY BOUNDARY						AND REVISED LEGEND						DATE		2		
	J. RICHARDSON	08/23/2012		D. GOULD	2/15/2011		D. GOULD	11/15/2010					DEPARTMENTAL APPROVALS		3		
													ENGINEERING APPROVALS		4		
	REMOVED KPS, B81, PEPPERMILL, & BLANCHARD FLORIST			ADDED YELLOW SHADE FOR KODAK OWNED PROPERTY			REVISED-SALE OF EBP-E PARCELS						DATE		5		
	J. RICHARDSON	03/06/2013		D. GOULD	3/22/2010		NW PART OF 375 AND 295 W RIDGE RD						DATE				
							D. GOULD	8/2/2010					DESIGN SR				
													BES SUPERVISOR				
													GREG LUND				

H.W.M.U. LOCATIONS
 EASTMAN BUSINESS PARK

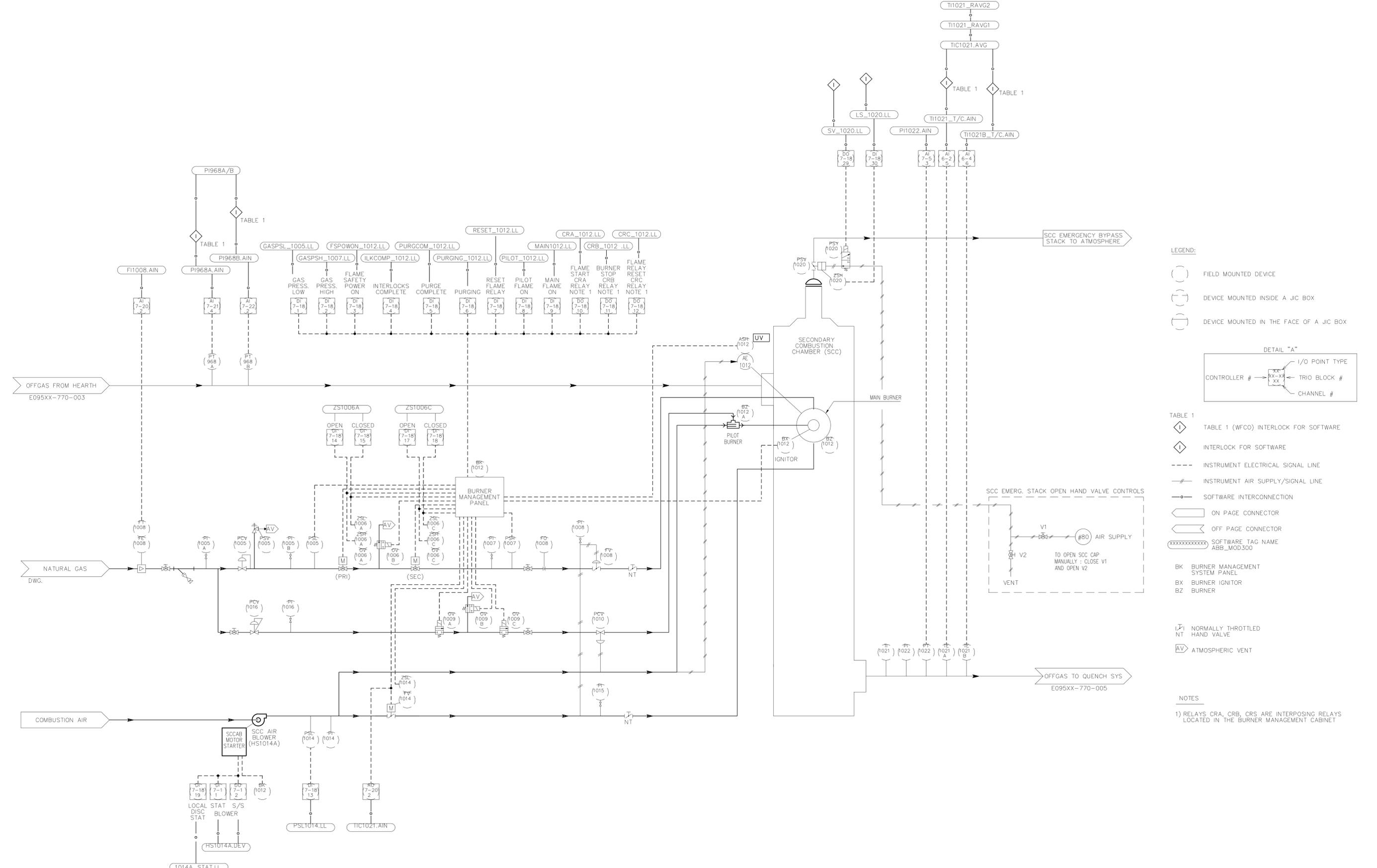
DRKPKP-009-04AP

BLDG NO.
 LOCATION
 EBP

ATTACHMENT J

B-95 MHI DRAWINGS (ATTACHMENT D)

HWMU-32 B-95 MHI Drawing List	
<u>Title</u>	<u>Drawing#</u>
Multiple Hearth Incinerator Instrument Controls	E095XX-770-003
Secondary Combustion Chamber Instrument Controls	E095XX-770-004
Quench/Condenser Instrumentation	E095XX-770-005
Venturi/Separator/WESP Instrumentation	E095XX-770-006
Stack & Plume Instrumentation	E095XX-770-007
Hearth Burner Controls	E095XX-770-008
SCC General Arrangement	V095XX-312-017, sheet #11
Process Flow Diagram	E095XX-310-025
I.D. Fan/Duct/Stack Fabrication Details	E095XX-319-014
Plan Arrangement of Incinerator Off Gas Condensing Scrubbing System	V095XX-312-018, sheet #3
Elevation Arrangement of Incinerator Off Gas Condensing Scrubbing System	V095XX-312-018, sheet #4
WESP Process and Instrumentation Details	V095XX-312-018, sheet #19
Induced Draft Fan	V095XX-312-019, sheet #2
General system Overview	095XX-776-000, sheet 2
General system Overview	095XX-776-000, sheet 3
Rabble Teeth Assembly for MHI	D095NA-313-003



LEGEND:

- () FIELD MOUNTED DEVICE
- () DEVICE MOUNTED INSIDE A JIC BOX
- () DEVICE MOUNTED IN THE FACE OF A JIC BOX

DETAIL "A"

CONTROLLER # → I/O POINT TYPE → TRIO BLOCK # → CHANNEL #

TABLE 1

- ◇ TABLE 1 (WFCO) INTERLOCK FOR SOFTWARE
- ◇ INTERLOCK FOR SOFTWARE
- INSTRUMENT ELECTRICAL SIGNAL LINE
- INSTRUMENT AIR SUPPLY/SIGNAL LINE
- SOFTWARE INTERCONNECTION
- ON PAGE CONNECTOR
- OFF PAGE CONNECTOR
- XXXXXXXXXX SOFTWARE TAG NAME ABB_MOD300
- BK BURNER MANAGEMENT SYSTEM PANEL
- BX BURNER IGNITOR
- BZ BURNER
- NT NORMALLY THROTTLED HAND VALVE
- AV ATMOSPHERIC VENT

NOTES

1) RELAYS CRA, CRB, CRS ARE INTERPOSING RELAYS LOCATED IN THE BURNER MANAGEMENT CABINET

ACAD/APPD **D** DATE

Time: 7:04 A.M. Date: 11/4/1996 User: HASSLER File: K:\DES\XX\DWG\F177004

QUANTITY BLDG OPER SERIAL SCALE-ORIG: NONE

ORDER NUMBER INDEX CM 1 2 3 4 5

EASTMAN KODAK COMPANY KODAK PARK DIVISION

SYMBOL	REVISIONS	DATE																					
△			△			△			△			△			△			△			△		
△			△			△			△			△			△			△			△		
△			△			△			△			△			△			△			△		
△			△			△			△			△			△			△			△		

REVISIONS: CONVERT TO AUTOCADD 10/31/96; REV MAIN BURNER 7/14/99; ADD SCC EMERG. STACK 7/14/99; OPEN HAND CONTROL 7/14/99; TABLE 1 INTERLOCKS 7/14/99; ADDED TO PRINT 7/14/99.

CUSTOMER APPROVALS: GLENN PERRY 6/16/94; P. S. BHULLAR/ T. O'C 6/20/94.

ENGINEERING APPROVALS: R. AMAN 6/22/94; T. O'CONNOR 6/16/94; GLENN PERRY 6/20/94.

DATE: 09/21/93; 06/21/94.

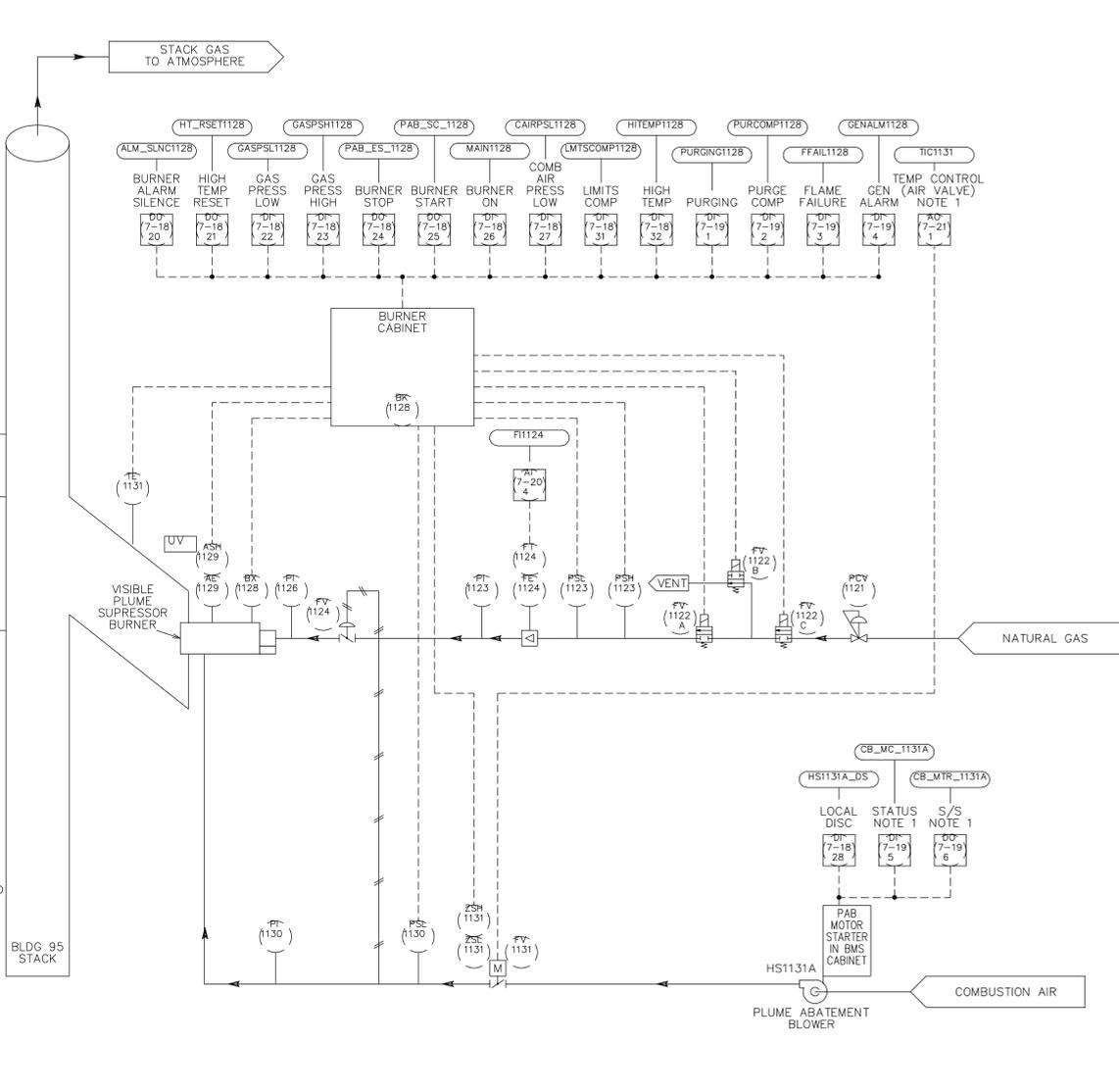
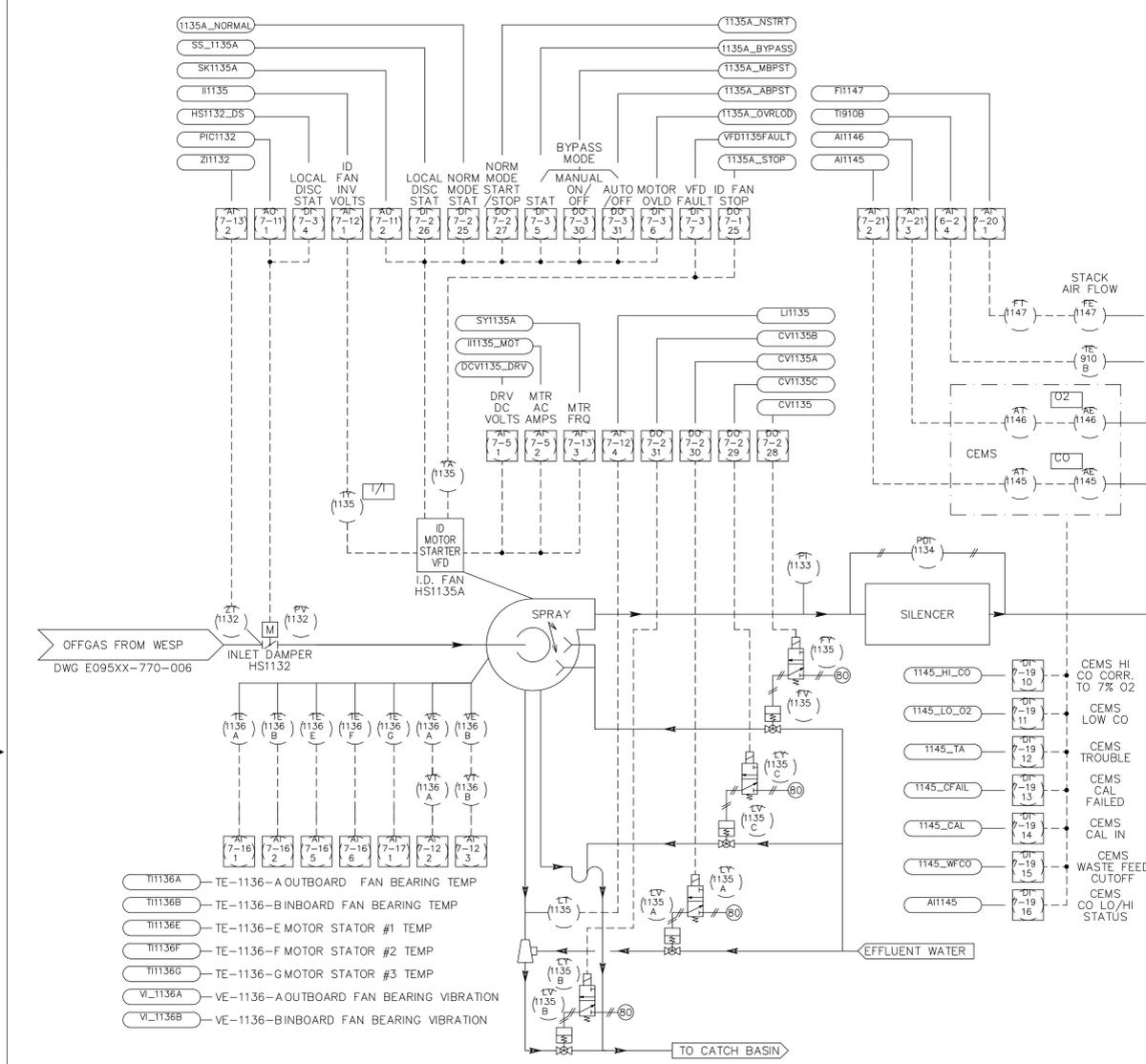
DRAWN: HASSLER; CHECKED: WHICHAM; DATE: 06/21/94.

DESIGN S.O.: CC-6680135; DES.SUPV.: R.H.AMAN.

SECONDARY COMBUSTION CHAMBER INSTRUMENT CONTROLS M.H. AIR POLLUTION CONTROL

BLDG: 95; LOCATION: KPE

E095XX-770-004F



- NOTES**
 1) COMPONENTS OR INSTRUMENTS WIRED THRU BK-1128, BURNER MANAGEMENT CABINET
- LEGEND:**
- () FIELD MOUNTED DEVICE
 - () DEVICE MOUNTED INSIDE A JIC BOX
 - () DEVICE MOUNTED IN THE FACE OF A JIC BOX
- DETAIL "A"**
- CONTROLLER # → I/O POINT TYPE
 → TRIO BLOCK #
 → CHANNEL #
- ◇ INTERLOCK FOR SOFTWARE
 - INSTRUMENT ELECTRICAL SIGNAL LINE
 - INSTRUMENT AIR SUPPLY/SIGNAL LINE
 - SOFTWARE INTERCONNECTION
 - ◁ ON PAGE CONNECTOR
 - ▷ OFF PAGE CONNECTOR
 - XXXXXXXXXX SOFTWARE TAG NAME ABB_MOD300

- TI138A TE-1136-A OUTBOARD FAN BEARING TEMP
- TI138B TE-1136-B INBOARD FAN BEARING TEMP
- TI138E TE-1136-E MOTOR STATOR #1 TEMP
- TI138F TE-1136-F MOTOR STATOR #2 TEMP
- TI138G TE-1136-G MOTOR STATOR #3 TEMP
- VI138A VE-1136-A OUTBOARD FAN BEARING VIBRATION
- VI138B VE-1136-B INBOARD FAN BEARING VIBRATION

- 1145_HI_CO CEMS HI CO CORR TO 7% O2
- 1145_LO_O2 CEMS LOW CO
- 1145_TA CEMS TROUBLE
- 1145_CFAIL CEMS CAL FAILED
- 1145_GAL CEMS CAL IN
- 1145_WFCO WASTE FEED CUTOFF
- AI1145 CEMS CO LO/HI STATUS

MACHINE PARTS LIST NO. H
 REFERENCE DWGS. C095XX-748-000 MULTIPLE HEARTH CONTROL INDEX

SYMBOL	REVISIONS	DATE	CUSTOMER APPROVALS	DATE	ENGINEERING APPROVALS	DATE	DRAWN	HASSLER	DATE	09/21/93	DESIGNED	WHICHAM	DATE	06/21/94	DESIGN S.O.	T. C. O'CONNOR	DATE	6-16-94	ENGINEER	T. C. O'CONNOR	DATE	6-16-94	DESIGNER	R.H.AMAN															
△			△			△			△			△																											
△			△			△			△			△																											
△			△			△			△			△																											

ACAD /ACAD D DATE

Time: 1:26 P.M. Date: 10/31/1998 User: HASSLER File: K:\DES\XX\DWG\P177007

QUANTITY BLDG. OPER. SERIAL

ORDER NUMBER

SCALE-ORIG: NONE

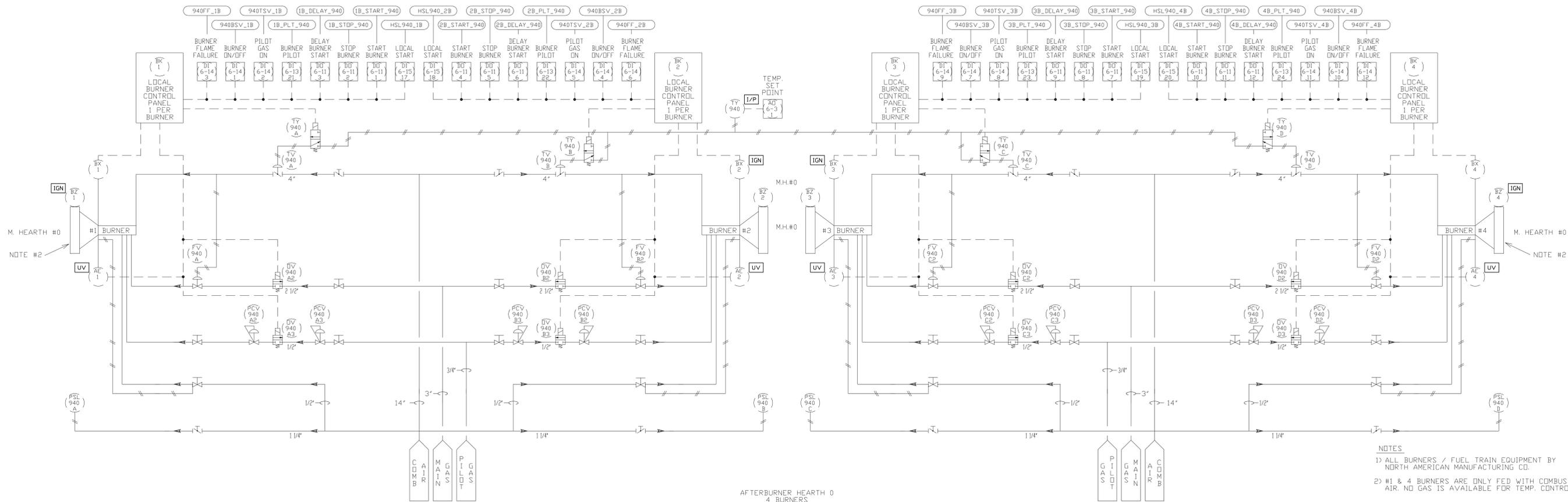
EASTMAN KODAK COMPANY
 KODAK PARK DIVISION

I.D. FAN, STACK, & PLUME SUPPRESSOR INSTRUMENTATION
 M.H. AIR POLLUTION CONTROL

BLDG. NO. 95
 LOCATION KPE

E095XX-770-007 G

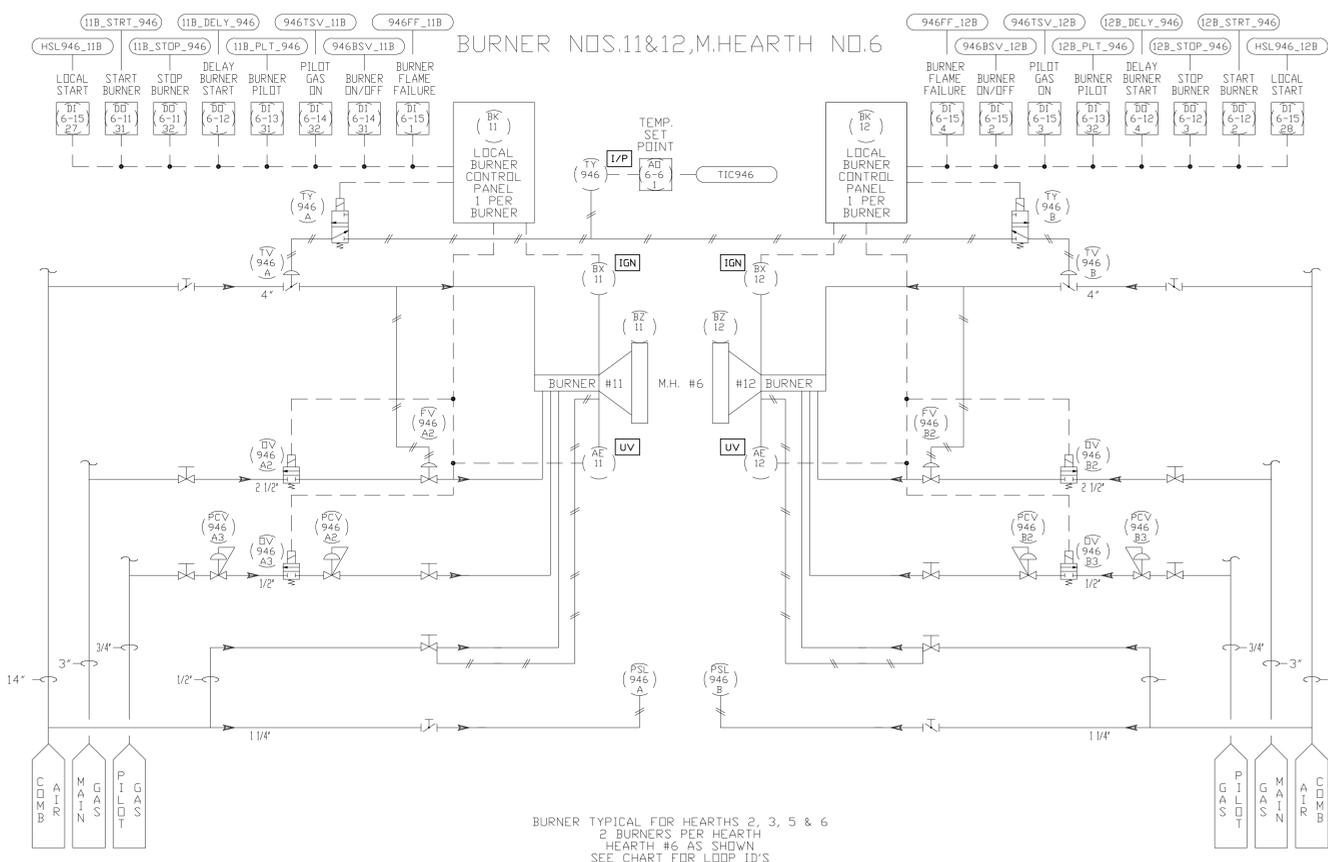
HEARTH BURNER CONTROLS



- NOTES**
- 1) ALL BURNERS / FUEL TRAIN EQUIPMENT BY NORTH AMERICAN MANUFACTURING CO.
 - 2) #1 & 4 BURNERS ARE ONLY FED WITH COMBUSTION AIR. NO GAS IS AVAILABLE FOR TEMP. CONTROL.

- LEGEND:**
- IGN** IGNITION SPARK PLUG
 - UV** ULTRA VIOLET FIRE EYE
 - L/P** CURRENT TO PRESSURE TRANSDUCER
 - ()** FIELD MOUNTED DEVICE
 - ()** DEVICE MOUNTED INSIDE A JIC BOX
 - ()** DEVICE MOUNTED IN THE FACE OF A JIC BOX
 - XXX** ANALOG/DIGITAL COMPUTER I/O OR SOFT FUNCTION/MEMORY LOCATION NOT NORMALLY ACCESSIBLE BY OPERATOR
 - XXX** ANALOG/DIGITAL COMPUTER I/O OR SOFT FUNCTION/MEMORY LOCATION NORMALLY ACCESSIBLE BY OPERATOR (SHARED DISPLAY) XXX= ISA TAG DESIGNATION
 - XXXXXXX** SOFTWARE TAG NAME ABB_MDD300 (LADDER LOGIC LL)
 - ◇** INTERLOCK FOR SOFTWARE
 - INSTRUMENT ELECTRICAL SIGNAL LINE
 - INSTRUMENT AIR SUPPLY/SIGNAL LINE
 - SOFTWARE INTERCONNECTION
 - ON PAGE CONNECTOR
 - OFF PAGE CONNECTOR
 - TA** TEMPERING, FRESH AIR PORT
 - DA** OVERFIRE AIR PORT

HEARTH 2, 3, 5 & 6 BURNER TYPICAL



HEARTH BURNER LOOP AND MOD 300 I/O TAGS

BURNER#	HEARTH	LOOP #	LOCAL START DIGITAL INPUT	START BURNER DIGITAL OUTPUT	STOP BURNER DIGITAL OUTPUT	DELAY BURNER START DIGITAL OUTPUT	BURNER PILOT DIGITAL INPUT	PILOT GAS ON DIGITAL INPUT	BURNER DN DIGITAL INPUT	FLAME FAILURE DIGITAL INPUT	TEMP. ANALOG INPUTS SEE DWG E095XX-770-003	TEMP. SET PT. ANALOG OUTPUT
1	0	940A	6-15-17	6-11-1	6-11-2	6-11-3	6-13-21	6-14-2	6-14-1	6-14-3		
2	0	940B	6-15-18	6-11-4	6-11-5	6-11-6	6-13-22	6-14-5	6-14-4	6-14-6	6-1-5	6-1-6
3	0	940C	6-15-19	6-11-7	6-11-8	6-11-9	6-13-23	6-14-8	6-14-7	6-14-9		6-3-1
4	0	940D	6-15-20	6-11-10	6-11-11	6-11-12	6-13-24	6-14-11	6-14-10	6-14-12		
5	2	942A	6-15-21	6-11-13	6-11-14	6-11-15	6-13-25	6-14-14	6-14-13	6-14-15	6-1-1	6-20-1
6	2	942B	6-15-22	6-11-16	6-11-17	6-11-18	6-13-26	6-14-17	6-14-16	6-14-18		
7	3	943A	6-15-23	6-11-19	6-11-20	6-11-21	6-13-27	6-14-20	6-14-19	6-14-21	6-1-2	6-20-2
8	3	943B	6-15-24	6-11-22	6-11-23	6-11-24	6-13-28	6-14-23	6-14-22	6-14-24		
9	5	945A	6-15-25	6-11-25	6-11-26	6-11-27	6-13-29	6-14-26	6-14-25	6-14-27	6-1-3	6-20-3
10	5	945B	6-15-26	6-11-28	6-11-29	6-11-30	6-13-30	6-14-29	6-14-28	6-14-30		
11	6	946A	6-15-27	6-11-31	6-11-32	6-12-1	6-13-31	6-14-32	6-14-31	6-15-1	6-1-4	6-20-4
12	6	946B	6-15-28	6-12-2	6-12-3	6-12-4	6-13-32	6-15-3	6-15-2	6-15-4		

I/O TAGS ARE READ AS FOLLOWS:
CONTROLLER-TRID BLOCK-CHANNEL

BURNER TYPICAL FOR HEARTHS 2, 3, 5 & 6
2 BURNERS PER HEARTH
HEARTH #6 AS SHOWN
SEE CHART FOR LOOP I/D'S

<p>REFERENCE DWGS E095XX-748-000 E095XX-770-003 E095NA-340-050</p> <p>MULTIPLE HEARTH CONT. INDEX MULTIPLE HEARTH INCINERATOR; INST. CONTROLS FLAME SUPERVISORY SYSTEM SCHEMATIC WIRING</p>	<p>SYMBOLS</p> <p>REVISION</p> <p>DATE</p> <p>SYMBOLS</p> <p>REVISION</p> <p>DATE</p>	<p>QTY</p> <p>BLDG</p> <p>OPER</p> <p>SERIAL</p> <p>ACAD/ACAD</p> <p>D</p> <p>INDEX</p> <p>SCALE ORIG</p> <p>NONE</p> <p>EASTMAN KODAK COMPANY</p>	<p>ORDER NUMBER</p> <p>DEPARTMENTAL APPROVALS</p> <p>DATE</p> <p>ENGINEERING APPROVALS</p> <p>DATE</p> <p>DRAWN</p> <p>DATE</p> <p>CHECKED</p> <p>DATE</p> <p>DESIGN SD.</p> <p>RES SUPERVISOR</p>	<p>HEARTH BURNER CONTROLS MULTIPLE HEARTH</p> <p>BUILD NO. 95</p> <p>DESIGN KPE</p> <p>CC-6680135 R.AMAN 7/23</p> <p>E095XX-770-008E</p>
---	---	--	--	--

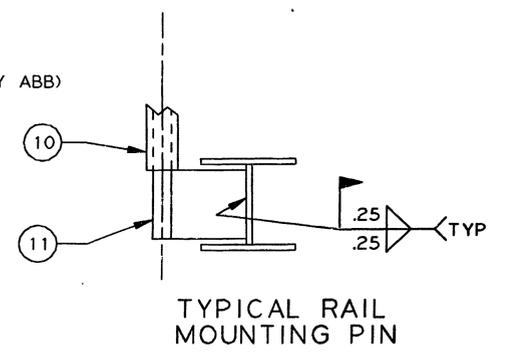
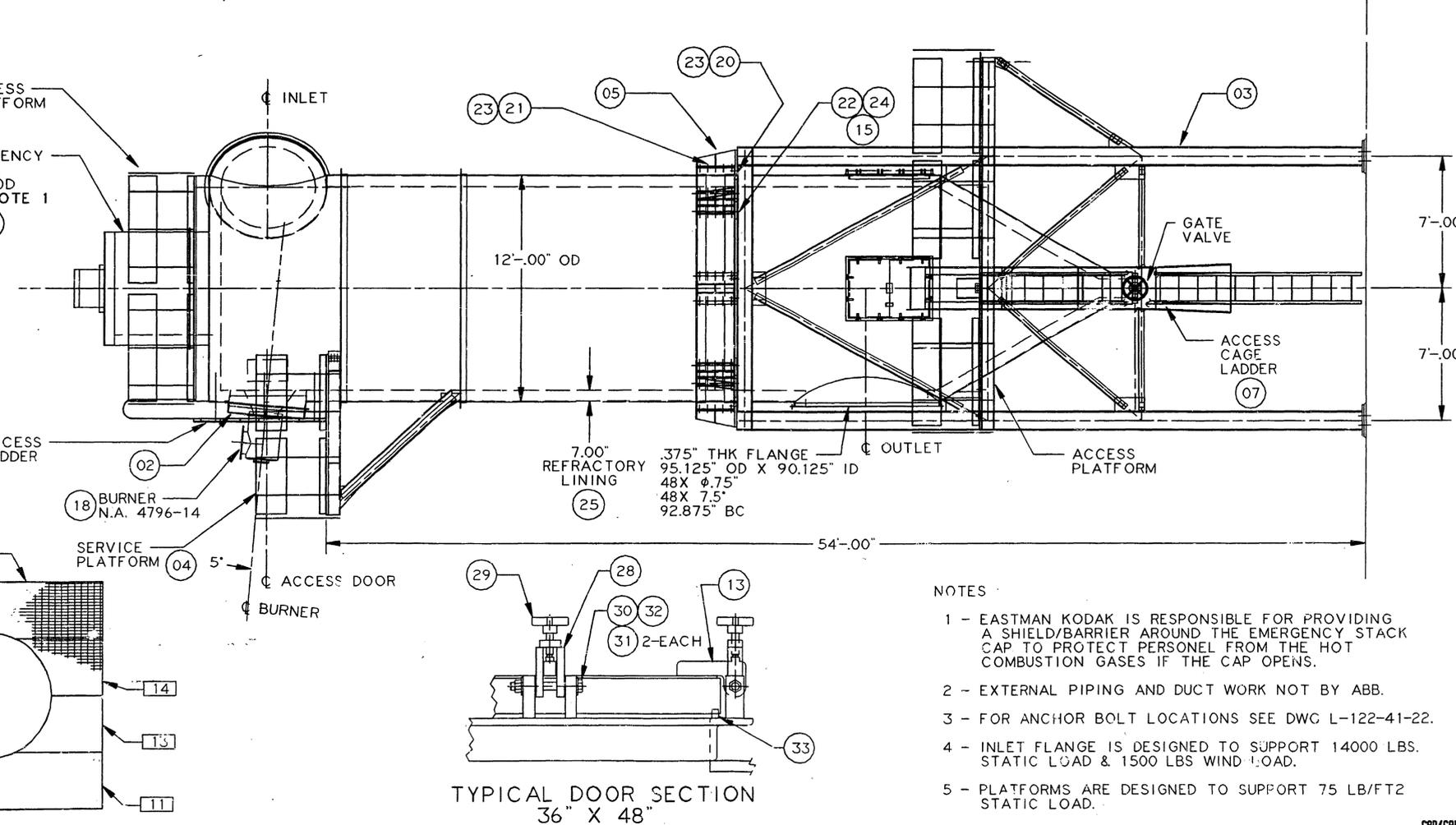
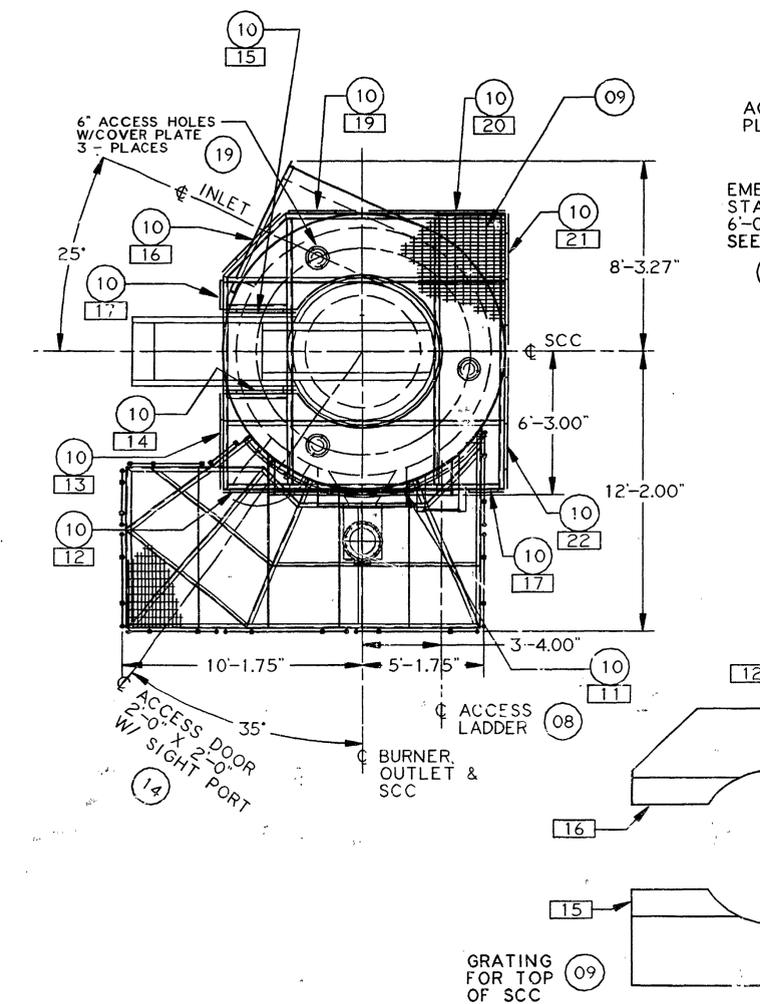
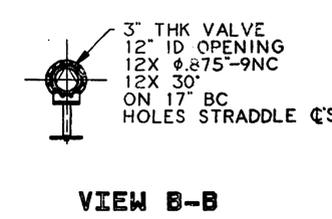
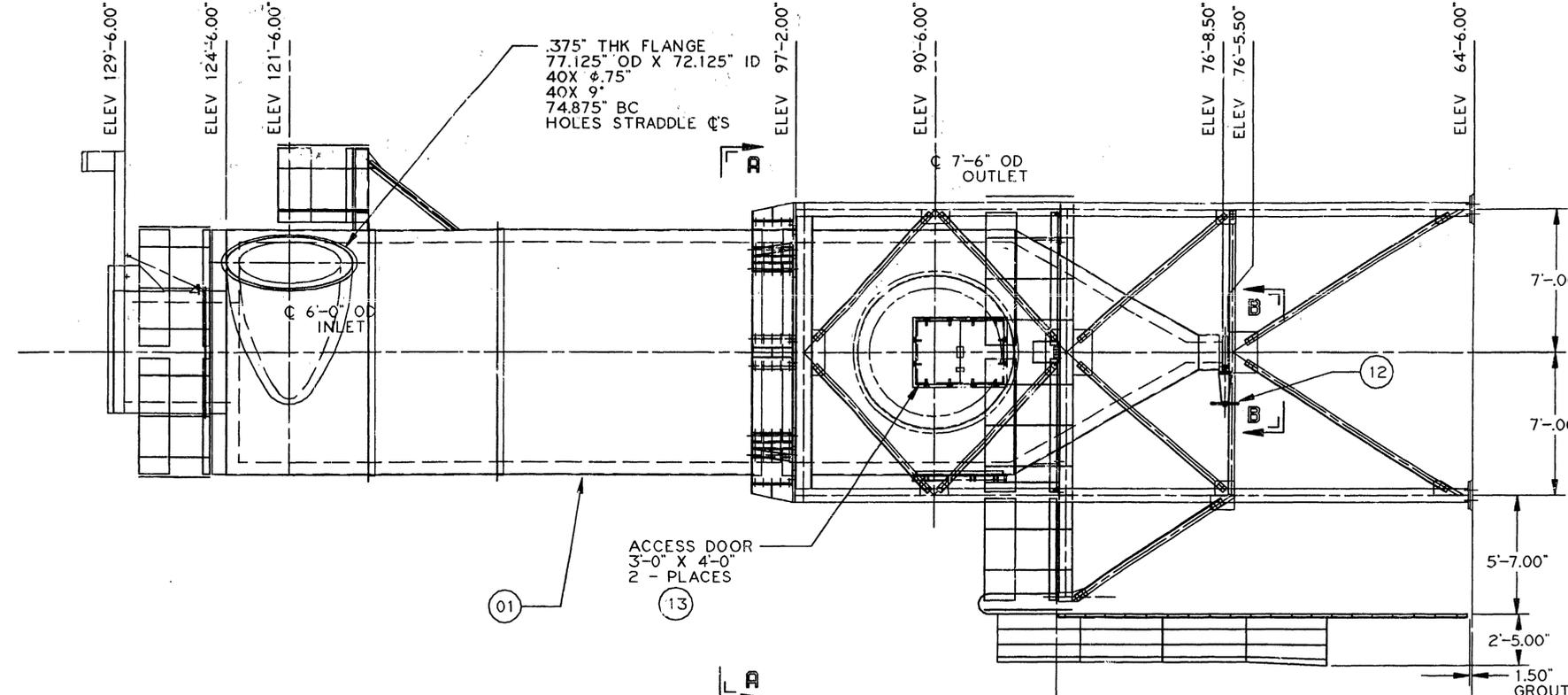
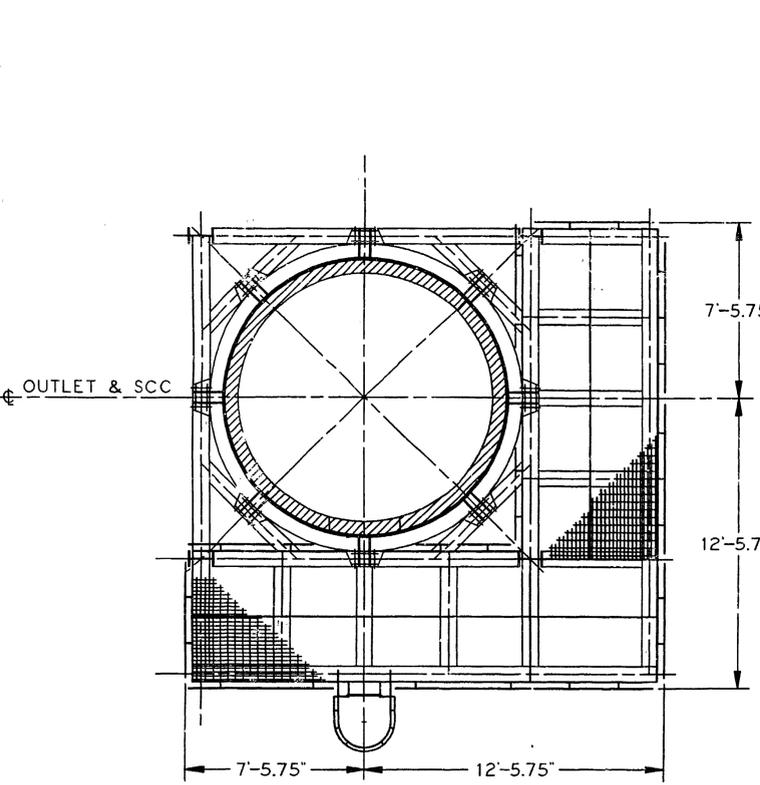
TITLE only 1st line will appear on aperture card classification

ABB RAYMOND
SECONDARY COMBUSTION CHAMBER SHT. # 11 **D**

DESIGNER: SUPVR: M. HAUCK

V095XX-312-017

846-704-430 (800)



PART NO. LA-122-39-61

EST WT = 62,000 LBS
EST WT (REFR) = 108,000 LBS
TOTAL EST WT = 170,000 LBS

- NOTES
- 1 - EASTMAN KODAK IS RESPONSIBLE FOR PROVIDING A SHIELD/BARRIER AROUND THE EMERGENCY STACK CAP TO PROTECT PERSONEL FROM THE HOT COMBUSTION GASES IF THE CAP OPENS.
 - 2 - EXTERNAL PIPING AND DUCT WORK NOT BY ABB.
 - 3 - FOR ANCHOR BOLT LOCATIONS SEE DWG L-122-41-22.
 - 4 - INLET FLANGE IS DESIGNED TO SUPPORT 14000 LBS. STATIC LOAD & 1500 LBS WIND LOAD.
 - 5 - PLATFORMS ARE DESIGNED TO SUPPORT 75 LB/FT² STATIC LOAD.

S/N 93044 C/N 43593

12'-0" DIA DOWN FLOW
SECONDARY COMBUSTION CHAMBER
EASTMAN KODAK COMPANY
ROCHESTER, NEW YORK

SCALE .25"=1'-0"

DRAWN BLOMBERG DATE 12-21-93
CHECKED JJM DATE 1-13-94
APPROVED RVM DATE 1-13-94

THIRD ANGLE PROJECTION (USA)

THIS DRAWING IS THE PROPERTY OF ABB RAYMOND, A DIVISION OF COMBUSTION ENGINEERING INC., LISLE, ILLINOIS AND IS NOT TO BE REPRODUCED, OR USED TO FURNISH ANY INFORMATION FOR MAKING OF DRAWINGS OR APPARATUS EXCEPT WHERE PROVIDED FOR BY AGREEMENT WITH SAID COMPANY.

ASEA BROWN BOVERI

DRAWING NO. L 122-39-61 REV D

ASSEMBLY LIST		
ITEM	REQ'D	DESCRIPTION
1	1	DUAL SPRAY QUENCH TOWER
2	1	GASKET (QUENCH TO CONDENSER)
3	1	FLUE GAS CONDENSER
4	1	GASKET (CONDENSER TO DUCT)
5	1	DUCT (CONDENSER TO VENTURI)
6	1	GASKET (DUCT TO VENTURI)
7	1	VENTURI
8	1	GASKET (VENTURI TO THROAT)
9	1	ADJUSTABLE THROAT
10	1	GASKET (THROAT TO ELBOW)
11	1	ELBOW
12	2	VENTURI SUPPORT (CARBON STEEL)
13	1	GASKET (ELBOW TO SEPARATOR)
14	1	ENTRAINMENT SEPARATOR
15	166	1/2" DIA. X 2" LG. BOLT W/NUT (STAINLESS STEEL 304)

NOZZLE AND COUPLING SCHEDULE			
ITEM	QTY.	DESCRIPTION	ELEVATION
N1	1	5'-6" I.D. FLANGED CONNECTION - QUENCH INLET	14'-0"
N2	1	2" DIA. FLANGED CONNECTION - FRESH WATER UPPER QUENCH SPRAY	13'-7 5/8"
N3	1	3" DIA. FLANGED CONNECTION - RECYCLE WATER LOWER QUENCH SPRAY	11'-11 5/8"
N4	1	3" DIA. FLANGED CONNECTION - QUENCH OVERFLOW	2'-7"
N5	1	3" DIA. FLANGED CONNECTION - QUENCH DRAIN	0'-5 3/4"
N6	1	3" DIA. FLANGED CONNECTION - LEVEL CONNECTION	4'-2"
N7	1	3" DIA. FLANGED CONNECTION - LEVEL CONNECTION	1'-2"
N8	1	4" DIA. FLANGED CONNECTION - QUENCH PUMP SUCTION	0'-10"
N9	1	3'-0" X 5'-0" FLANGED CONNECTION - QUENCH OUTLET	4'-2"
N10	1	3'-0" X 5'-0" FLANGED CONNECTION - CONDENSER INLET	4'-2"
N11	1	8" DIA. FLANGED CONNECTION - LIQUID OUTLET/DRAIN	0'-9"
N12	1	6" DIA. FLANGED CONNECTION - CONDENSER OVERFLOW	2'-7"
N13	1	3" DIA. FLANGED CONNECTION - LEVEL INDICATOR	0'-9 1/2"
N14	1	3" DIA. FLANGED CONNECTION - LEVEL INDICATOR	4'-2"
N15	1	4" DIA. FLANGED CONNECTION - CONDENSER PACKING SPRAY	17'-8"
N16	1	4" DIA. FLANGED CONNECTION - CONDENSER PACKING SPRAY	17'-8"
N17	1	4" DIA. FLANGED CONNECTION - CONDENSER PACKING SPRAY	17'-8"
N18	1	1 1/2" DIA. FLANGED CONNECTION - CONDENSER DEMIST SPRAY	18'-11"
N19	1	1 1/2" DIA. FLANGED CONNECTION - CONDENSER DEMIST SPRAY	18'-11"
N20	1	1 1/2" DIA. FLANGED CONNECTION - CONDENSER DEMIST SPRAY	18'-11"

* : FLANGE DRILLING TO MATCH #150 DRILLING, HOLES TO STR. Q/S

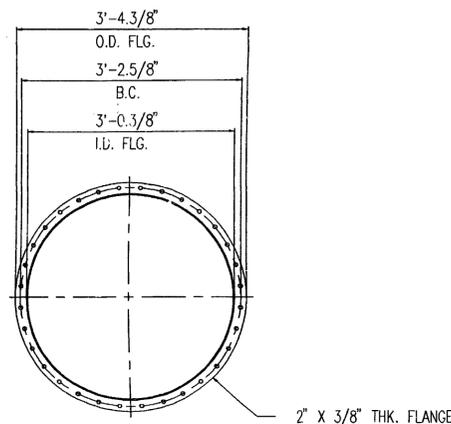
NOZZLE AND COUPLING SCHEDULE CONT'D			
ITEM	QTY.	DESCRIPTION	ELEVATION
N21	1	2'-6" FLANGED CONNECTION - CONDENSER OUTLET	22'-5"
N22	1	2'-6" FLANGED CONNECTION - DUCT INLET	22'-5"
N23	1	2'-6" FLANGED CONNECTION - DUCT OUTLET	14'-6"
N24	1	2'-6" FLANGED CONNECTION - VENTURI INLET	14'-6"
N25	1	2 1/2" DIA. FLANGED CONNECTION - VENTURI UPPER SPRAY	13'-5"
N26	1	2 1/2" DIA. FLANGED CONNECTION - VENTURI LOWER SPRAY	12'-1"
N27	1	3" DIA. FLANGED CONNECTION - ELBOW DRAIN	3'-9 3/16"
N28	1	2'-6" FLANGED CONNECTION - ELBOW OUTLET	6'-3 3/8"
N29	1	2'-6" FLANGED CONNECTION - SEPARATOR INLET	6'-3 3/8"
N30	1	3" DIA. FLANGED CONNECTION - SEPARATOR LEVEL CONNECTION	6'-3 3/8"
N31	1	3" DIA. FLANGED CONNECTION - SEPARATOR LEVEL CONNECTION	1'-4"
N32	1	3" DIA. FLANGED CONNECTION - SEPARATOR OVERFLOW	5'-0"
N33	1	3" DIA. FLANGED CONNECTION - SEPARATOR DRAIN	0'-5 3/4"
N34	1	4" DIA. FLANGED CONNECTION - SEPARATOR PUMP SUCTION	0'-10"
N35	1	1" DIA. FLANGED CONNECTION - SEPARATOR DEMIST WASH	10'-2 5/16"
N36	1	1" DIA. FLANGED CONNECTION - SEPARATOR DEMIST WASH	16'-2 5/16"
N37	1	1 1/2" DIA. FLANGED CONNECTION - SEPARATOR TANK FILL	3'-3"
N38	1	3'-0" DIA. FLANGED CONNECTION - SEPARATOR OUTLET	23'-3"
N39	1	2" DIA. FLANGED CONNECTION - QUENCH FILL	2'-8"
N40	1	20" DIA. FLANGED CONN. W/BLIND FLANGE - RECIRCULATION LINE	16'-3 3/4"

* : FLANGE DRILLING TO MATCH #150 DRILLING, HOLES TO STR. Q/S

NOZZLE AND COUPLING SCHEDULE CONT'D			
ITEM	QTY.	DESCRIPTION	ELEVATION
C1	1	1" DIA. HALF COUPLING W/PLUG - PRESSURE TAP	5'-8"
C2	1	1" DIA. HALF COUPLING W/PLUG - TEMPERATURE TAP	5'-8"
C3	1	1" DIA. HALF COUPLING W/PLUG - PRESSURE TAP	23'-3 1/8"
C4	1	1" DIA. HALF COUPLING W/PLUG - TEMPERATURE TAP	22'-5"
C5	1	1" DIA. HALF COUPLING W/PLUG - PRESSURE TAP	14'-3 7/8"
C6	1	1" DIA. HALF COUPLING W/PLUG - TEMPERATURE TAP	7'-6 9/16"
C7	1	1" DIA. HALF COUPLING W/PLUG - PRESSURE TAP	7'-6 9/16"
C8	1	1" DIA. HALF COUPLING W/PLUG - TEMPERATURE TAP	6'-3 3/8"
C9	1	1" DIA. HALF COUPLING W/PLUG - PRESSURE TAP	22'-10"
C10	1	1" DIA. HALF COUPLING W/PLUG - TEMPERATURE TAP	22'-10"
C11	1	1" DIA. HALF COUPLING W/PLUG - PRESS. TAP, CONDENSER	18'-3"

DOOR SCHEDULE

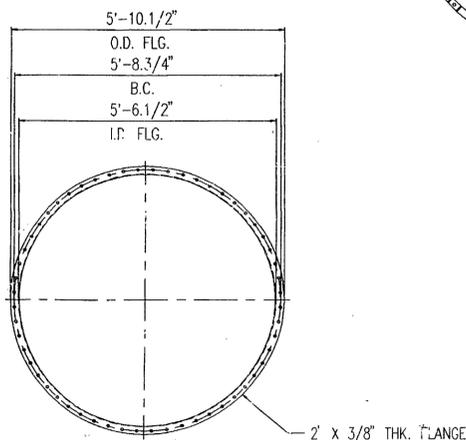
ITEM	QTY.	DESCRIPTION	ELEVATION
D1	1	2'-0" W. X 2'-6" H. BOLTED INSPECTION DOOR - QUENCH ACCESS	12'-3 5/8"
D2	1	2'-0" W. X 2'-6" H. BOLTED INSPECTION DOOR - QUENCH ACCESS	4'-5"
D3	1	2'-0" W. X 2'-6" H. BOLTED INSPECTION DOOR - CONDENSER ACCESS	4'-2"
D4	1	2'-0" W. X 2'-6" H. BOLTED INSPECTION DOOR - CONDENSER ACCESS	18'-3"
D5	1	2'-0" W. X 2'-6" H. BOLTED INSPECTION DOOR - CONDENSER ACCESS	18'-3"
D6	1	2'-0" W. X 2'-6" H. BOLTED INSPECTION DOOR - CONDENSER ACCESS	21'-11 1/2"
D7	1	18" DIA. BOLTED INSPECTION DOOR - VENTURI ACCESS	12'-9"
D8	1	2'-0" DIA. BOLTED INSPECTION DOOR - VENTURI ACCESS	6'-3 3/8"
D9	1	2'-0" W. X 2'-6" H. BOLTED INSPECTION DOOR - SEPARATOR ACCESS	6'-3 3/8"
D10	1	2'-0" W. X 2'-6" H. BOLTED INSPECTION DOOR - SEPARATOR ACCESS	20'-9 5/8"
D11	1	2'-0" W. X 2'-6" H. BOLTED INSPECTION DOOR - SEPARATOR ACCESS	14'-0 3/8"
D12	1	15" W. X 10" H. BOLTED INSPECTION DOOR - THROAT ACCESS	10'-7 3/8"
D13	1	15" W. X 10" H. BOLTED INSPECTION DOOR - THROAT ACCESS	10'-7 3/8"



2" X 3/8" THK. FLANGE

OUTLET FLANGE DETAIL (N39)

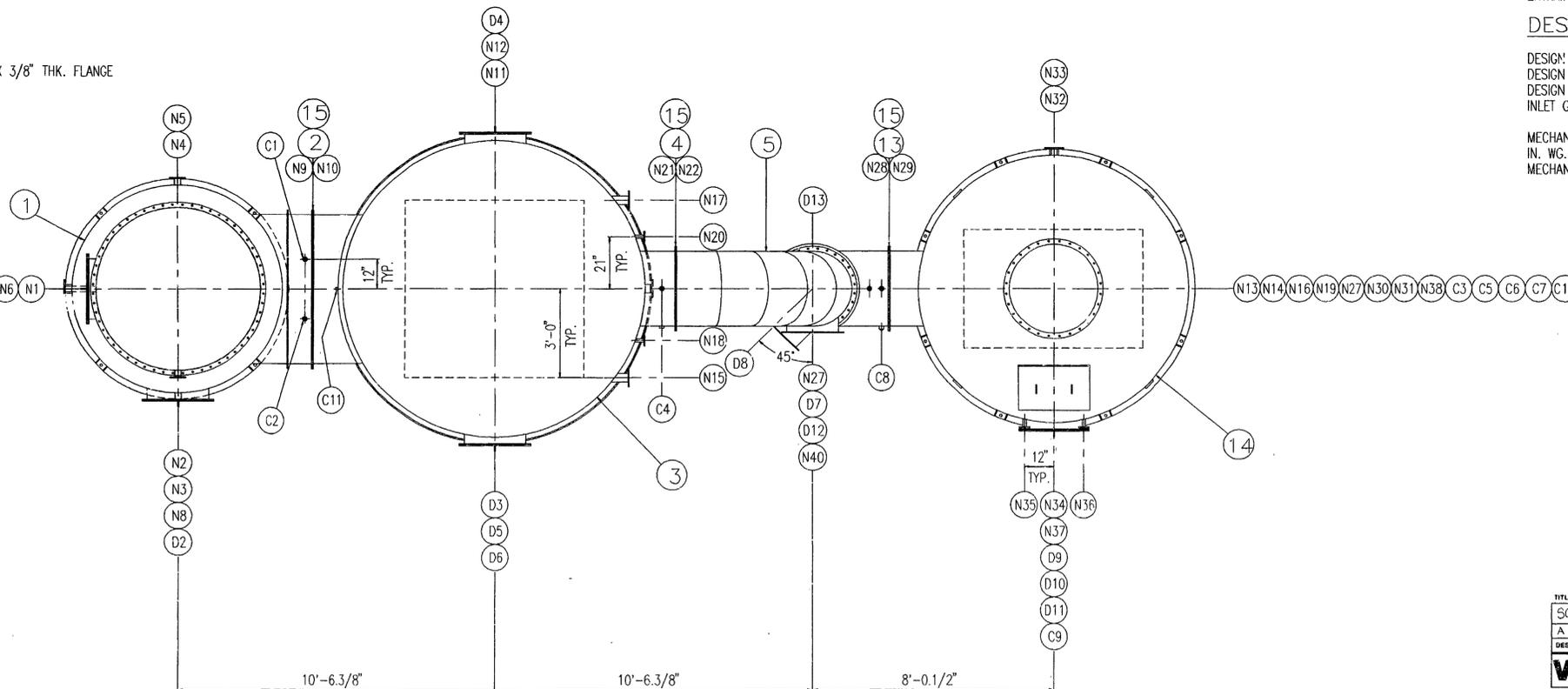
(32) - 5/8" DIA. HOLES
EQUALLY SPACED STRADDLING CENTERLINES
(SCALED: 2 X)



2" X 3/8" THK. FLANGE

INLET FLANGE DETAIL (N1)

(56) - 5/8" DIA. HOLES
EQUALLY SPACED STRADDLING CENTERLINES
(N.T.S.)



WEIGHTS:

SHIPPING WEIGHTS:

QUENCH.....2,900 LBS.
CONDENSER.....7,000 LBS.
DUCT TO VENTURI.....850 LBS.
VENTURI.....1,100 LBS.
ENTRAINMENT SEPARATOR.....9,300 LBS.

DESIGN CONDITIONS:

DESIGN: MIN. GAS VOLUME, ACFM 41,615
DESIGN MAX. GAS VOLUME, ACFM 87,730
DESIGN GAS TEMPERATURE, F° 1,800
INLET GAS PRESSURE, PSIA 14.54

MECHANICAL DESIGN PRESSURE
IN. WC.....±.60
MECHANICAL DESIGN TEMPERATURE, F° 200

SPECIFICATIONS:

CONSTRUCTION MATERIAL:

QUENCH TOWER MATERIAL:
PLATE: 11 GA. HASTELLOY C276
FLANGES: 3/8" THK. HASTELLOY C276
PIPE: SCH. 40S - HASTELLOY C276

CONDENSER MATERIAL:
PLATE: 11 GA. HASTELLOY C276
FLANGES: 3/8" THK. HASTELLOY C276
PIPE: SCH. 80 CPVC

DUCT MATERIAL:
PLATE: 11 GA. HASTELLOY C276
FLANGES: 3/8" THK. HASTELLOY C276

VENTURI MATERIAL:
PLATE: 3/16" THK. HASTELLOY C276
FLANGES: 3/8" THK. HASTELLOY C276
PIPE: SCH. 40S - HASTELLOY C276

SUPPORTS: CARBON STEEL
SEPARATOR MATERIAL:
PLATE: 3/16" THK. AL6XN
FLANGES: 3/8" THK. AL6XN
PIPE: SCH. 80 CPVC

BOLTS, NUTS, & WASHERS:
EXTERNAL: STAINLESS STEEL 304
INTERNAL: SAME AS EQUIPMENT

GASKETS:
1/4" THK. NEOPRENE

PAINT:
CARBON STEEL ONLY - PRIME AND PAINT WITH ONE
COAT STANDARD EPOXY, COLOR GRAY.

TITLE only text to appear on aperture card classification
SONIC ENVIRONMENTAL SYSTEMS
A.P.C.D. EQUIPMENT & CONTROLS SH. # 3
DESIGNER: SUPR M. HAUCK
V095XX-312-018

1	REVISED PER CUSTOMER COMMENTS.	LC/RH	4-11
0	REVISED BOLT MATERIAL, REVISED SIZE & LOCATION OF NOZZLES & DOORS, ADDED NOZZLES N39, N40, & CPLG C11, AS REQUESTED ON APPROVAL DWG. (DATED 1-5-94)	LC/RH	3-22

EMISSION CONTROL SYSTEMS
EMTRO CORP.
HAUPPAUGE, L.I., N.Y.

PLAN ARRANGEMENT
OF INCINERATOR OFF GAS
CONDENSING SCRUBBING SYSTEM

W.M.	12-20-93	NONE
------	----------	------

CL-1428-1 1

ASS'Y. REQ'D.	SCALE: NONE	CUSTOMER: EASTMAN KODAK COMPANY
DRAFTSMAN: LG	DATE: 01-05-94	ENGR: RH
DATE: 3-23-94	APPROVAL: RH	DATE: 3-23-94
THIS DOCUMENT IS THE PROPERTY OF SONIC ENVIRONMENTAL SYSTEMS AND SHALL NOT BE ALTERED, COPIED, USED FOR MANUFACTURING OR COMMUNICATED TO ANY OTHER PERSON OR COMPANY WITHOUT OUR WRITTEN PERMISSION.		
DWG. NO: 54015003-G125		1

ASSEMBLY LIST		
ITEM	REQ'D	DESCRIPTION
1	1	DUAL SPRAY QUENCH TOWER
2	1	GASKET (QUENCH TO CONDENSER)
3	1	BLUE GAS CONDENSER
4	1	GASKET (CONDENSER TO DUCT)
5	1	DUCT (CONDENSER TO VENTURI)
6	1	GASKET (DUCT TO VENTURI)
7	1	VENTURI
8	1	GASKET (VENTURI TO THROAT)
9	1	ADJUSTABLE THROAT
10	1	GASKET (THROAT TO ELBOW)
11	1	ELBOW
12	2	VENTURI SUPPORT (CARBON STEEL)
13	1	GASKET (ELBOW TO SEPARATOR)
14	1	ENTRAINMENT SEPARATOR
15	166	1/2" DIA. X 2" LG. BOLT W/NUT (STAINLESS STEEL 304)

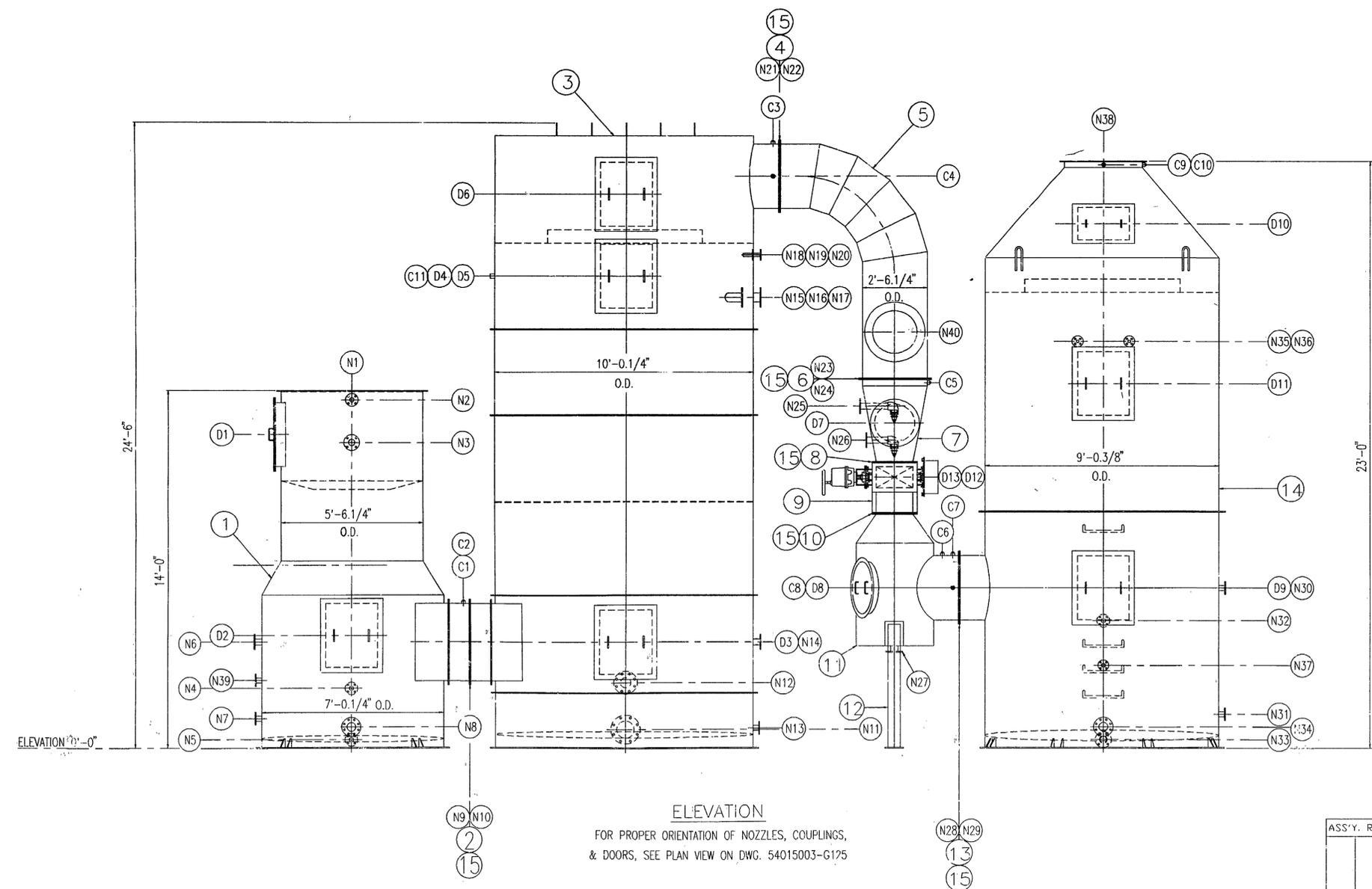
NOZZLE AND COUPLING SCHEDULE			
ITEM	QTY	DESCRIPTION	ELEVATION
N1	1	5'-6" I.D. FLANGED CONNECTION - QUENCH INLET	14'-0"
N2	1	2" DIA. FLANGED CONNECTION - FRESH WATER UPPER QUENCH SPRAY	13'-7.5/8"
N3	1	3" DIA. FLANGED CONNECTION - RECYCLE WATER LOWER QUENCH SPRAY	11'-11.5/8"
N4	1	3" DIA. FLANGED CONNECTION - QUENCH OVERFLOW	2'-7"
N5	1	3" DIA. FLANGED CONNECTION - QUENCH DRAIN	0'-5.3/4"
N6	1	3" DIA. FLANGED CONNECTION - LEVEL CONNECTION	4'-2"
N7	1	3" DIA. FLANGED CONNECTION - LEVEL CONNECTION	1'-2"
N8	1	4" DIA. FLANGED CONNECTION - QUENCH PUMP SUCTION	0'-10"
N9	1	3'-0" X 5'-0" FLANGED CONNECTION - QUENCH OUTLET	4'-2"
N10	1	3'-0" X 5'-0" FLANGED CONNECTION - CONDENSER INLET	4'-2"
N11	1	8" DIA. FLANGED CONNECTION - LIQUID OUTLET/DRAIN	0'-9"
N12	1	6" DIA. FLANGED CONNECTION - CONDENSER OVERFLOW	2'-7"
N13	1	3" DIA. FLANGED CONNECTION - LEVEL INDICATOR	0'-9.1/2"
N14	1	3" DIA. FLANGED CONNECTION - LEVEL INDICATOR	4'-2"
N15	1	4" DIA. FLANGED CONNECTION - CONDENSER PACKING SPRAY	17'-8"
N16	1	4" DIA. FLANGED CONNECTION - CONDENSER PACKING SPRAY	17'-8"
N17	1	4" DIA. FLANGED CONNECTION - CONDENSER PACKING SPRAY	17'-8"
N18	1	1 1/2" DIA. FLANGED CONNECTION - CONDENSER DEMIST SPRAY	18'-11"
N19	1	1 1/2" DIA. FLANGED CONNECTION - CONDENSER DEMIST SPRAY	18'-11"
N20	1	1 1/2" DIA. FLANGED CONNECTION - CONDENSER DEMIST SPRAY	18'-11"

NOZZLE AND COUPLING SCHEDULE CONT'D			
ITEM	QTY	DESCRIPTION	ELEVATION
N21	1	2'-6" FLANGED CONNECTION - CONDENSER OUTLET	22'-5"
N22	1	2'-6" FLANGED CONNECTION - DUCT INLET	22'-5"
N23	1	2'-6" FLANGED CONNECTION - DUCT OUTLET	14'-6"
N24	1	2'-6" FLANGED CONNECTION - VENTURI INLET	14'-6"
N25	1	2 1/2" DIA. FLANGED CONNECTION - VENTURI UPPER SPRAY	13'-5"
N26	1	2 1/2" DIA. FLANGED CONNECTION - VENTURI LOWER SPRAY	12'-1"
N27	1	3" DIA. FLANGED CONNECTION - ELBOW DRAIN	3'-9.3/16"
N28	1	2'-6" FLANGED CONNECTION - ELBOW OUTLET	6'-3.3/8"
N29	1	2'-6" FLANGED CONNECTION - SEPARATOR INLET	6'-3.3/8"
N30	1	3" DIA. FLANGED CONNECTION - SEPARATOR LEVEL CONNECTION	6'-3.3/8"
N31	1	3" DIA. FLANGED CONNECTION - SEPARATOR LEVEL CONNECTION	1'-4"
N32	1	3" DIA. FLANGED CONNECTION - SEPARATOR OVERFLOW	5'-0"
N33	1	3" DIA. FLANGED CONNECTION - SEPARATOR DRAIN	0'-5.3/4"
N34	1	4" DIA. FLANGED CONNECTION - SEPARATOR PUMP SUCTION	0'-10"
N35	1	1" DIA. FLANGED CONNECTION - SEPARATOR DEMIST WASH	16'-2.5/16"
N36	1	1" DIA. FLANGED CONNECTION - SEPARATOR DEMIST WASH	16'-2.5/16"
N37	1	1 1/2" DIA. FLANGED CONNECTION - SEPARATOR TANK FILL	3'-3"
N38	1	3'-0" DIA. FLANGED CONNECTION - SEPARATOR OUTLET	23'-3"
N39	1	2" DIA. FLANGED CONNECTION - QUENCH FILL	2'-8"
N40	1	20" DIA. FLANGED CONN. W/BLIND FLANGE - RECIRCULATION LINE	16'-3.3/4"

NOZZLE AND COUPLING SCHEDULE CONT'D			
ITEM	QTY	DESCRIPTION	ELEVATION
C1	1	1" DIA. HALF COUPLING W/PLUG - PRESSURE TAP	5'-8"
C2	1	1" DIA. HALF COUPLING W/PLUG - TEMPERATURE TAP	5'-8"
C3	1	1" DIA. HALF COUPLING W/PLUG - PRESSURE TAP	23'-8.1/8"
C4	1	1" DIA. HALF COUPLING W/PLUG - TEMPERATURE TAP	22'-5"
C5	1	1" DIA. HALF COUPLING W/PLUG - PRESSURE TAP	14'-3.7/8"
C6	1	1" DIA. HALF COUPLING W/PLUG - TEMPERATURE TAP	7'-6.9/16"
C7	1	1" DIA. HALF COUPLING W/PLUG - PRESSURE TAP	7'-6.9/16"
C8	1	1" DIA. HALF COUPLING W/PLUG - TEMPERATURE TAP	6'-3.3/8"
C9	1	1" DIA. HALF COUPLING W/PLUG - PRESSURE TAP	22'-10"
C10	1	1" DIA. HALF COUPLING W/PLUG - TEMPERATURE TAP	22'-10"
C11	1	1" DIA. HALF COUPLING W/PLUG - PRESS. TAP, CONDENSER	18'-3"

DOOR SCHEDULE			
ITEM	QTY	DESCRIPTION	ELEVATION
D1	1	2'-0" W. X 2'-6" H. BOLTED INSPECTION DOOR - QUENCH ACCESS	12'-3.5/8"
D2	1	2'-0" W. X 2'-6" H. BOLTED INSPECTION DOOR - QUENCH ACCESS	4'-5"
D3	1	2'-0" W. X 2'-6" H. BOLTED INSPECTION DOOR - CONDENSER ACCESS	4'-2"
D4	1	2'-0" W. X 2'-6" H. BOLTED INSPECTION DOOR - CONDENSER ACCESS	18'-3"
D5	1	2'-0" W. X 2'-6" H. BOLTED INSPECTION DOOR - CONDENSER ACCESS	18'-3"
D6	1	2'-0" W. X 2'-6" H. BOLTED INSPECTION DOOR - CONDENSER ACCESS	21'-11.1/2"
D7	1	18" DIA. BOLTED INSPECTION DOOR - VENTURI ACCESS	12'-9"
D8	1	2'-0" DIA. BOLTED INSPECTION DOOR - VENTURI ACCESS	6'-3.3/8"
D9	1	2'-0" W. X 2'-6" H. BOLTED INSPECTION DOOR - SEPARATOR ACCESS	8'-3.3/8"
D10	1	2'-0" W. X 2'-6" H. BOLTED INSPECTION DOOR - SEPARATOR ACCESS	20'-9.5/8"
D11	1	2'-0" W. X 2'-6" H. BOLTED INSPECTION DOOR - SEPARATOR ACCESS	14'-0.3/8"
D12	1	15" W. X 10" H. BOLTED INSPECTION DOOR - THROAT ACCESS	10'-7.3/8"
D13	1	15" W. X 10" H. BOLTED INSPECTION DOOR - THROAT ACCESS	10'-7.3/8"

* : FLANGE DRILLING TO MATCH #150 DRILLING, HOLES TO STR. C'S



ELEVATION
FOR PROPER ORIENTATION OF NOZZLES, COUPLINGS, & DOORS, SEE PLAN VIEW ON DWG. 54015003-G125

WEIGHTS:

SHIPPING WEIGHTS:
 QUENCH.....2,900 LBS.
 CONDENSER.....7,000 LBS.
 DUCT TO VENTURI.....850 LBS.
 VENTURI.....1,100 LBS.
 ENTRAINMENT SEPARATOR.....9,300 LBS.

DESIGN CONDITIONS:

DESIGN MIN. GAS VOLUME, ACFM 41,615
 DESIGN MAX. GAS VOLUME, ACFM 87,730
 DESIGN GAS TEMPERATURE, F.....1,800
 INLET GAS PRESSURE, PSIA.....14.54

MECHANICAL DESIGN PRESSURE
 IN. WG.....+/-0.60
 MECHANICAL DESIGN TEMPERATURE, F. 200

SPECIFICATIONS:

CONSTRUCTION MATERIAL:
 QUENCH TOWER MATERIAL:
 PLATE: 11 GA. HASTELLOY C276
 FLANGES: 3/8" THK. HASTELLOY C276
 PIPE: SCH. 40S - HASTELLOY C276
 CONDENSER MATERIAL:
 PLATE: 11 GA. HASTELLOY C276
 FLANGES: 3/8" THK. HASTELLOY C276
 PIPE: SCH. 80 CPVC
 DUCT MATERIAL:
 PLATE: 11 GA. HASTELLOY C276
 FLANGES: 3/8" THK. HASTELLOY C276
 VENTURI MATERIAL:
 PLATE: 3/16" THK. HASTELLOY C276
 FLANGES: 3/8" THK. HASTELLOY C276
 PIPE: SCH. 40S - HASTELLOY C276
 SUPPORTS: CARBON STEEL
 SEPARATOR MATERIAL:
 PLATE: 3/16" THK. AL6XN
 FLANGES: 3/8" THK. AL6XN
 PIPE: SCH. 80 CPVC
 BOLTS, NUTS, & WASHERS:
 EXTERNAL: STAINLESS STEEL 304
 INTERNAL: SAME AS EQUIPMENT
 GASKETS:
 1/4" THK. NEOPRENE
 PAINT:
 CARBON STEEL ONLY - PRIME AND PAINT WITH ONE COAT STANDARD EPOXY, COLOR GRAY.

TITLE only list line will appear on aperture card
 SONIC ENVIRONMENTAL SYSTEMS
 A.P.C.D. EQUIPMENT & CONTROLS SHT#4
 DESIGNER: SUPVR: M. HAUCK
V095XX-312-018

EMISSION CONTROL SYSTEMS
EMTRO CORP.
 HAUPPAUGE, LI., N.Y.

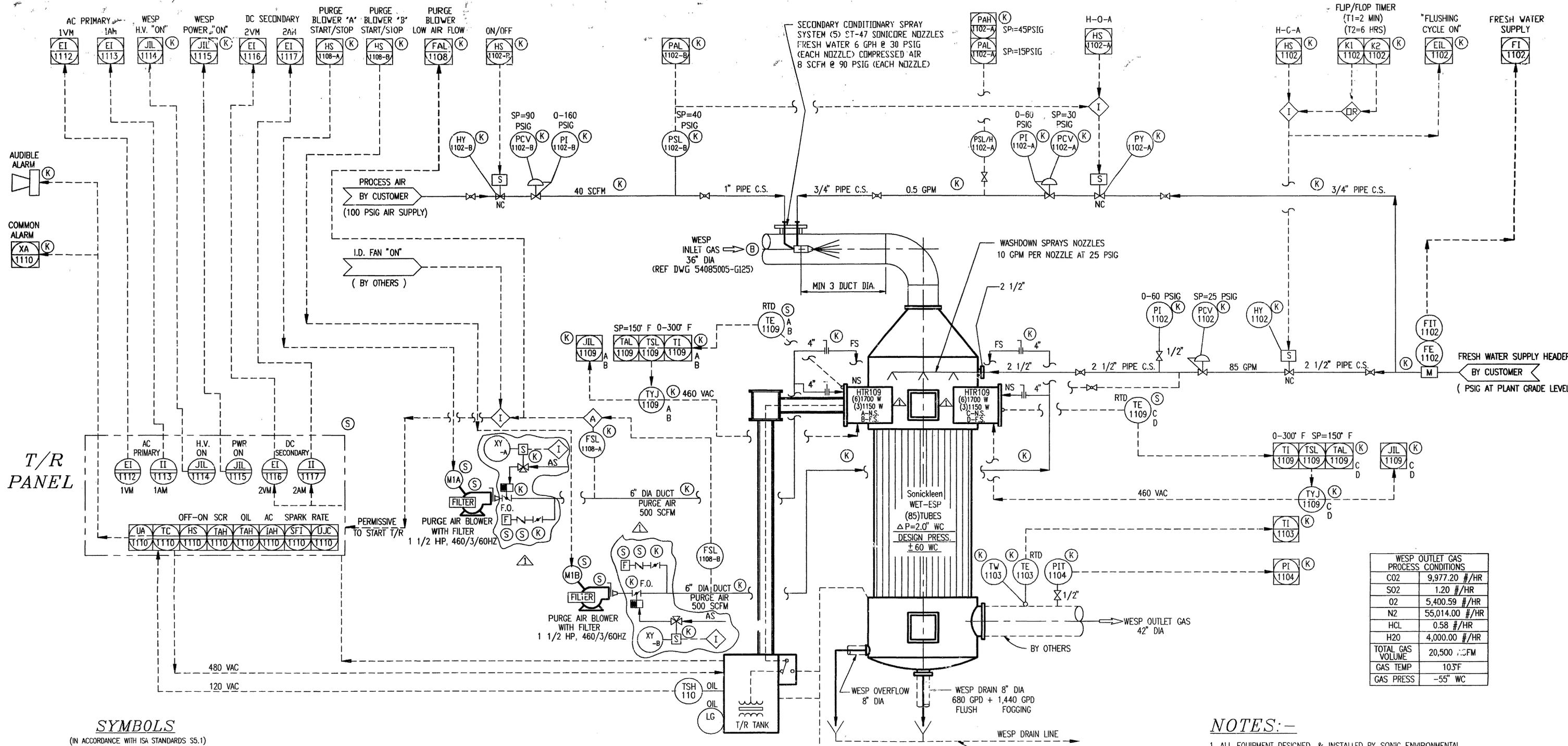
ASS'Y. REQ'D.	SCALE: NONE	CUSTOMER: EASTMAN KODAK COMPANY
DRAFTSMAN: LG	DATE: 01-05-94	ENGR: RH
DATE: 3-22-94	APPROVAL: RH	DATE: 3-22-94
THIS DOCUMENT IS THE PROPERTY OF SONIC ENVIRONMENTAL SYSTEMS AND SHALL NOT BE ALTERED, COPIED, USED FOR MANUFACTURING OR COMMUNICATED TO ANY OTHER PERSON OR COMPANY WITHOUT OUR WRITTEN PERMISSION.		



W.M.	12-20-93	NONE
CL-1428-2		
1		

DWG. NO: 54015004-G125

10/23/95 10:23:25 1995 c:\new\fin\23.cvt Joe Quercius D:\TEMP\54015004-G125.RR



WESP OUTLET GAS PROCESS CONDITIONS	
CO2	9,977.20 #/HR
SO2	1.20 #/HR
O2	5,400.59 #/HR
N2	55,014.00 #/HR
HCL	0.58 #/HR
H2O	4,000.00 #/HR
TOTAL GAS VOLUME	20,500 SCFM
GAS TEMP	103°F
GAS PRESS	-55" WC

WESP				
T/R INPUT		T/R OUTPUT		
VAC	Amp	KVDC	mADC	KW
460/1/60HZ	60.5	65	300	19.50

SYMBOLS

- (IN ACCORDANCE WITH ISA STANDARDS SS.1)
- ◇ LOGIC INTERLOCK
 - LOCAL OR FIELD MOUNTED INSTRUMENT
 - ◻ CUSTOMER'S 'DCS' SYSTEM INTERFACE
 - ◌ SONIC CONTROL PANEL
 - ◌ T/R CONTROL PANEL MOUNTED INSTRUMENT (FRONT)
 - ◌ T/R CONTROL PANEL MOUNTED INSTRUMENT (INSIDE)
 - ◻ PLC INTERNAL CONTROL
 - ◻ PLC DISPLAY AND CONTROL
 - FURNISHED BY SONIC
 - ◻ FURNISHED AND INSTALLED BY KODAK
 - BLOWER PANEL
 - ⊕ FURNISHED BY OTHERS
 - SOFTWARE
 - WIRING BY OTHERS OR EXISTING
 - ⊕ PRESSURE REGULATOR
 - ⌞ CHECK VALVE
 - ⌞ BUTTERFLY VALVE
 - ⌞ SLIDE GATE
 - ⌞ GLOBE VALVE
 - ⌞ BALL VALVE
 - ⌞ GATE VALVE
 - NS/FS NEAR SIDE/FAR SIDE

NOTES:-

- ALL EQUIPMENT DESIGNED, & INSTALLED BY SONIC ENVIRONMENTAL SYSTEMS UNLESS OTHERWISE NOTED.
- IS A KEY PAD AND DISPLAY MODULE MICROPROCESSOR CONTROLLER WHICH MONITORS T/R OPERATION AND ENABLES ALARM, RESET AND SET POINT CHANGES.
- KEY INTERLOCK SCHEMATIC IS NOT SHOWN. SEQUENCE INVOLVES T/R CONTROL PANEL AND T/R TANK. SCHEMATIC TO BE SHOWN IN INSTRUCTION MANUAL.
- FITTINGS AND PIPE FROM PURGE AIR BLOWER TO EACH INSULATOR COMPARTMENT TO BE SUPPLIED AND SHIPPED LOOSE BY SONIC.

TITLE: only 1st line will appear on aperture card classification

SONIC ENVIRONMENTAL SYSTEMS

A.P.C.D. EQUIPMENT & CONTROLS DWT.# 19

DESIGNER: SUPVR: M. HAUCK

V095XX-312-018

ASS'Y. REQ'D. SCALE: NONE CUSTOMER: EASTMAN KODAK COMPANY

REV'D. AS INDICATED LG VS 7-26-94

REV'D. PER CUSTOMERS COMMENTS LG VS 7-28-94

ISSUED FOR APPROVAL MC VS 12-7-94

PRELIMINARY ISSUE LG VS 11-27-94

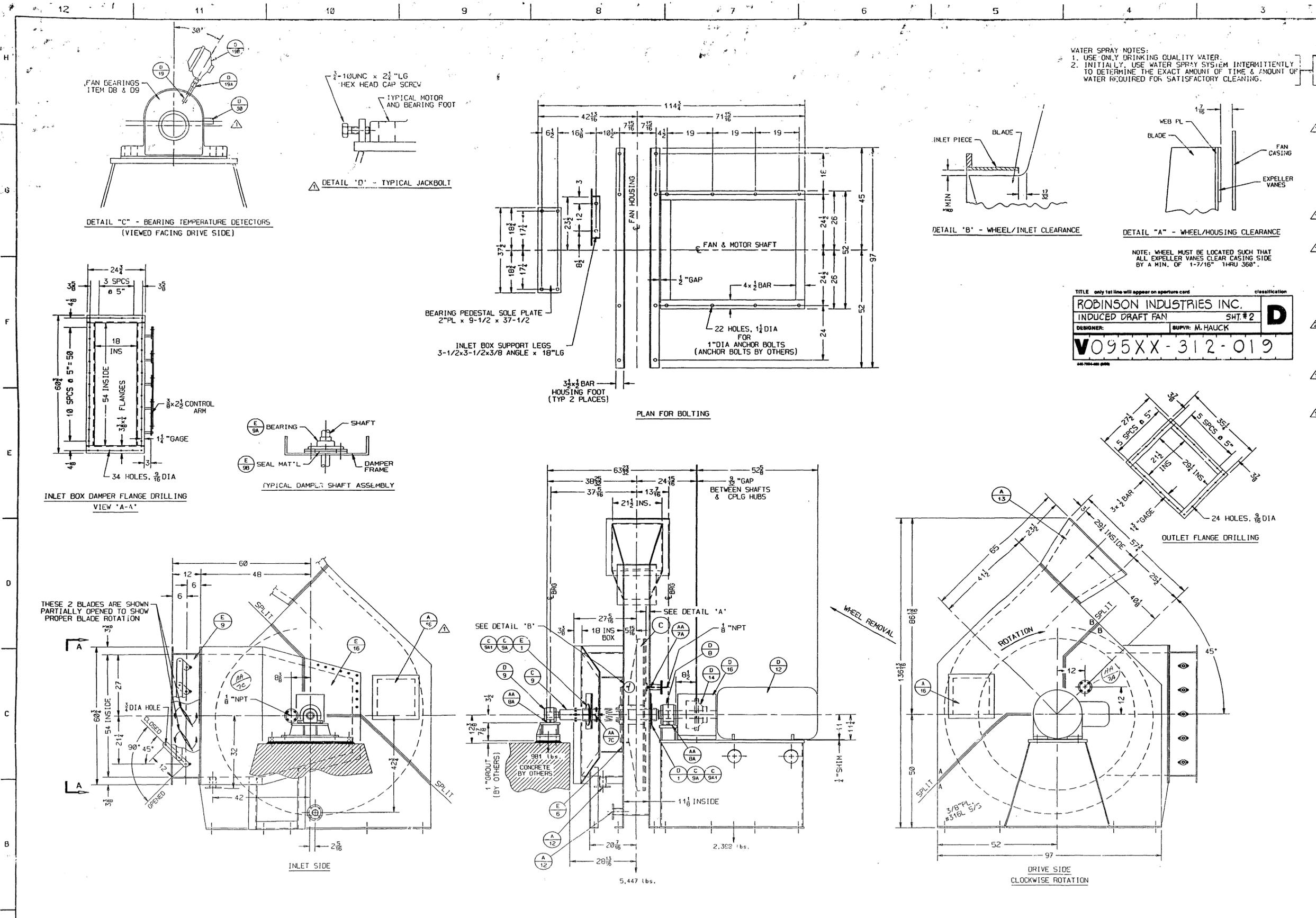
REVISION DWN. ENGR. DATE

THIS DOCUMENT IS THE PROPERTY OF SONIC ENVIRONMENTAL SYSTEMS, AND IS NOT TO BE ALTERED, COPIED, USED FOR MANUFACTURING OR COMMUNICATED TO ANY OTHER PERSON OR COMPANY WITHOUT OUR WRITTEN PERMISSION.

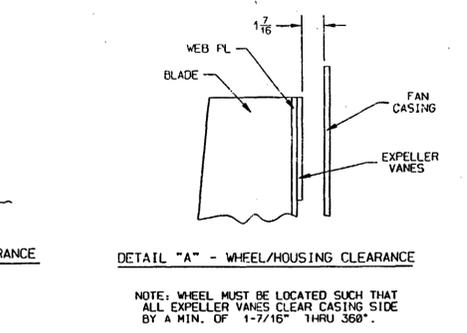
DATE: 3-22-94

TITLE: Sonickleen WET-ESP P AND I DIAGRAM

DWG. NO.: 54085003-G125



WATER SPRAY NOTES:
 1. USE ONLY DRINKING QUALITY WATER.
 2. INITIALLY, USE WATER SPRAY SYSTEM INTERMITTENTLY TO DETERMINE THE EXACT AMOUNT OF TIME & AMOUNT OF WATER REQUIRED FOR SATISFACTORY CLEANING.



TITLE only 1st line will appear on aperture card classification

ROBINSON INDUSTRIES INC.

INDUCED DRAFT FAN SHT.#2 **D**

DESIGNER: BUYP: M. HAUCK

V095XX-312-019

MATERIAL LIST		
ITEM	REQ'D	DESCRIPTION
AA7A	1	SPPY NOZZLE - SPRAY SYSTEMS #1/862.0W #316 STAINLESS STEEL .61 gpm @ 60 psi
AA7C	1	SPRAY NOZZLE - SPRAY SYSTEMS #1/861.5 #316 STAINLESS STEEL .35 gpm @ 60 psi
AA8	2	BEARING SHIM - 1/4" MILD STEEL
A12	2	DRAIN - 2-1/2" SCH40 PIPE w/7-1/2" O.C. FLANGE w/4 HOLES, 3/4" DIA ON A 5-1/2" DIA B.C.
A13	1	EVAISE - #316L STAINLESS STEEL, BY ROBINSON
A16	2	INSPECTION DOOR - 16" x 16" OPENING, WITH BOLTED COVER, WT. = 70 lbs.
C	1	WHEEL - HASTELLOY C-276
C9	1	SHAFT - #4140 HTR w/HASTELLOY C-276 SLEEVES
C9A	2	SHAFT SEAL - 1/8" TEFLON
C9A1	2	SHAFT SEAL COVER PLATE - 1/4" PL, #316L S/S
D1	1	DRIVE SIDE CASING COVER PLATE - 3/8" PL, #316L STAINLESS STEEL
D8	1	FIXED - LINK BELT #P-LB685R/3, 3-7/16" DIA SPHERICAL ROLLER BEARING, GREASE LUBRICATED TAPPED FOR RTD & VIB SENSOR, SEE DETAIL 'C' & NOTE#9
D9	1	FLOAT - LINK BELT #PE-LB6839R/3, 2-7/16" DIA SPHERICAL ROLLER BEARING, GREASE LUBRICATED CLOSED END UNIT, TAPPED FOR RTD & VIB SENSOR, SEE DETAIL 'C' & NOTE#9
D12	1	350 HP, 1700 RPM, 460 V/3 PH/3 W, TYPE TFC FRAME 449-T, SUPPLIED BY OTHERS - SHIPPED TO ROBINSON FOR MOUNTING MOTOR HALF OF CPLG
D14	1	COUPLING-KOPFLEX MAX-C #3-1/2 WB FLEXIBLE CPLG FAN HALF BORE 3.3725 +.0010/- .0000 DIA KEYWAY 7/8 x 7/16 MOTOR HALF BORE 3.3725 +.0010/- .0000 DIA KEYWAY 7/8 x 7/16 (w/80 DUROMETER NITRILE RUBBER BLOCKS)
D16	1	COUPLING GUARD - MILD STEEL
D19	2	T-TEC #1060-22A-12 RTD (100 ohms @ 0°C)
D19A	2	T-TEC #1060-33 SPRING LOADED FITTING w/O-RING
D19B	2	T-TEC #11001-3-A ALUM. HEAD w/TERMINAL BLOCK
D28	2	IRD #941B VIBRATION SENSOR c/w CLAMP MOUNT
E1	1	INLET SIDE CASING COVER PLATE - 3/8" PL, #316L STAINLESS STEEL
E6	1	INLET PIECE - #316L STAINLESS STEEL
E9	1	LOUVERED INLET BOX DAMPER - #316L S/S w/304L S/S LINKAGE OUTSIDE OF AIRSTREAM, WITH BRONZE BUSHINGS & HARDENED STEEL PINS WITH GREASE FITTINGS
E9A	10	DAMPER BEARINGS - LINK BELT #FX3-S212E 3/4" DIA GREASE LUBED BALL, SEE NOTE#10
E9B	10	DAMPER SHAFT SEALS - 1/4" NEOPRENE RUBBER
E16	1	ACCESS PANEL - 16-1/2" min x 18-1/2" OPENING BOLTED CONSTRUCTION, WT. = 70 lbs.

- NOTES:
- FAN HOUSING & INLET BOX CONSTRUCTED FROM #316L S/S w/304L S/S BRACING, BEARING & MOTOR BASES FROM MILD STEEL DAMPER, WHEEL & SHAFT AS NOTED ABOVE.
 - GASKET MATERIAL TO BE 1/8" NEOPRENE RUBBER.
 - ALL MILD STEEL TO BE SANDBLASTED PER SSPC-SP6 & PAINTED w/ DUPONT CORLAR #825-Y-9031 HIGH BUILD CHROMATE-FREE EPOXY PRIMER (4mils DFT) & 2 COATS DUPONT CORLAR #26P MODIFIED POLYAMIDE EPOXY (2mils DFT EACH COAT), COLOR SLATE GREY.
 - EXPANSION JOINTS ARE REQUIRED IN ALL PIPING AND DUCT-WORK TO & FROM FAN. THESE JOINTS ARE TO BE IMMEDIATELY ADJACENT TO THE FAN. CUSTOMERS DUCT MUST BE STRUCTURALLY ANCHORED WITHIN APPROX 24" OF THE EXPANSION JOINT.
 - FAN HOUSING & INLET BOX ARE SPLIT FOR WHEEL & SHAFT REMOVAL.
 - WHEEL & SHAFT WT. APPROX 1,457 lbs.
 - TOTAL FAN WT. LESS MOTOR, = 8,826 lbs.
 - ROBINSON RECOMMENDS A MIN. CONCRETE MAT UNDER FAN UNIT EQUAL TO 44,330 lbs. THIS DOES NOT INCLUDE THE CONCRETE ABOVE GRADE.
 - BEARINGS, D8 & D9 REQUIRED GREASE LUBRICATION w/TEXACO PREMIUM RB OR EQUAL, RELUBRICATE: D8 ON A 2 MONTH CYCLE WITH 2.30cu.in. OF GREASE D9 ON A 4 MONTH CYCLE WITH 0.80cu.in. OF GREASE
 - REF LINK BELT #B-SRB0-61 INSTRUCTIONS
 - DAMPER BEARINGS REQUIRED GREASE LUBRICATION WITH TEXACO PREMIUM RB OR EQUAL, RELUBRICATE ON A ONE MONTH CYCLE WITH .12 cu.in. OF GREASE PER BEARING, REF LINK BELT INSTRUCTIONS #B-BRU-23.
 - DAMPER TORQUE = 155 ft.-lbs.
 - TEMPERATURE & VIBRATION DETECTORS SHOWN ABOVE ARE PICK-UPS ONLY, INTER-CONNECTING CABLE & MONITORS BY OTHERS.

INDUCED DRAFT FAN
 MULTIPLE HEARTH ADD-ON TECHNOLOGY
 BUILDING 95, KODAK PARK
 ROCHESTER, NY
 EASTMAN KODAK P.O. #LF-LVA-79530X

WHEEL & SHAFT $WR^2 = 2,791 \text{ lbs} \cdot \text{ft}^2$

ROBINSON INDUSTRIES, INC.
 ZELLENROSE, PENNSYLVANIA 16063

TYPE 67x2-5/B RB1610-G, ARR#7, CW ROT@45° DISCH. SWST, CL4
 FOR EASTMAN KODAK CO., ROCHESTER, NY

ALL DIMENSIONS ARE IN INCHES

DA-67RB1610-100 2 REV

NO.	REVISION	DATE	BY	MICRO. DATE
1	SPECIFIED COUPLING ELEMENT TYPE	05-02-94	DW	
2	REV PER CUST'S APPROVAL PRINT	04-12-94	DW	

CAD GENERATED DRAWING, DO NOT CHANGE BY HAND

THIS DRAWING IS THE PROPERTY OF ROBINSON IND., INC. AND IS LOANED UPON CONDITION THAT IT IS NOT TO BE REPRODUCED OR COPIED IN WHOLE OR PART FOR FURNISHING INFORMATION TO OTHERS FOR ANY PURPOSE DETRIMENTAL TO OUR INTERESTS AND WILL BE RETURNED UPON REQUEST.

BEARINGS ARE DESIGNED FOR A MAXIMUM AMBIENT TEMPERATURE OF 100°F.

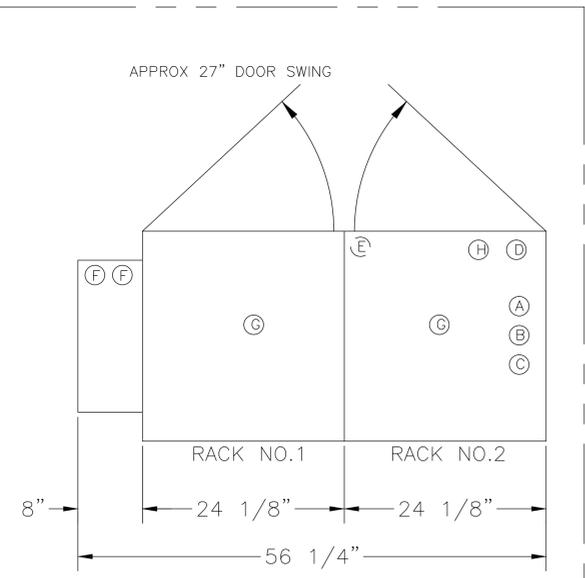
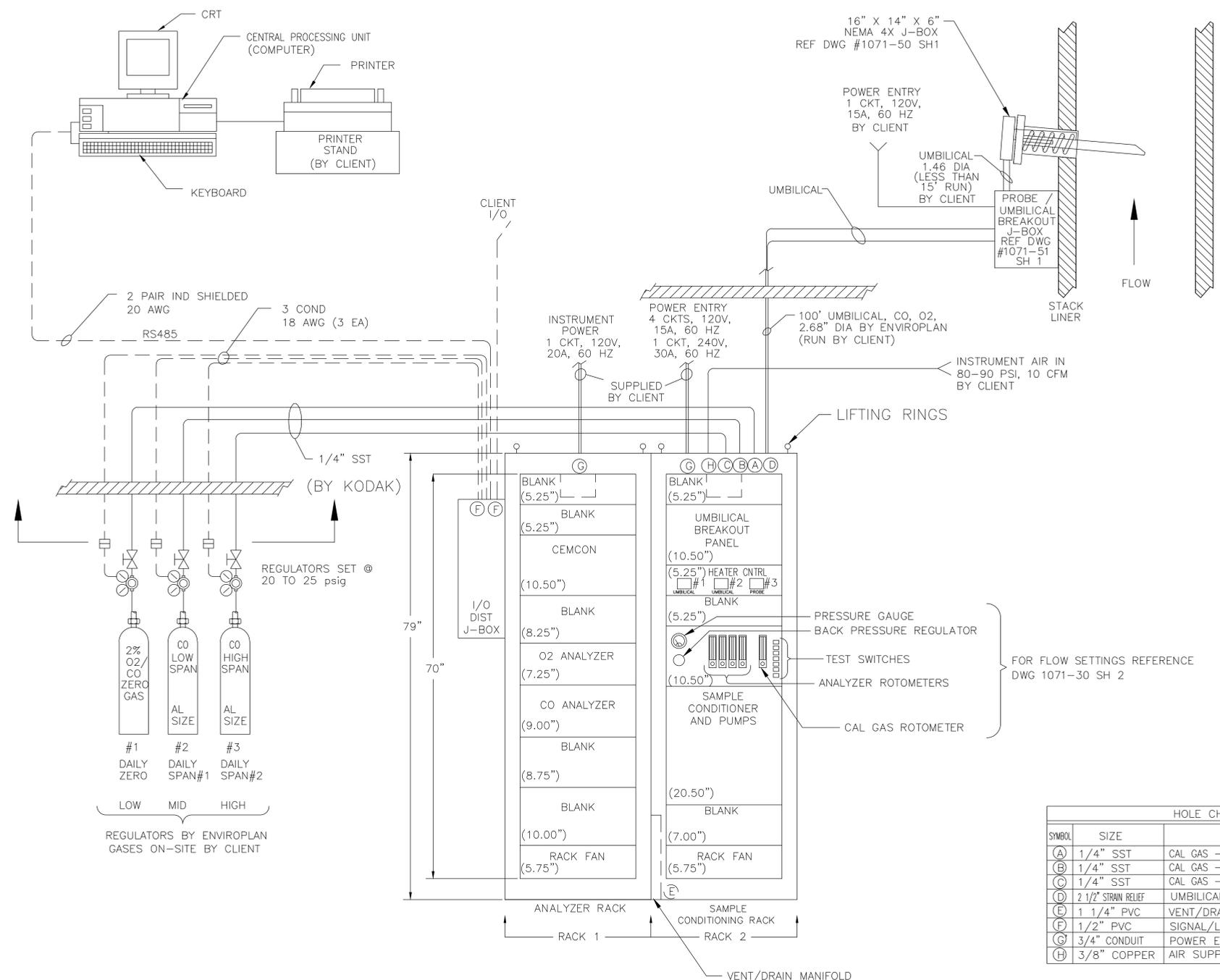
DO NOT USE SUBSTITUTE LUBRICANTS OR OVER LUBRICATE. WARRANTY WILL BE VOIDED UNLESS ROBINSON LUBRICATION INSTRUCTIONS ARE FOLLOWED.

FAN UNIT WILL BE SHIPPED ASSEMBLED DISASSEMBLED

FINAL ALIGNMENT OF BEARINGS, COUPLING, V-BELTS, WHEEL & SHAFT ASSY. MUST BE CHECKED BEFORE OPERATION OF THIS EQUIPMENT. NOTE ALL ITEMS ARE TO BE CHECKED FOR PROPER SETTINGS PER INSTRUCTION MANUAL AND CERTIFIED DRAWINGS

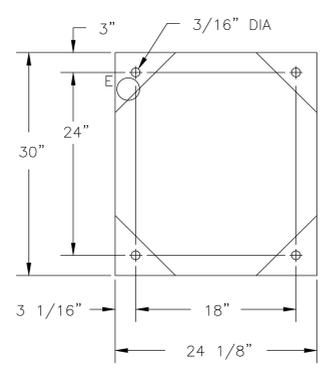
UNITS PER ORDER ONE AS SHOWN		FAN PERFORMANCE								
CERTIFIED FOR		MAX. FAN INLET DESIGN TEMPERATURE	125°F @ 1750 RPM							
YOUR ORDER	LF-LVA-79530X	1750	20500	76.3	.0750	70°	SL	354		
OUR JOB NO.	88990 & 88991	1750	20500	60.0	.0590	103°	SL	277		
BY	DW	DATE	03-11-94	1735	20500	60.0	.0606	103°	SL	280
TOLERANCES UNLESS OTHERWISE MARKED FRACTIONS +1/32", ANGLES 11°, DEC. .005"		1324	5000	35.0	.0580	103°	SL	60.3		
FAB TOLERANCE ON OVERALL DIMENSIONS UNDER 5" DIA FAN 1/16" 5" DIA FAN & ABOVE +3/16" - 1/8"		RPM	CFM	FSPR	DENSITY	TEMP	ELEV	BHP		

NO.	DATE	BY	CKD	APD	REVISION
A	09/28/94	SJT	CAC	CAC	INITIAL RELEASE
B	10/14/94	SJT	CWK	LFB	REVISED PER CLIENTS COMMENTS
C	03/01/95	SJT	CWK	LFB	AS BUILT
D	05/17/95	SJT			ADDED PRESSURE SETTINGS

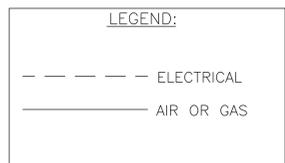


RACK TOP VIEW
NOT TO SCALE

RACK BASE LAYOUT
NOT TO SCALE



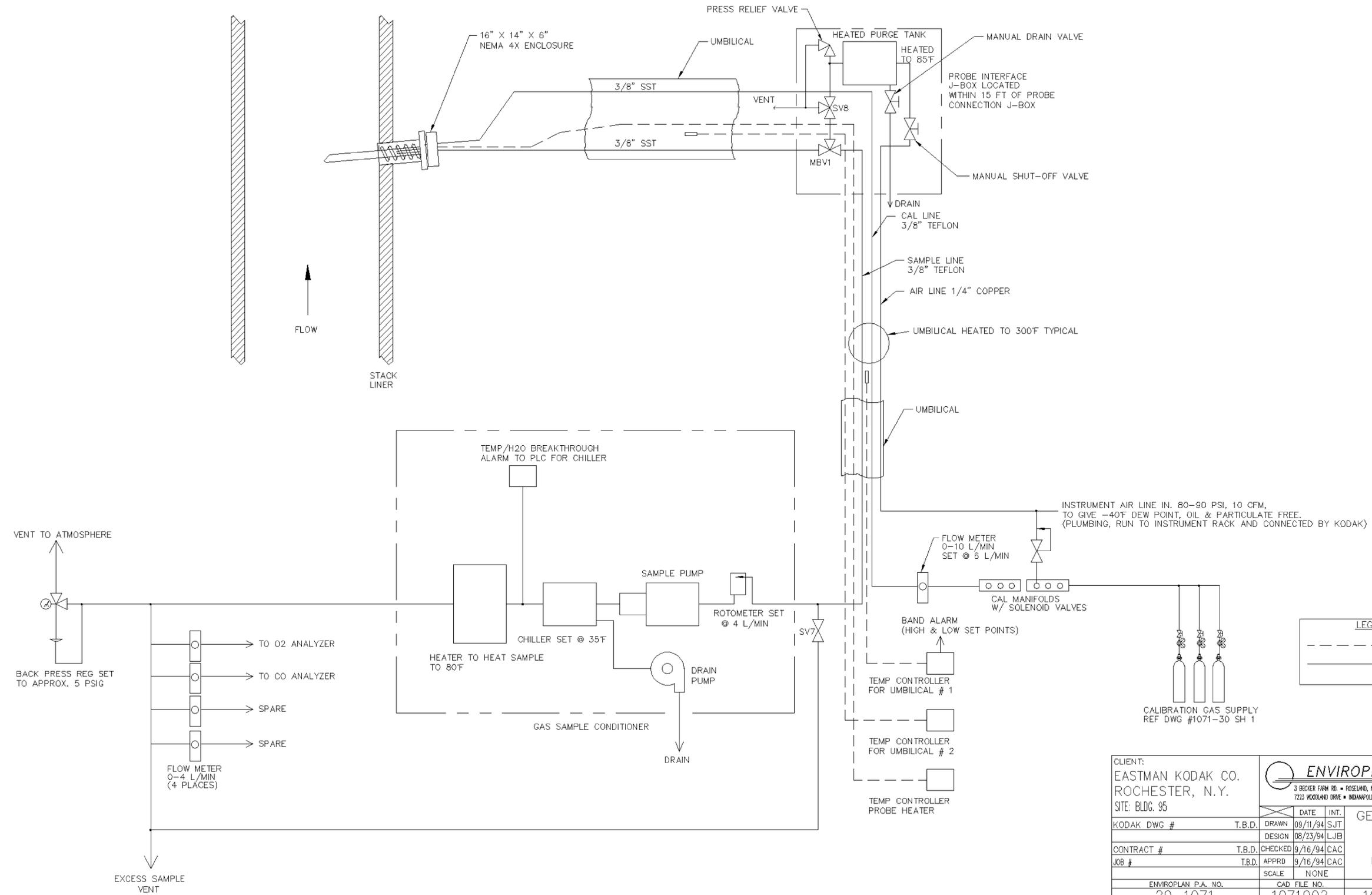
RACK 1	WT APPROX	600 LB	RACK 1	POWER USAGE APPROX	225 W
RACK 2	WT APPROX	600 LB	RACK 2	POWER USAGE APPROX	2,540 W
RACK TOTAL		1,200 LB	EXTERNAL USAGE		250 W
OTHER CEMS EQUIPMENT ≈		300 LB	CEMDAS		800 W
TOTAL:		1,500 LB	TOTAL		≈ 3,815 W



HOLE CHART GUIDE		
SYMBOL	SIZE	FOR
(A)	1/4" SST	CAL GAS - LOW O2/ZERO CO
(B)	1/4" SST	CAL GAS - MID CO SPAN
(C)	1/4" SST	CAL GAS - HIGH CO SPAN
(D)	2 1/2" STRAIN RELIEF	UMBILICAL ENTRY
(E)	1 1/4" PVC	VENT/DRAIN EXHAUST (LOCATED AT BOTTOM OF RACK)
(F)	1/2" PVC	SIGNAL/LOW VOLTAGE WIRES
(G)	3/4" CONDUIT	POWER ENTRY TO RACK
(H)	3/8" COPPER	AIR SUPPLY LINE

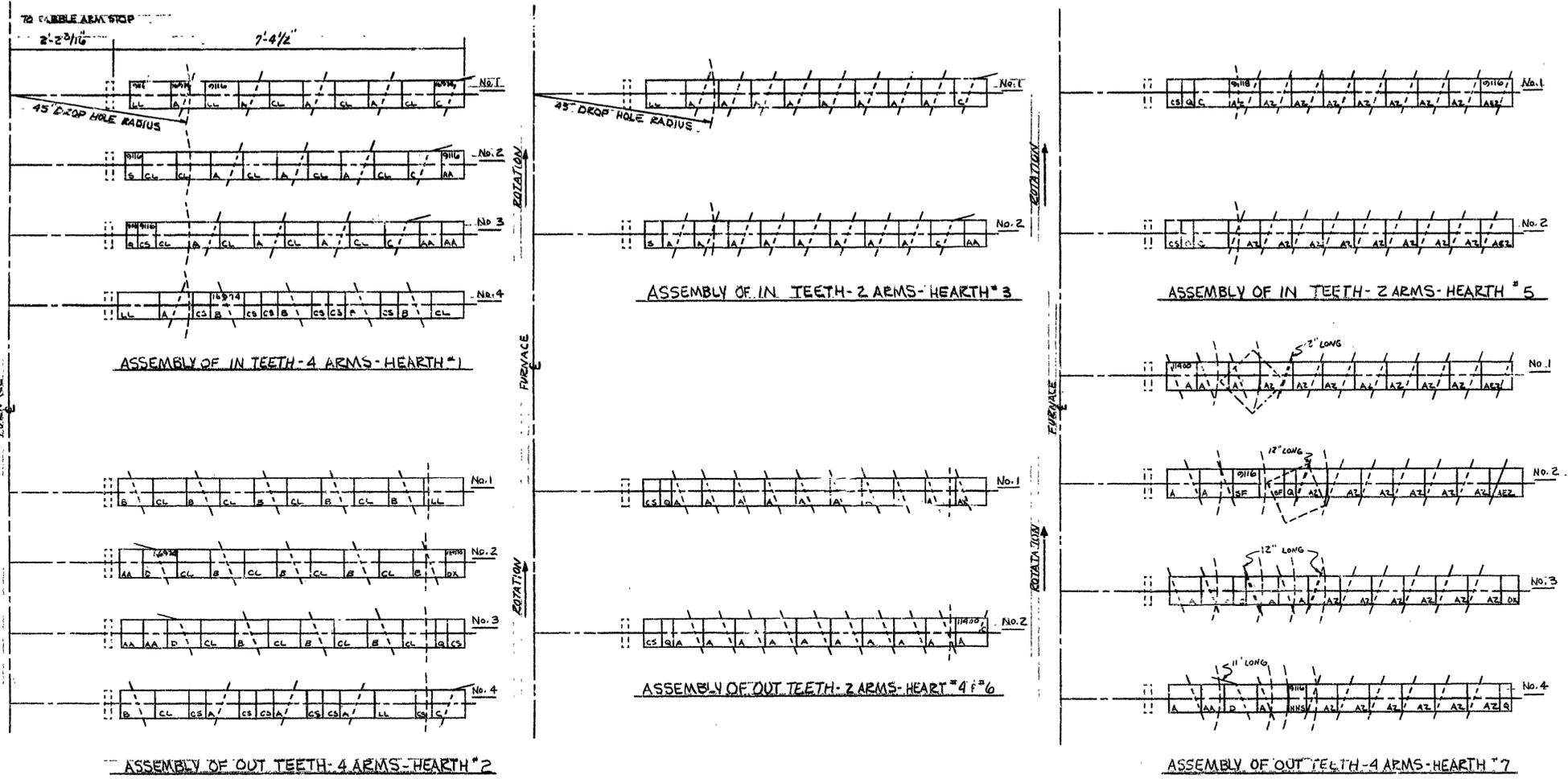
CLIENT:			
EASTMAN KODAK CO.		ROCHESTER, N.Y.	
SITE: BLDG 95		3 BECKER FARM RD. ■ ROSELAND, N.J. 07068 ■ 201-994-2300 ■ FAX: 201-994-5100 7223 WOODLAND DRIVE ■ INDIANAPOLIS, IN 46278 ■ 317-297-6440 ■ FAX: 317-297-6445	
KODAK DWG #	T.B.D.	DATE	INT.
		08/30/94	SJT
DESIGN	01/22/94	LFB	
CONTRACT #	T.B.D.	CHECKED	9/16/94
		CAC	
JOB #	T.B.D.	APPRD	9/16/94
		CAC	
		SCALE	NONE
ENVIROPLAN P.A. NO.	CAD FILE NO.	DRAWING NO.	SHEET
20-1071	1071001	1071-00	REV 1 OF 3

NO.	DATE	BY	CHKD	APD	REVISION
A	09/19/94	SJT	CAC	CAC	INITIAL RELEASE
B	10/14/94	SJT	CWK	LFB	REVISED PER CLIENTS COMMENTS
C	03/01/95	SJT	CWK	LFB	AS BUILT
D	05/17/95	SJT			ADDED PRESSURE SETTINGS



LEGEND:
 - - - - - ELECTRICAL
 _____ AIR OR GAS

CLIENT: EASTMAN KODAK CO. ROCHESTER, N.Y. SITE: BLDG. 95		ENVIROPLAN 3 BECKER FARM RD. • ROSELAND, N.J. 07068 • 201-994-2300 • FAX: 201-994-5100 7223 WOODLAND DRIVE • INDIANAPOLIS, IN 46278 • 317-257-6440 • FAX: 317-257-6445	
KODAK DWG #	T.B.D.	DATE	INT.
DESIGN	08/23/94	09/11/94	SJT
CONTRACT #	T.B.D.	CHECKED	9/16/94 CAC
JOB #	T.B.D.	APPRD	9/16/94 CAC
		SCALE	NONE
ENVIROPLAN P.A. NO.	CAD FILE NO.	DRAWING NO.	SHEET REV
20-1071	1071002	1071-00	2 OF 3 D



I
H
G
F
E
D
C
B
A

MACHINE PARTS LIST: NO H

SYMBOL	REVISIONS	DATE	DEPARTMENTAL APPROVALS	DATE									
△			△			△			△			Dir. Supl.	
△			△			△			△			Dir. Ass't. Supt.	
△			△			△			△				
△			△			△			△				

SUPERSEDES DWG. #V091XX-312-002 SHT. 75

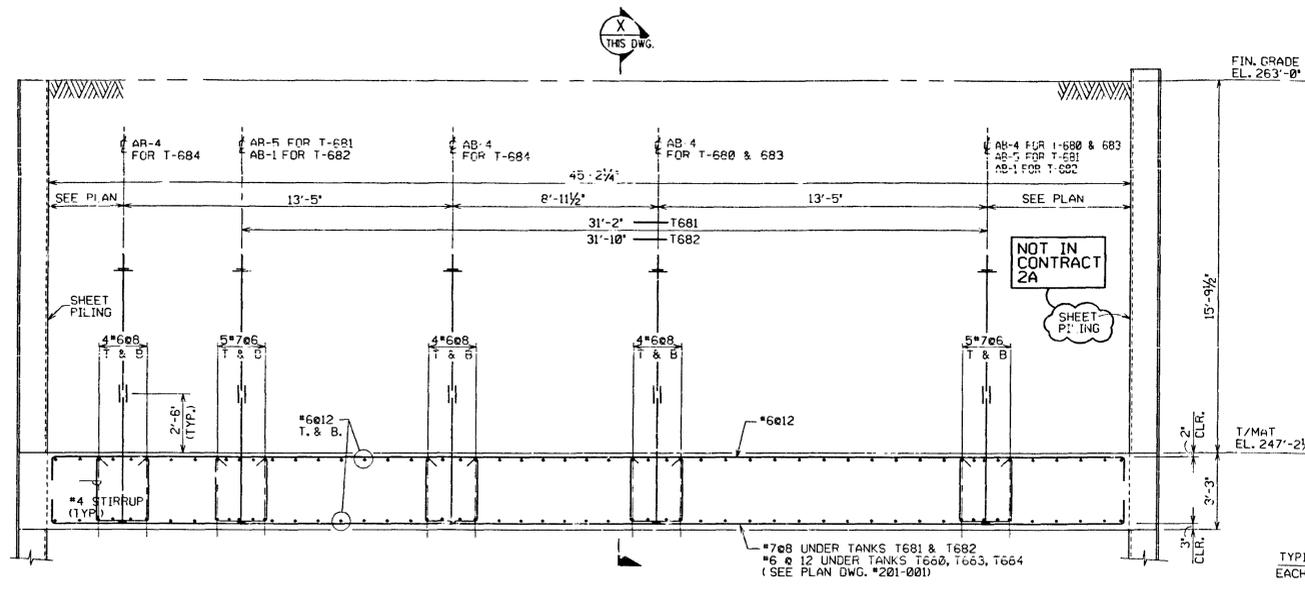
D DATE

QUANTITY	BLDG.	OPER.	SERIAL	INCHES	SCALE-ORIG DWG.	EASTMAN KODAK COMPANY KODAK PARK DIVISION
ORDER NUMBER				CM	NONE	
ENGINEERING APPROVALS				DATE	DRAWN D GAUGER	BLDG. NO.
Director				10/20/83		95
Ass't. Dir.				CHECKED	RABBLE TEETH ASSEMBLY FOR MULTIPLE HEARTH B-95 N.A.	
Engineer				DATE	DESIGN NO 202171	LOCATION
R. B. Baker				12/16/83	DES SUPVR A. J. DELRE	KPR
D095NA-313-003						

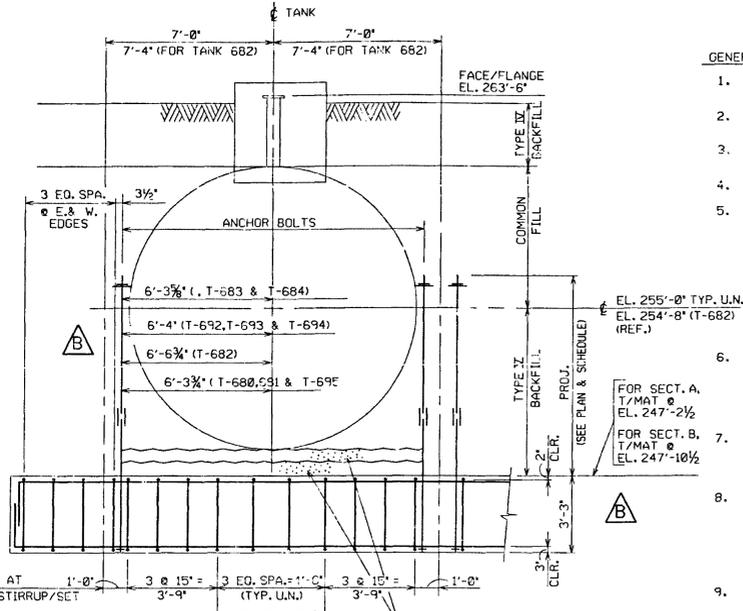
ATTACHMENT J

HWMU-33 TANK DRAWINGS (ATTACHMENT D2)

HWMU-33 Tank Drawings List	
<u>Title</u>	<u>Drawing#</u>
Tank Foundations & Hold Down Plan	E322TF-201-001G
Tank Foundations & Hold Down Details - South Area	E322TF-201-003C
Tank 674 Double Wall Tank General Assembly	V322TF-627-003
Tank 674 Double Wall Tank General Assembly	V322TF-627-013
Tank 675 Instrumentation and Flow	E322TF-700-675D
TK-682 Instrumentation and Flow	D322TF-700-682B



SECTION A
SCALE: 3/8"=1'-0" E322TF-201-001

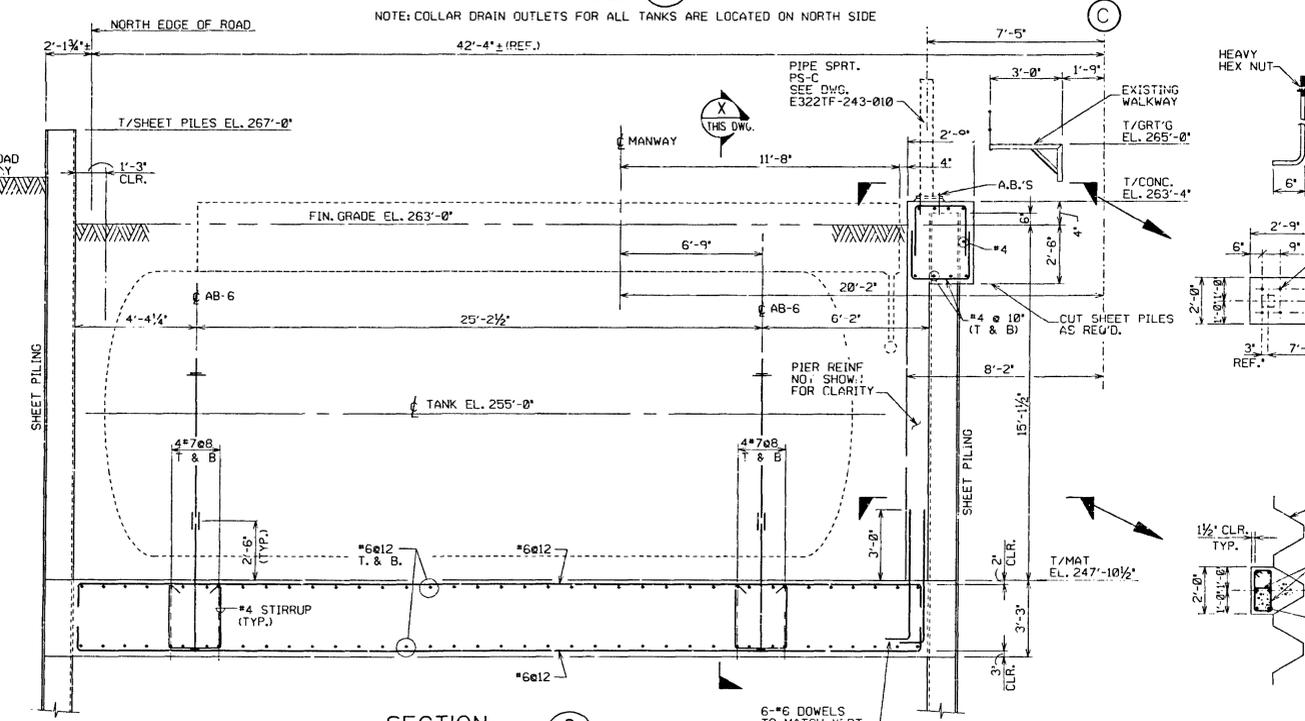


SECTION X
SCALE: 3/8"=1'-0" THIS DWG.

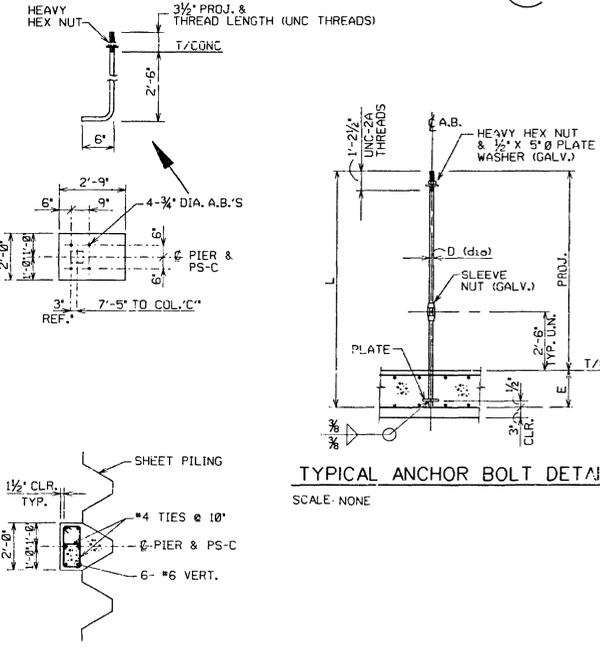
- GENERAL NOTES:
- ALL CONCRETE SHALL HAVE A MINIMUM STRENGTH (FC') OF 4000 PSI AT 28 DAYS.
 - REINFORCING STEEL SHALL CONFORM TO LATEST ASTM 615 GRADE 60 KSI YIELD STRENGTH.
 - DETAILING SHALL BE IN ACCORDANCE WITH ACI DETAILING MANUAL SP-66, 1ST EDITION.
 - ANCHOR BOLTS SHALL BE GALVANIZED STEEL WITH WAX IMPREGNATED TAPE.
 - ALL REINFORCING BAR LAPS SHALL CONFORM TO TABLE BELOW THIS DRAWING.

BAR SIZE	LAP (in)	ANCHOR (in)
#4	24	19
#5	30	23
#6	36	28
#7	42	33

- REINFORCING BARS IN FRAMES AT ANCHOR BOLTS SHALL BE CONTINUOUS. TOP BARS WHERE REQUIRED SHALL BE LAPPED ONLY AT THE MID POINT BETWEEN ANCHOR BOLTS. 6" TOP BARS WHERE REQUIRED SHALL BE LAPPED ONLY AT THE ANCHOR BOLTS.
- HOOK ALL TOP & BOTTOM REINFORCING BARS AT EXTERIOR EDGES OF MATS. WHERE BEAM REINFORCEMENT TERMINATES WITHIN THE MAT, EXTEND TOP & BOTTOM REINFORCEMENT TO CENTERLINE OF ADJACENT TANK.
- CONTRACTOR SHALL INSTALL SHEET PILING, WHALER BEAMS, H PILES, LAGGING, ETC., AS REQUIRED FOR THE INSTALLATION OF TANKS. SUBMIT DESIGN CALCULATIONS AND SHOP DRAWINGS OF SHEET PILING FOR OWNERS APPROVAL PRIOR TO INSTALLATION. CALCULATIONS SHALL HAVE ENGINEERS REGISTRATION STAMP. THE SHEET PILING PLAN SHOWN ON THE DRAWING IS ONLY A SUGGESTED LAYOUT.
- DURING ALL PHASES OF TANK INSTALLATION THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE FOLLOWING ITEMS, BUT NOT LIMITED TO:
 - A. DEWATERING OF GROUND WATER AND/OR STORM WATER IF REQUIRED.
 - B. TAKE NECESSARY PRECAUTIONS SO AS NOT TO DAMAGE EXISTING FOUNDATIONS OF BUILDINGS, PIPE RACKS OR OTHER STRUCTURES.
 - C. PROTECT EXISTING UNDERGROUND UTILITIES FROM CONSTRUCTION AND EQUIPMENT LOADS.
- FIELD WELDING OR BURNING IS NOT ALLOWED WITHOUT SPECIAL PERMISSION IN THE B-322 TANK FARM AREA. ALL CUTTING OF STEEL SHAPES SHALL BE MADE USING A NON-SPARKING SAW.
- BACK FILLING AROUND TANK SHALL BE PER SPECIFICATION SECTION 02223. CONTRACTOR TO ACCOUNT FOR THE COMPRESSIBILITY OF COMPACTED BEDDING MATERIAL DUE TO TANK WEIGHT AND SHAPE SUCH THAT FACE OF NOZZLE FLANGES INSIDE THE COLLAR ARE MAINTAINED AT EL. 263'-6".



SECTION B
SCALE: 3/8"=1'-0" E322TF-201-001



MARK	DIA. (in)	L (ft.-in.)	E (in)	PROJ. (ft.-in.)	PLATE SIZE
AB-1	2"	11'-8"	36"	8'-8"	1X8X8
AB-4	1 1/2"	12'-0"	36"	9'-0"	3/4X6X6
AB-5	2"	12'-0"	36"	9'-0"	1X8X8
AB-6	2"	11'-4"	36"	8'-4"	1X8X8

DESIGN CRITERIA

- THE TANKS LOCATED ON THE SOUTH SIDE OF THE TANK FARM ARE DESIGNED TO WITHSTAND FULL HYDROSTATIC PRESSURE BASED ON THE ASSUMPTION THAT THE GROUND WATER LEVEL WILL BE AT GRADE ELEVATION (WITH EMPTY TANK).

REFERENCE FILE ATTACHMENTS

FILE NAME: E322TF-201-003 DATE: 05-Jul-94 11:25 NAME: Rick Poulter

<p>CONSULTANT</p> <p>MK-FERGUSON</p> <p>A DIVISION OF PARSONS BRINCKERHOFF CORPORATION</p> <p>1000 WEST 300 STREET CLEVELAND, OHIO 44113-1400 (216)523-7620</p>		<p>ORIGINAL ISSUE OF THIS DRAWING SEALED BY R.E. TEMPEST 11/9/93</p> <p>SEALED COPY ON FILE STATE OF NEW YORK REG. NO. 06715</p>
--	--	--

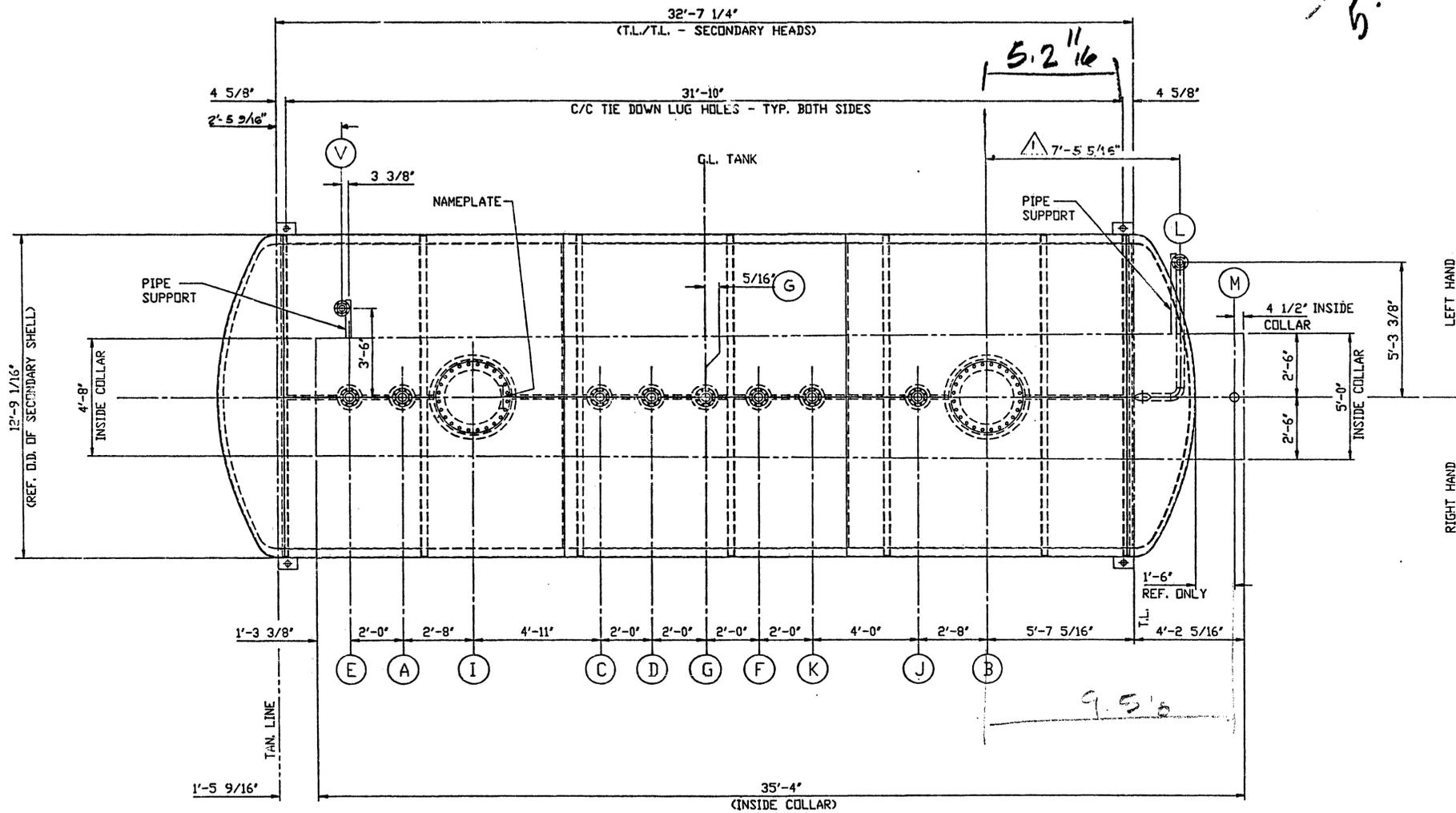
<p>B322 TANK FARM</p> <p>IG C.G. D</p>		<p>EASTMAN KODAK COMPANY</p> <p>KODAK PARK DIVISION</p>
<p>DATE: 07-20-93</p> <p>DESIGNED: WS/ARP</p> <p>DATE: AUG/93</p>	<p>TANK FOUNDATIONS & HOLD DOWN DETAILS - SOUTH AREA</p> <p>DISTILLING DEPT/CHEM&REC DIV</p>	<p>322</p> <p>KPM</p>

SYMBOL	REVISIONS	DATE	SYMBOL	REVISIONS	DATE
△			△		
△			△		
△			△		

SYMBOL	REVISIONS	DATE	SYMBOL	REVISIONS	DATE	SYMBOL	REVISIONS	DATE	SYMBOL	REVISIONS	DATE	CUSTOMER APPROVALS	DATE	ENGINEERING APPROVALS	DATE	DRAWN	MS PARSONS	
△	ADD DIMS TO PS-C	5/94	△	REV. AB LOC. T-681, T-695, T-692, T-693		△	RELEASED HOLD ON A, B, LOCATIONS FOR T-680, T-681, T-682, T-683, T-684, T-685, T-686, T-687, T-688, T-689, T-690, T-691, T-692, T-693, T-694, T-695, T-696, T-697, T-698, T-699, T-700											

5-7 5/16
- 4 5/8

5-2 11/16



PLAN VIEW FOR LEFT HAND CONFIGURATION
FROM DWG. -1

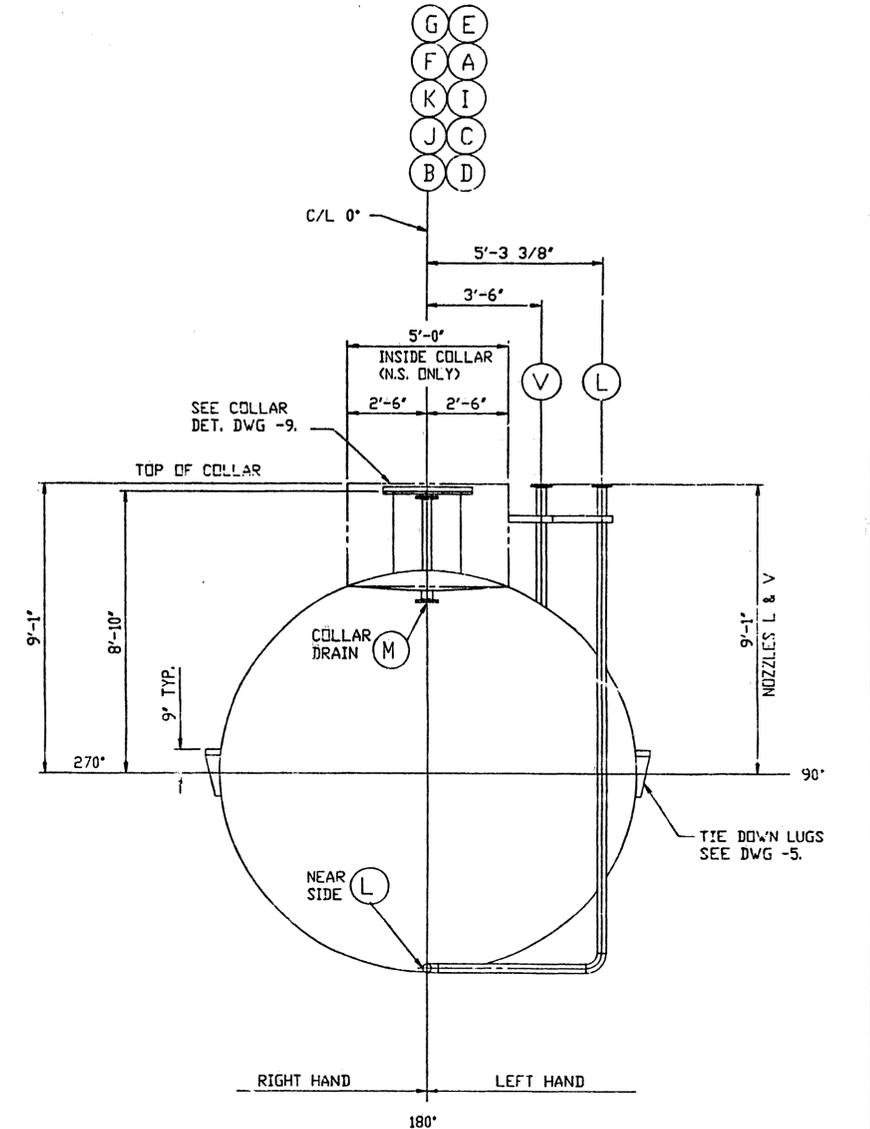
FOR INFORMATION NOT SHOWN SEE:
PRIMARY TANK ASSEMBLY DWG. -3
SECONDARY TANK ASSEMBLY DWG. -4

5.75
- 4.25

1.5

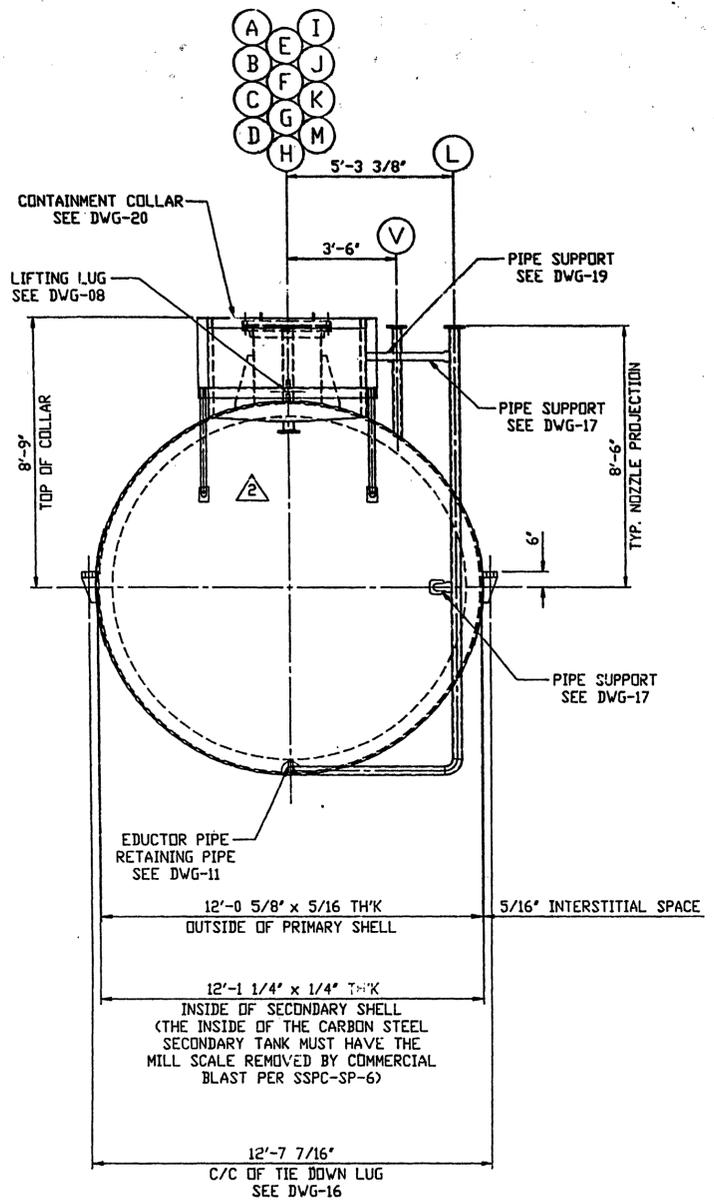
30,000 Gal. Dbl. Wall Tank		D
T682 Sh. 3		
DESIGNER: Carlone	SUPVR: Johnson	
V322TF-627-003		
6/98		

CERTIFIED FOR FABRICATION
BY: *[Signature]* DATE FEB 25 1994

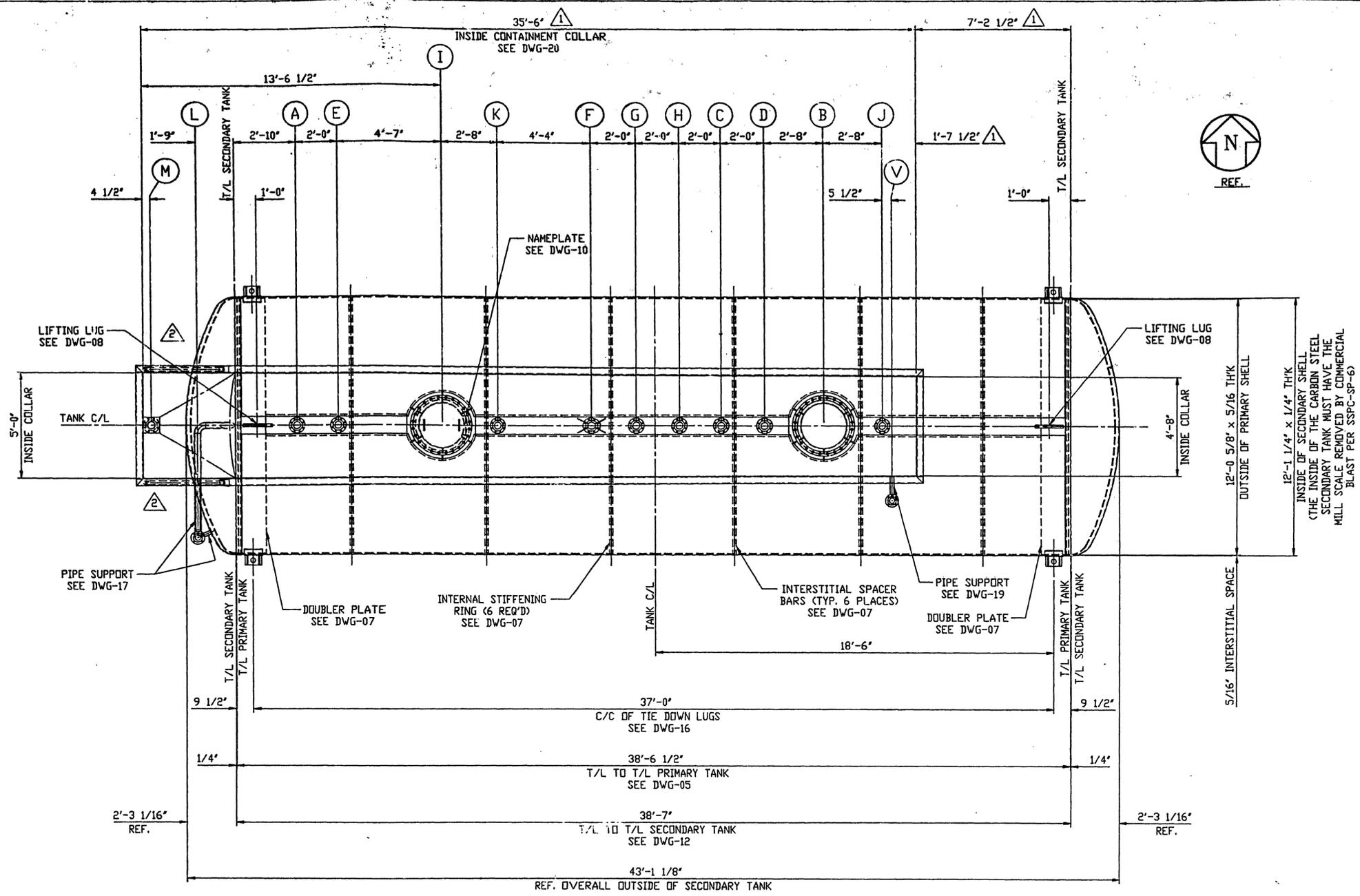


END VIEW - ELEVATION - ORIENTATION
LEFT HAND CONFIGURATION
FROM DWG. -1

△					
△					
△	2-24 1994	FDF	DIM WAS 7'-4 1/2"	SL	SL
△	12-29 1993	FDF	ORIGINAL ISSUE	2-24-94	2-24-94
REV.	DATE	BY	DESCRIPTION	CHECKED BY	APPROVED BY
<small>THIS DRAWING IS THE PROPERTY OF ENERFAB INCORPORATED AND IS TO BE USED ONLY IN CONNECTION WITH PERFORMANCE OF WORK BY ENERFAB INC. REPRODUCTION IN WHOLE OR IN PART FOR ANY OTHER PURPOSE IS EXPRESSLY FORBIDDEN.</small>					
			ENERFAB, INC. CINCINNATI, OHIO		
			FOR: EASTMAN KODAK COMPANY ROCHESTER, NEW YORK		
			P.O. #LF-654-02828X PROJECT NO. B-322		
			DRAWING TITLE: 30,000 GAL. DOUBLE WALL TANK GENERAL ARRANGEMENT - ORIENTATION ITEM NO. T682		
			CONTRACT NO.	DRAWING NO.	
			1053-IU	1053-1-2	



END VIEW
FROM DWG-01



PLAN VIEW
FROM DWG-01

35,000 Gal. Db. Wall Tank
TG74 & TG75 Sh. 4
DESIGNER: Carlone SUPVR: Johnson
V322TF-627-013

REV.	DATE	BY	DESCRIPTION	CHECKED BY	APPROVED BY
1	5-20 1996	T.S.	ADDED CONTAINMENT COLLAR KNEE BRACE	DEM	DEM
2	2-14 1996	DLV	REVISED INSIDE CONTAINMENT COLLAR	DEM	DEM
3	1-19 1996	T.G.	FIRST ISSUE	DEM	DEM

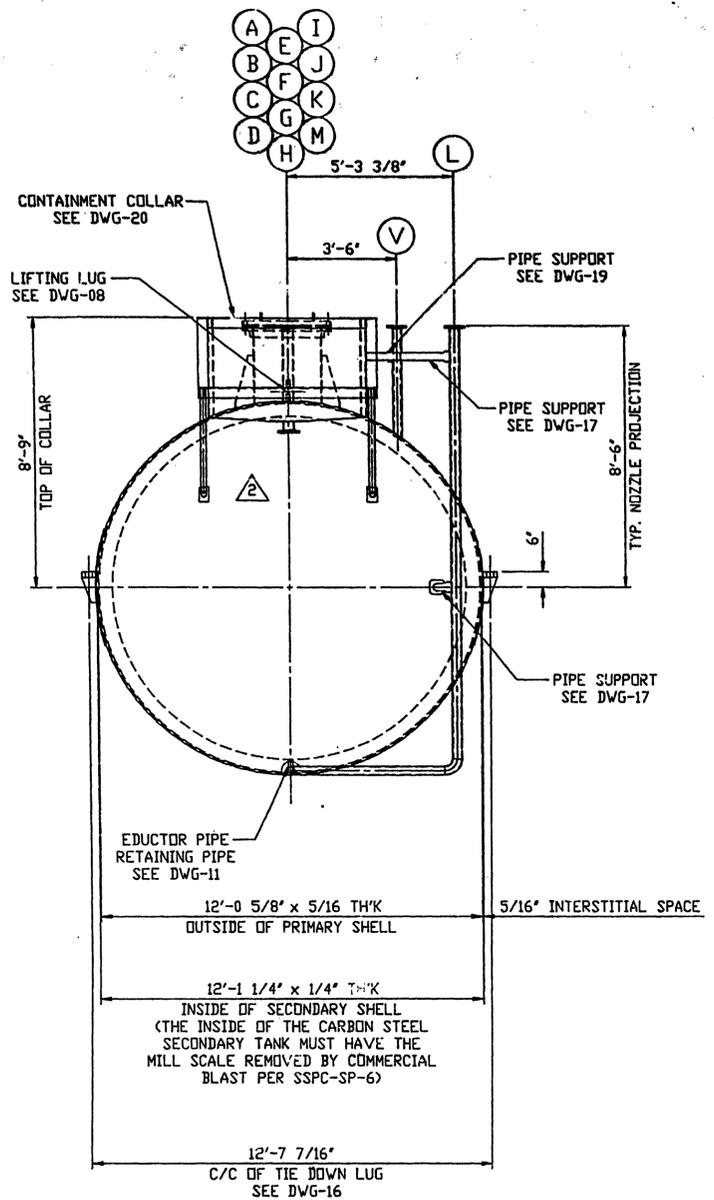
ENERFAB, INC.
CINCINNATI, OHIO

FOR: EASTMAN KODAK COMPANY
ROCHESTER, NEW YORK
P.O.# LF-654-40140X PROJ.# B-322 TANK FARM
DRAWING TITLE: GENERAL ASSEMBLY (ORIENTATION)
(1) 35,000 GALLON DOUBLE WALL TANKS
TANK TAG # TK-674

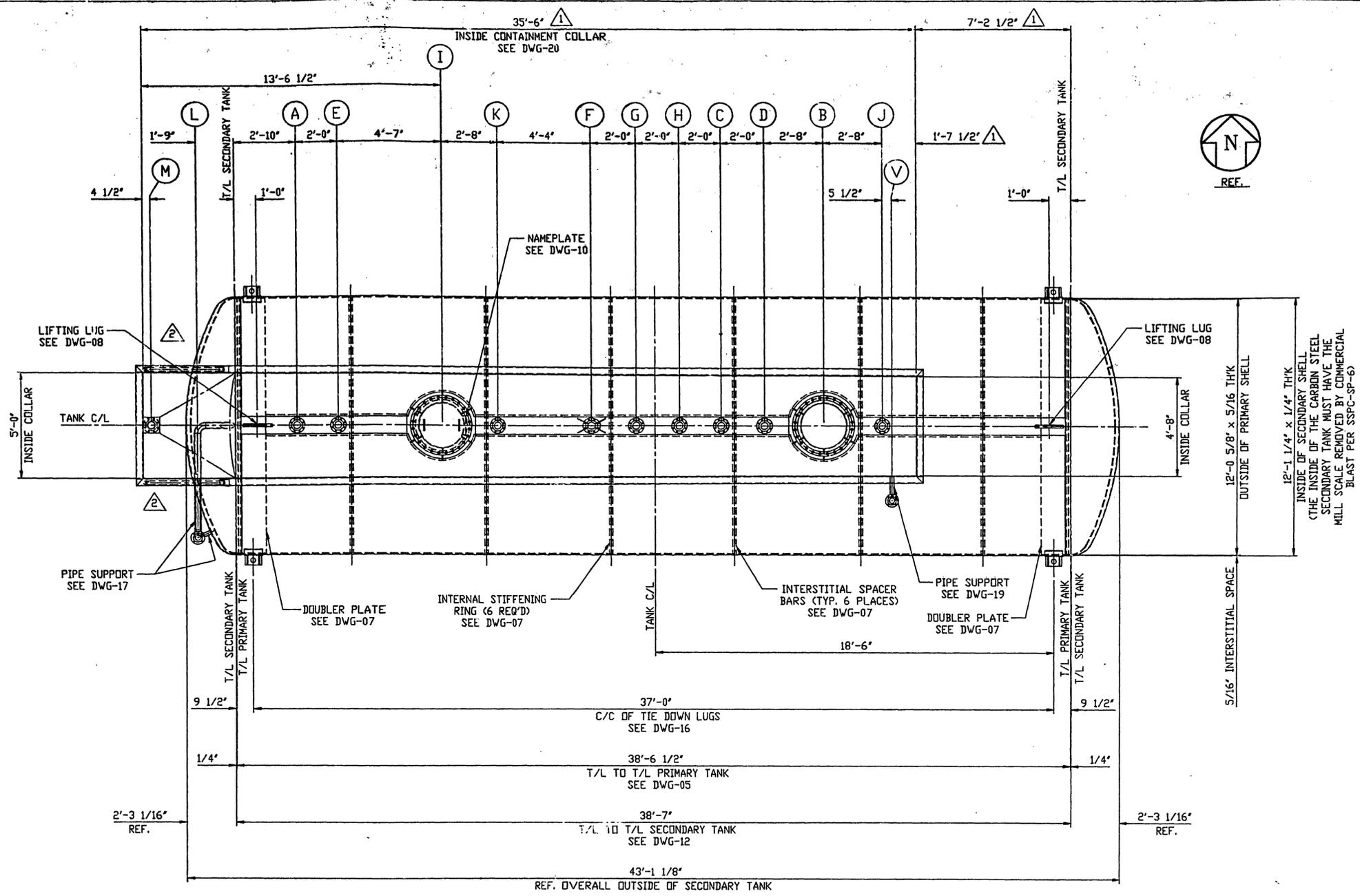
CONTRACT NO. 961154 DRAWING NO. 1154-03

THIS DRAWING IS THE PROPERTY OF ENERFAB, INC. AND IS TO BE USED ONLY IN CONNECTION WITH PERFORMANCE OF WORK BY ENERFAB, INC. REPRODUCTION IN WHOLE OR IN PART FOR ANY OTHER PURPOSE IS EXPRESSLY FORBIDDEN.





END VIEW
FROM DWG-01



PLAN VIEW
FROM DWG-01

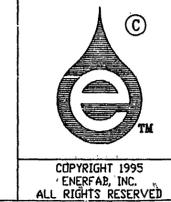
35,000 Gal. Db. Wall Tank
TG74 & TG75 Sh. 4
DESIGNER: Carlone SUPVR: Johnson
V322TF-627-013

REV.	DATE	BY	DESCRIPTION	CHECKED BY	APPROVED BY
1	5-20 1996	T.S.	ADDED CONTAINMENT COLLAR KNEE BRACE	DEM	DEM
2	2-14 1996	DLV	REVISED INSIDE CONTAINMENT COLLAR	DEM	DEM
3	1-19 1996	T.G.	FIRST ISSUE	DEM	DEM

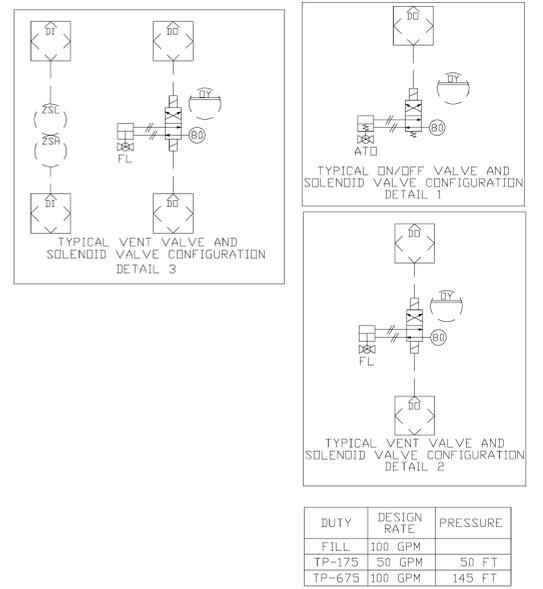
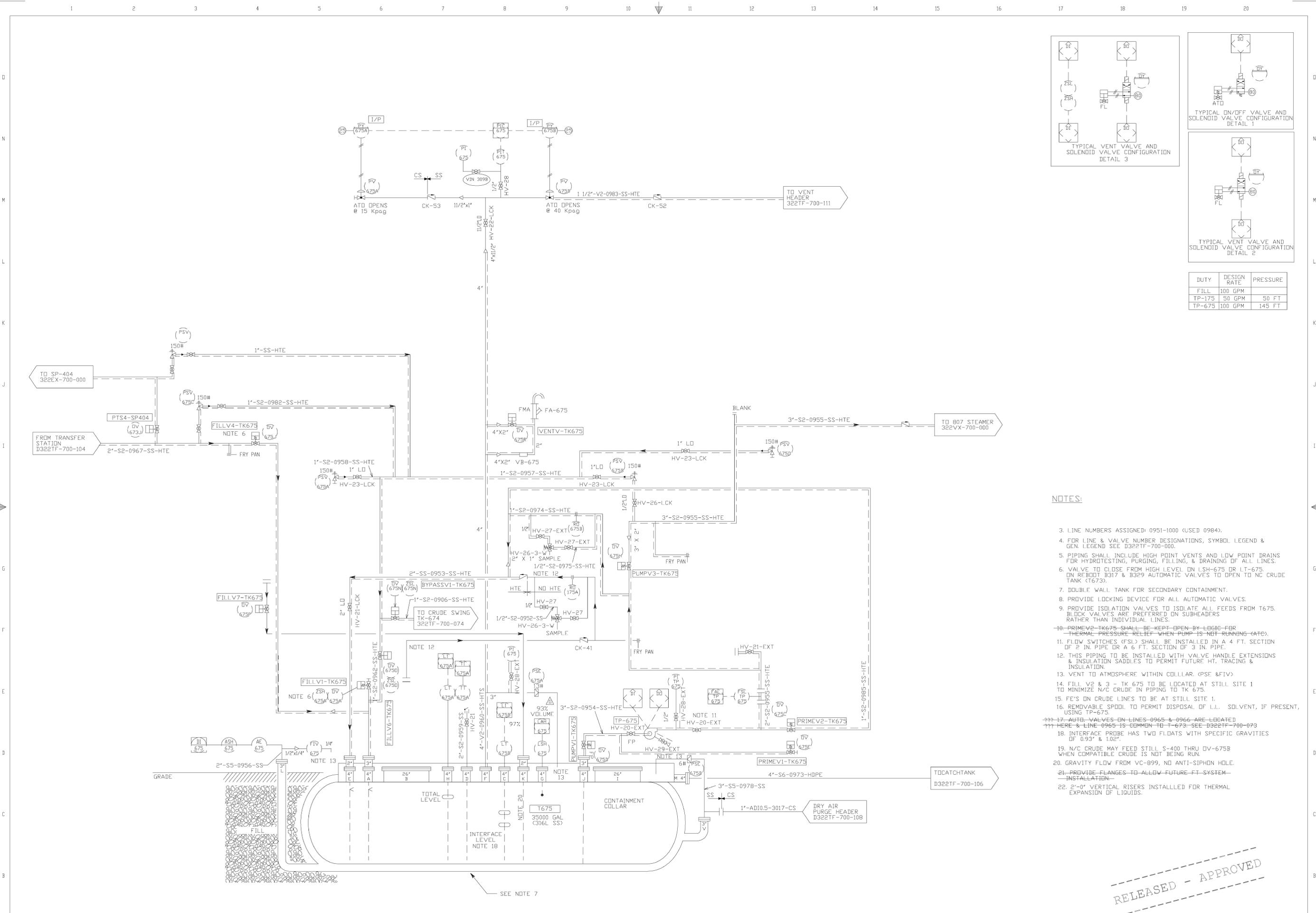
ENERFAB, INC.
CINCINNATI, OHIO

FOR: EASTMAN KODAK COMPANY
ROCHESTER, NEW YORK
P.O.# LF-654-40140X PROJ.# B-322 TANK FARM
DRAWING TITLE: GENERAL ASSEMBLY (ORIENTATION)
(1) 35,000 GALLON DOUBLE WALL TANKS
TANK TAG # TK-674

CONTRACT NO. 961154 DRAWING NO. 1154-03



THIS DRAWING IS THE PROPERTY OF ENERFAB, INC. AND IS TO BE USED ONLY IN CONNECTION WITH PERFORMANCE OF WORK BY ENERFAB, INC. REPRODUCTION IN WHOLE OR IN PART FOR ANY OTHER PURPOSE IS EXPRESSLY FORBIDDEN.



- NOTES:**
- LINE NUMBERS ASSIGNED: 0951-1000 (USED 0984).
 - FOR LINE & VALVE NUMBER DESIGNATIONS, SYMBOL LEGEND & GEN. LEGEND SEE D322TF-700-000.
 - PIPING SHALL INCLUDE HIGH POINT VENTS AND LOW POINT DRAINS FOR HYDROTESTING, PURGING, FILLING, & DRAINING OF ALL LINES.
 - VALVE TO CLOSE FROM HIGH LEVEL ON LSH-675 OR LT-675. ON REBOOT B317 & B329 AUTOMATIC VALVES TO OPEN TO NC CRUDE TANK (T673).
 - DOUBLE WALL TANK FOR SECONDARY CONTAINMENT.
 - PROVIDE LOCKING DEVICE FOR ALL AUTOMATIC VALVES.
 - PROVIDE ISOLATION VALVES TO ISOLATE ALL FEEDS FROM T675. BLOCK VALVES ARE PREFERRED ON SUBHEADERS RATHER THAN INDIVIDUAL LINES.
 - PRIMEV2-TK675 SHALL BE KEPT OPEN BY LOGIC FOR THERMAL-PRESSURE-RELIEF WHEN PUMP IS NOT RUNNING (ATE).
 - FLOW SWITCHES (FSL) SHALL BE INSTALLED IN A 4 FT. SECTION OF 2 IN. PIPE OR A 6 FT. SECTION OF 3 IN. PIPE.
 - THIS PIPING TO BE INSTALLED WITH VALVE HANDLE EXTENSIONS & INSULATION SADDLES TO PERMIT FUTURE HT. TRACING & INSULATION.
 - VENT TO ATMOSPHERE WITHIN COLLAR. (PSE & FIV)
 - FILL V2 & 3 - TK 675 TO BE LOCATED AT STILL SITE 1 TO MINIMIZE N/C CRUDE IN PIPING TO TK 675.
 - FE'S ON CRUDE LINES TO BE AT STILL SITE 1.
 - REMOVABLE SPOOL TO PERMIT DISPOSAL OF L.L. SOLVENT, IF PRESENT. USING TP-675.
 - 17- AUTO VALVES ON LINES 0965 & 0966 ARE LOCATED HERE & LINE 0965 IS COMMON TO T-673. SEE D322TF-700-073
 - INTERFACE PROBE HAS TWO FLDATS WITH SPECIFIC GRAVITIES OF 0.93 & 1.02.
 - N/C CRUDE MAY FEED STILL S-400 THRU DV-675B WHEN COMPATIBLE CRUDE IS NOT BEING RUN.
 - GRAVITY FLOW FROM VC-899, NO ANTI-SIPHON HOLE.
 - PROVIDE FLANGES TO ALLOW FUTURE FT SYSTEM INSTALLATION.
 - 2\"/>

RELEASED - APPROVED

REFERENCE DWGS: D322TF-700-000 D322TF-613-001 D322TF-694-000 D322TF-720-000 THRU 720-012 E322TF-600-000	SYMBOL LEGEND DRAWING LIST TIE-PT. SCHEDULE INSTRUMENT LOOP DRAWINGS PFD	SYM REVISION DATE ADDED AE-675 PER MDC-W376 OTI/SRD 09/25/09 J. KRAFTSCHIK FILL SP-404 FROM PTS-4 VIA TK-675 PER MDC-396 OTI/WP 3/9/2011 J. KRAFTSCHIK OTI/WP 3/9/2011 J. KRAFTSCHIK	SYM REVISION DATE ISSUED FOR RELEASE J. KRAFTSCHIK DEPARTMENTAL APPROVALS DATE ENGINEERING APPROVALS DATE LINES FROM N2, S400, STMR N800, S407 AND WCP REMOVED OTI/WP 11/21/2008 J. KRAFTSCHIK	QTY BLIG OPER SERIAL ORDER NUMBER	ACAD/ACAD D INCHES NONE SCALE-DWG ING NONE	EASTMAN KODAK COMPANY DRAWN OTI/WP DATE 11/10/2008 CHECKED OTI/MZ DATE 11/10/2008 DESIGNER DESKTOP SUPERVISOR R. SMARCZ	TANK 675 CRUDE EA HW P&ID DISTILLING DEPT/CHEM&REC DIV E322TF-700-675D BLDG NO. 322 LOCATION KPM
---	--	---	--	---	---	---	---

