

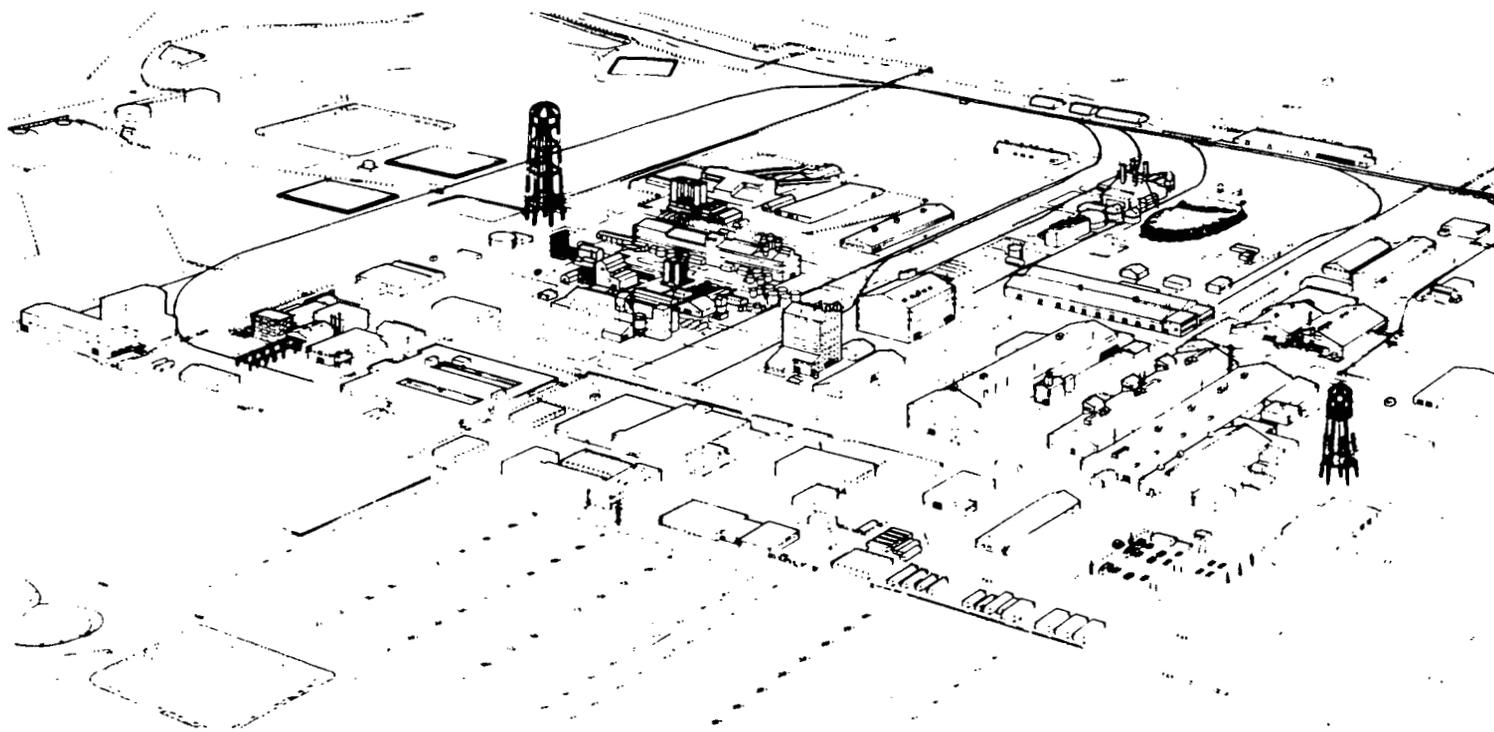
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**RCRA PART B PERMIT APPLICATION SECTION  
J: CORRECTIVE ACTION FOR SOLID WASTE  
MANAGEMENT UNITS, SECTION K: OTHER  
LAWS, SECTION j: PART B CERT. VOLUME 11  
OF 11 SEPTEMBER 22, 1990**

**09/22/90**

**DOE-FMPC/USEPA  
80  
APPLICATION**

# RCRA PART B PERMIT APPLICATION



SEPTEMBER 22, 1989

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SECTION J: CORRECTIVE ACTION FOR SOLID WASTE MANAGEMENT UNITS

SECTION K: OTHER LAWS

SECTION L: PART B CERTIFICATION

(Volume 11 of 11)

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**FEED MATERIALS PRODUCTION CENTER  
U.S. DEPARTMENT OF ENERGY  
CINCINNATI, OHIO 45239-8705**

U.S. EPA IDENTIFICATION NO. OH6890008976

OHIO EPA PERMIT NO. 05-31-0681

**RCRA PART B  
PERMIT APPLICATION**

**SECTION J - CORRECTIVE ACTION FOR SOLID WASTE  
MANAGEMENT UNITS**

**SEPTEMBER 22, 1989**

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SECTION J - CORRECTIVE ACTION FOR SOLID WASTE MANAGEMENT UNITS

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SECTION J - CORRECTIVE ACTION FOR SOLID WASTE MANAGEMENT UNITS

Part B Permit Application  
Feed Materials Production Center  
Fernald, Ohio

The purpose of this section is to identify the Solid Waste Management Units (SWMUs) located within the boundaries of the FMPC and indicate the method which is being employed to determine whether any associated releases of hazardous wastes or hazardous constituents may have resulted from operation of these units. Only releases of hazardous wastes or constituents from discernable units at which solid wastes have been placed are applicable to this section. This section does not include radioactive releases. The locations of each unit are presented in the topographical maps of Figures J-1 and J-2. For other map information, see Section B.

J-1 SOLID WASTE MANAGEMENT UNITS

In total, there are 39 identifiable SWMUs at the FMPC. Of this total, 13 units have been classified as Hazardous Waste Management Units (HWMUs) in accordance with RCRA regulations. A description and general characterization of the SWMUs are presented below. The SWMUs that are also HWMUs for which a permit is being sought will comprise the latter part of this section and are described in Section B-1. The number in parentheses which precedes each unit corresponds to that unit's particular location on the topographical map, Figures J-1 and J-2. Engineering drawings for the SWMUs are included in Appendix J-1.

J-1a Characterization of the Solid Waste Management Units

- (1) Waste Pit #1 - FMPC Waste Pit #1 operated from 1952 to 1959 as a disposal unit for dry solid wastes. This two-acre unit was constructed by excavating a large basin into the existing blue clay and then lining portions of the

the existing blue clay and then lining portions of the bottom with an additional four feet of clay. The capacity of the pit was expanded in 1957 when excavated spoil material from the ongoing construction of Waste Pit #2 was used to elevate the berm an additional five feet on the west side. This last modification brought the maximum depth to 17 feet and the final capacity of Pit #1 to 40,000 yd<sup>3</sup>. Waste Pit #1 received the following waste streams: neutralized waste filter cake, sump cakes from the production facility, depleted slag, scrap graphite, brick, and sump liquor. The current volume of waste in the pit remains at 40,000 yd<sup>3</sup>. Waste Pit #1 was retired in 1959 and subsequently covered. However, prior to this retirement (between 1958 and 1959), Waste Pit #1 was used as a clearwell for effluent drained from Waste Pit #2 (see below).

- (2) Waste Pit #2 - FMPC Waste Pit #2 operated from 1957 until mid-1964 as a disposal unit for dry solid wastes. This one-acre unit was also constructed by excavating a basin into the existing blue clay. The maximum depth of the pit is approximately 13 feet with its total capacity of the pit being 13,000 yd<sup>3</sup>. Waste Pit #2 received the following waste streams: neutralized waste filter cake, sump cakes from production plants, depleted slag, scrap graphite, brick, sump liquor, and neutralized raffinate residues. These raffinate residues were placed in Waste Pit #2 between 1958 and 1959 during which time the pit functioned as a settling basin. The effluent from this settling process was sent to Pit #1 as stated above. Waste Pit #2 was retired in 1964 and subsequently covered.
- (3) Waste Pit #3 - FMPC Waste Pit #3 operated from 1959 to 1977 as a disposal unit for wet solid wastes. This unit

covers 6.8 acres and was constructed in a manner similar to Pits #1 and #2 by excavating a basin into the underlying layer of blue clay and then lining the inner slopes with a minimum of 12" of clay. In 1965, the pit capacity was increased to 248,500 yd<sup>3</sup> by the addition of two feet to the existing pit walls, which also increased the maximum depth of the pit to 27 feet. From 1959 through 1968, Pit #3 was used as a settling basin for liquid effluents and slurries, primarily lime-neutralized raffinates. During the late 1960's the pit also received slag leach residues until Waste Pit #5 (see below) was able to be used in 1968. The effluent from these settling processes flowed by gravity to the FMPC Clearwell prior to discharge to the nearby Great Miami River. From 1975 to 1977 solid wastes consisting of filter cakes and fly ash were used to complete the filling of the pit. The total volume of material placed in Waste Pit #3 amounted to approximately 227,000 yd<sup>3</sup>. Waste Pit #3 was retired in 1977 and subsequently covered over.

- (4) Waste Pit #5 - FMPC Waste Pit #5 operated as a disposal unit from 1968 until 1987 for wet solid wastes. This unit covers 4.1 acres and was constructed by the cut and fill method wherein excavated material was used to build a dike and neighboring pit walls. The pit was then lined with a 60 mil elastomeric membrane liner. The total capacity of the pit is approximately 115,000 yd<sup>3</sup> and has a maximum depth of 30 feet. This unit functioned as a settling basin in essentially the same manner as Waste Pit #3. Up until 1983 waste slurries including neutralized raffinate, slag leach residue, and sump sludges were pumped to Pit #5 where the solids settled out and the resultant effluent again being sent to the FMPC Clearwell. From 1983 until 1987, when use of Pit #5 was halted, this

unit received only liquid waste streams containing minimal amounts of solids. The volume of waste contained in Pit #5 is approximately 102,500 yd<sup>3</sup>. This unit has remained inactive since early 1987, but still stands exposed except for the partial covering provided by accumulated rainwater.

- (5) Waste Pit #6 - FMPC Waste Pit #6 operated from 1979 until 1985 as a disposal unit for wet and dry solid wastes. This unit covers 3/4 acre and was constructed by cutting and shaping existing soils and then installing a 60 mil elastomeric membrane liner on the pit's base and side slopes. The estimated total volume of Pit #6 is approximately 14,000 yd<sup>3</sup> with a maximum depth of 30 feet. Waste Pit #6 received the following solid wastes: slag, process residues, and filter cake. This unit has remained inactive since early 1985 and stands exposed except for a covering of accumulated rainwater.
- (6) Burn Pit - This disposal unit has an approximate surface area of 35,000 ft<sup>2</sup> and is located between FMPC Waste Pit #3 and Waste Pit #4. A complete characterization of the waste burned in this pit was not performed. However, it is documented by photos that this pit was used for open burning of combustible items such as boxes and wooden pallets. In addition, noncombustible items such as laboratory glassware, miscellaneous metal containers (other than drums), and graphite crucibles were also put into the pit. Based on known information, this unit operated from the late 1950's until approximately 1969 when it was retired from active service. The volume of material discarded in the area of the Burn Pit is uncertain. This unit was subsequently covered over--the boundaries are barely discernible today.

- (7) Sanitary Landfill - The FMPC Sanitary Landfill was operated as a disposal unit from 1952 until 1986. The facility covers 3 acres and is organized into 17 individual unlined cells, five of which are full and out of service. Each cell provides approximately 2,080 yd<sup>3</sup> of disposal volume. Materials which have been accepted at this facility include non-burnable, sanitary wastes generated at the FMPC; construction rubble; water treatment lime sludge; and asbestos.
- (8) K-65 Silos - This disposal unit is comprised of two reinforced concrete silos (Silos #1 and #2) constructed in 1951 and 1952 respectively in order to accommodate waste residues generated by the processing of pitchblende ores containing appreciable amounts of radium. The residues generated from on-site processing were pumped to the silos in slurry form via an underground line connecting the FMPC Refinery to the silos. Drummed residues received from off-site processing operations were also loaded into the silos. The last waste was put into the silos in 1966. The silos are 80 feet in diameter and 27 feet tall with a domed top rising to 36 feet at the top. The floor of each silo is 4 inch thick concrete and the walls are 8 inch pre- and post-stressed concrete. The silos provide a combined storage capacity of 4,630 yd<sup>3</sup>. The two silos collectively contain approximately 8,800 metric tons of radioactive waste consisting of small amounts of naturally occurring materials such as precious metals, heavy metals, and radium. Over the years, various structural improvements have been made to the silos with the intent of minimizing silo degradation.
- (9) Metal Oxide Silo #3 - This disposal unit was constructed in 1952 and operated until 1959 during which time the silo

was filled with dry, powder-like residues resulting from processing of ore concentrates. The residues contain oxides of the metals which were present as impurities in the ore concentrates. The silo is identical to the K-65 silos, measuring 80 feet in diameter and standing 27 feet tall, with a domed top rising to 36 feet. This silo also has a 4-inch concrete floor and 8-inch pre- and post-stressed concrete walls. Silo #3 provides approximately 5,150 yd<sup>3</sup> of storage capacity. As the silo is nearly full, the current waste volume contained in Silo #3 is estimated at 5,150 yd<sup>3</sup>.

- (10) Lime Sludge Ponds - Spent lime from the FMPC water treatment plant operations is conveyed to two unlined ponds (North Pond and South Pond) for storage. Each pond has an approximate surface area of 20,000 ft<sup>2</sup> and a depth of between 6 and 8 feet. The total capacity of each pond is 5,000 yd<sup>3</sup>. The South Pond is full and the North Pond is nearly full. Both contain approximately 100,000 gallons of material. The South Pond operated from 1952 until 1963. The North Pond is currently in operation and has received waste since 1984.
- (11) Ferrous Metal Scrap Pile - Approximately 7,600 metric tons of scrap metal are stored on a controlled curbed concrete pad which measures 210' x 65'. Of the total, 4,500 tons will be recovered through the DOE Metals Program. The remaining 3,100 tons are considered scrap and consist primarily of ferrous metal along with smaller quantities of aluminum, stainless steel, copper, brass, and nickel. The scrap includes but is not limited to vessels, wiring, cable, duct pipe, tubing, valves, grating, sheets, plates, and miscellaneous abandoned equipment. The materials are segregated according to the extent of contamination, type

of metal (ferrous vs. non-ferrous), and the estimated degree of re-usability. This pad has operated as a storage unit since 1984 and is still in use.

- (12) Copper Metal Scrap Pile - Approximately 1,500 tons of mica-coated copper scrap with asbestos insulation are stored on two concrete pads, which measure 192' x 45' and 90' x 36', north of Plant 1. The majority of the scrap is copper windings which were used during the DOE Cascade Improvement Program/Cascade Upgrade Program (CIP/CUP). This pad has been used as a storage unit since March 1976 and is still in use.

- (13) Fly Ash Piles - There are two fly ash disposal sites at the FMPC. Coal fly ash from the FMPC Boiler Plant is deposited on these piles which sit directly on the ground. An original disposal site, located in the southwest corner of the plant site, was operated from 1953 until 1964 and contains approximately 50,000 yd<sup>3</sup> of material. This site has been retired and is covered with soil and vegetation.

The second fly ash disposal site is located directly south of the original site and has been in operation since 1964. There are currently approximately 30,000 yd<sup>3</sup> of waste covering approximately 80,000 ft<sup>2</sup> in the new fly ash pile.

- (14) Sanitary Sewage Treatment Plant - The Sanitary Sewage Treatment Plant has operated as a treatment unit since 1952. Sanitary sewage is collected from the FMPC facility and treated prior to being discharged to Manhole 175. The Plant is confined in an area that measures 20' x 27' and processes a maximum of 300,000 gallons of sewage per day.

- (15) Kelley Solid Waste Incinerator - The Kelley Solid Waste Incinerator is a treatment unit that was operated from 1982 until April 1986. The incinerator was a ram-fired, gas-fired burner with a combustion chamber that operated between 1,200°F and 7,350°F. It was constructed of steel with a refractory material liner. During operation, the incinerator burned approximately 2,500 lbs. of office refuse, cardboard boxes, and wooden pallets from various locations around the FMPC per day. The incinerator is contained within an area which measures 40' x 30'.
- (16) Security Incinerator - The Security Incinerator was a treatment unit that operated from 1959 until 1976. This steel incinerator had a refractory material liner, stood 6' tall, and was contained in a 5' x 5' area. The incinerator was used to burn shredded paper documents and incinerated approximately 9 ft<sup>3</sup> of paper per week. This incinerator was demolished.
- (17) Graphite Burner - The Graphite Burner is a steel, solid-waste incinerator which was used to burn approximately 30,000 lbs. of enriched scrap graphite crucibles used in the production of enriched metal per year. This treatment unit was operated from around 1960 until 1985 and is located in a 6' x 6' area.
- (18) Sewage Treatment Plant Incinerator - The Sewage Treatment Plant Incinerator operated as a treatment unit from around 1953 until May 31, 1979. This steel burner has a brick liner and was used to incinerate burnable garbage and some oils. A typical volume of waste burned in one day was 180 ft<sup>3</sup>. The incinerator occupies an area approximately 30' x 20'. During the time the incinerator operated, the oils were not characterized for RCRA characteristics.

- (19) Plant 8 Rotary Kiln - The Plant 8 Rotary Kiln has been operated as a treatment unit since 1956 and is still being used. This cylindrical kiln is approximately 5' in diameter and 45' long. The kiln is constructed of steel and is lined with fire brick. During operation, the kiln processes up to 900 lbs. of wet sump cake per hour which are potentially contaminated.

Plans to replace the existing Plant 8 Rotary Kiln with a new Rotary Kiln are currently underway. The new kiln will have the same dimensions as the existing kiln and will be constructed of steel. This unit will be capable of handling up to 1,200 lbs. of wet sump cake per hour. Initial testing of this kiln is scheduled for October 1989. Once this new kiln has been satisfactorily tested, the old kiln will be demolished.

- (20) Biosurge Lagoon - The Biosurge Lagoon is a treatment unit located in the northwest part of the site. The lagoon was placed into service on September 5, 1986. The lagoon is constructed of a clay-bentonite mixture with four underdrains. A 40 mil, high density polyethylene liner covers the clay-bentonite. Over the liner is a 12 inch sand layer with a drainage system. A final liner of XR5 covers the sand. The lagoon is 300' x 300' x 12' deep with a total volume of 8 million gallons.

Waste water from the General Sump and the Clearwell are stored in this lagoon temporarily awaiting final processing. Approximately 100 gallons of waste water per day pass through the lagoon.

- (21) Clearwell -The Clearwell has been operated since 1959. This treatment unit is constructed from blue clay. It is

a four-sided structure with sides measuring 225', 175', 150', and 170', with a depth of 25'. The total volume of the Clearwell is approximately 4 million gallons. It handles an average of 150,000 gallons of rain water from Pit 5 and surface rain water from the K-65 area per month.

- (22) Storm Water Retention Basin - The original Storm Water Retention Basin was placed into service in November 1986. An expansion basin was added on December 28, 1988. Both basins are currently in use. These storage units are used to capture storm water and hold it until the water can be tested and then disposed.

Both basins were constructed in the same manner. At the bottom there is an 18" bentonite and soil liner. Covering that is a layer of sand with a drainage system to detect leakage. Over the drainage system there is an ultraviolet light and an oil/solvent resistant, synthetic flexible membrane liner. The original basin liner is high density polyethylene and the expansion liner is XR5. The original basin is approximately 182' x 546' x 11' deep. The expansion basin is 270' x 300' x 15' deep. The capacity of the original basin is 6.5 million gallons and the expansion basin capacity is 4 million gallons. The normal pumpout rate is 160 gallon per minute (gpm) and the maximum rate is 300 gpm. The expected sediment, based on past tests, is expected to be 15,000 lbs per year.

- (23) Biodenitrification Treatment System - The Biodenitrification Treatment System is a treatment unit which has been in operation since May 19, 1987. This facility consists of two carbon steel fluidized bed bioreactors operating in series. Each bioreactor is 4 feet in diameter and has an active bed height of 38 feet. The maximum flow rate

through the system is 200 gallons per minute with a nominal flow of 110 gallons per minute.

Within each bioreactor is a fluidized bed of anthracite coal particles on which a thin film of denitrifying bacteria is situated. Waste water which is high in nitrates is routed through the bioreactors where the bacteria consumes the nitrates. Methanol, sulfuric acid, and phosphoric acid are added to the system as necessary to maintain the proper conditions to support the nitrate consuming bacteria.

- (24) General Sump - The General Sump is a treatment unit that has been operating since 1952. Liquid from sump systems throughout the site flow into the General Sump. There it is neutralized, precipitated, or decanted and sedimentation occurs. Sludges are transferred to Plant 8 for vacuum filtration. The liquid stream goes to the Biosurge Lagoon for additional treatment or disposal.

The General Sump consists of a concrete slab on which is located 20 steel tanks with a combined capacity of 350,000 gallons in which treatment of the liquid is performed. The Sump processes approximately 100,000 gallons per day.

- (25) Accumulation Areas - There are ten Accumulation Areas currently in use at the FMPC. These storage units are located in various places around the plant and are relocated as the need for these areas changes. Each area consists of drums which are separated from the rest of the area using rope or tape barriers. As small amounts of RCRA waste are generated, they are placed into one of the drums in the Accumulation Area. Examples of wastes stored in the drums in an Accumulation Area are oily rags and

spent solvents. Once a drum has been filled, it is marked with a date and transported to an appropriate RCRA warehouse for storage. Because the Accumulation Areas are moved as necessary, they are not located on the maps in Figures J-1 and J-2.

- (26) Sumps - There are more than 100 sumps throughout the FMPC site, many of which have been in use since the plant was initially built. These sumps collect various liquids which are either intentionally or unintentionally spilled onto the floor or ground. Examples of the liquids collected in the sumps are rain water, wash water, acids, and caustics. The sumps are constructed from different materials depending on the liquid which the sump handles, including brick, carbon steel, stainless steel, and concrete. Most of the sumps discharge to a local sump treatment area where precipitation, neutralization, and other basic treatments may be performed as needed. All liquid from the sumps ultimately are sent to the General Sump where it is treated and dispersed. Because of the large number of sumps, they are not located on the maps in Figures J1 and J-2.

#### Hazardous Waste Management Units

- (27) Plant 6 Warehouse - Building 79 - The Plant 6 Warehouse is a storage unit that was constructed in 1988. The building is a 100' x 170' pre-engineered, ribbed metal structure with an 8-inch impervious concrete slab floor coated with a hardener/sealer. The building is divided into three bays with a total storage capacity of 3,648 55-gallon drums. The types of waste stored in the Plant 6 Warehouse are radioactive mixed waste liquids and

solids, including combustible liquids, oxidizers, and caustic and acidic corrosive liquids and solids.

- (28) KC-2 Warehouse Bays 5, 6, and 7 - KC-2 Warehouse Bays 5, 6, and 7 have been operated as storage units since 1952. The bays are 70' x 36', 70' x 36', and 20' x 70' respectively. The warehouse is constructed of cinder block walls on the east and west and chain link fencing on the north and south. The floor is a level 8-inch curbed impervious concrete slab. The types of materials stored in these bays include ignitable liquids and solids and hazardous waste liquids and solids.
- (29) Pilot Plant Warehouse - Building 68 - The Pilot Plant Warehouse Storage Area consists of a 7' x 62' curbed concrete pad located within the Warehouse. This storage unit has been in operation since 1953 and is currently in use. The material stored in the Pilot Plant Warehouse is radioactive mixed waste.
- (30) Plant 8 Warehouse - Building 80 - The Plant 8 Warehouse is a storage unit that is a 60' x 170' pre-engineered, ribbed metal structure with an impervious 8-inch concrete slab floor coated with a hardener/sealer. The building is divided into four bays with a total storage capacity of 1,992 55-gallon drums. The unit stores radioactive mixed waste.
- (31) Plant 9 Warehouse - Building 81 - The Plant 9 Warehouse is a storage unit that was constructed in 1988. The building is a 80' x 100' pre-engineered, ribbed metal structure with an impervious 8-inch concrete slab floor coated with a hardener/sealer. The building is divided into four bays with a total storage capacity of 2,272 55-

gallon drums. Although currently the Plant 9 Warehouse does not contain any waste, radioactive mixed waste will be stored there as needed.

- (32) Waste Pit #4 - FMPC Waste Pit #4 was constructed in 1960 and operated as a disposal unit until May 1986. This disposal unit is lined with two feet of compacted clay on the sides and bottom and contains approximately 53,000 yd<sup>3</sup> of waste. Waste Pit #4 received the following solid wastes: process residues, trailer cakes, slurries, raffinates, graphite, noncombustible trash, and asbestos. During the period of 1981-1983 approximately 23,500 pounds of contaminated barium-containing salt were placed in Waste Pit #4. Because this is a regulated disposal unit, any corrective action will be done under the requirements of 40 CFR 264.91 through 264.100.
- (33) Bulk Storage Tank T-5 - The Bulk Storage Tank T-5 was used as a storage unit from October 1984 until July 1989. This 10,000 gallon stainless steel tank is 14' 7" tall and 10' 11" wide and stored 1,1,1-trichloroethane mixed with mineral spirits and water. The maximum inventory stored in Tank T-5 was 7,954 gallons. Closure of this unit will begin following the approval of the closure plan by the Ohio Environmental Protection Agency (OEPA).
- (34) Bulk Storage Tank T-6 - The Bulk Storage Tank T-6 was used as a storage unit from October, 1984 until July 1989. This 10,000 gallon stainless steel tank is 14' 7" tall and 10' 11" wide and stored 1,1,1-trichloroethane. The maximum inventory stored in Tank T-6 was 4,877 gallons. Closure of this unit will begin following the approval of the closure plan by the OEPA.

- (35) Storage Pad North of Plant 6 - The Storage Pad North of Plant 6 was operated as a storage unit from 1952 until March 1989. This concrete pad measures 8' x 40' and was used to store waste oils that contained 1,1,1-trichloroethane and lead. The maximum inventory stored on this pad was 40 drums. Closure of this unit will begin following approval of the closure plan by the Ohio Environmental Protection Agency.
- (36) Plant 1 Storage Pad - The Plant 1 Storage Pad has been used as a storage unit since 1980. This concrete pad measures 675' x 750'. In March 1989, all hazardous wastes were removed from the pad. Prior to then the pad stored waste oils containing: lead; 1,1,1-trichloroethane; barium salts; and solvent wastes including 1,1,1-trichloroethane, methylene chloride, perchloroethylene, and xylene. Closure of this unit will begin following approval of the closure plan by the Ohio Environmental Protection Agency.
- (37) Trane Thermal Liquid Incinerator - The Trane Thermal Liquid Incinerator was operated as a treatment unit used to burn waste oils generated at the FMPC. The incinerator is steel and measures 52' x 50'. It is known that the burn rate of the incinerator is approximately seven gallons per hour and that operations were intermittent between the start-up of the incinerator in 1980 and suspension of operations on May 7, 1986. Oil that was burned in the incinerator was not characterized, however, oils on the adjacent pad were analyzed and revealed the presence of lead and 1,1,1-trichloroethane. Closure of this unit will begin following approval of the closure plan by the Ohio Environmental Protection Agency.

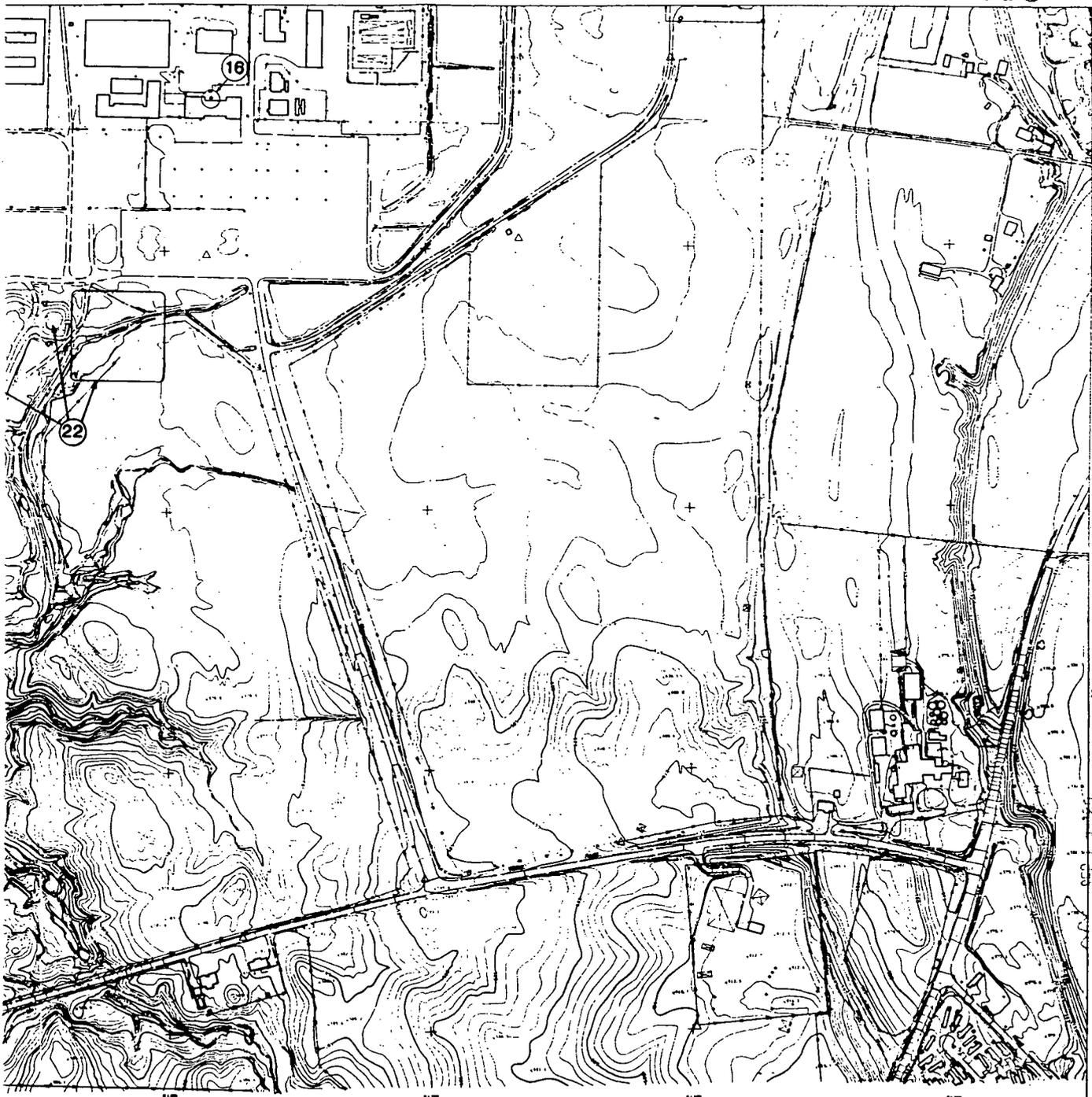
- (38) Plant 2/3 Storage Pad - The Plant 2/3 Storage Pad has been operated as a storage unit since 1982. This concrete pad measures 105' x 45' and, until July 1989, was used to store oil which was either to be burned in the Trane Thermal Liquid Incinerator, Figure J-1.26, or shipped to the DOE K-1435 Incinerator in Oak Ridge, Tennessee. In July 1989, all suspected waste was removed from the pad. The largest inventory of hazardous waste stored on the pad was 764 fifty-five gallon drums. The closure of this unit is described in the Trane Thermal Liquid Incinerator Closure Plan. Closure of this unit will begin following approval of the closure plan by the Ohio Environmental Protection Agency.
- (39) Barium Chloride Waste Salt Treatment - The Barium Chloride Waste Salt Treatment Facility was operated as a treatment unit from December 1985 until March 1986. This facility was used as a pilot scale operation to convert water-soluble  $BaCl_2$  to water-insoluble  $BaSO_4$ . The equipment involved was four stainless steel tanks and two carbon steel plate and frame filter presses with paper filters. This equipment is located in a 75' x 50' area inside the Pilot Plant. During the operation of this unit approximately 18,500 pounds of waste salts were treated. Closure of this unit will begin pending approval of the closure plan by the Ohio Environmental Protection Agency.

J-1b No Solid Waste Management Units

Does not apply

**J-2 RELEASE INFORMATION FROM THE SOLID WASTE MANAGEMENT UNITS**

Under the 1986 Federal Facilities Compliance Agreement, a Remedial Investigation (RI) is being conducted at the FMPC. The RI will investigate any release of hazardous waste or hazardous constituents.



Production Center

WESTON

- |   |   |   |   |   |   |
|---|---|---|---|---|---|
| 1 - WASTE PIT 1                           | D | 1 | 24 - GENERAL SUMP                         | T | 3 |
| 2 - WASTE PIT 2                           | D | 1 | 27 - PLANT 6 WAREHOUSE - BUILDING 79      | S | 2 |
| 3 - WASTE PIT 3                           | D | 1 | 28 - KC-2 WAREHOUSE BAYS 5, 6, & 7        | S | 2 |
| 4 - WASTE PIT 5                           | D | 1 | 29 - PILOT PLANT WAREHOUSE - BUILDING 68  | S | 2 |
| 5 - WASTE PIT 6                           | D | 1 | 30 - PLANT 8 WAREHOUSE - BUILDING 80      | S | 2 |
| 6 - BURN PIT                              | D | 1 | 31 - PLANT 9 WAREHOUSE - BUILDING 81      | S | 3 |
| 7 - SANITARY LANDFILL                     | D | 1 | 32 - WASTE PIT 4                          | D | 1 |
| 8 - K-65 SILOS 1 & 2                      | D | 1 | 33 - BULK STORAGE TANK T-5                | S | 1 |
| 9 - METAL OXIDE SLO 3                     | D | 1 | 34 - BULK STORAGE TANK T-6                | S | 1 |
| 10 - LIME SLUDGE PONDS (NORTH AND SOUTH)  | S | 3 | 35 - PLANT 6 NORTH STORAGE PAD            | S | 1 |
| 11 - FERROUS/NON-FERROUS SCRAP METAL PILE | S | 3 | 36 - PLANT 1 STORAGE PAD                  | S | 3 |
| 12 - COPPER SCRAP METAL PILE              | S | 3 | 37 - TRANE THERMAL LIQUID INCINERATOR     | T | 1 |
| 13 - FLY ASH PILES                        | D | 3 | 38 - PLANT 2/3 STORAGE PAD                | S | 3 |
| 14 - SANITARY SEWAGE TREATMENT PLANT      | T | 3 | 39 - BARIUM CHLORIDE WASTE SALT TREATMENT | T | 1 |
| 15 - KELLY SOLID WASTE INCINERATOR        | T | 1 |   |   |   |
| 16 - SECURITY INCINERATOR                 | T | 1 |   |   |   |
| 17 - GRAPHITE BURNER                      | T | 1 |   |   |   |
| 18 - SEWAGE TREATMENT PLANT INCINERATOR   | T | 1 |   |   |   |
| 19 - PLANT 8 ROTARY KILN                  | T | 3 |   |   |   |
| 20 - BIO SURGE LAGOON                     | S | 3 |   |   |   |
| 21 - CLEARWELL                            | T | 3 |   |   |   |
| 22 - STORMWATER RETENTION BASIN           | S | 3 |   |   |   |
| 23 - BIODENITRIFICATION TREATMENT SYSTEM  | T | 3 |   |   |   |

1 - TSD UNIT WHICH IS NO LONGER IN OPERATION.  
 2 - TSD UNIT WHICH IS IN OPERATION AS OF MARCH 1989 AND WHICH HANDLES RCRA HAZARDOUS WASTE.  
 3 - TSD UNIT WHICH IS IN OPERATION AS OF MARCH 1989 AND WHICH DOES NOT HANDLE RCRA HAZARDOUS WASTE.  
 4 - TSD UNIT WHICH IS NOT IN OPERATION AS OF MARCH 1989.

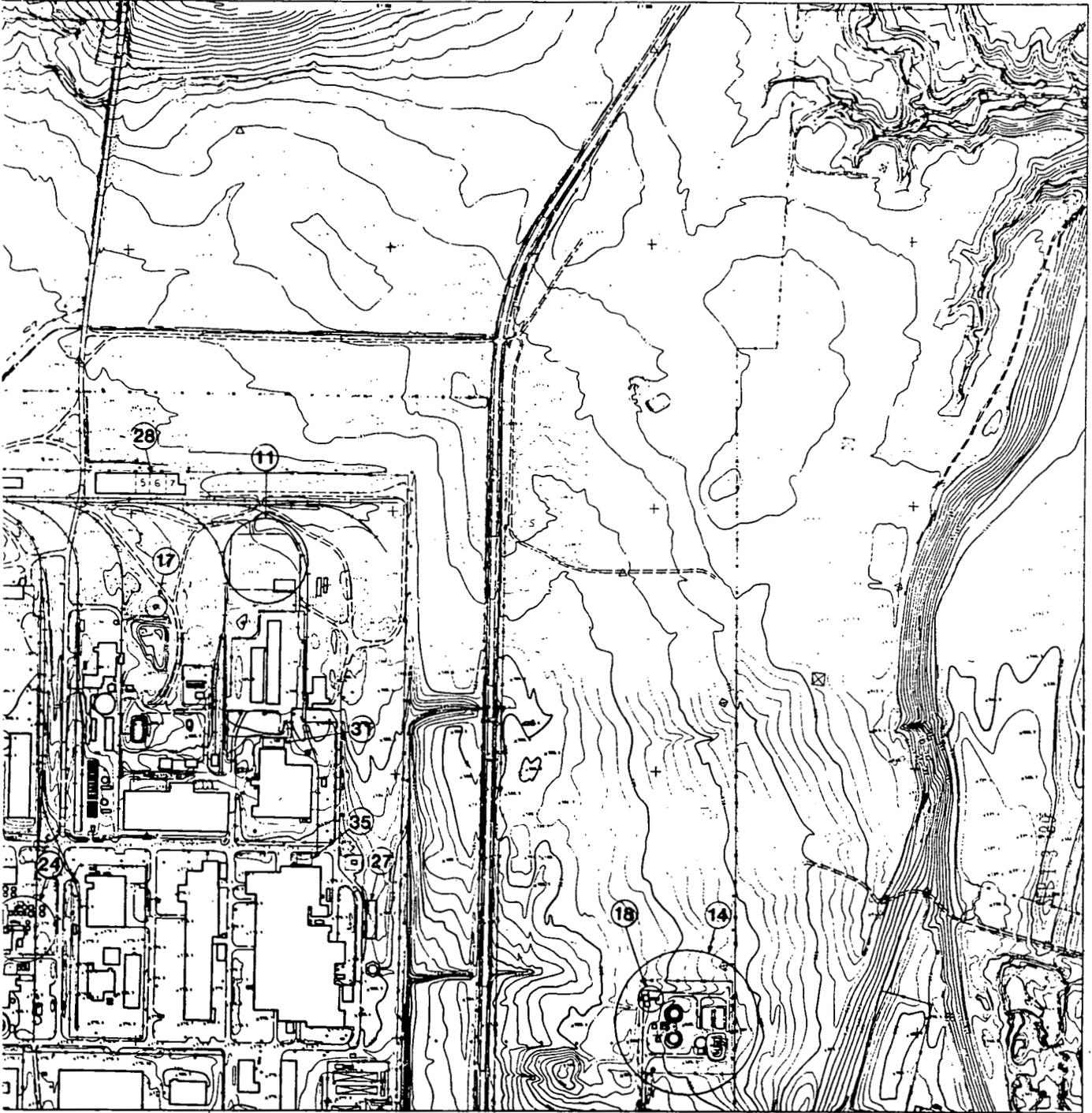


available by photogrammetric methods from  
 the original aerial photograph and by 1:50,000  
 scale topographic maps. Contour intervals are  
 shown in feet. Contour interval 1 foot.

Scale 1:24,000  
 (1"=200')  
 0 10 20 30 feet  
 Contour interval 1 foot.



**Feed Material Produc**

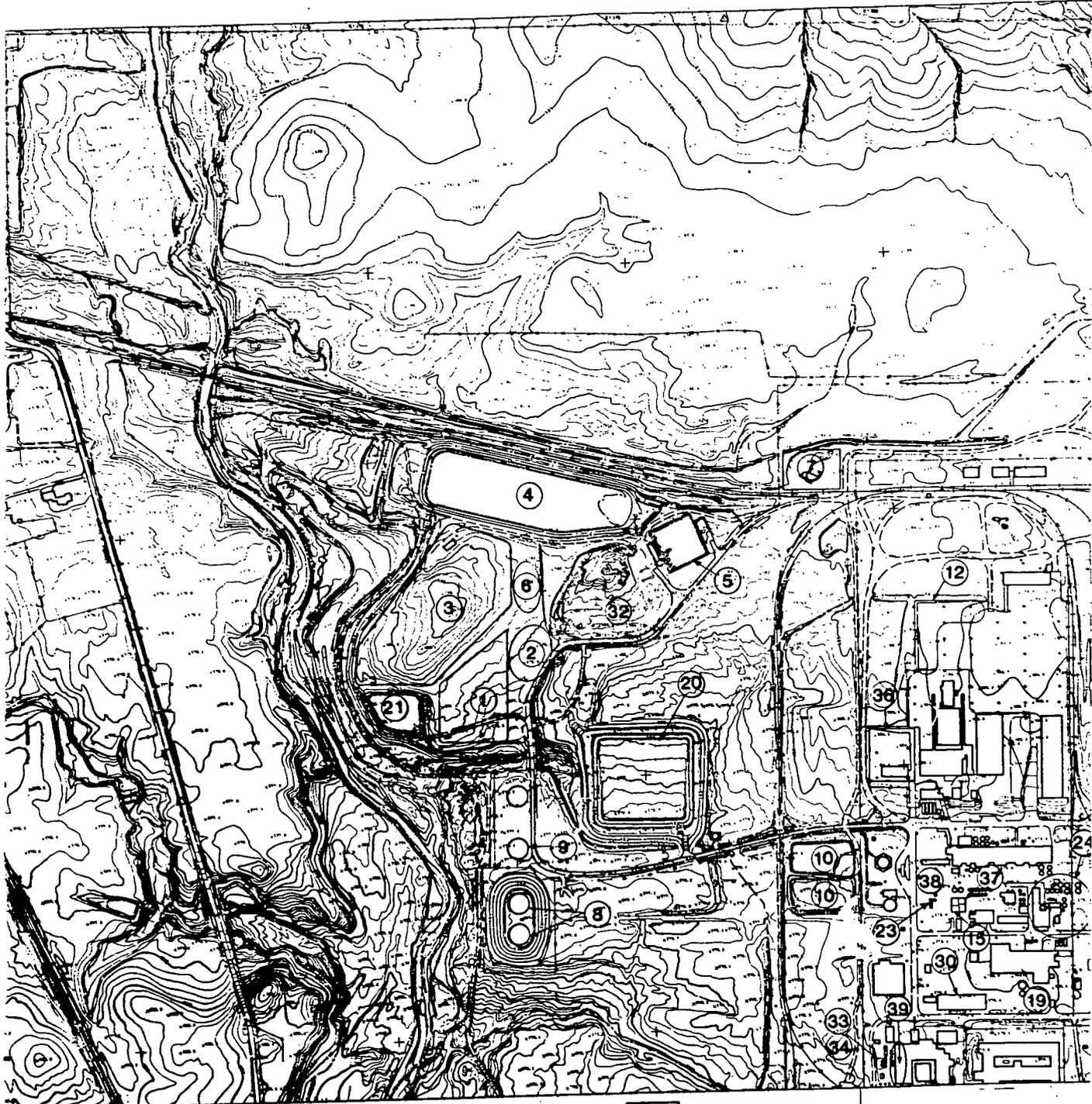


roduction Center



- |   |   |   |   |   |   |
|---|---|---|---|---|---|
| 1 - WASTE PIT 1                           | D | 1 | 24 - GENERAL SUMP                         | T | 3 |
| 2 - WASTE PIT 2                           | D | 1 | 27 - PLANT 6 WAREHOUSE - BUILDING 79      | S | 2 |
| 3 - WASTE PIT 3                           | D | 1 | 28 - KC-2 WAREHOUSE BAYS 5, 6, & 7        | S | 2 |
| 4 - WASTE PIT 4                           | D | 1 | 29 - PILOT PLANT WAREHOUSE - BUILDING 68  | S | 2 |
| 5 - WASTE PIT 5                           | D | 1 | 30 - PLANT 8 WAREHOUSE - BUILDING 80      | S | 2 |
| 6 - BURN PIT                              | D | 1 | 31 - PLANT 9 WAREHOUSE - BUILDING 81      | S | 3 |
| 7 - SANITARY LANDFILL                     | D | 1 | 32 - WASTE PIT 4                          | D | 1 |
| 8 - K-85 SILOS 1 & 2                      | D | 1 | 33 - BULK STORAGE TANK T-5                | S | 1 |
| 9 - METAL OXIDE SILO 3                    | D | 1 | 34 - BULK STORAGE TANK T-6                | S | 1 |
| 10 - LIME SLUDGE POND (NORTH AND SOUTH)   | S | 3 | 35 - PLANT 6 NORTH STORAGE PAD            | S | 1 |
| 11 - FERROUS/NON-FERROUS SCRAP METAL PILE | S | 3 | 36 - PLANT 1 STORAGE PAD                  | S | 3 |
| 12 - COPPER SCRAP METAL PILE              | S | 3 | 37 - TRANE THERMAL LIQUID INCINERATOR     | T | 1 |
| 13 - FLY ASH PILES                        | D | 3 | 38 - PLANT 2/3 STORAGE PAD                | S | 3 |
| 14 - SANITARY SEWAGE TREATMENT PLANT      | T | 3 | 39 - BARRUM CHLORIDE WASTE SALT TREATMENT | T | 1 |
| 15 - KELLY SOLID WASTE INCINERATOR        | T | 1 |   |   |   |
| 16 - SECURITY INCINERATOR                 | T | 1 |   |   |   |
| 17 - GRAPHITE BURNER                      | T | 1 |   |   |   |
| 18 - SEWAGE TREATMENT PLANT INCINERATOR   | T | 1 |   |   |   |
| 19 - PLANT 8 ROTARY KILN                  | T | 3 |   |   |   |
| 20 - BIO SURGE LAGOON                     | S | 3 |   |   |   |
| 21 - CLEARWELL                            | T | 3 |   |   |   |

1 - TSD UNIT WHICH IS NO LONGER IN OPERATION.  
2 - TSD UNIT WHICH IS IN OPERATION AS OF MARCH 1989  
AND WHICH HANDLES RCRA HAZARDOUS WASTE.  
3 - TSD UNIT WHICH IS IN OPERATION AS OF MARCH 1989



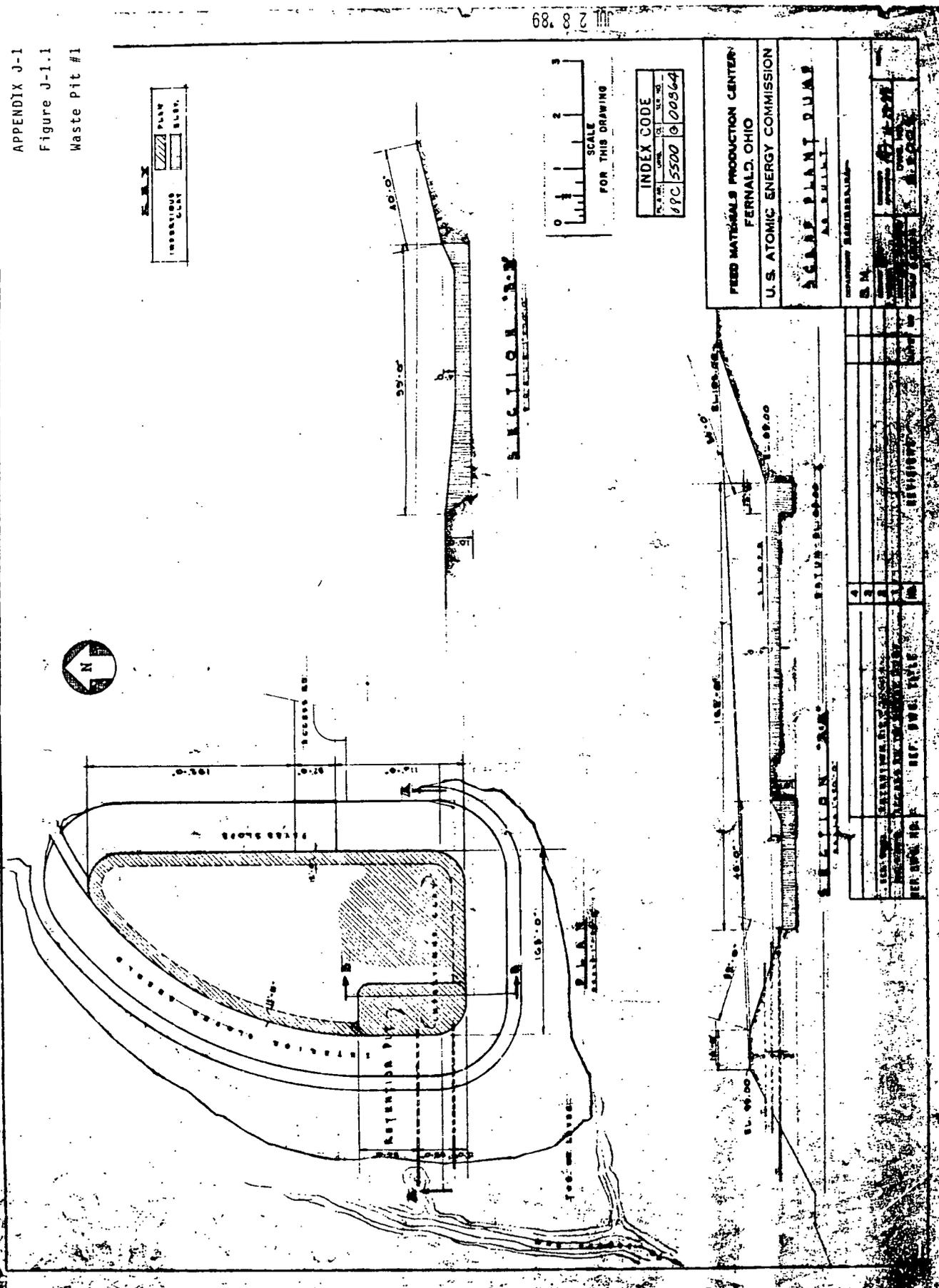
Topographic map of the  
United States  
Produced from Government  
Survey, City and State  
Data

Scale 1:500  
(1" = 50')



Feed Material Prod

APPENDIX J-1  
Figure J-1.1  
Waste Pit #1



INSURVATION CURT  
PLAN

SCALE  
FOR THIS DRAWING  
0 1 2 3

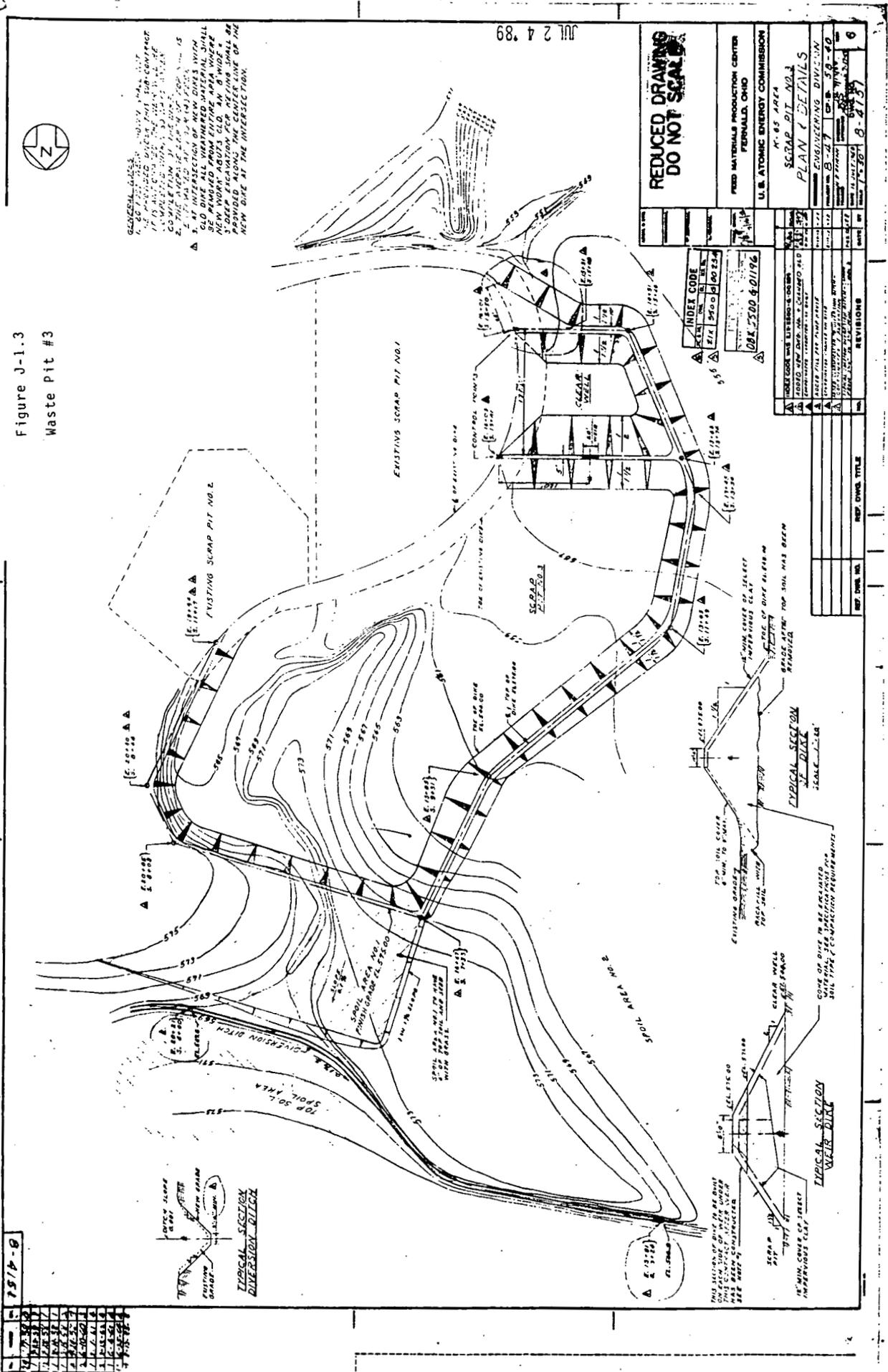
INDEX CODE  
IPC 5500 00864

FEDERAL MATERIALS PRODUCTION CENTER  
FERNALD, OHIO  
U. S. ATOMIC ENERGY COMMISSION  
SCALE PLAN D.U.M.B.  
AS SHOWN

SECTION	DATE	BY	CHKD BY
1			
2			
3			
4			



APPENDIX J-1  
Figure J-1.3  
Waste Pit #3







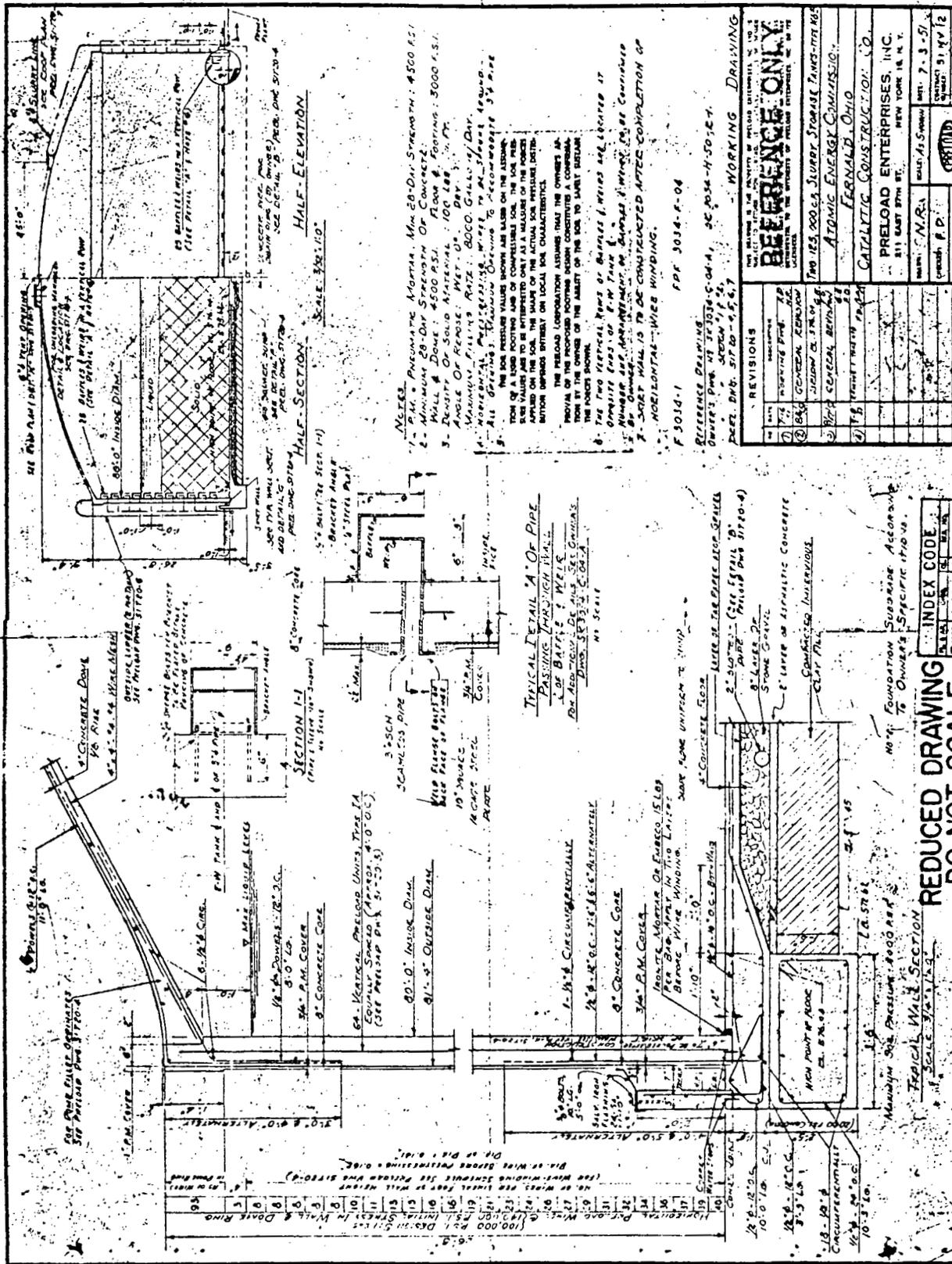








JUL 25 '89



**NOTES**

1. MIN. PRECAST MORTAR. MIN 28-DAY STRENGTH: 4500 P.S.I.
2. MINIMUM 28-DAY STRENGTH OF CONCRETE: 4500 P.S.I. FLOOR & FOOTING: 3000 P.S.I.
3. DENSITY OF SOLID MATERIAL: 100 LBS. / CU. FT.
4. ANGLE OF REPOSE: REF. 0.
5. MAXIMUM FILLING RATE: 2000 GALLONS / DAY.
6. ALL OPERATIONS SHALL BE DONE IN ACCORDANCE WITH THE SPECIFICATIONS OF THE CONTRACT DOCUMENTS.
7. THE PRELOAD LABORATORY ASSUMES THAT THE OWNERS ARE RESPONSIBLE FOR THE PROTECTION OF THE ADJACENT SOIL TO BE EXCAVATED.
8. THE TWO VERTICAL PILES OF BRASSES / PILES ARE LOCATED AT THE CENTER OF THE P.M. COVER.
9. NUMBER AND ARRANGEMENT OF BRASSES / PILES TO BE COMPLETED BY THE CONTRACTOR SHALL BE DETERMINED AFTER COMPLETION OF THE SOIL INVESTIGATION.
10. VERTICAL PILES SHALL BE CONSTRUCTED AFTER COMPLETION OF THE SOIL INVESTIGATION.

REVISIONS

NO.	DATE	DESCRIPTION
1	7/25/89	ISSUED FOR PERMITS
2	8/15/89	GENERAL REVISIONS
3	9/15/89	REVISIONS TO PERMITS
4	10/15/89	REVISIONS TO PERMITS
5	11/15/89	REVISIONS TO PERMITS

PRELOAD ENTERPRISES, INC.  
 811 EAST 87TH ST., NEW YORK, N. Y.  
 TEL: 7-3-51  
 FAX: 7-3-51

**INDEX CODE**

1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20

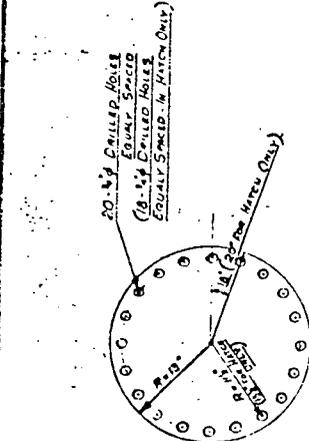
**REDUCED DRAWING**

SCALE: 3/8" = 1'-0"

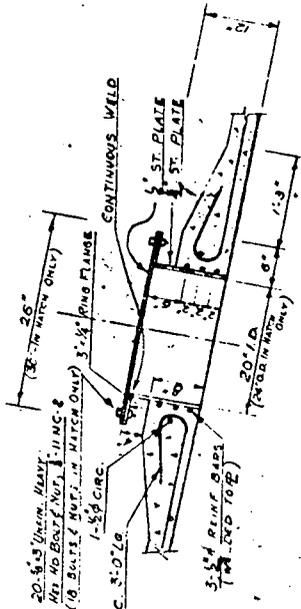


JUL 2 5 '89

REDUCED DRAWING  
DO NOT SCALE



PLAN  
1/2" STEEL PLATE



SECTION  
DETAIL "C"

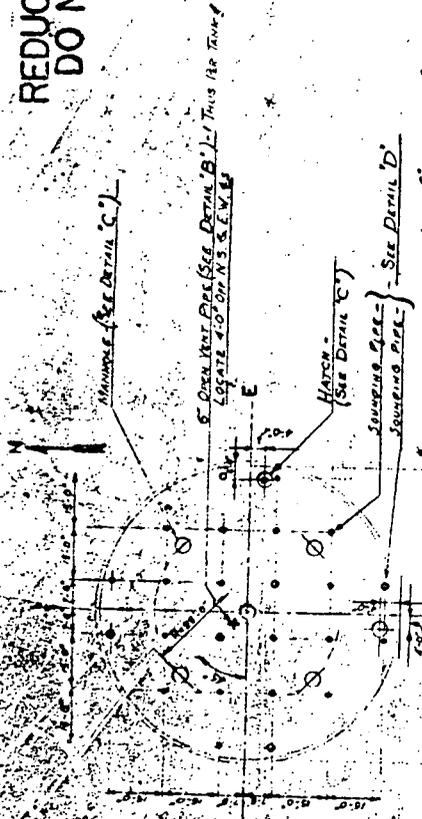
MANHOLES - 6 THUS PER TANK  
HATCH (SIMILAR E.G. AS NOTED) - 1 THUS PER TANK

No SCALE

WORKING DRAWING

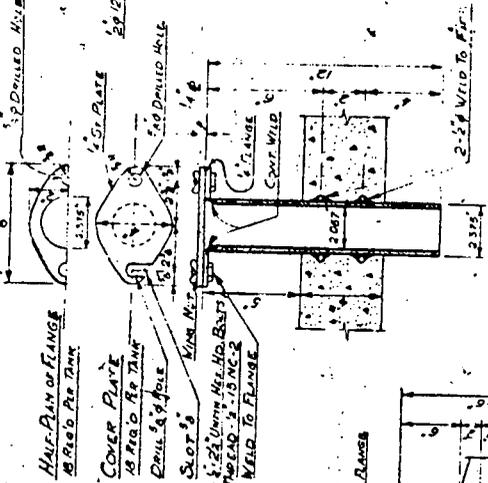
REVISIONS	
NO.	DESCRIPTION
1	ISSUED FOR CONSTRUCTION
2	ISSUED FOR CONSTRUCTION

PRELOAD ENTERPRISES, INC.  
 211 EAST 97TH ST.  
 NEW YORK 18, N. Y.  
 DATE: 9-19-52  
 DRAWN: J.P.  
 CHECKED: F.R.  
 APPROVED: [Signature]  
 ORDER: 51729-7



ROOF PLAN  
NORTH TANK

(SOUTH TANK SIMILAR HGT. E. W.)  
SCALE: 3/8" = 1'-0"



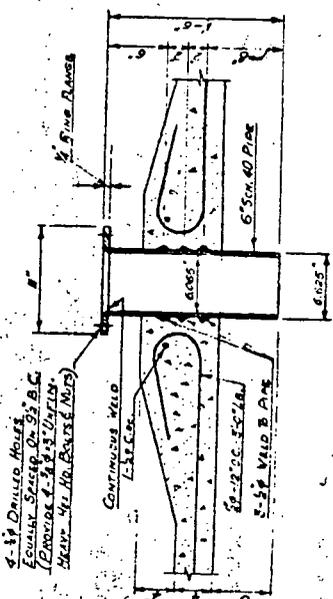
DETAIL "D"

SOUNDING PIPES - 18 THUS PER TANK  
SOUNDING PIPES - (SIMILAR TO SOUNDING  
PIPE AS SHOWN EXCEPT STANDARD ROUND  
2" - 150 FIG. IS SUBSTITUTED FOR COVER RATE  
& FLANGE SHOWN) - 6 THUS PER TANK  
The Substituted Fig. is to be  
WELDED TO THE 2" SCH. 40 PIPES IN MANNER  
SIMILAR TO THAT SHOWN.

SCALE: 3/8" = 1'-0"

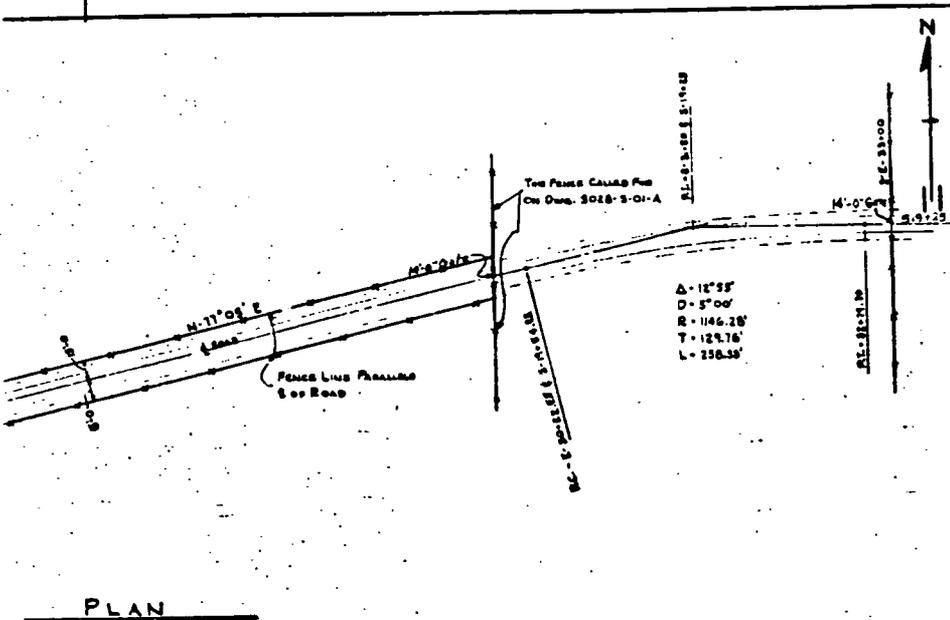
INDEX CODE	
DATE	BY
10/1/52	J.P.
10/1/52	F.R.

Reference Drawing  
Preload Draw 51729-2  
Complete Cost Co. Draw. No. 2035-2-10-7



DETAIL "B"

OPEN VENT PIPE  
SCALE: 1/2" = 1'-0"



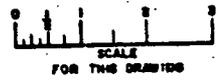
PLAN

GENERAL NOTES

- REQUIRED LIST:
- 1. 2444-LIN. FT. OF 420' CHAIN LINK GALV WIRE FENCE
  - 2. 2 - 14'-0" DOUBLE SWING GATES
  - 1. - 10'-0" DOUBLE SWING GATE
  - 1. - 10'-0" SINGLE SWING GATE

REFERENCE DRAWINGS

TITLE	DWG. NO.
FENCE PLAN PRODUCTION AREA	3028-S-01-A
SEWAGE DISPOSAL AREA ROUGH GRADES	3021-S-30-A
ROUGH GRADE FOR K-65 & METAL OXIDE STG. AREA	3021-S-29-A
ACCESS ROAD TO K-65 & MET. OXIDE STG. AREA	3024-S-03-A
GENERAL PLOT PLAN	3000-AA-01-A



5			
4			
3			
2			
1	CHANGED SCALE FROM 1"=60' TO 1"=80' SCALE PUT OFFSET IN 2-1/2" HORIZONTAL PLACES TO 1"=80' SCALE CHANGED DIM. DIMENSION FROM 390 TO 720'		

- INDEX CODE  
24A | 1450 | 00002
- INDEX CODE  
35X | 1450 | 00001
- INDEX CODE  
35X | 1450 | 00001
- INDEX CODE  
25X | 1450 | 00001
- INDEX CODE  
28X | 1450 | 00006

APPROVED FOR A.E.C. BY \_\_\_\_\_

DATE \_\_\_\_\_

UNITED STATES ATOMIC ENERGY COMMISSION  
NEW YORK OPERATIONS OFFICE

CONTRACT NO. AT(40-1)-600

37

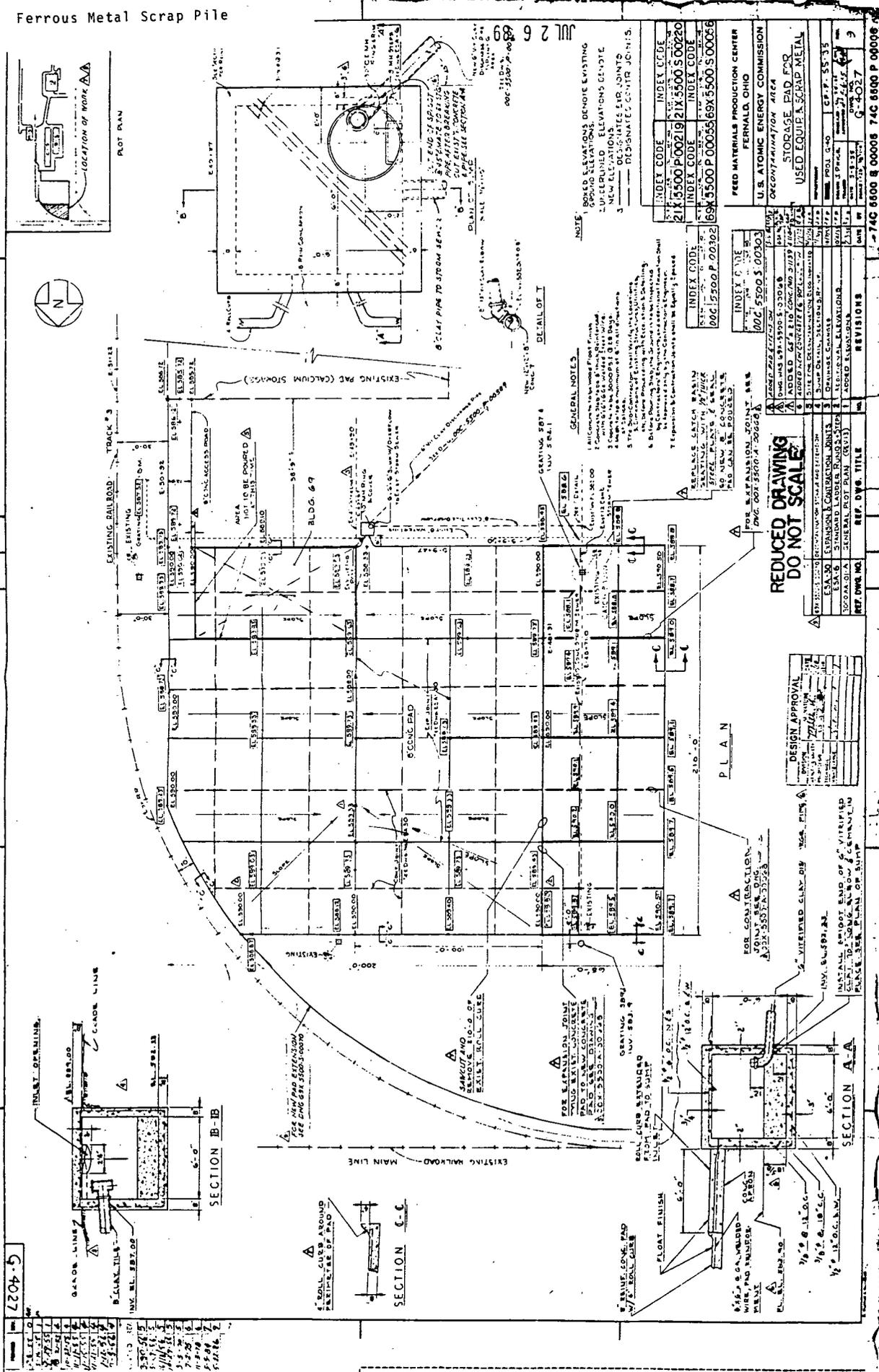
FENCE PLAN  
K-65 & METALS OXIDE STG. & SEWAGE DISPOSAL AREA

DATE 9-17-51	NAME OF CONTRACTOR CATALYTIC CONSTRUCTION CO. 180 CALVERT STREET PHILA. 3, PA.
STATUS NONE	APPROVED FOR CONSTRUCTION
DATE C/O	PROJECT NO. 3028-S-02-A

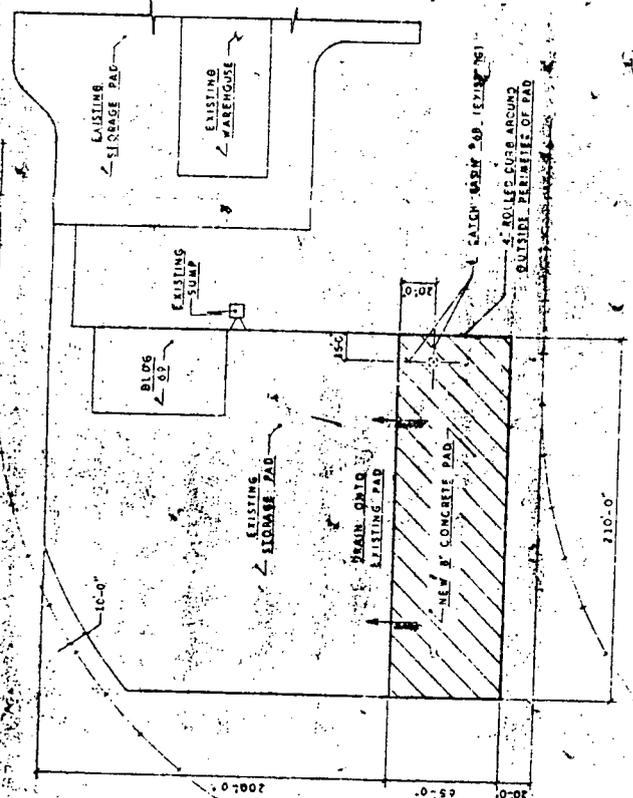
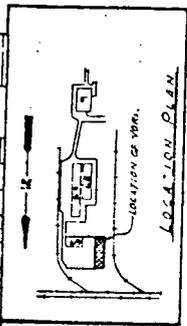




Ferrous Metal Scrap Pile



JUL 26 1968



NLO Inc.  
 FRED MATERIALS PRODUCTION CENTER  
 FERNALD, OHIO  
 U. S. DEPARTMENT OF ENERGY  
 STORAGE PAD  
 FOR  
 USED EQUIPMENT & SCRAP METAL  
 ENGINEERING DIVISION  
 APPROX. 11-11-67

PROJECT NO.	67X1509
DATE	8/20/67
SCALE	AS SHOWN
BY	...
CHECKED BY	...
APPROVED BY	...

PROJECT DRAWING  
 DO NOT SCALE

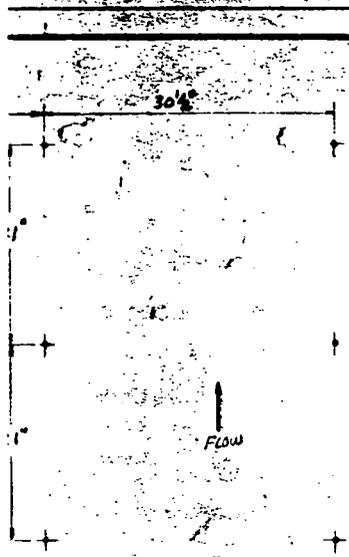
NO.	REV.	DATE	BY

PLAN VIEW  
 8/27/68

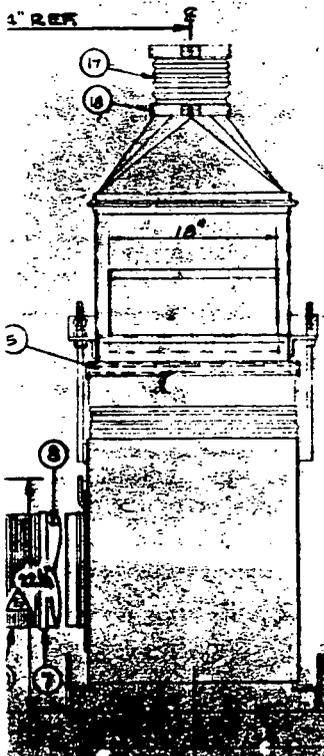






ANCHOR BOLT PATTERN  
PLAN VIEW



WEST ELEVATION

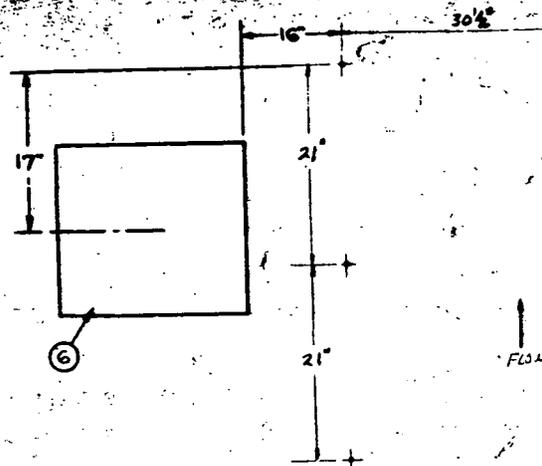
SYM	REVISION	BY	CHK	DATE	INFORMED
A	ASSEMBLY DRAWING			7/21/84	
B	ADD 24" DIA. TO 24" DIA. ASSEMBLY	F		7/17/84	

REDUCED DRAWING  
DO NOT SCALE

QTY	NO.	DESCRIPTION	UNIT
1	22	C2500-110	SAFETY (NOT SHOWN)
REF	41	CONDUIT CABLE	1"
1	20	DRAINAGE HOSE	1 1/2" O.D.
1	19	21500-131	BASE CEMENT ASSY
2	18	31-12-00	CLAMP (USED IN 21500-131)
1	17	31-12-00	BRUSH HOSE (21500-131)
2	16		LOCKWASHER
2	15		WASHER
2	14		HEX CAPSCREW
2	13		HEX NUT
1	12	M224-31-00	FEED INLET ASSY
REF	11	D1500-103A-1	FEED HOOD ASSY
1	10	204-21-00	WASHER HOOD CLAMP
1	9	12-21-03	FILTER COIL
1	8	B200-33	FILTER PIPE
1	7	K23-16-00	PIPE BAND
1	6	M126-1-00	AIR FILTER ASSY
1	5	M126-58-01	DECK FRAME ASSY
1	4	C1500-105A	FRAME RAIL
1	3	C1500-111-1	RUNNING RAIL ASSY
1	2	M224-48-00	RUNNING GEAR ASSY
1	1		ASSEMBLY

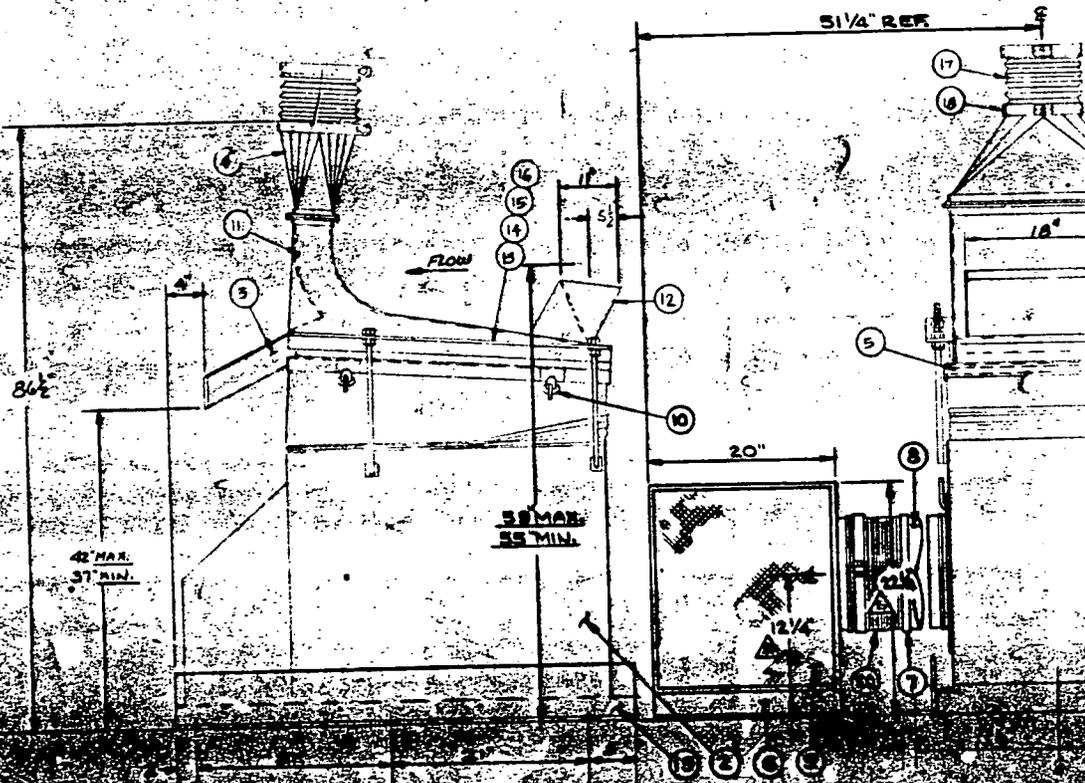
	GENERAL ARRANGEMENT & FINAL ASSY Z22H FINES FLOATER
TRIPLE B DYNAMICS ENGINEERS, INC. 1500-130	OIC-57654M-01241

NO.	DATE	BY	REVISIONS



ANCHOR BOLT

PLAN 1

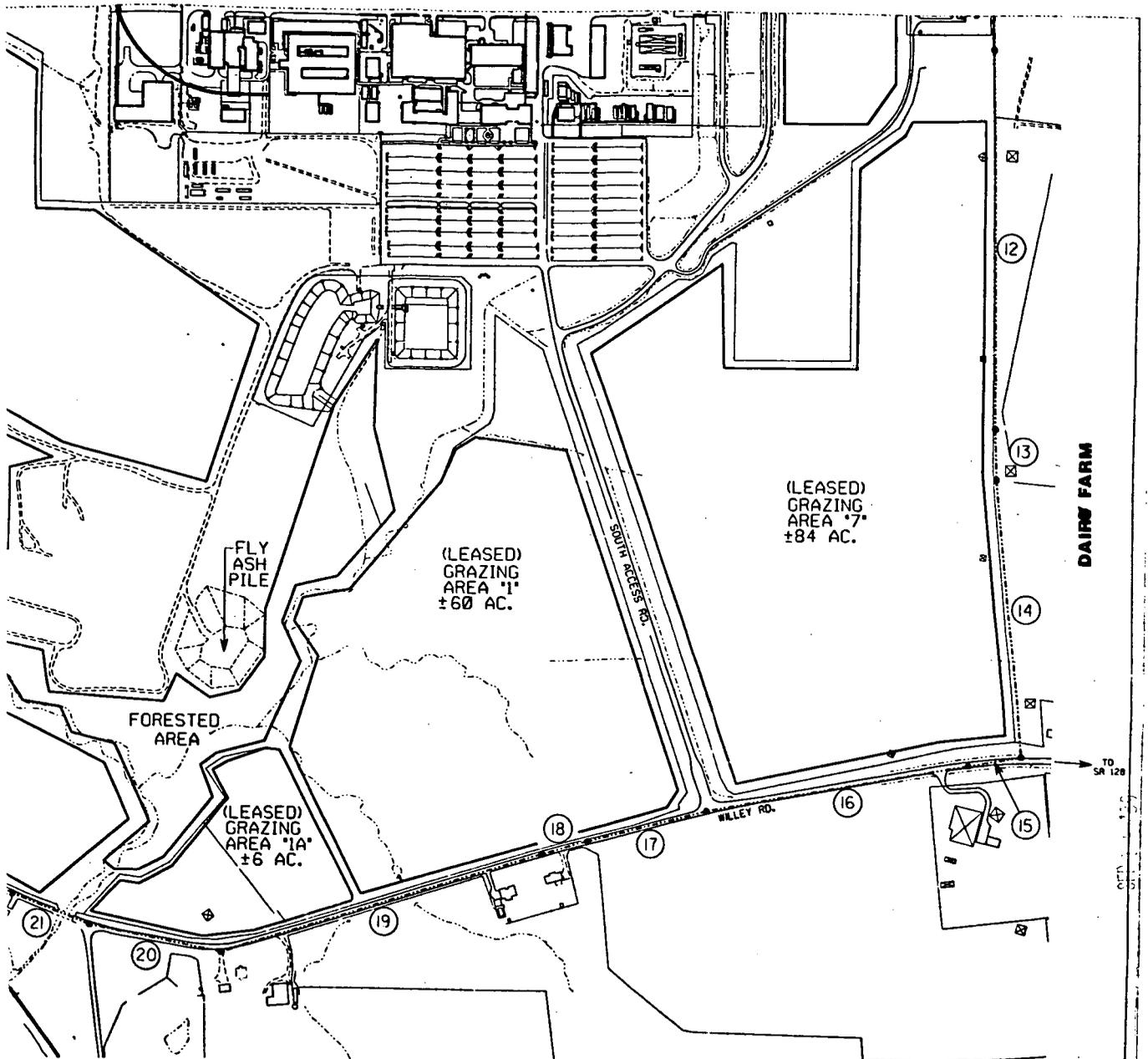


NORTH ELEVATION

WEST ELEVATION

ASSEMBLY

NO.	DESCRIPTION	QTY.	UNIT
1	...	...	...
2	...	...	...
3	...	...	...
4	...	...	...
5	...	...	...
6	...	...	...
7	...	...	...
8	...	...	...
9	...	...	...
10	...	...	...
11	...	...	...
12	...	...	...
13	...	...	...
14	...	...	...
15	...	...	...
16	...	...	...
17	...	...	...



**AGRICULTURAL**

# MATERIALS PRODUCTION CENTER

OWNED AND OPERATED BY THE UNITED STATES  
DEPARTMENT OF ENERGY

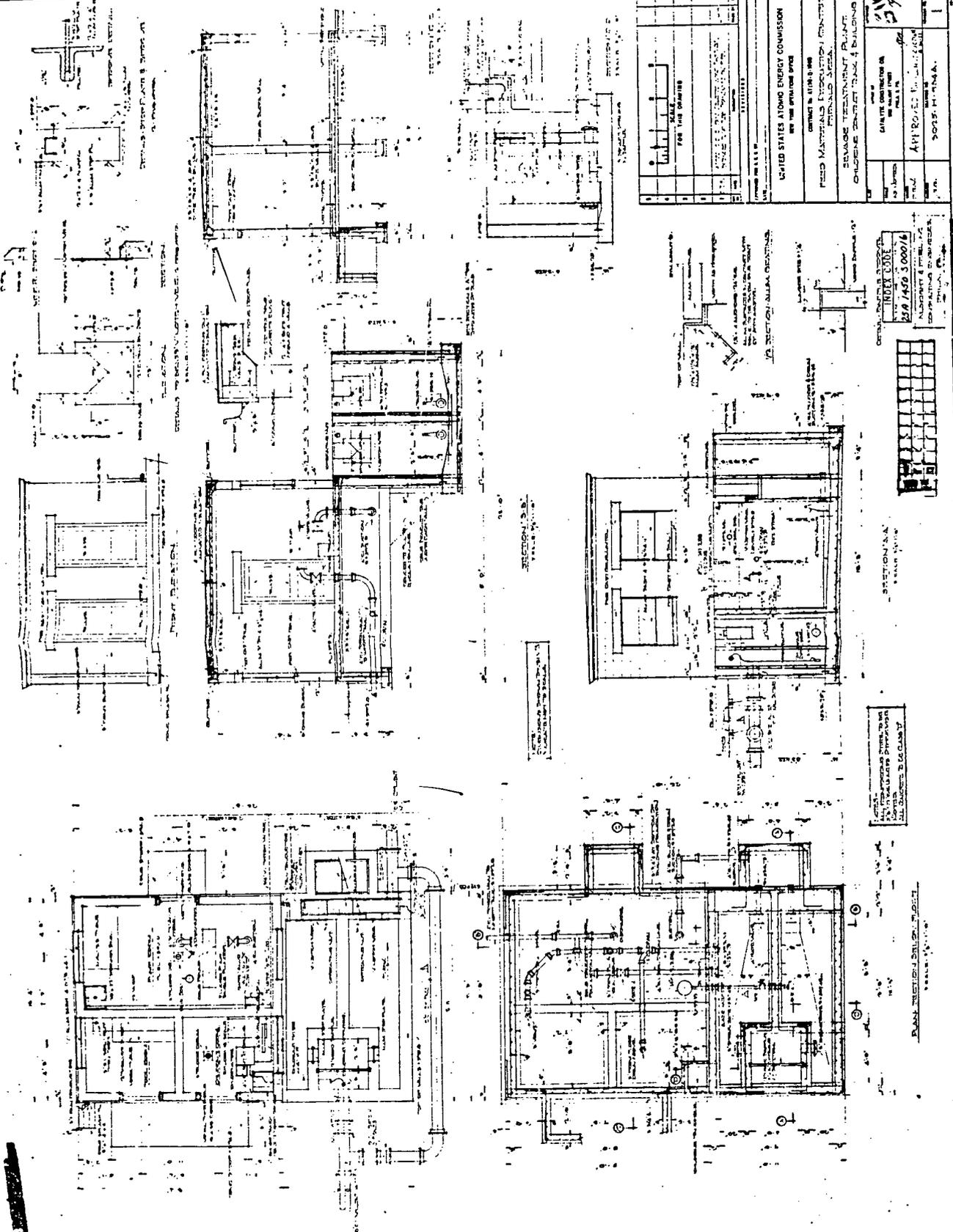


R.E.S.-1238  
DATE: 6/27/89  
FILENAME: ZFAE100.41RCRA.DGN





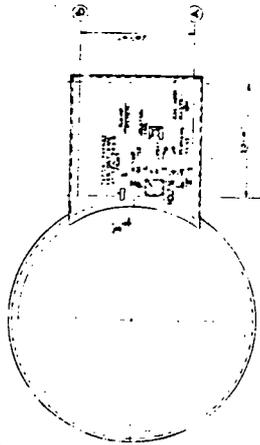
JUL 26 1958



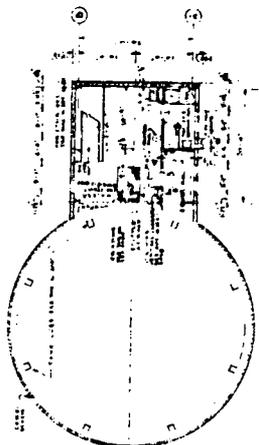
UNITED STATES ATOMIC ENERGY COMMISSION 485 UNIVERSITY DRIVE BETHESDA, MARYLAND	
PROJECT TITLE STORAGE TREATMENT PLANT CHEMICAL BUILDING	DRAWN BY DATE
CHECKED BY DATE	APPROVED BY DATE

INDEX CODE 558 1450 3 000/6 ALPHABETICALLY BY ROOM NUMBER GEOMETRICALLY BY ROOM NUMBER
---

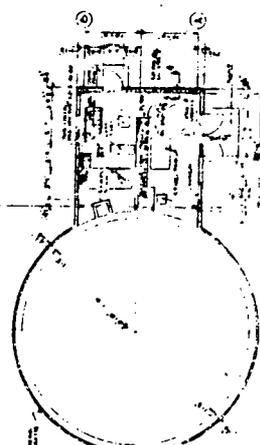

JUL 26 1989



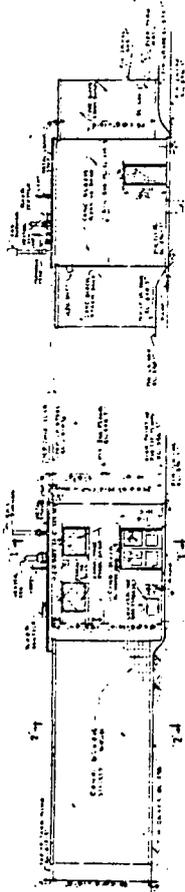
ROOF PLAN



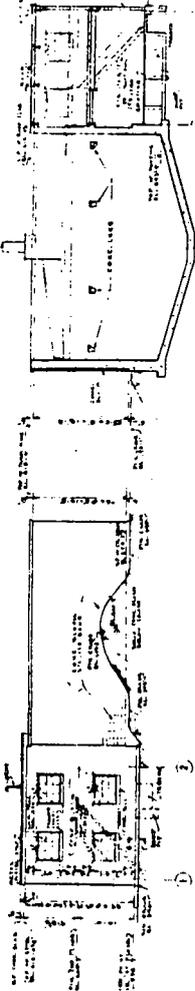
SECOND FLOOR PLAN



FIRST FLOOR PLAN



WEST ELEVATION

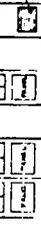


EAST ELEVATION

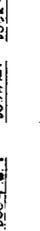
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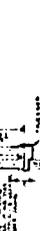
DOOR NO. 1 DOOR NO. 2 DOOR NO. 3



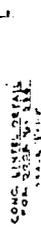
CONC. LINTELS FOR DOOR NO. 1



CONC. LINTELS FOR DOOR NO. 2



CONC. LINTELS FOR DOOR NO. 3



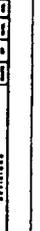
CONC. LINTELS FOR DOOR NO. 4



CONC. LINTELS FOR DOOR NO. 5



CONC. LINTELS FOR DOOR NO. 6



NOTES

1. ALL DIMENSIONS ARE IN FEET AND INCHES UNLESS OTHERWISE SPECIFIED.

2. REFER TO DRAWING P. 1 FOR GENERAL NOTES.

3. SEE DRAWING P. 2 FOR DOOR SCHEDULE.

4. SEE DRAWING P. 3 FOR LINTEL SCHEDULE.

5. SEE DRAWING P. 4 FOR ROOF PLAN.

6. SEE DRAWING P. 5 FOR FLOOR PLANS.

REVISIONS	DATE	BY	DESCRIPTION
1	7/26/89	...	...
2	...	...	...

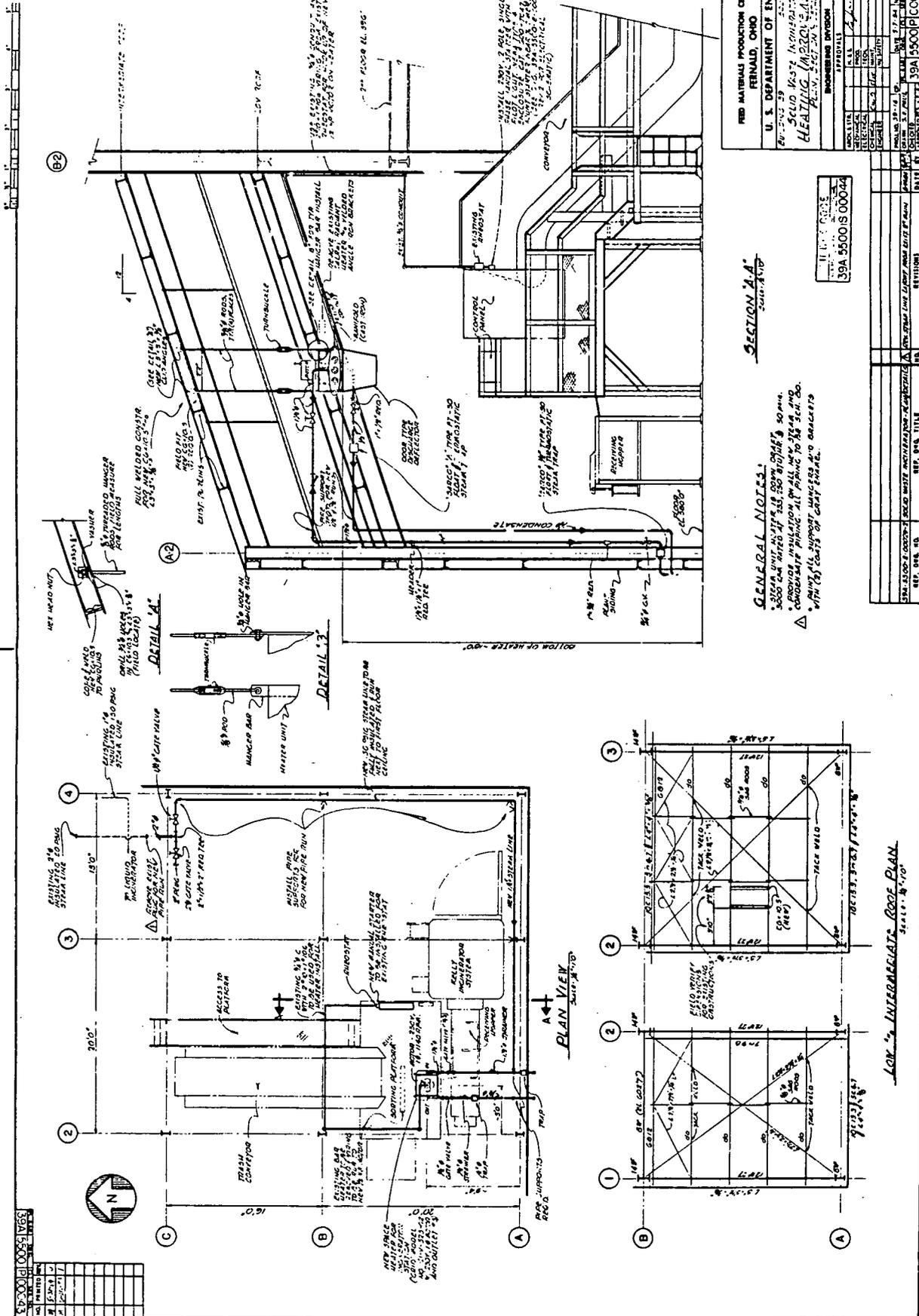
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2	...	...

NO.	DESCRIPTION	DATE
1	...	...
2	...	...

NO.	DESCRIPTION	DATE
1	...	...
2	...	...

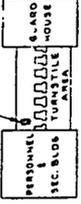
NO.	DESCRIPTION	DATE
1	...	...
2	...	...

NO.	DESCRIPTION	DATE
1	...	...
2	...	...





LOCATION OF NEW WORK



**PLOT PLAN**  
SCALE: 1"=50'

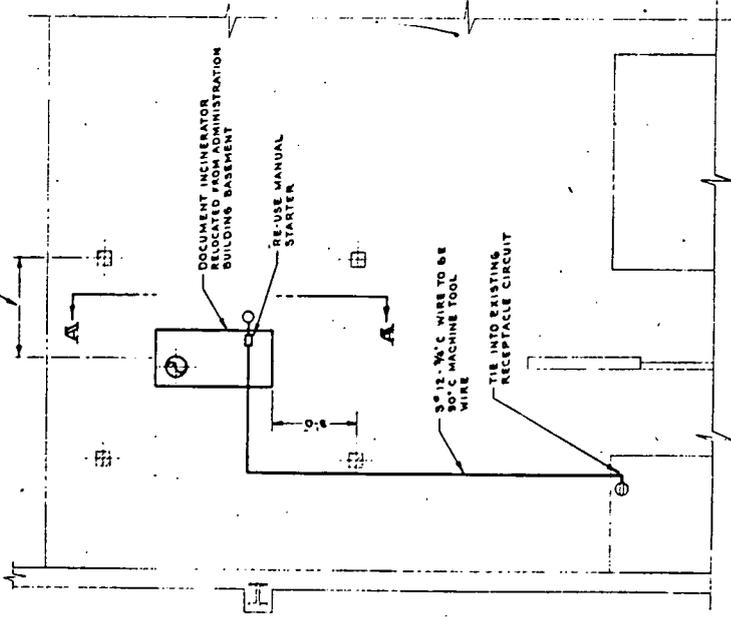
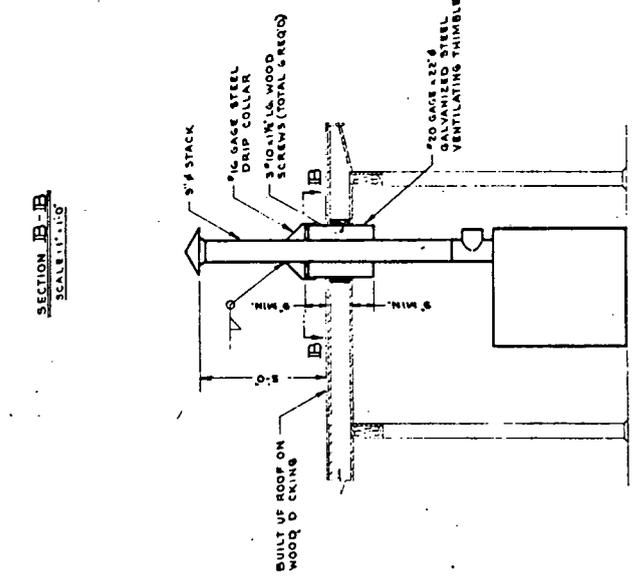
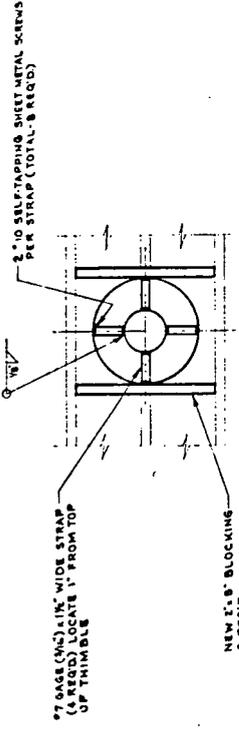
**GENERAL NOTES:**

1. LOCATE THE INCINERATOR APPROPRIATELY BETWEEN THE POSTS EXACTLY AS SHOWN ON SHEET 28-4030 AND 90 THAT ONLY ONE ROOF RAFTER NEED BE CUT FOR INSTALLATION OF THE STACK.
2. RE-USE SECTIONS OF EXISTING STACK, STACK CAP & ATMOSPHERIC DAMPER REMOVED FROM ORIGINAL INSTALLATION.
3. HOT ROLLED CARBON STEEL SHEET SHALL CONFORM TO ASTM DESIGNATION A414-S87 COMMERCIAL QUALITY.
4. GALVANIZED SHEET METAL SHALL CONFORM TO A STM DESIGNATION A53-S57 COMMERCIAL CLASS.
5. ALL WELDING SHALL BE IN ACCORDANCE WITH THE "AMERICAN WELDING SOCIETY" STANDARDS UNLESS OTHERWISE SPECIFIED.
6. FLASH AROUND ROOF OPENING & PATCH BUILT-UP ROOFING WITH COAL-TAR PITCH & ROOFING FELT.
7. PAINT ALL METAL SURFACES WITH ONE COAT OF HEAT RESISTING ALUMINUM PAINT. PAINT SHALL BE FURNISHED BY NATIONAL LEAD CO. OF OHIO.
8. TOUCH-UP PAINT ALL SURFACES DAMAGED BY CONSTRUCTION OR DEMOLITION ACTIVITIES.
9. ALL C-ROOF SHALL BE RIGID GALVANIZED STEEL. ALL SHEET METAL WORK SHALL BE IN ACCORDANCE WITH THE NATIONAL E.L.F. CODE.

**APPENDIX J-1**

Figure J-1.16

**Security Incinerator**



INDEX CODE  
28-5500-M-0107

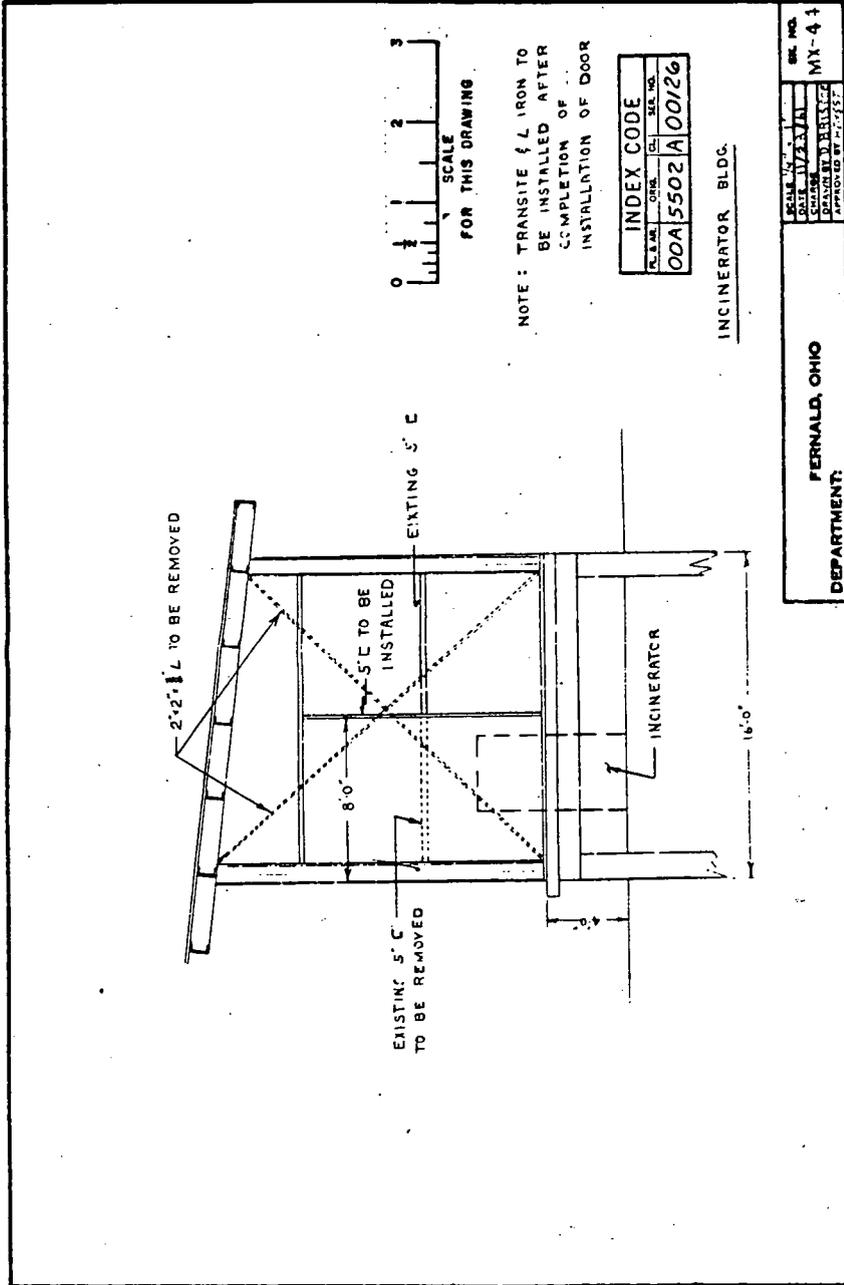
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DESIGNED BY	DATE
CHECKED BY	DATE
APPROVED BY	DATE

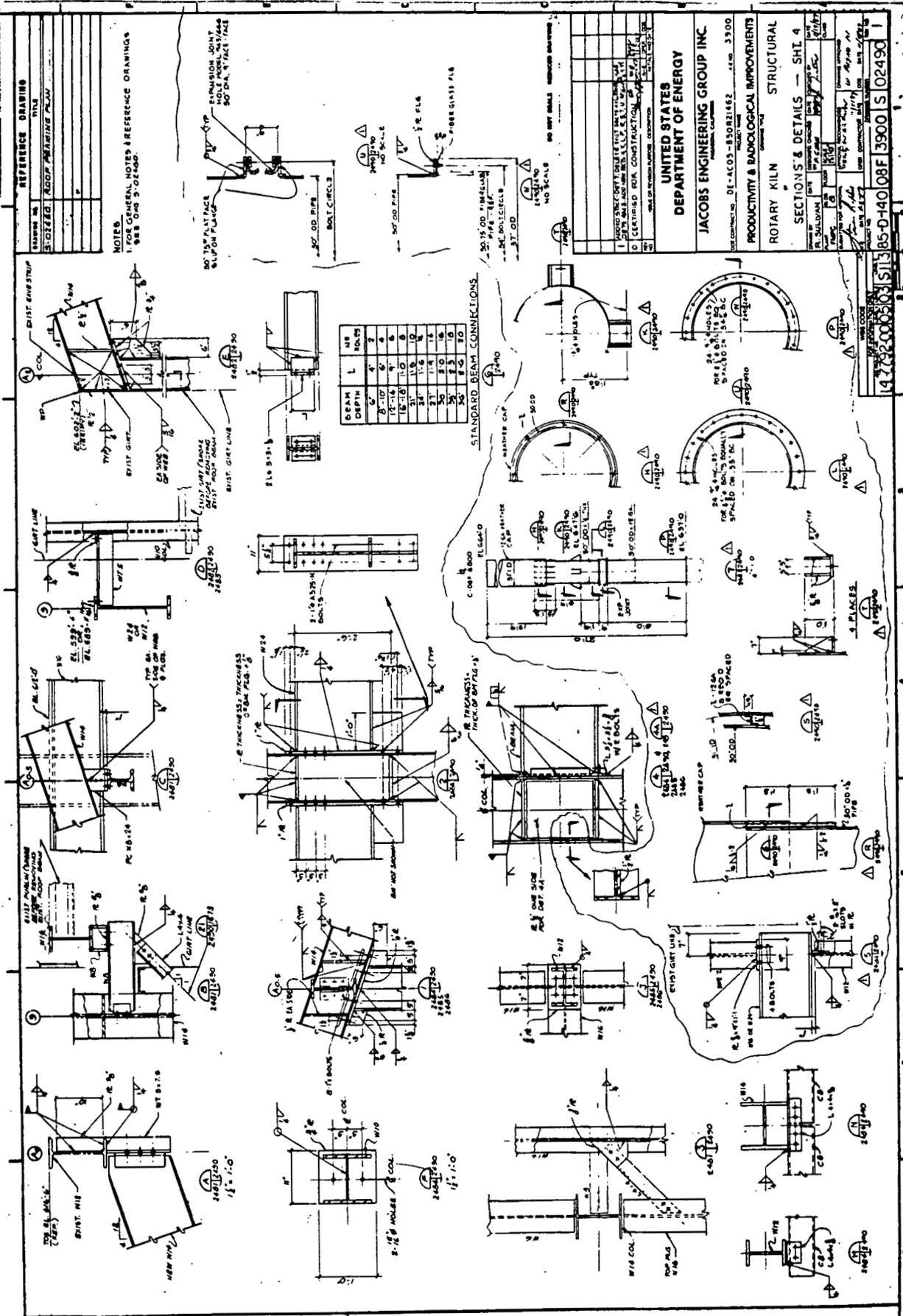
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REF. DIM. TITLE	REVISOR'S	DATE
DATE BY	DATE BY	DATE BY
28-4033	28-4033	0



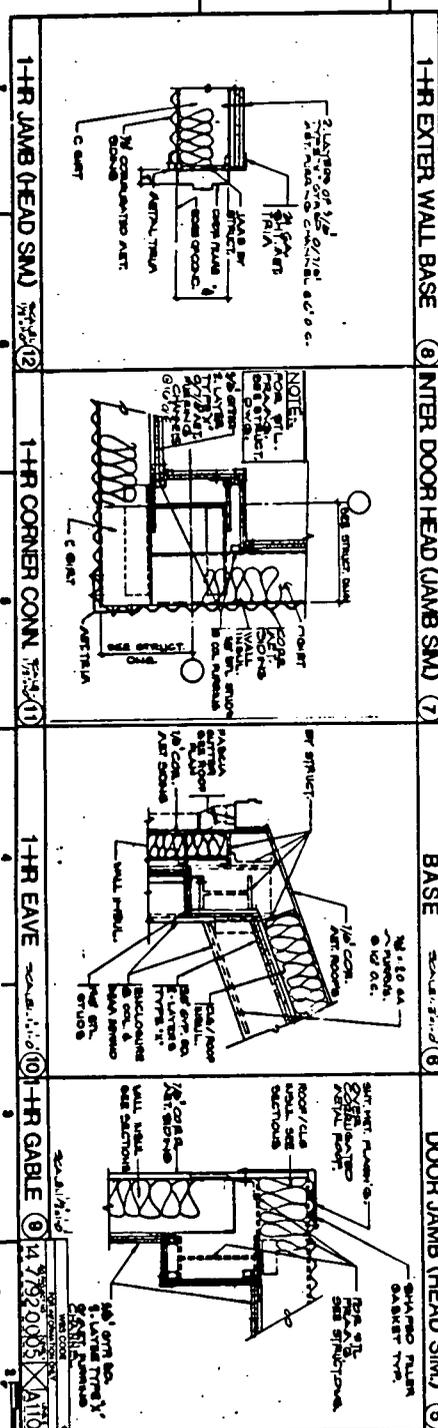
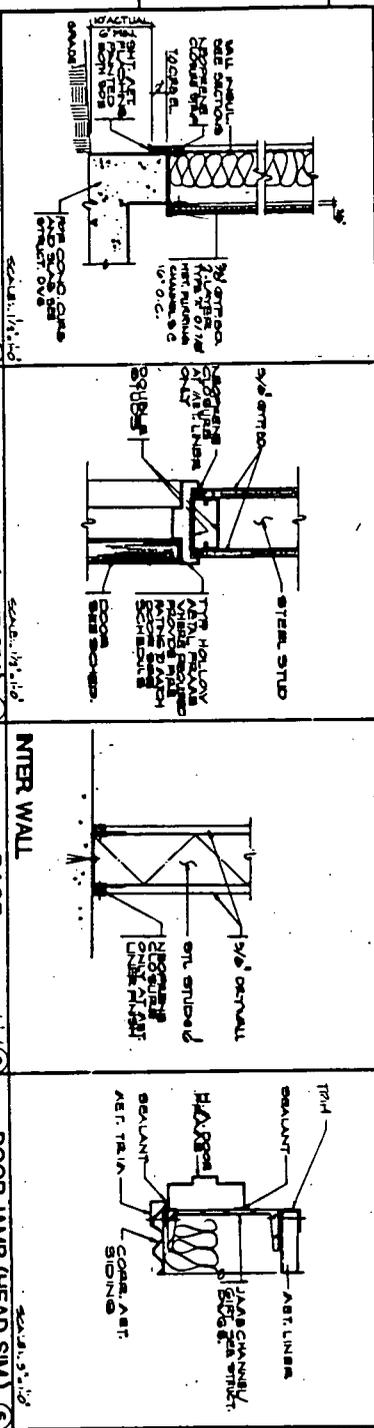
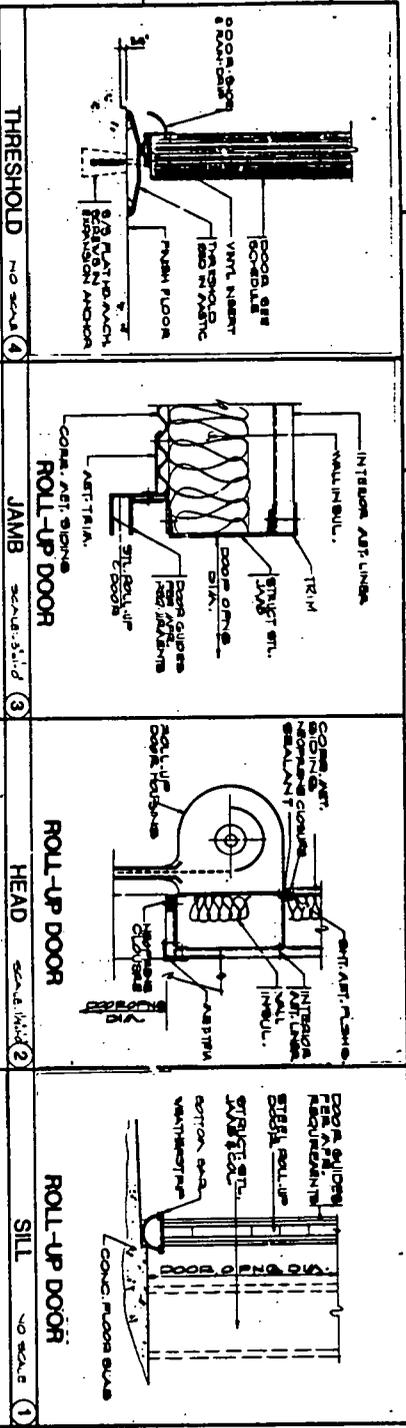
JUL 26 '89



APPENDIX J-1  
 Figure J-1.19  
 Plant 8 Rotary Kiln







**REFERENCE DRAWING**

DRAWING NO.	TITLE
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10719	SECTION 1-1/2 R. 2500-0
10720	SECTION 1-1/2 R. 2500-0
10721	SECTION 1-1/2 R. 2500-0
10722	SECTION 1-1/2 R. 2500-0
10723	SECTION 1-1/2 R. 2500-0
10724	SECTION 1-1/2 R. 2500-0
10725	SECTION 1-1/2 R. 2500-0
10726	SECTION 1-1/2 R. 2500-0
10727	SECTION 1-1/2 R. 2500-0
10728	SECTION 1-1/2 R. 2500-0
10729	SECTION 1-1/2 R. 2500-0
10730	SECTION 1-1/2 R. 2500-0
10731	SECTION 1-1/2 R. 2500-0
10732	SECTION 1-1/2 R. 2500-0
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10734	SECTION 1-1/2 R. 2500-0
10735	SECTION 1-1/2 R. 2500-0
10736	SECTION 1-1/2 R. 2500-0
10737	SECTION 1-1/2 R. 2500-0
10738	SECTION 1-1/2 R. 2500-0
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10740	SECTION 1-1/2 R. 2500-0
10741	SECTION 1-1/2 R. 2500-0
10742	SECTION 1-1/2 R. 2500-0
10743	SECTION 1-1/2 R. 2500-0
10744	SECTION 1-1/2 R. 2500-0
10745	SECTION 1-1/2 R. 2500-0
10746	SECTION 1-1/2 R. 2500-0
10747	SECTION 1-1/2 R. 2500-0
10748	SECTION 1-1/2 R. 2500-0
10749	SECTION 1-1/2 R. 2500-0
10750	SECTION 1-1/2 R. 2500-0

DO NOT SCALE - REFER DRAWING

UNITED STATES DEPARTMENT OF ENERGY

JACOBS ENGINEERING GROUP INC.

PRODUCTIVITY & BIOLOGICAL IMPROVEMENTS

ROTARY KILN ARCHITECTURAL

MISCELLANEOUS DETAILS

85D 14008E 3900 A 02554

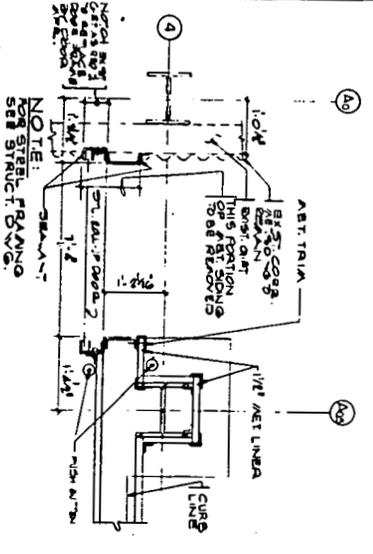
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02	3'0" x 7'0"	1/4"	1	1	1	1	1	
03	3'0" x 7'0"	1/4"	1	1	1	1	1	
04	3'0" x 7'0"	1/4"	1	1	1	1	1	
05	3'0" x 7'0"	1/4"	1	1	1	1	1	
06	3'0" x 7'0"	1/4"	1	1	1	1	1	
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09	3'0" x 7'0"	1/4"	1	1	1	1	1	
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29	3'0" x 7'0"	1/4"	1	1	1	1	1	
30	3'0" x 7'0"	1/4"	1	1	1	1	1	

**WINDOW SCHEDULE**

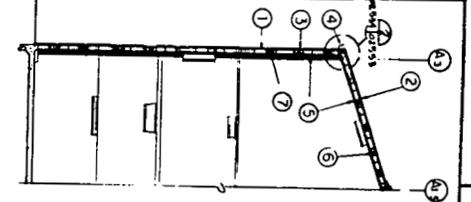
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**B** (1) 1/4" ST. ILMONI GALV. STEEL PROJECTION TYPE WINDOW. SEE SECTION A FOR DETAILS. SEE H & I/A-0535D

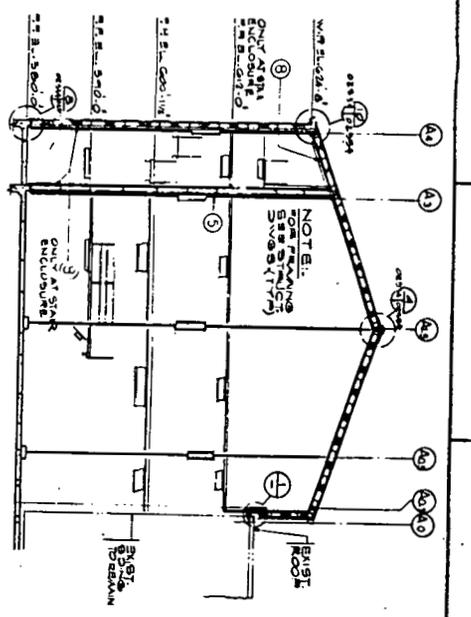


**NOTE:**  
FOR STEEL FRAMING SEE STRUCT. D.V.G.

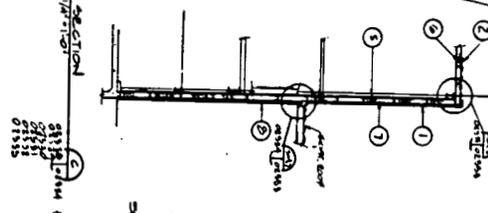
**DETAIL**  
Y.T.D. 11/17/53



**SECTION B**  
WINDOW  
Y.T.D. 11/17/53



**SECTION A**  
WINDOW  
Y.T.D. 11/17/53



**DETAIL**  
Y.T.D. 11/17/53

**REFERENCE DRAWING**

NO.	DESCRIPTION
1	FLOOR PLAN B.T. 350'0"
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3	FLOOR PLAN B.T. 350'0"
4	FLOOR PLAN B.T. 350'0"
5	FLOOR PLAN B.T. 350'0"
6	FLOOR PLAN B.T. 350'0"
7	FLOOR PLAN B.T. 350'0"
8	FLOOR PLAN B.T. 350'0"
9	FLOOR PLAN B.T. 350'0"
10	FLOOR PLAN B.T. 350'0"
11	FLOOR PLAN B.T. 350'0"
12	FLOOR PLAN B.T. 350'0"
13	FLOOR PLAN B.T. 350'0"
14	FLOOR PLAN B.T. 350'0"
15	FLOOR PLAN B.T. 350'0"
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17	FLOOR PLAN B.T. 350'0"
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19	FLOOR PLAN B.T. 350'0"
20	FLOOR PLAN B.T. 350'0"
21	FLOOR PLAN B.T. 350'0"
22	FLOOR PLAN B.T. 350'0"
23	FLOOR PLAN B.T. 350'0"
24	FLOOR PLAN B.T. 350'0"
25	FLOOR PLAN B.T. 350'0"
26	FLOOR PLAN B.T. 350'0"
27	FLOOR PLAN B.T. 350'0"
28	FLOOR PLAN B.T. 350'0"
29	FLOOR PLAN B.T. 350'0"
30	FLOOR PLAN B.T. 350'0"

**UNITED STATES DEPARTMENT OF ENERGY**

**JACOBS ENGINEERING GROUP INC.**

PROJECT: DE ACOS 8509148

ROTARY KILN ARCHITECTURAL SECTIONS / DETAILS

14792003 X A07 85-D-14008F 39001 A 02534



JUL 25 '89

GENERAL NOTES

1. ALL EXISTING AND PROPOSED CONSTRUCTION SHALL BE BASED ON ELEVATION AND DISTANCE FROM THE CENTERLINE OF THE EXISTING ROAD.
2. ALL EXISTING AND PROPOSED CONSTRUCTION SHALL BE BASED ON THE CENTERLINE OF THE EXISTING ROAD.
3. ALL EXISTING AND PROPOSED CONSTRUCTION SHALL BE BASED ON THE CENTERLINE OF THE EXISTING ROAD.
4. ALL EXISTING AND PROPOSED CONSTRUCTION SHALL BE BASED ON THE CENTERLINE OF THE EXISTING ROAD.
5. ALL EXISTING AND PROPOSED CONSTRUCTION SHALL BE BASED ON THE CENTERLINE OF THE EXISTING ROAD.
6. ALL EXISTING AND PROPOSED CONSTRUCTION SHALL BE BASED ON THE CENTERLINE OF THE EXISTING ROAD.

UNITED STATES  
DEPARTMENT OF ENERGY

LOCKWOOD GREENE  
Lockwood Greene Engineers, Inc.  
10000 Lockwood Drive, Suite 100  
Houston, Texas 77040

PROJECT NO. 10000  
DRAWING NO. 10000  
SHEET 1

DATE: 7/25/89

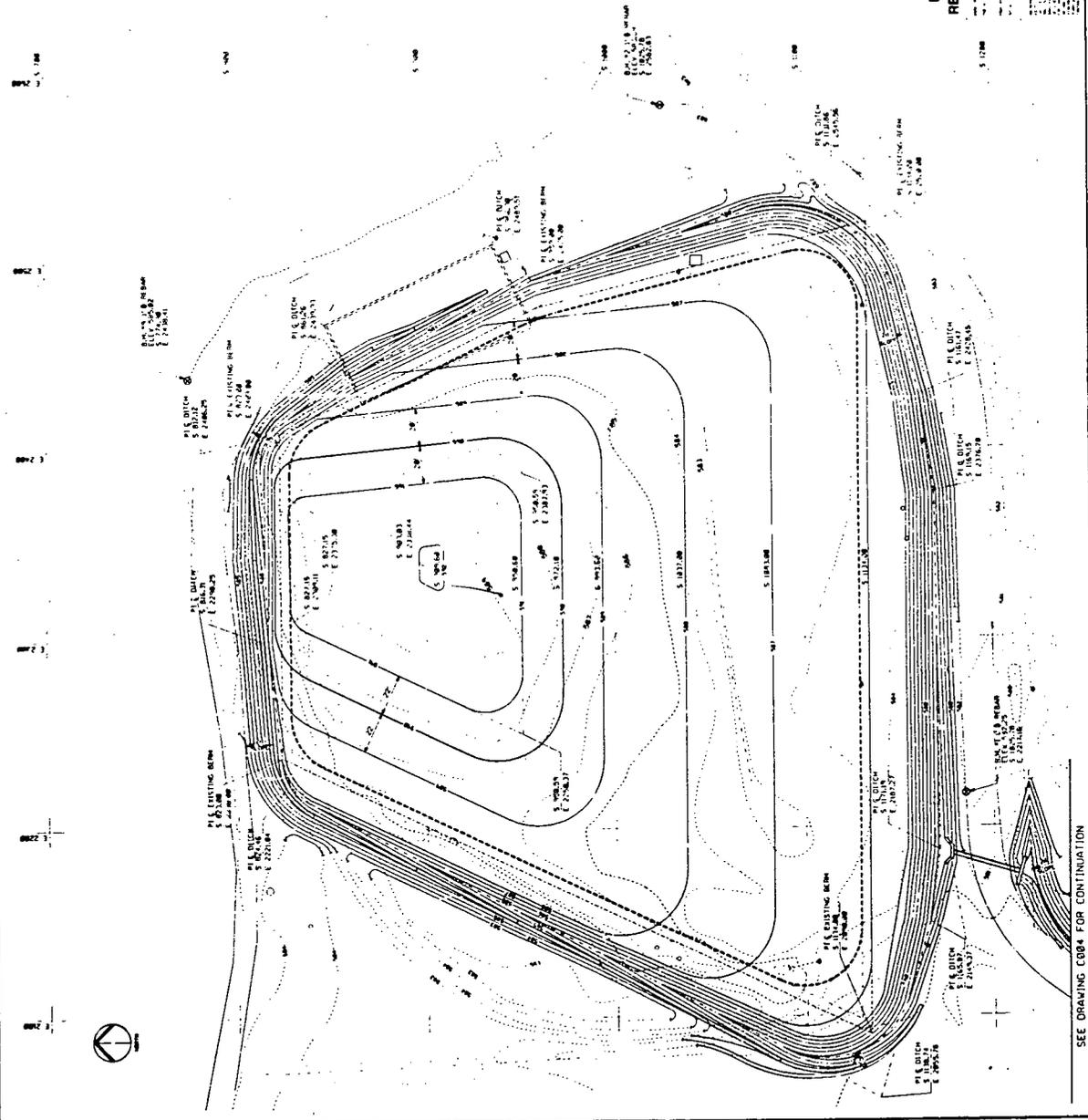
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PROJECT: LOCKWOOD GREENE ENGINEERS, INC.

PROJECT CODE: 10000

DATE: 7/25/89

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REDUCED DRAWING



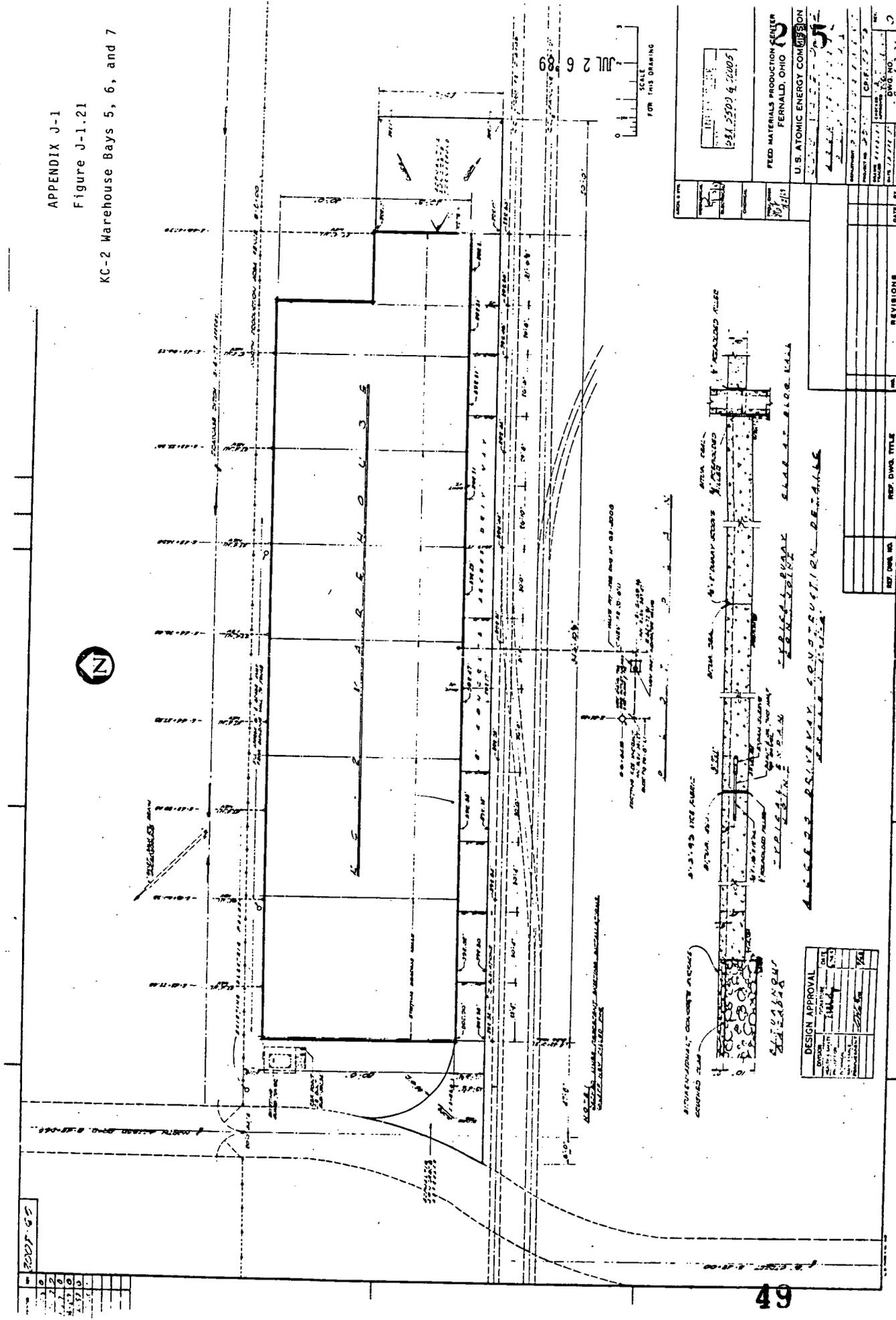
SEE DRAWING E084 FOR CONTINUATION



APPENDIX J-1

Figure J-1.21

KC-2 Warehouse Bays 5, 6, and 7



JUL 26 1969  
SCALE FOR THIS DRAWING

581 5300 & 5005

FEED MATERIALS PRODUCTION CENTER  
FERNALD, OHIO

U.S. ATOMIC ENERGY COMMISSION

PROJECT NO.	581 5300 & 5005
DATE	JUL 26 1969
DESIGNER	...
CHECKER	...
DATE	...
BY	...

DESIGN APPROVAL	
DATE	...
BY	...
DATE	...
BY	...

NO.	DATE	REVISIONS



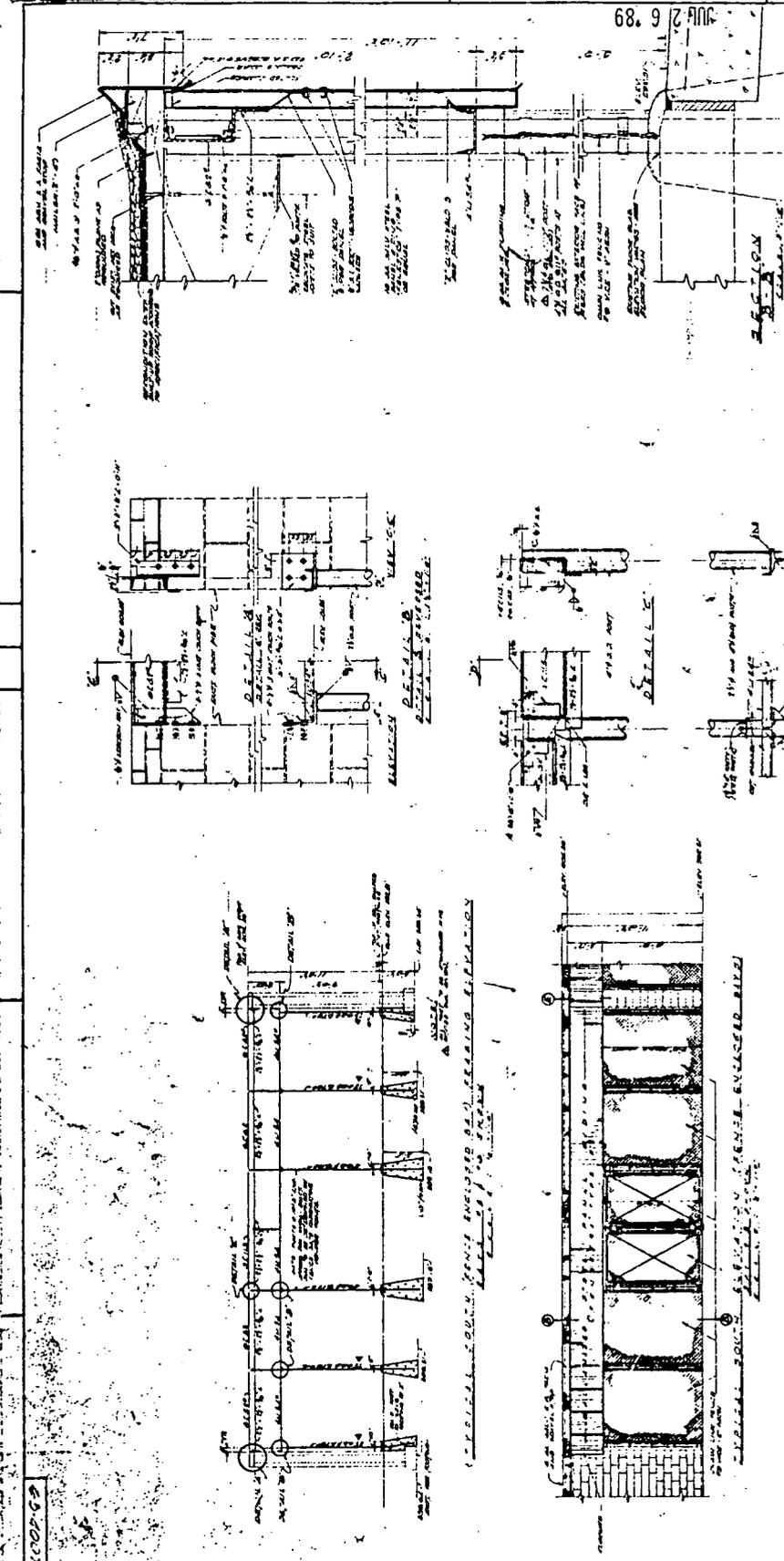


FIG. 2 68.9

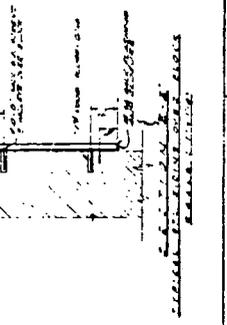
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DO NOT SCALE

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U.S. ATOMIC ENERGY COMMISSION	
PROJECT NO.	68-9
DATE	12/11/54
BY	J. H. ...
CHECKED BY	...
APPROVED BY	...
REVISIONS	2

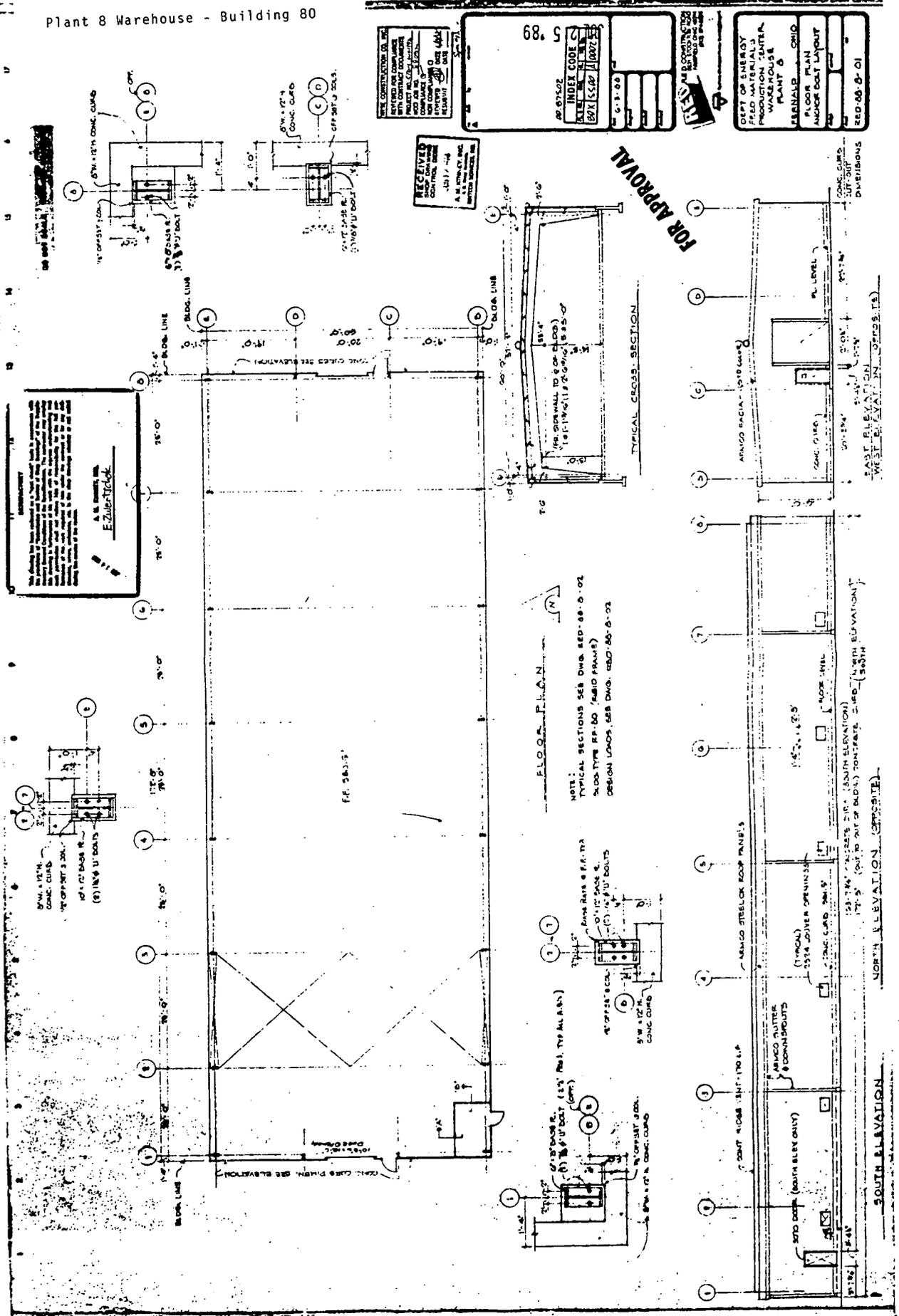
ASBESTOS  
5%  
631 5500 5 0000

NO.	DATE	DESCRIPTION
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2	...	...

DESIGN APPROVAL	DATE
...	...



NO.	DATE	DESCRIPTION
1	12/11/54	...
2	...	...



RECEIVED A. M. STEWART, INC. CONTRACT ENGINEER 4117 1/2 5-17-71	68. C INDEX CODE S FILE NO. 111 BOX 1534P 10072	DEPT. OF ENERGY FIELD MATERIALS PRODUCTION CENTER WAREHOUSE PLANT 8 FLOOR PLAN ANCHOR BOLT LAYOUT REVISIONS 80-00-0-01
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FOR APPROVAL





GENERAL NOTES

1. ALL WORK SHALL BE IN ACCORDANCE WITH THE LATEST EDITIONS OF THE SPECIFICATIONS FOR STRUCTURAL STEEL, CONCRETE AND MASONRY.

2. ALL WORK SHALL BE IN ACCORDANCE WITH THE LATEST EDITIONS OF THE SPECIFICATIONS FOR WOOD AND ROOFING.

3. ALL WORK SHALL BE IN ACCORDANCE WITH THE LATEST EDITIONS OF THE SPECIFICATIONS FOR MECHANICAL AND ELECTRICAL.

4. ALL WORK SHALL BE IN ACCORDANCE WITH THE LATEST EDITIONS OF THE SPECIFICATIONS FOR PAINTS AND COATINGS.

5. ALL WORK SHALL BE IN ACCORDANCE WITH THE LATEST EDITIONS OF THE SPECIFICATIONS FOR GLASS AND GLAZING.

6. ALL WORK SHALL BE IN ACCORDANCE WITH THE LATEST EDITIONS OF THE SPECIFICATIONS FOR METALS AND ALLOYS.

7. ALL WORK SHALL BE IN ACCORDANCE WITH THE LATEST EDITIONS OF THE SPECIFICATIONS FOR PLASTER AND GYPSONUM.

8. ALL WORK SHALL BE IN ACCORDANCE WITH THE LATEST EDITIONS OF THE SPECIFICATIONS FOR CERAMIC TILE AND TERRAZZO.

9. ALL WORK SHALL BE IN ACCORDANCE WITH THE LATEST EDITIONS OF THE SPECIFICATIONS FOR FLOORING.

10. ALL WORK SHALL BE IN ACCORDANCE WITH THE LATEST EDITIONS OF THE SPECIFICATIONS FOR LIGHTING AND FIXTURES.

11. ALL WORK SHALL BE IN ACCORDANCE WITH THE LATEST EDITIONS OF THE SPECIFICATIONS FOR HEATING, VENTILATION AND AIR CONDITIONING.

12. ALL WORK SHALL BE IN ACCORDANCE WITH THE LATEST EDITIONS OF THE SPECIFICATIONS FOR ELEVATORS AND ESCALATORS.

13. ALL WORK SHALL BE IN ACCORDANCE WITH THE LATEST EDITIONS OF THE SPECIFICATIONS FOR SIGNAGE AND IDENTIFICATION.

14. ALL WORK SHALL BE IN ACCORDANCE WITH THE LATEST EDITIONS OF THE SPECIFICATIONS FOR SAFETY AND SECURITY.

15. ALL WORK SHALL BE IN ACCORDANCE WITH THE LATEST EDITIONS OF THE SPECIFICATIONS FOR ACCESSIBILITY.

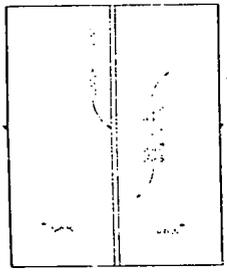
16. ALL WORK SHALL BE IN ACCORDANCE WITH THE LATEST EDITIONS OF THE SPECIFICATIONS FOR ENERGY EFFICIENCY.

17. ALL WORK SHALL BE IN ACCORDANCE WITH THE LATEST EDITIONS OF THE SPECIFICATIONS FOR SUSTAINABLE DESIGN.

18. ALL WORK SHALL BE IN ACCORDANCE WITH THE LATEST EDITIONS OF THE SPECIFICATIONS FOR QUALITY MANAGEMENT.

19. ALL WORK SHALL BE IN ACCORDANCE WITH THE LATEST EDITIONS OF THE SPECIFICATIONS FOR RISK MANAGEMENT.

20. ALL WORK SHALL BE IN ACCORDANCE WITH THE LATEST EDITIONS OF THE SPECIFICATIONS FOR COMMUNITY ENGAGEMENT.



ROOF PLAN

1. ALL WORK SHALL BE IN ACCORDANCE WITH THE LATEST EDITIONS OF THE SPECIFICATIONS FOR STRUCTURAL STEEL, CONCRETE AND MASONRY.

2. ALL WORK SHALL BE IN ACCORDANCE WITH THE LATEST EDITIONS OF THE SPECIFICATIONS FOR WOOD AND ROOFING.

3. ALL WORK SHALL BE IN ACCORDANCE WITH THE LATEST EDITIONS OF THE SPECIFICATIONS FOR MECHANICAL AND ELECTRICAL.

4. ALL WORK SHALL BE IN ACCORDANCE WITH THE LATEST EDITIONS OF THE SPECIFICATIONS FOR PAINTS AND COATINGS.

5. ALL WORK SHALL BE IN ACCORDANCE WITH THE LATEST EDITIONS OF THE SPECIFICATIONS FOR GLASS AND GLAZING.

6. ALL WORK SHALL BE IN ACCORDANCE WITH THE LATEST EDITIONS OF THE SPECIFICATIONS FOR METALS AND ALLOYS.

7. ALL WORK SHALL BE IN ACCORDANCE WITH THE LATEST EDITIONS OF THE SPECIFICATIONS FOR PLASTER AND GYPSONUM.

8. ALL WORK SHALL BE IN ACCORDANCE WITH THE LATEST EDITIONS OF THE SPECIFICATIONS FOR CERAMIC TILE AND TERRAZZO.

9. ALL WORK SHALL BE IN ACCORDANCE WITH THE LATEST EDITIONS OF THE SPECIFICATIONS FOR FLOORING.

10. ALL WORK SHALL BE IN ACCORDANCE WITH THE LATEST EDITIONS OF THE SPECIFICATIONS FOR LIGHTING AND FIXTURES.

11. ALL WORK SHALL BE IN ACCORDANCE WITH THE LATEST EDITIONS OF THE SPECIFICATIONS FOR HEATING, VENTILATION AND AIR CONDITIONING.

12. ALL WORK SHALL BE IN ACCORDANCE WITH THE LATEST EDITIONS OF THE SPECIFICATIONS FOR ELEVATORS AND ESCALATORS.

13. ALL WORK SHALL BE IN ACCORDANCE WITH THE LATEST EDITIONS OF THE SPECIFICATIONS FOR SIGNAGE AND IDENTIFICATION.

14. ALL WORK SHALL BE IN ACCORDANCE WITH THE LATEST EDITIONS OF THE SPECIFICATIONS FOR SAFETY AND SECURITY.

15. ALL WORK SHALL BE IN ACCORDANCE WITH THE LATEST EDITIONS OF THE SPECIFICATIONS FOR ACCESSIBILITY.

16. ALL WORK SHALL BE IN ACCORDANCE WITH THE LATEST EDITIONS OF THE SPECIFICATIONS FOR ENERGY EFFICIENCY.

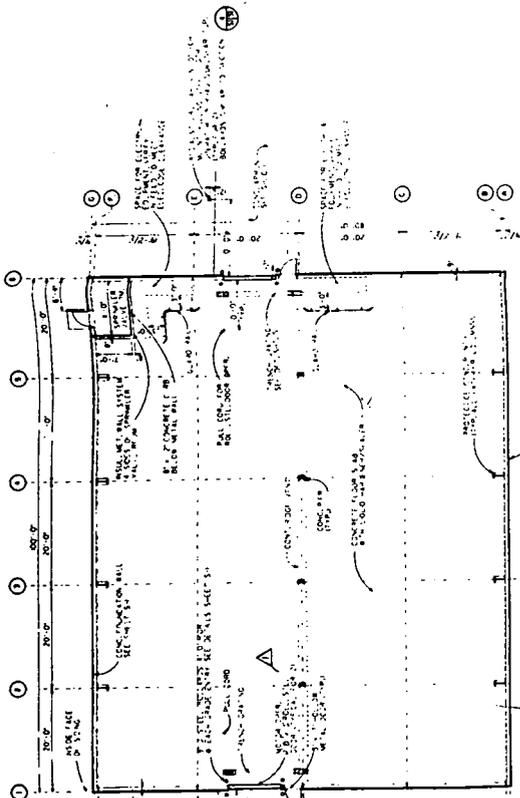
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18. ALL WORK SHALL BE IN ACCORDANCE WITH THE LATEST EDITIONS OF THE SPECIFICATIONS FOR QUALITY MANAGEMENT.

19. ALL WORK SHALL BE IN ACCORDANCE WITH THE LATEST EDITIONS OF THE SPECIFICATIONS FOR RISK MANAGEMENT.

20. ALL WORK SHALL BE IN ACCORDANCE WITH THE LATEST EDITIONS OF THE SPECIFICATIONS FOR COMMUNITY ENGAGEMENT.

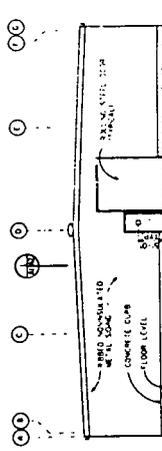
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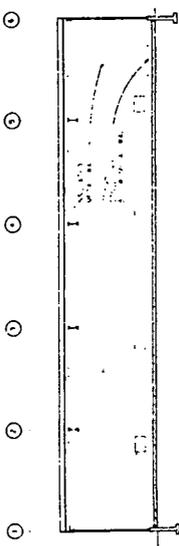
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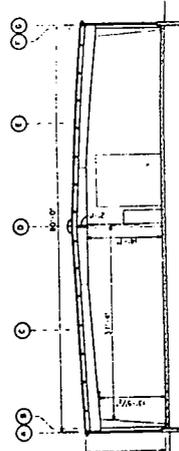
SOUTH ELEVATION



EAST ELEVATION



SECTION



SECTION

OR NOT SCALE REDUCED DRAWING

TO COMPLETE THIS SET OF DRAWINGS, SEE SHEET No. 10 OF THIS SET.

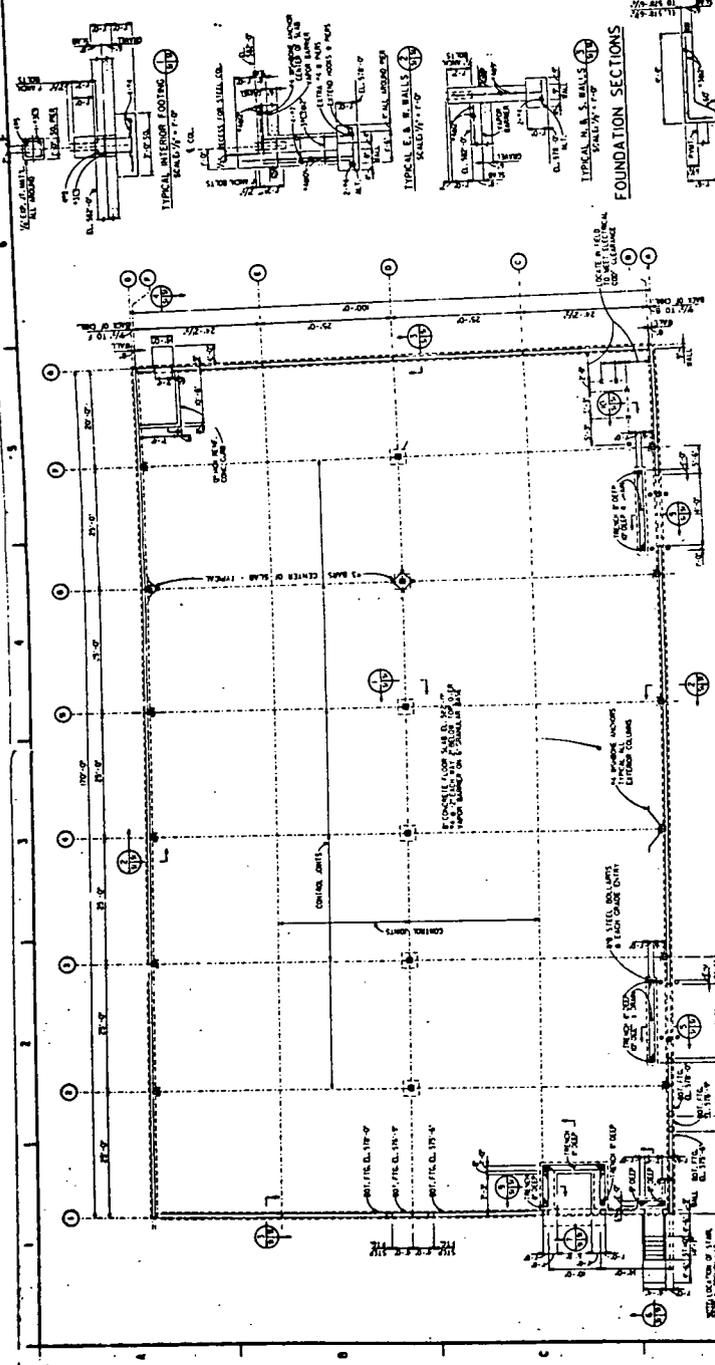
UNITED STATES  
DEPARTMENT OF ENERGY  
FEDERAL ENERGY TECHNOLOGY CENTER  
A. M. KINNEY, INC.  
ENVIRONMENTAL, HEALTH & SAFETY IMPROVEMENTS  
WAREHOUSE - PLANT 9  
PLANS, SECTIONS, & ELEVATIONS  
DATE: 10/10/10  
SCALE: AS NOTED  
PROJECT NO.: 00000000  
SHEET NO.: 00000000



JUL 25 1989

**NOTES**

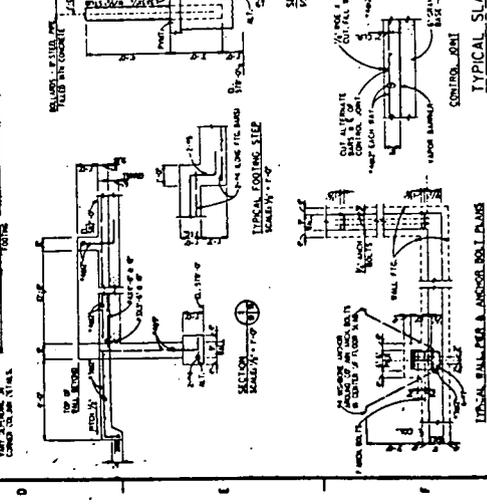
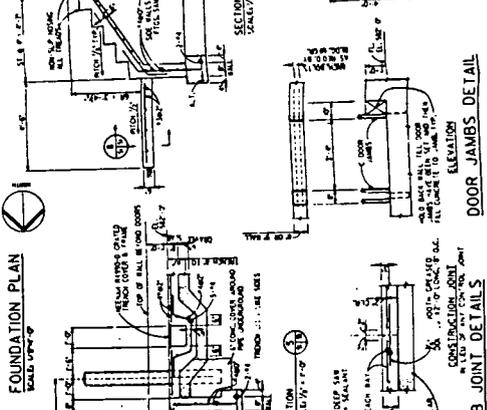
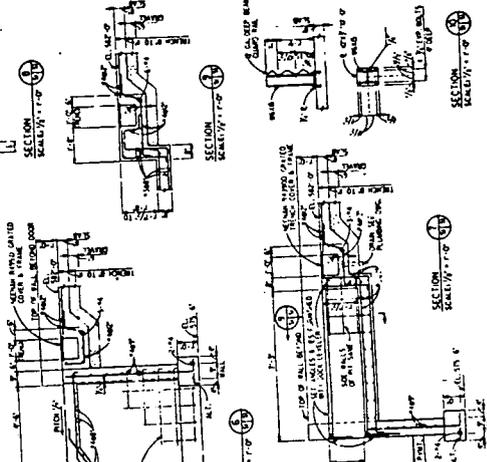
ALL FOUNDATION WALLS ARE TO BE UNDERPINNED BY FOUNDATION  
 CONSTRUCTION. SEE SECTION 8.1 FOR DETAILS OF UNDERPINNING.  
 ALL FOUNDATION WALLS ARE TO BE CONCRETE. SEE SECTION 8.1 FOR  
 DETAILS OF CONCRETE. ALL FOUNDATION WALLS ARE TO BE  
 UNDERPINNED BY FOUNDATION CONSTRUCTION. SEE SECTION 8.1  
 FOR DETAILS OF UNDERPINNING. ALL FOUNDATION WALLS ARE TO  
 BE CONCRETE. SEE SECTION 8.1 FOR DETAILS OF CONCRETE.  
 ALL FOUNDATION WALLS ARE TO BE UNDERPINNED BY FOUNDATION  
 CONSTRUCTION. SEE SECTION 8.1 FOR DETAILS OF UNDERPINNING.



**SECTION 8.1 DETAIL**

TO COMPLETE SEE SECTION 8.1 FOR DETAILS OF UNDERPINNING.  
 SEE SECTION 8.1 FOR DETAILS OF CONCRETE.

NO.	DESCRIPTION	DATE
1	ISSUED FOR PERMITS	7/25/89
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5	ISSUED FOR PERMITS	7/25/89
6	ISSUED FOR PERMITS	7/25/89
7	ISSUED FOR PERMITS	7/25/89
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9	ISSUED FOR PERMITS	7/25/89
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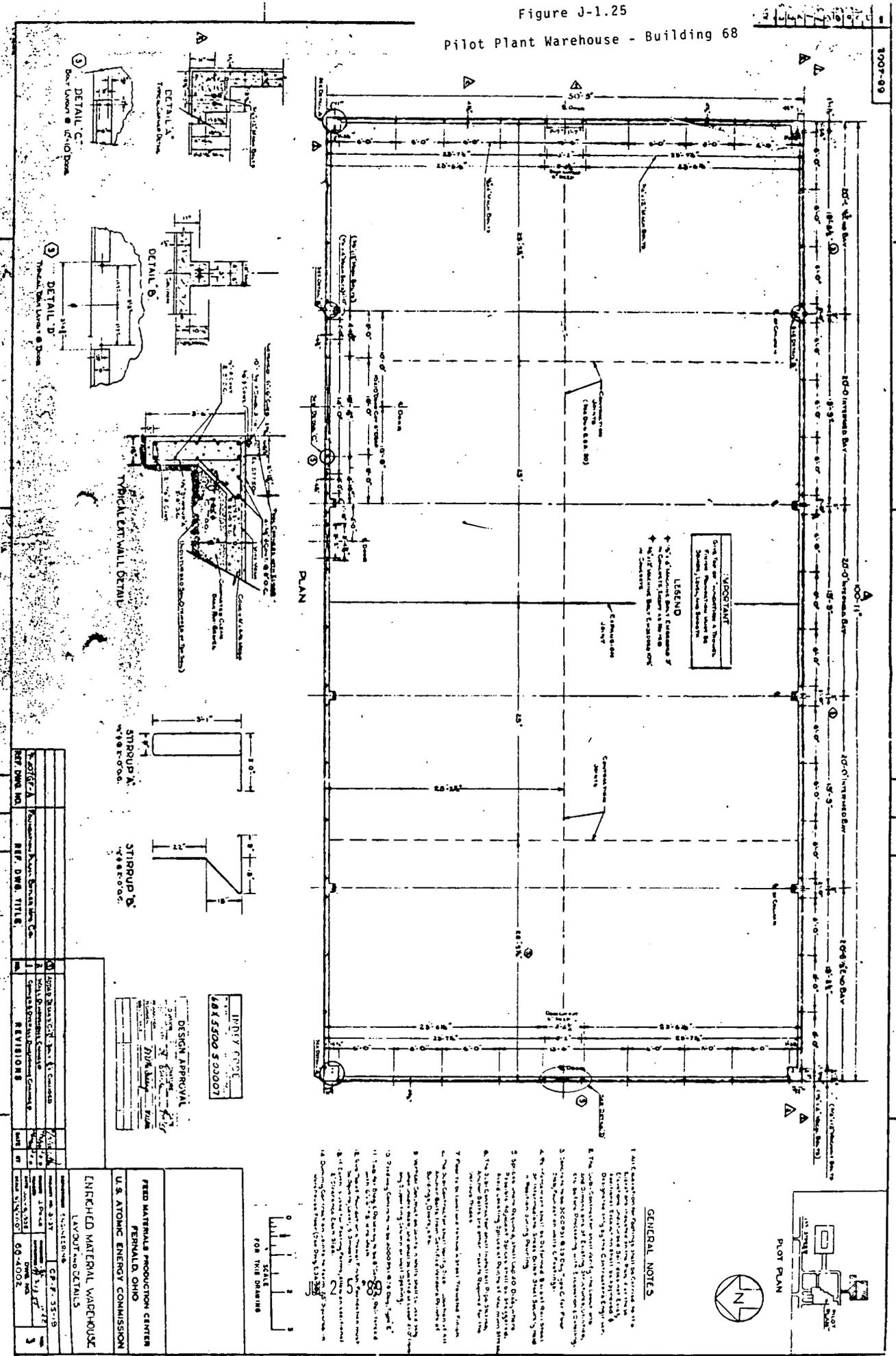


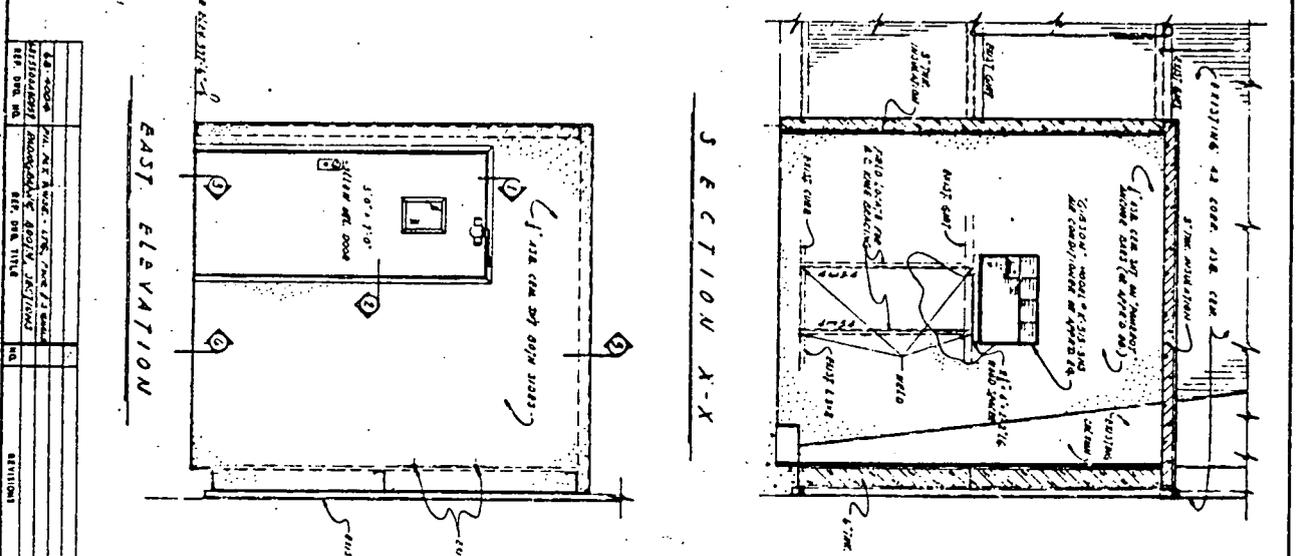
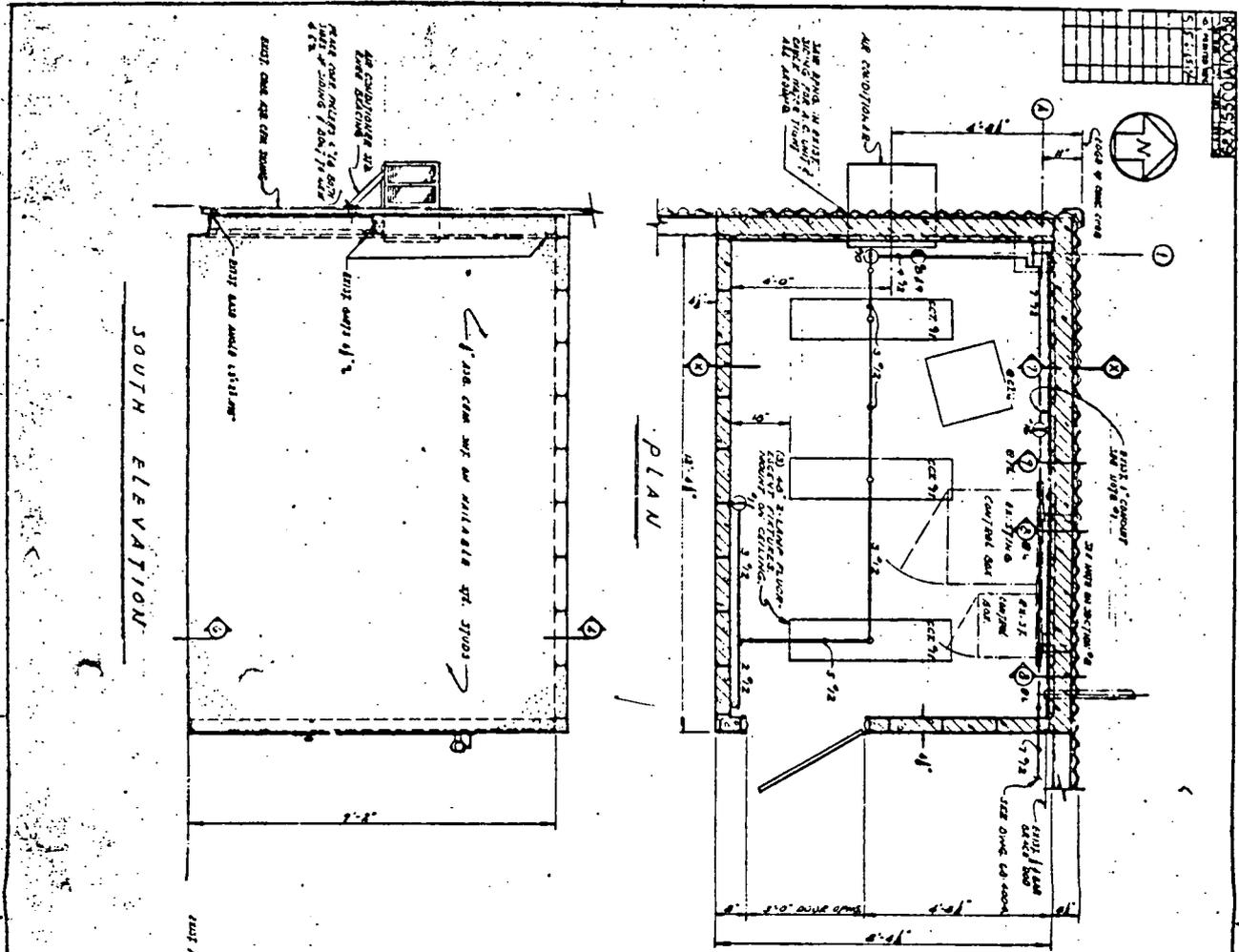
**UNITED STATES PROY  
 DEPARTMENT OF PROY  
 PROY CENTER**

A. M. MINNEY, INC.  
 ENVIRONMENTAL HEALTH & SAFETY IMPROVEMENTS  
 PROY CENTER  
 PROY CENTER  
 PROY CENTER



APPENDIX J-1  
 Figure J-1.25  
 Pilot Plant Warehouse - Building 68





**NOTE**

1. SEE 1000 FOR AIR CONDITIONING.
2. ALL CONDUIT SHALL BE RIGID CONDUIT.
3. SWITCHES TO BE 30 AMP.

**ELECTRICAL SYMBOLS**

- ① RECEPTACLE, 150 VA, 125 VOLT, 15 AMP, 1 PHASE, 3 WIRE, GROUNDING TYPE, TO BE INSTALLED IN EACH ROOM.
- ② SWITCH, 15 AMP, 125 VOLT, 1 PHASE, 3 WIRE, GROUNDING TYPE.
- ③ SWITCH, 30 AMP, 125 VOLT, 1 PHASE, 3 WIRE, GROUNDING TYPE.

**INDEX CODE**

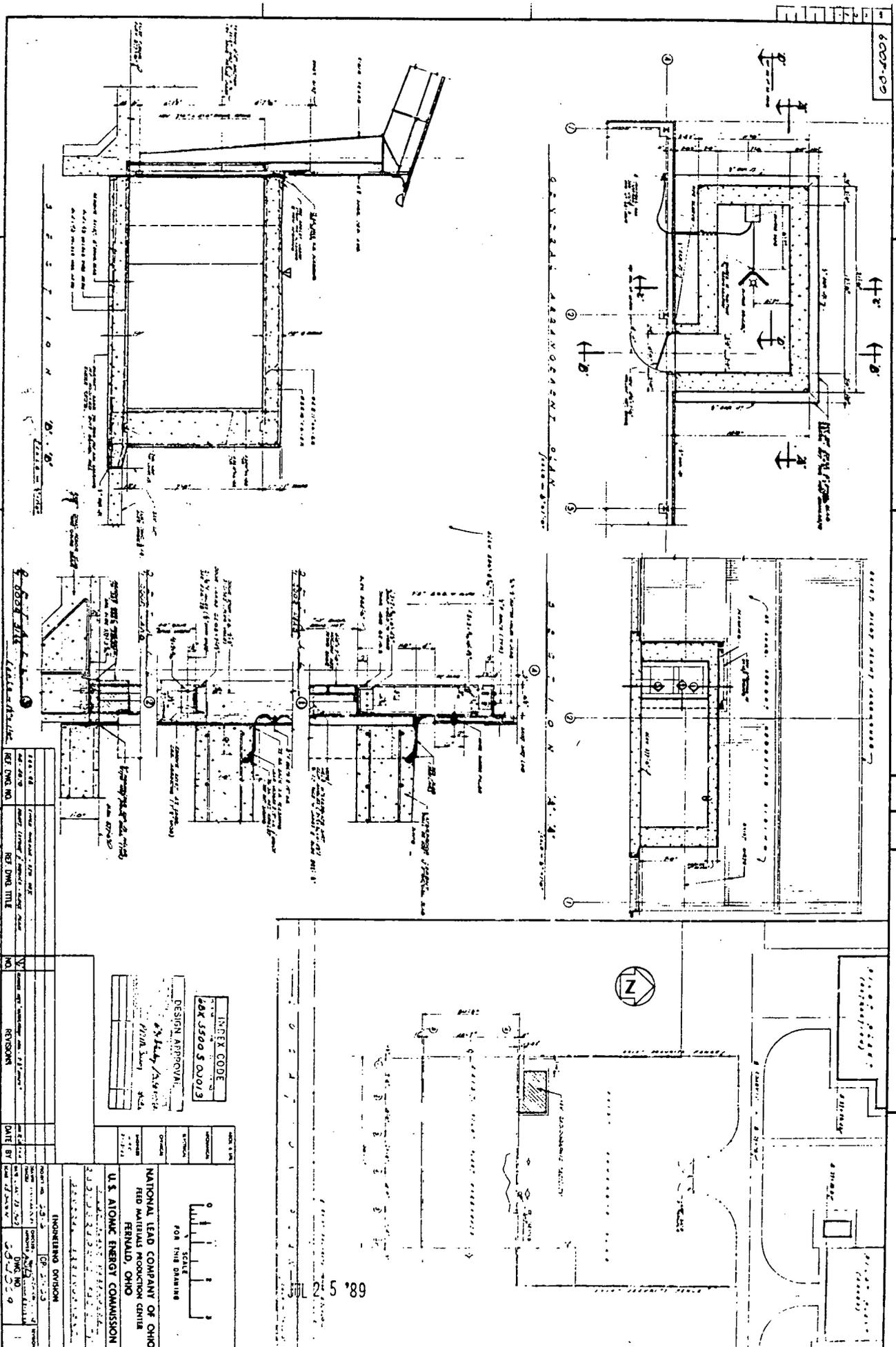
61 5300 E00030

**NATIONAL LEAD COMPANY OF OHIO**  
**FEDERAL MATERIAL PRODUCTION CENTER**  
**RENNALD, OHIO**  
**U. S. ATOMIC ENERGY COMMISSION**  
**RADIOGRAPHIC SOUTH**  
**PHYSICIAN'S OFFICE**  
**ENGINEERING DEPARTMENT**

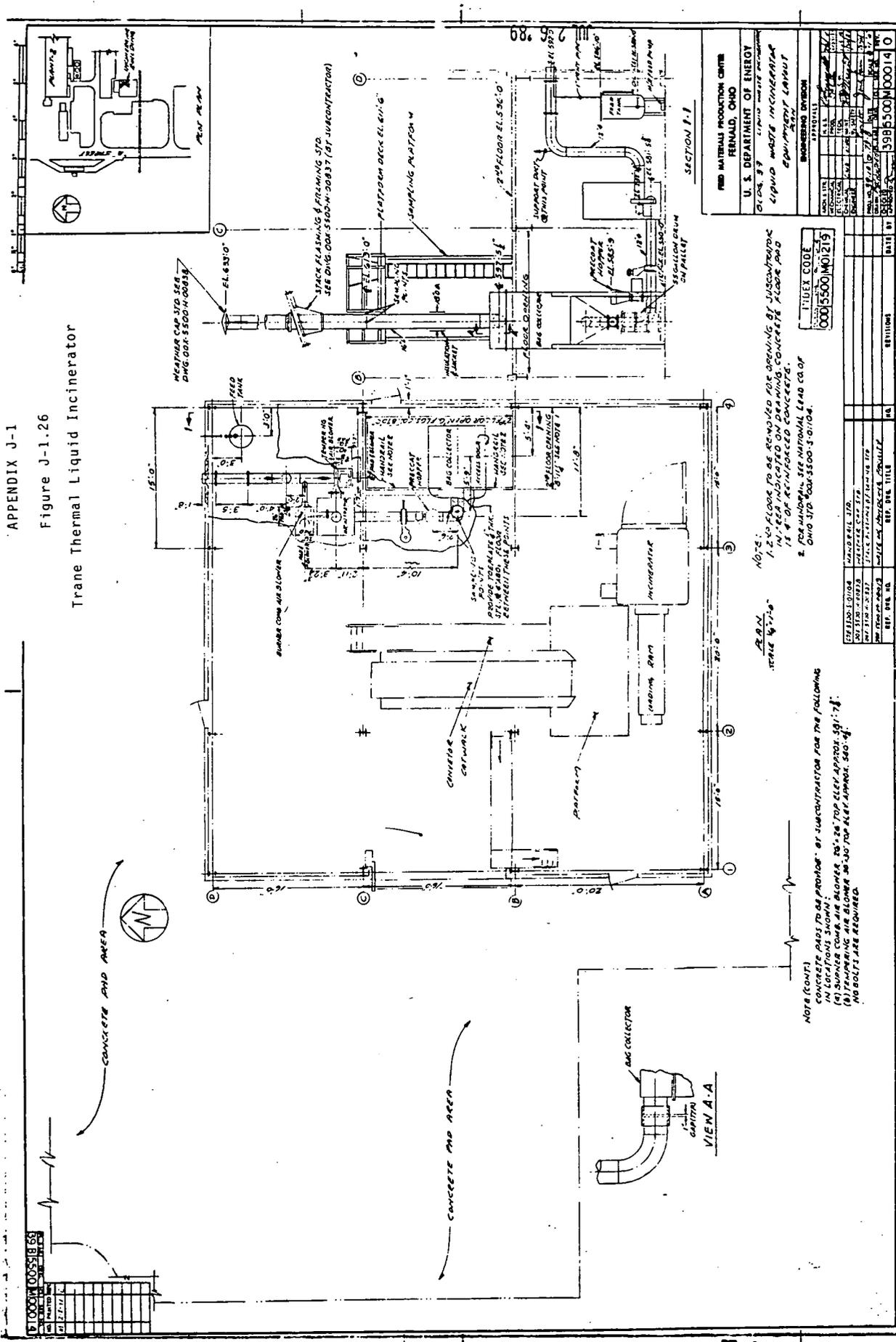
**LOCATION PLAN**  
**PILOT PLANT WAREHOUSE**

**JUL 25**

**ANNEX**



APPENDIX J-1  
Figure J-1.26  
Trane Thermal Liquid Incinerator



FEDERAL MATERIALS PRODUCTION CENTER FERNALD, OHIO	
U. S. DEPARTMENT OF ENERGY	
CIRC. 37 - LIQUID WASTE INCINERATOR	
EQUIPMENT LAYOUT	
ENGINEERING DESIGN	
DESIGNED BY	DATE
CHECKED BY	DATE
APPROVED BY	DATE
PROJECT NO.	398550010001410

NOTES:  
 1. 1<sup>ST</sup> FLOOR TO BE REINFORCED PER DRAWING OF SUBCONTRACTOR  
 18" x 18" OF REINFORCED CONCRETE.  
 2. FOR WINDUP, SEE MINORIAL LEAD CO. OF  
 OHIO STD. 600-5500-3-01/04.

REMARKS:  
 1. 1<sup>ST</sup> FLOOR TO BE REINFORCED PER DRAWING OF SUBCONTRACTOR  
 18" x 18" OF REINFORCED CONCRETE.  
 2. FOR WINDUP, SEE MINORIAL LEAD CO. OF  
 OHIO STD. 600-5500-3-01/04.

CONCRETE	18" x 18" REINFORCED
STEEL	ASTM A36
PIPE	ASTM A106
VALVES	ASTM A105
WELDS	ASME B31.1
PAINT	ASME B31.1
INSULATION	ASME B31.1
WATER	ASME B31.1
AIR	ASME B31.1
STEAM	ASME B31.1
HYDROCARBONS	ASME B31.1
OTHER	ASME B31.1
DATE	10/1/79
BY	J. J. [Signature]
CHECKED BY	[Signature]
APPROVED BY	[Signature]
PROJECT NO.	398550010001410

NOTES (CONT):  
 CONCRETE ALSO TO BE PROVIDED BY SUBCONTRACTOR FOR THE FOLLOWING:  
 (A) SUPPLIER COMB AIR BLOWER, 20" x 28" TOP ELEV APPROX. 591'7".  
 (B) THUNDERING AIR BLOWER, 30" x 30" TOP ELEV APPROX. 580'4".  
 NO BOLTS ARE REQUIRED.

VIEW A-A

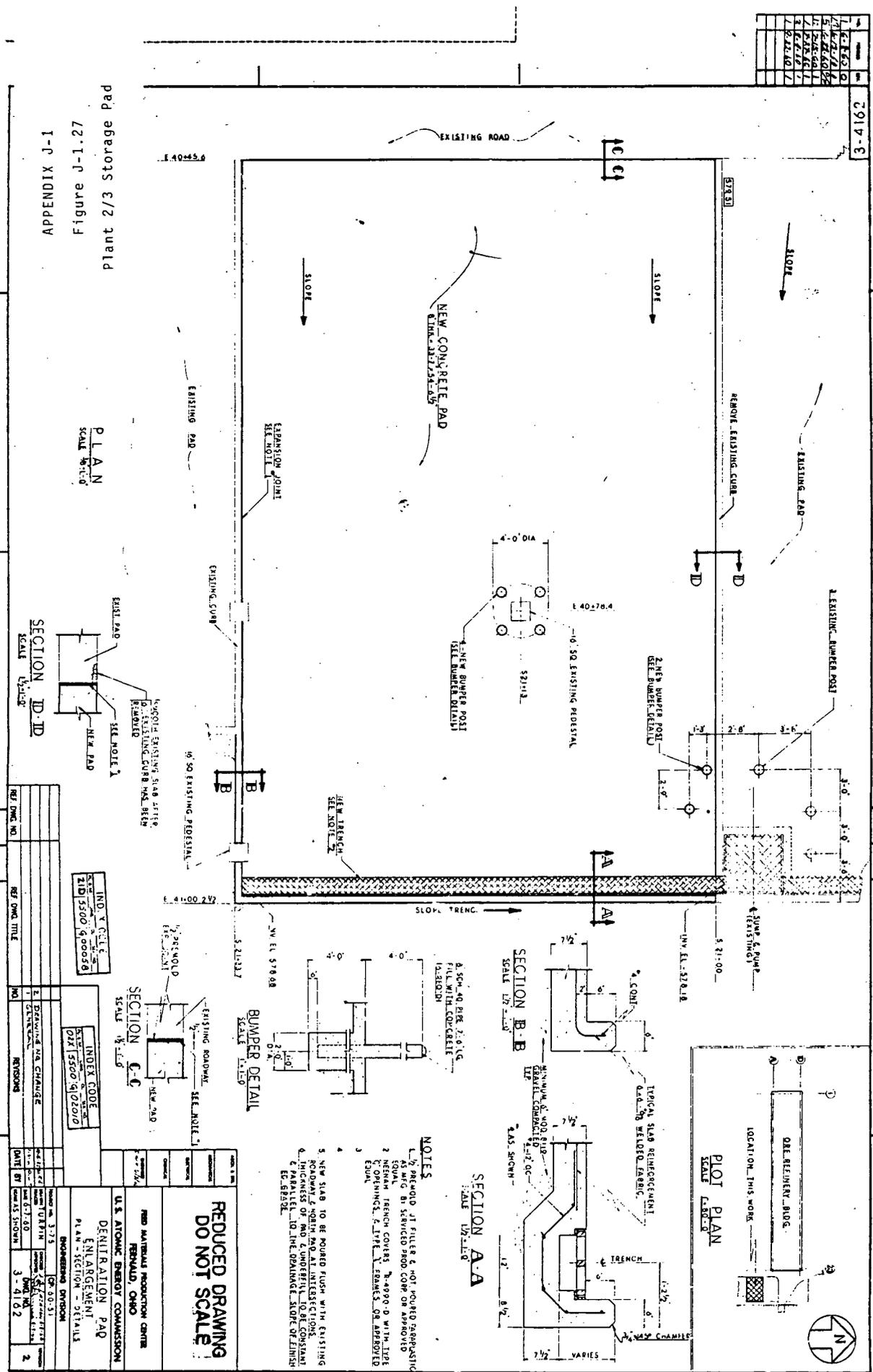
SECTION P-1



APPENDIX J-1

Figure J-1.27

Plant 2/3 Storage Pad



REF. DWG. NO.	REF. DWG. TITLE	NO.	DATE	BY	CHKD. BY	REVISION
		1	03/27/80	...	...	...
		2	03/27/80	...	...	...

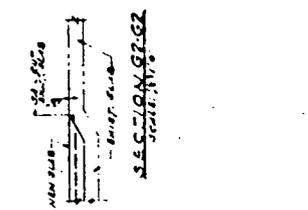
  

INDEX CODE	INDEX CODE
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IND. X 0118	IND. X 0118
IND. X 0119	IND. X 0119
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IND. X 0146	IND. X 0146
IND. X 0147	IND. X 0147
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IND. X 0149	IND. X 0149
IND. X 0150	IND. X 0150

U.S. ATOMIC ENERGY COMMISSION  
 DENITRATION PAD  
 ENLARGEMENT  
 PLAN - SECTION - DETAILS

REDUCED DRAWING  
 DO NOT SCALE

5007 2J-0125

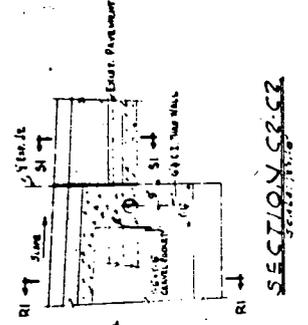


APPENDIX J-1  
Figure J-1.28  
Plant 1 Storage Pad

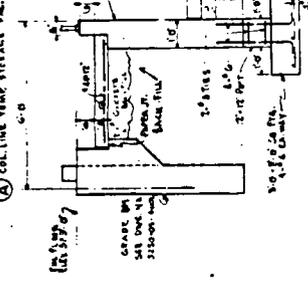
NOTES:  
1. FOR NOTES SEE DWG. 5250-175-4003  
2. FOR LOCATION OF SECS. SEE DWG. 5250-175-4003  
3. ALL CONCRETE CLASS #4, 3000 PSI (EXCEPT AS NOTED)  
4. ALL STEEL STRUCTURE #50,000 PSI (EXCEPT AS NOTED)



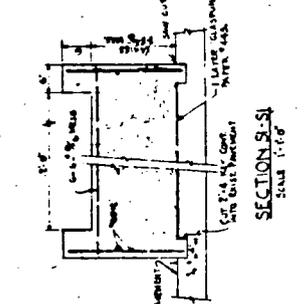
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REFERENCE DRAWINGS	5250-175-4003	
DATE OF DRAWING	11/15/58	
DESIGNED BY	W. J. BRYEN	
CHECKED BY	W. J. BRYEN	
APPROVED BY	W. J. BRYEN	
SCALE	AS SHOWN	
PROJECT	GENERAL STORAGE PAVED AREA	
SECTION	SECTIONS & DETAILS	
DATE	11/15/58	
BY	W. J. BRYEN	
CHECKED BY	W. J. BRYEN	
APPROVED BY	W. J. BRYEN	
PROJECT NO.	5250-175-4003	3



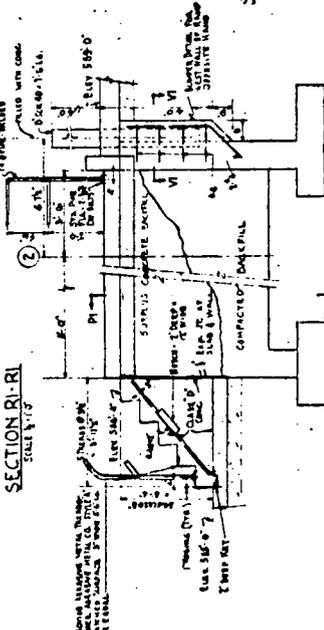
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SCALE 1/4" = 1'-0"



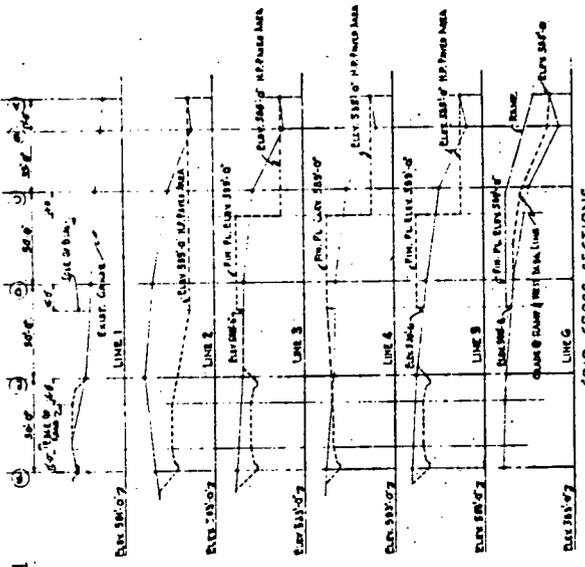
SECTION S1-S1  
SCALE 1/4" = 1'-0"



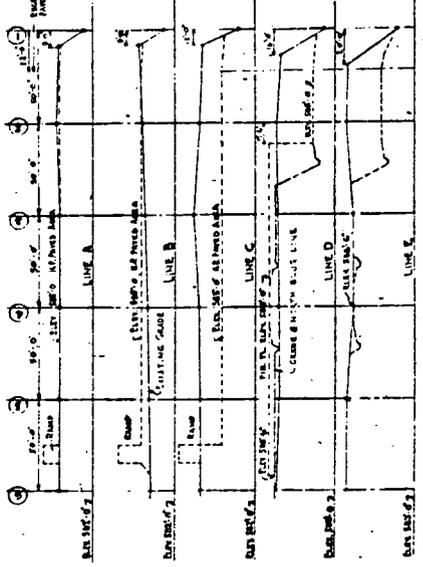
SECTION R1-R1  
SCALE 1/4" = 1'-0"



SECTION U1-U1  
SCALE 1/4" = 1'-0"



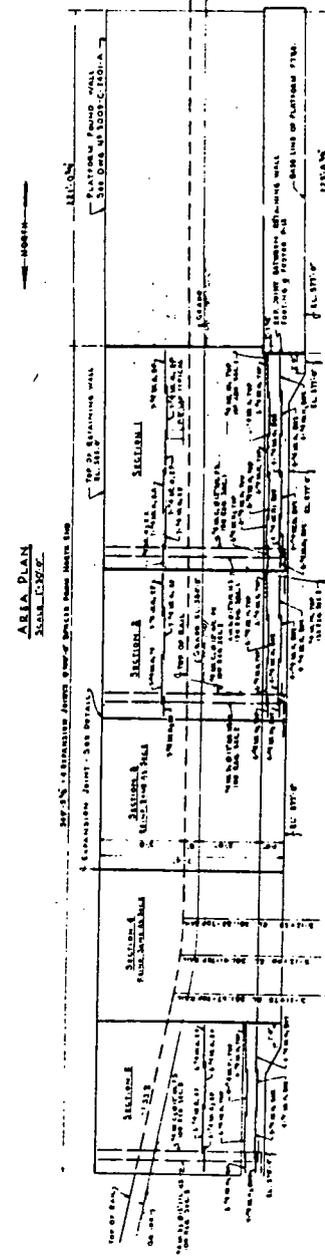
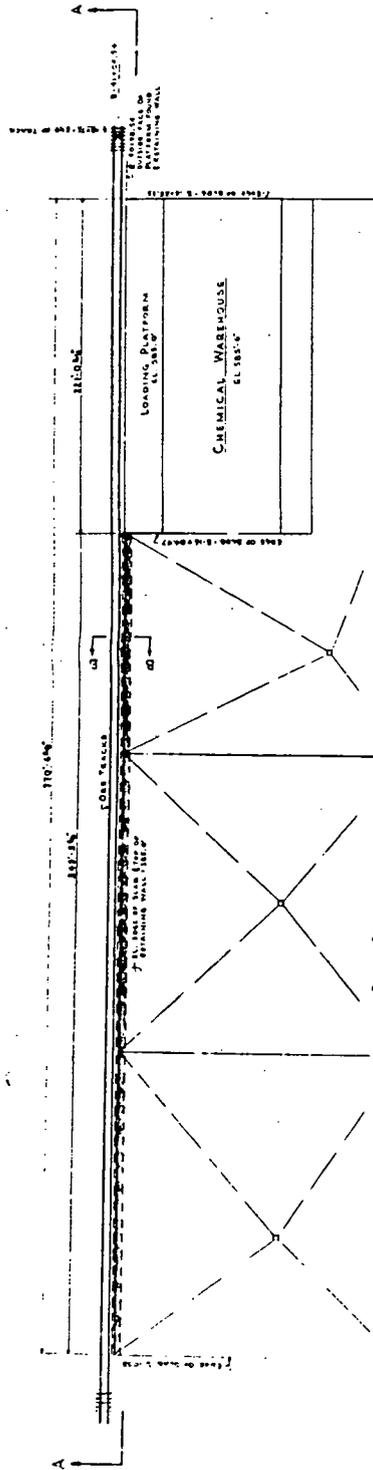
GRID CROSS SECTIONS  
SCALE 1/4" = 1'-0"



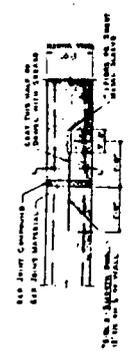
GRID CROSS SECTIONS  
SCALE 1/4" = 1'-0"

NO.	REVISION	DATE	BY	CHKD.	APP'D.
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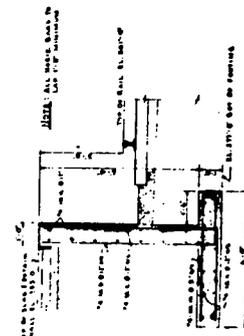
JUL 3 1 98



ELEVATION A-A  
SCALE: 1/8" = 1'-0"



DETAIL OF EXPANSION JOINT



SECTION B-B  
SCALE: 1/8" = 1'-0"

NO.	DATE	BY	DESCRIPTION
1	7/3/98	J. J. [unclear]	DRUM STORAGE - PUMP AREA
2			
3			
4			
5			
6			
7			
8			
9			
10			

1/8" = 1'-0"  
SCALE

Notes: For Rebar, Steel, See  
Sheet No. 1

**GENERAL NOTES**

1. EXISTING LEVEL SHALL BE INDICATED BY A DOTTED LINE.
2. ALL CONCRETE SHALL BE 3000 PSI STRENGTH WITH 4% CEMENT.
3. CONCRETE TO BE CLASS "A" ACCORD TO U.S. SPECIFICATIONS.
4. ALL JOINTS WITH BRASS OR COPPER COMPATIBLE.
5. CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS.



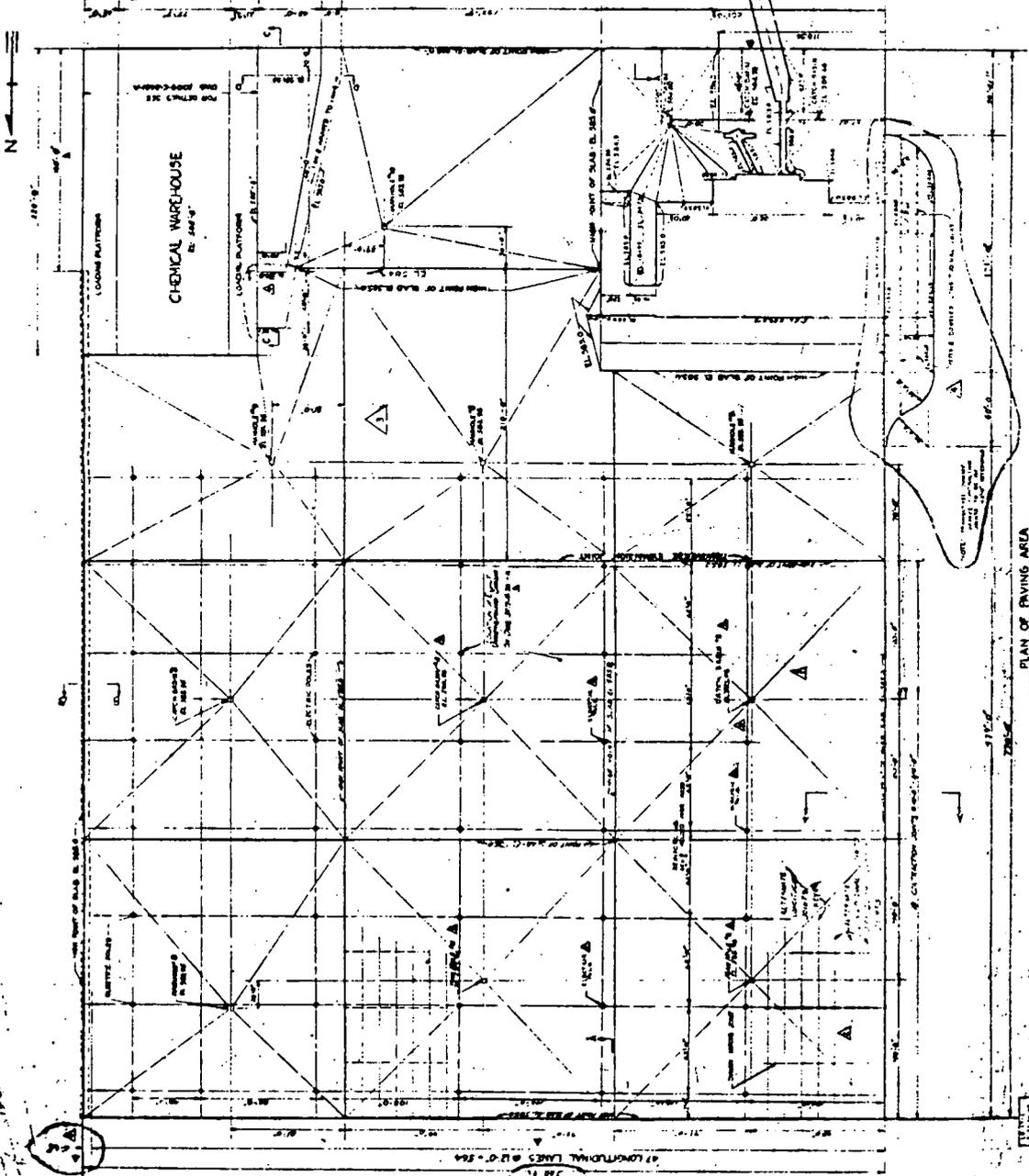
JUL 3 1 88

NO.	REVISIONS	DATE	BY	CHKD.
1	ISSUED FOR CONSTRUCTION	7/1/88	...	...

PROJECT NO.	...
CONTRACT NO.	...
DATE OF CONTRACT	...
DATE OF DRAWING	...
SCALE	...
DESIGNED BY	...
CHECKED BY	...
APPROVED BY	...
DATE	...

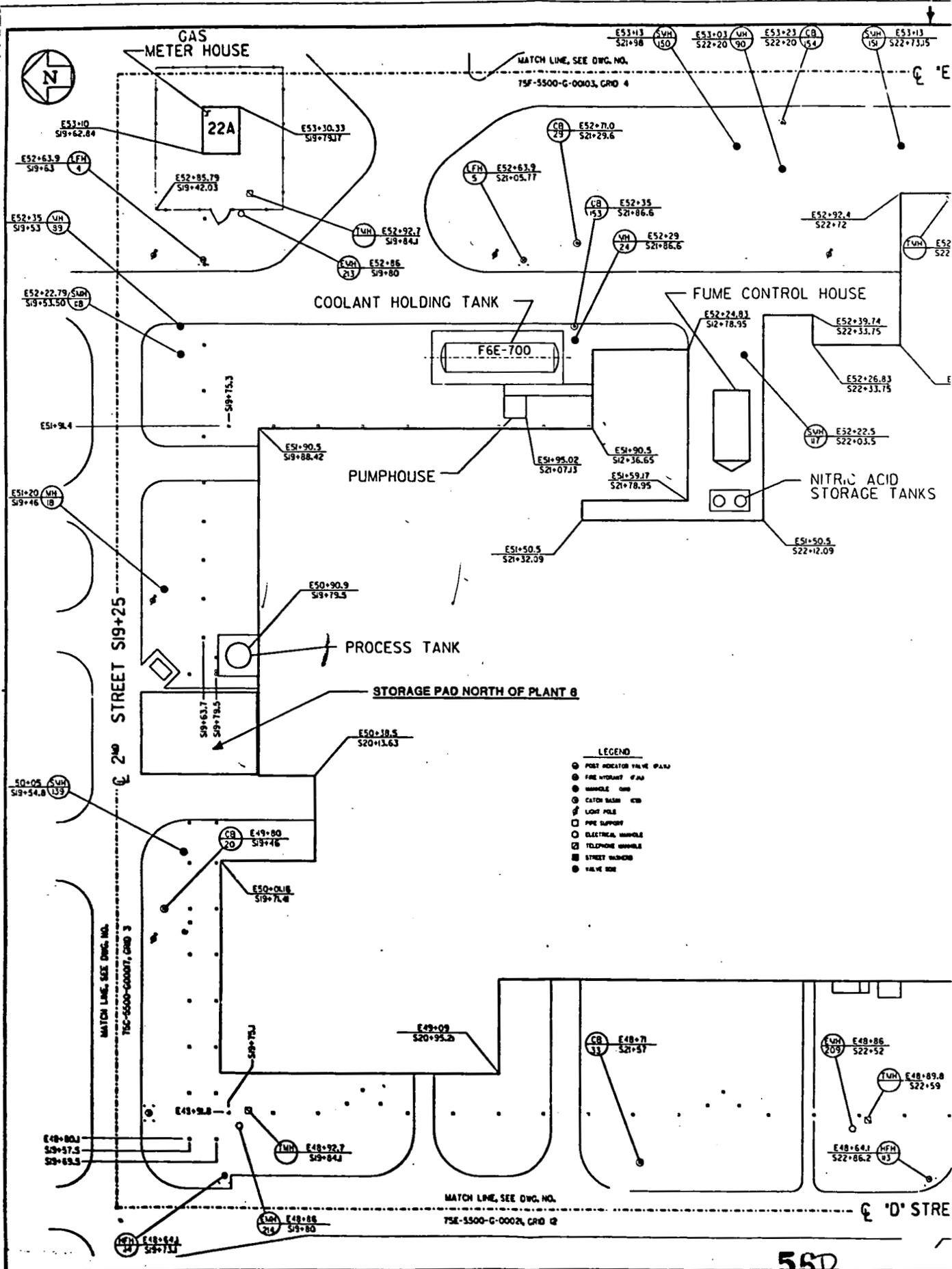
UNITED STATES ATOMIC ENERGY COMMISSION	
FEDERAL RESERVE BANK OF NEW YORK	
NEW YORK, N. Y.	
PLANT OF FUEL STORAGE	
REACTOR AREA	
PROJECT NO.	...
CONTRACT NO.	...
DATE OF CONTRACT	...
DATE OF DRAWING	...
SCALE	...
DESIGNED BY	...
CHECKED BY	...
APPROVED BY	...
DATE	...



PLAN OF PAVING AREA

MINI CODE  
78145050000



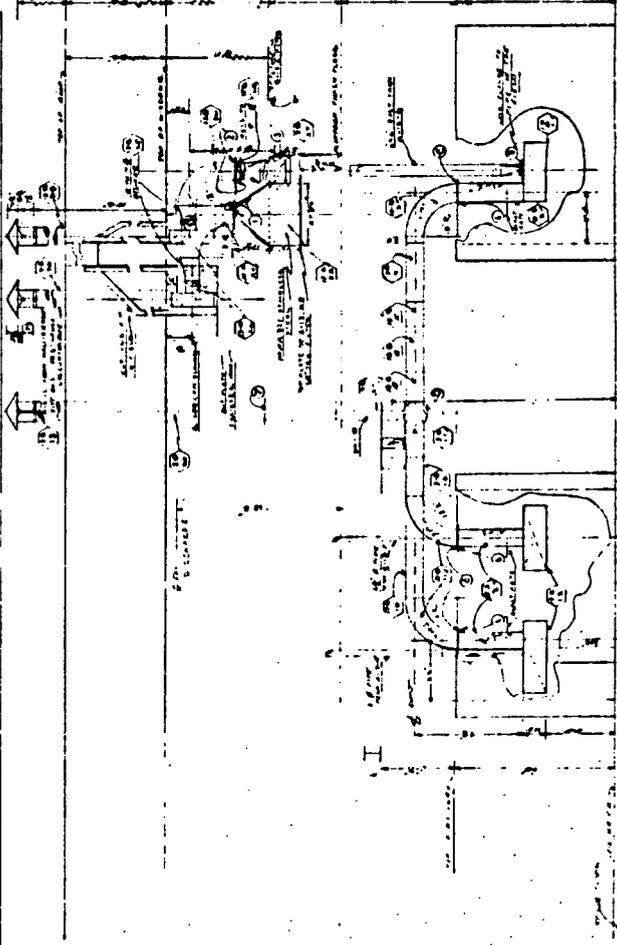
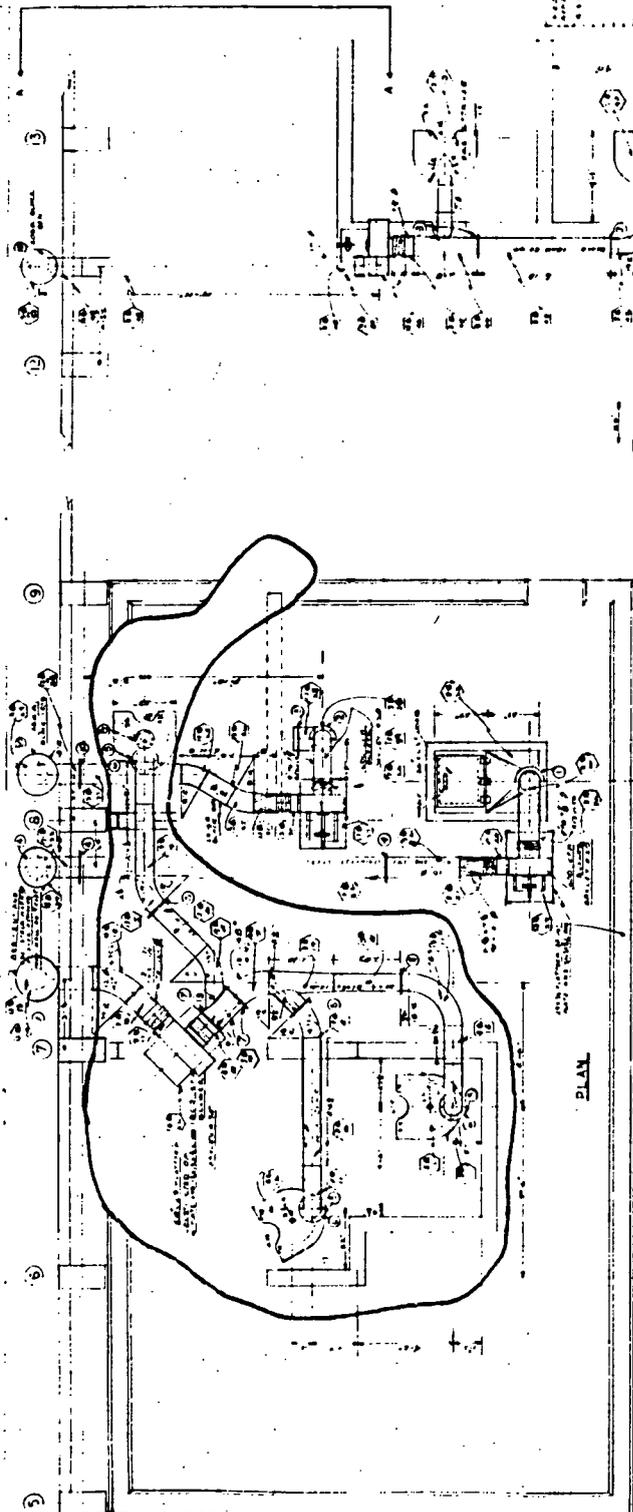


- LEGEND**
- POSE INDICATOR VALVE (PAV)
  - FIRE HYDRANT (FH)
  - MANHOLE (MH)
  - CATCH BASIN (CB)
  - LIGHT POLE
  - PIPE SUPPORT
  - ELECTRICAL MANHOLE
  - TELEPHONE MANHOLE
  - STREET MARKER
  - VALVE (V)





JUL 28 '89



PLUMBING

NO.	DESCRIPTION	QTY.	UNIT	PRICE	TOTAL
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CERTIFIED PRINT  
 INDEX CODE  
 FOR USE IN PLANS

DATE: 7/24/89  
 DRAWN BY: J. J. JAMES  
 CHECKED BY: J. J. JAMES  
 PROJECT NO.: 84-130



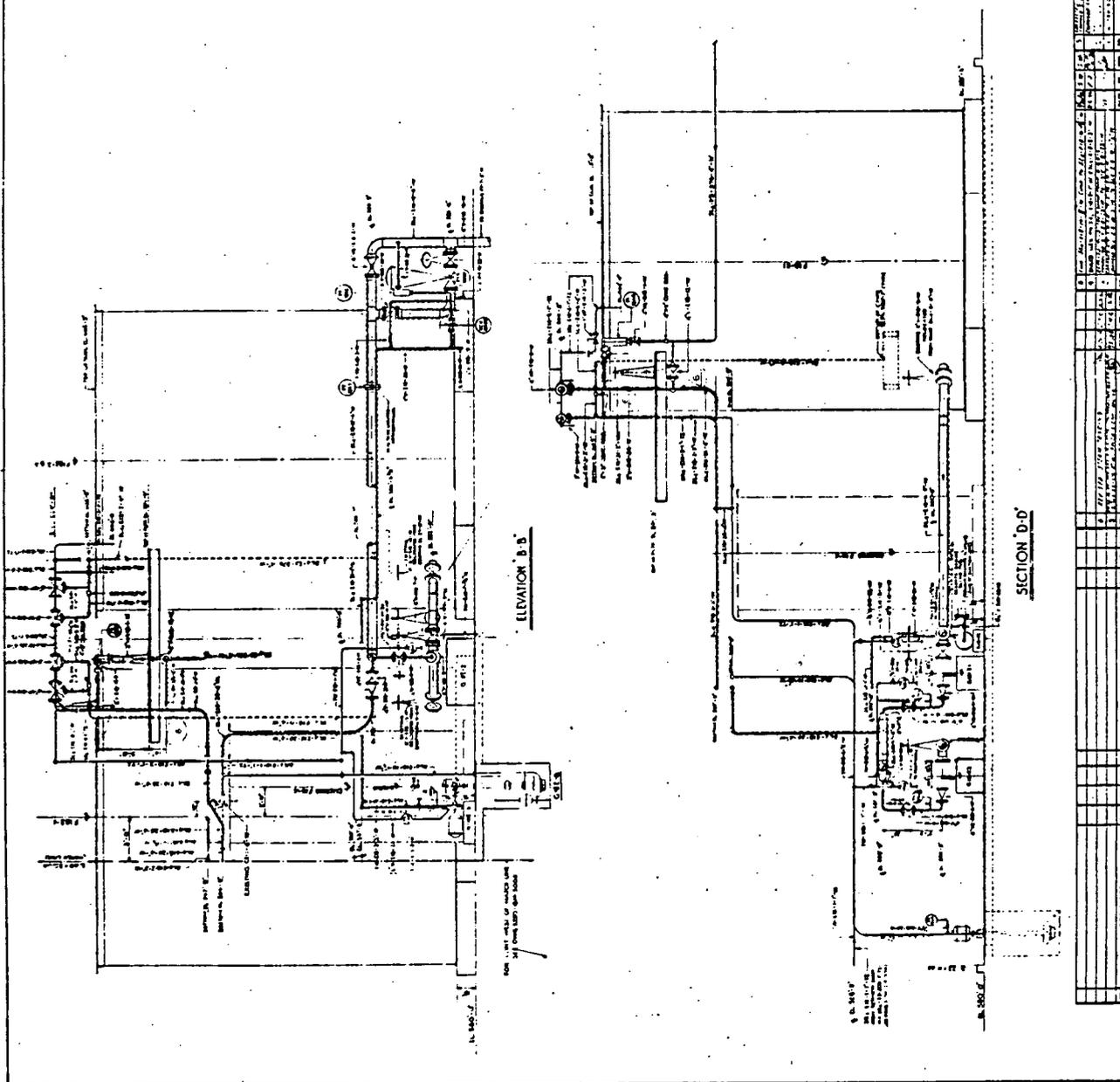




NOTE:  
FOR GENERAL NOTES & ADDITIONAL  
REFERENCE DRAWINGS, SEE PAGE  
3330-1841-3005

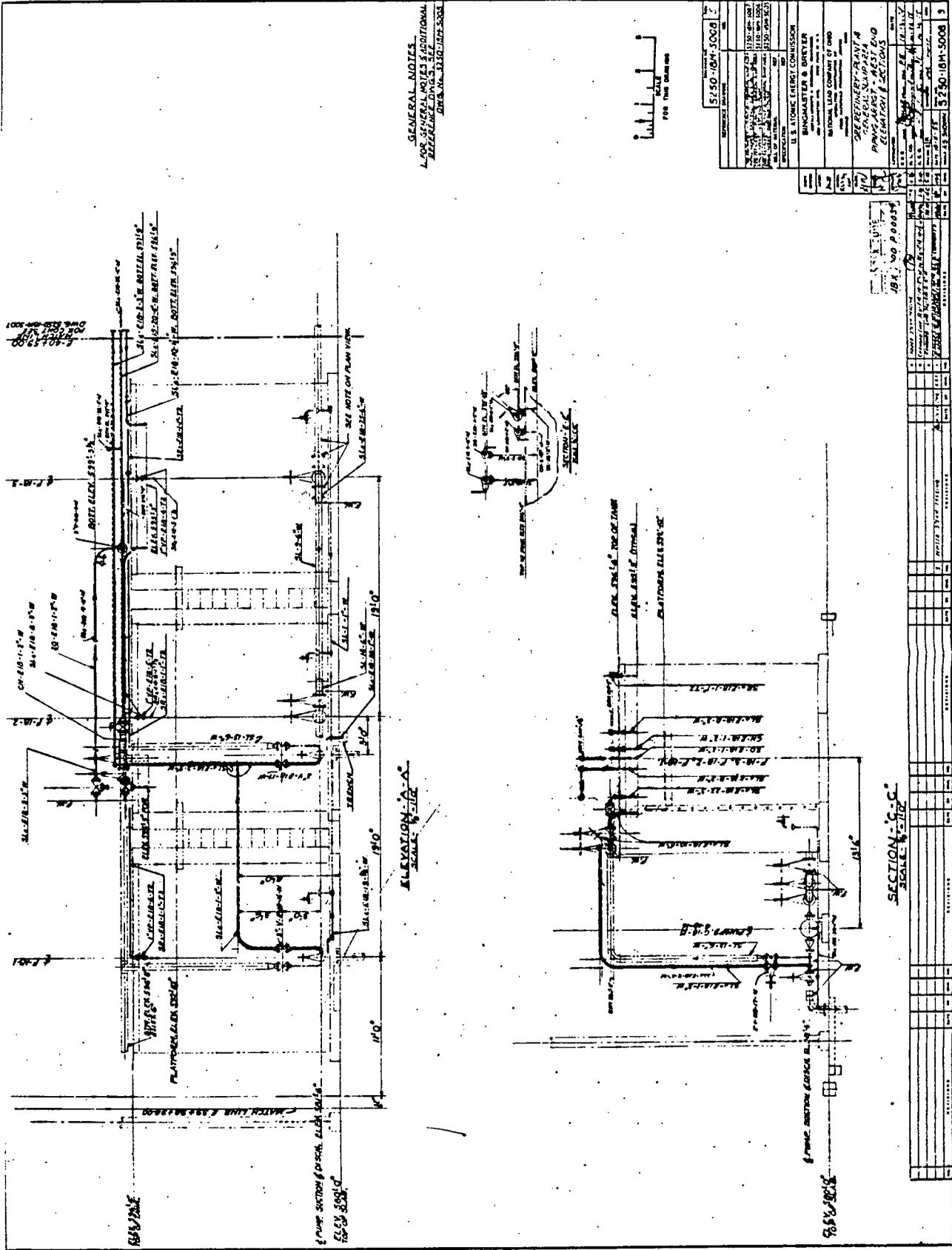


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DATE	11/1/57	
BY	W. H. BROWN	
CHECKED BY	J. H. BROWN	
DESIGNED BY	W. H. BROWN	
SCALE	AS SHOWN	
PROJECT TITLE	U.S. AIR FORCE ENGINE COMMISSION	
INSTALLATION	WRIGHT FIELD AIRFIELD	
CONTRACT NO.	WAFB-57-100	
CONTRACTOR	WRIGHT FIELD AIRFIELD	
ENGINEER	W. H. BROWN	
ARCHITECT	W. H. BROWN	
DATE OF ISSUE	11/1/57	
REVISIONS		
NO.	DATE	DESCRIPTION
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SECTION D-D

ELEVATION B-B



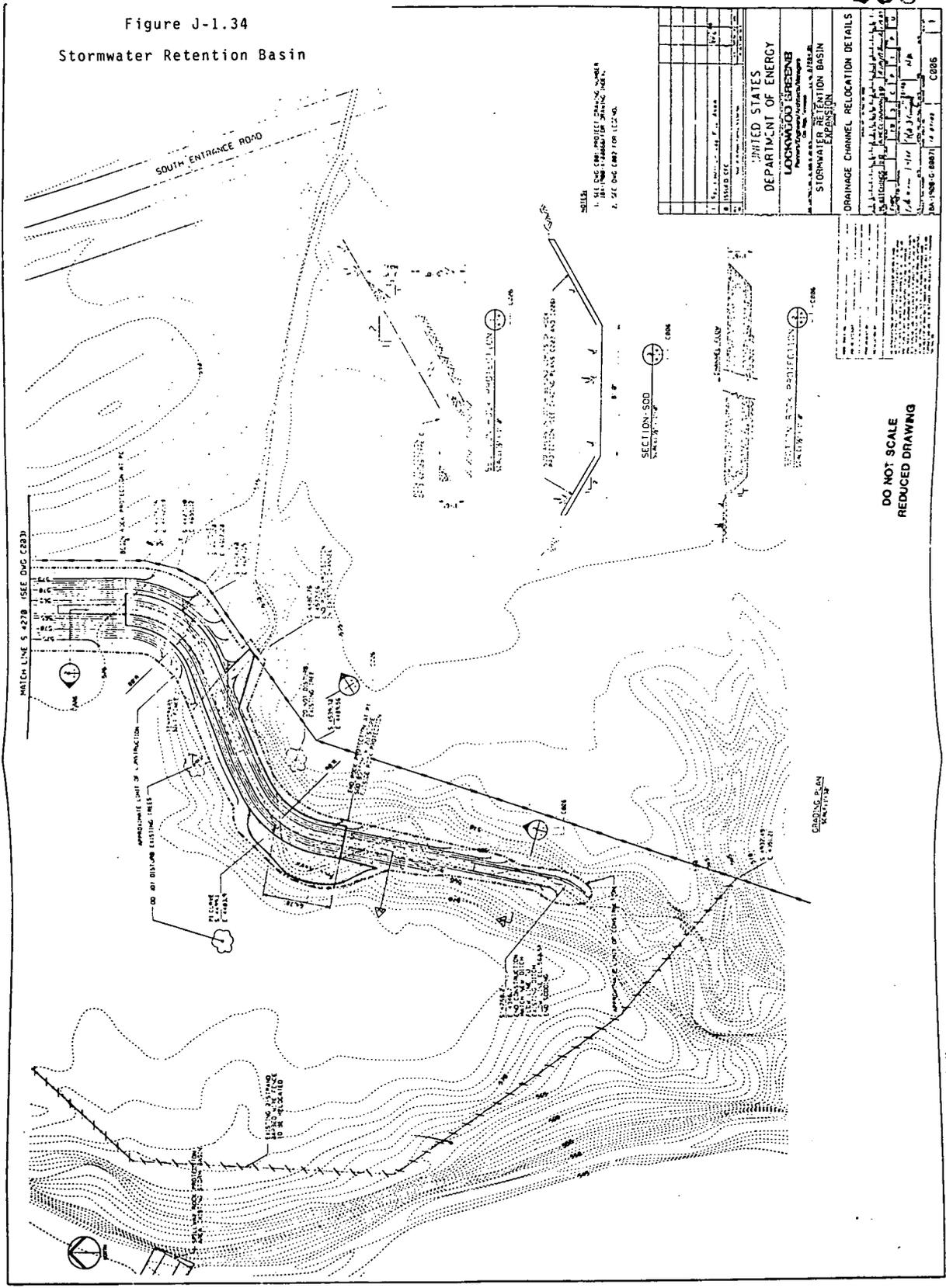
GENERAL NOTES  
 1. FOR GENERAL NOTES & ADDITIONAL  
 REFERENCE DRAWINGS SEE  
 DRAWING NO. 5730-18M-5008



5730-18M-5008	
PROJECT	U.S. NUCLEAR ENERGY COMMISSION
CLIENT	GENERAL ATOMIC CORPORATION
DESIGNER	GENERAL ATOMIC CORPORATION
DATE	1958
SCALE	AS SHOWN
PROJECT NO.	5730-18M-5008
DRAWING NO.	5730-18M-5008
REV.	
1	ISSUED FOR CONSTRUCTION
2	REVISED
3	REVISED
4	REVISED
5	REVISED
6	REVISED
7	REVISED
8	REVISED
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100	REVISED

Figure J-1.34

Stormwater Retention Basin

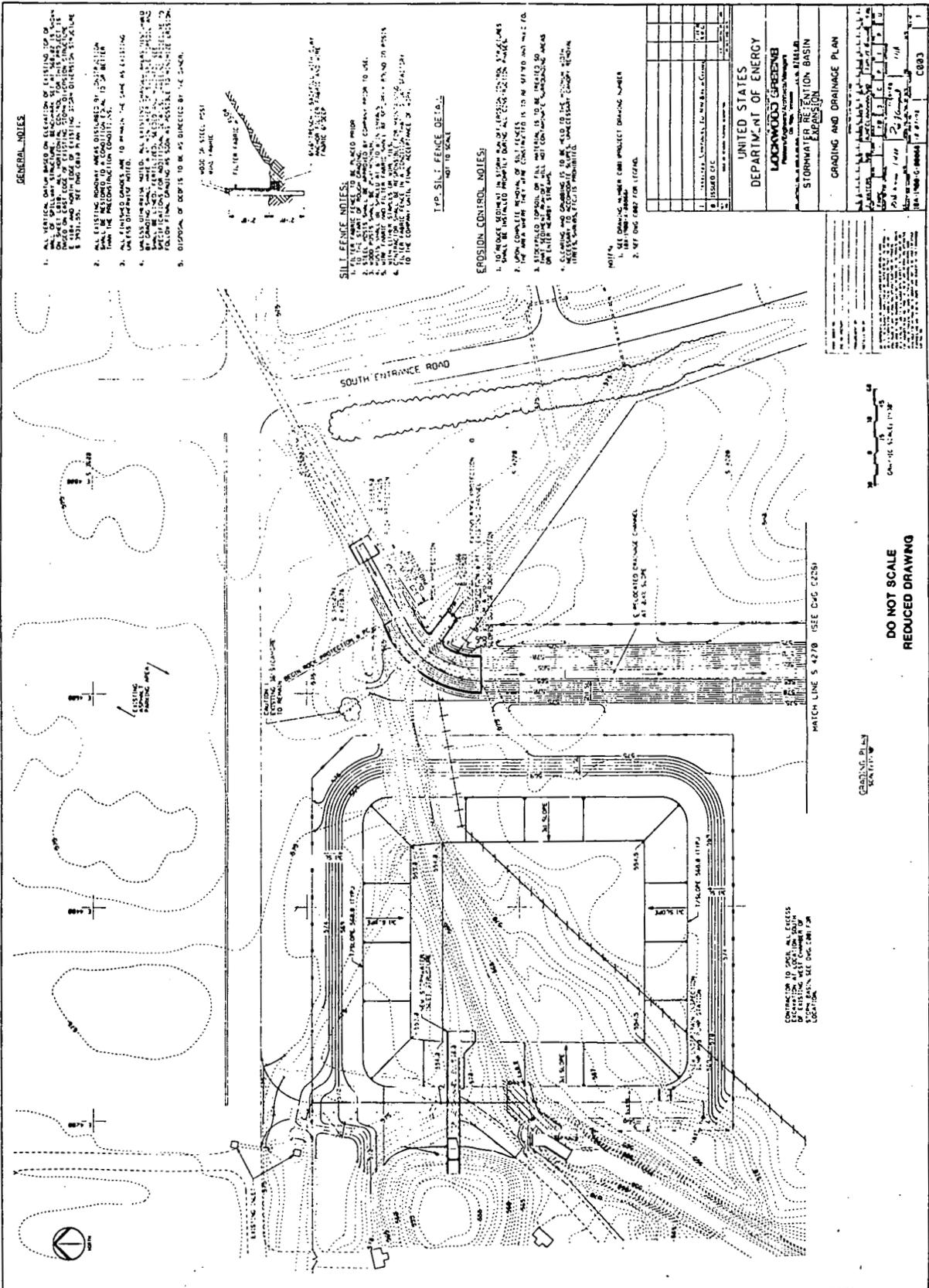


DO NOT SCALE  
REDUCED DRAWING

CRADING PLAN  
REVISIONS

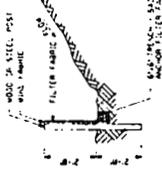
SEE: 1. SEE DWG C283 PROJECT CHANNEL NUMBER  
2. SEE DWG C283 FOR CHANNEL NUMBER

UNITED STATES DEPARTMENT OF ENERGY			
LOCKHART GREENSBORO			
STORMWATER RETENTION BASIN EXPANSION			
DRAINAGE CHANNEL RELOCATION DETAILS			
NO.	DATE	BY	CHKD.
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100	1/11/11	[unclear]	[unclear]



**GENERAL NOTES:**

1. ALL VERTICAL CURVES SHALL BE LOCATED BY EXISTING TOP OF FINISH OF PAVEMENT SURFACE. ALL CURVES SHALL BE LOCATED BY EXISTING TOP OF FINISH OF PAVEMENT SURFACE OR BY EXISTING TOP OF FINISH OF GRADE. ALL CURVES SHALL BE LOCATED BY EXISTING TOP OF FINISH OF GRADE. ALL CURVES SHALL BE LOCATED BY EXISTING TOP OF FINISH OF GRADE.
2. ALL VERTICAL CURVES SHALL BE LOCATED BY EXISTING TOP OF FINISH OF PAVEMENT SURFACE. ALL CURVES SHALL BE LOCATED BY EXISTING TOP OF FINISH OF PAVEMENT SURFACE OR BY EXISTING TOP OF FINISH OF GRADE. ALL CURVES SHALL BE LOCATED BY EXISTING TOP OF FINISH OF GRADE. ALL CURVES SHALL BE LOCATED BY EXISTING TOP OF FINISH OF GRADE.
3. ALL VERTICAL CURVES SHALL BE LOCATED BY EXISTING TOP OF FINISH OF PAVEMENT SURFACE. ALL CURVES SHALL BE LOCATED BY EXISTING TOP OF FINISH OF PAVEMENT SURFACE OR BY EXISTING TOP OF FINISH OF GRADE. ALL CURVES SHALL BE LOCATED BY EXISTING TOP OF FINISH OF GRADE. ALL CURVES SHALL BE LOCATED BY EXISTING TOP OF FINISH OF GRADE.
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5. ALL VERTICAL CURVES SHALL BE LOCATED BY EXISTING TOP OF FINISH OF PAVEMENT SURFACE. ALL CURVES SHALL BE LOCATED BY EXISTING TOP OF FINISH OF PAVEMENT SURFACE OR BY EXISTING TOP OF FINISH OF GRADE. ALL CURVES SHALL BE LOCATED BY EXISTING TOP OF FINISH OF GRADE. ALL CURVES SHALL BE LOCATED BY EXISTING TOP OF FINISH OF GRADE.



**SILL FENCE NOTES:**

1. SILL FENCE SHALL BE 4" X 4" X 1/2" GALV. STEEL.
2. SILL FENCE SHALL BE 4" X 4" X 1/2" GALV. STEEL.
3. SILL FENCE SHALL BE 4" X 4" X 1/2" GALV. STEEL.
4. SILL FENCE SHALL BE 4" X 4" X 1/2" GALV. STEEL.
5. SILL FENCE SHALL BE 4" X 4" X 1/2" GALV. STEEL.

**TIP-SILL FENCE DETAIL:**

NOT TO SCALE

**EROSION CONTROL NOTES:**

1. EROSION CONTROL MEASURES SHALL BE INSTALLED AS SHOWN ON THIS DRAWING.
2. EROSION CONTROL MEASURES SHALL BE INSTALLED AS SHOWN ON THIS DRAWING.
3. EROSION CONTROL MEASURES SHALL BE INSTALLED AS SHOWN ON THIS DRAWING.
4. EROSION CONTROL MEASURES SHALL BE INSTALLED AS SHOWN ON THIS DRAWING.
5. EROSION CONTROL MEASURES SHALL BE INSTALLED AS SHOWN ON THIS DRAWING.

**NOTES:**

1. SEE DRAWING S 4278 FOR PROJECT DRAINAGE NUMBER.
2. SEE DRAWING S 4278 FOR PROJECT DRAINAGE NUMBER.

NO.	REVISION	DATE	BY	CHKD.
1	ISSUED FOR PERMITS	10/15/10	J. J. [Name]	[Name]
2	ISSUED FOR CONSTRUCTION	11/15/10	J. J. [Name]	[Name]

UNITED STATES  
DEPARTMENT OF ENERGY

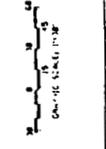
LOCKWOOD GREENE  
Professional Engineer  
No. 10000

STORWARTS REFINERY  
EROSION CONTROL

GRADING AND DRAINAGE PLAN

NO.	REVISION	DATE	BY	CHKD.
1	ISSUED FOR PERMITS	10/15/10	J. J. [Name]	[Name]
2	ISSUED FOR CONSTRUCTION	11/15/10	J. J. [Name]	[Name]

CONTRACT NO. 10000  
PROJECT NO. 10000  
DRAWING NO. 10000  
DATE: 10/15/10  
BY: J. J. [Name]  
CHKD.: [Name]



DO NOT SCALE  
REDUCED DRAWING

GRADING PLAN  
SCALE: 1" = 40'

CONNECTION TO EXISTING DRAINAGE SYSTEM SHALL BE AS SHOWN ON THIS DRAWING. SEE DRAWING S 4278 FOR PROJECT DRAINAGE NUMBER.



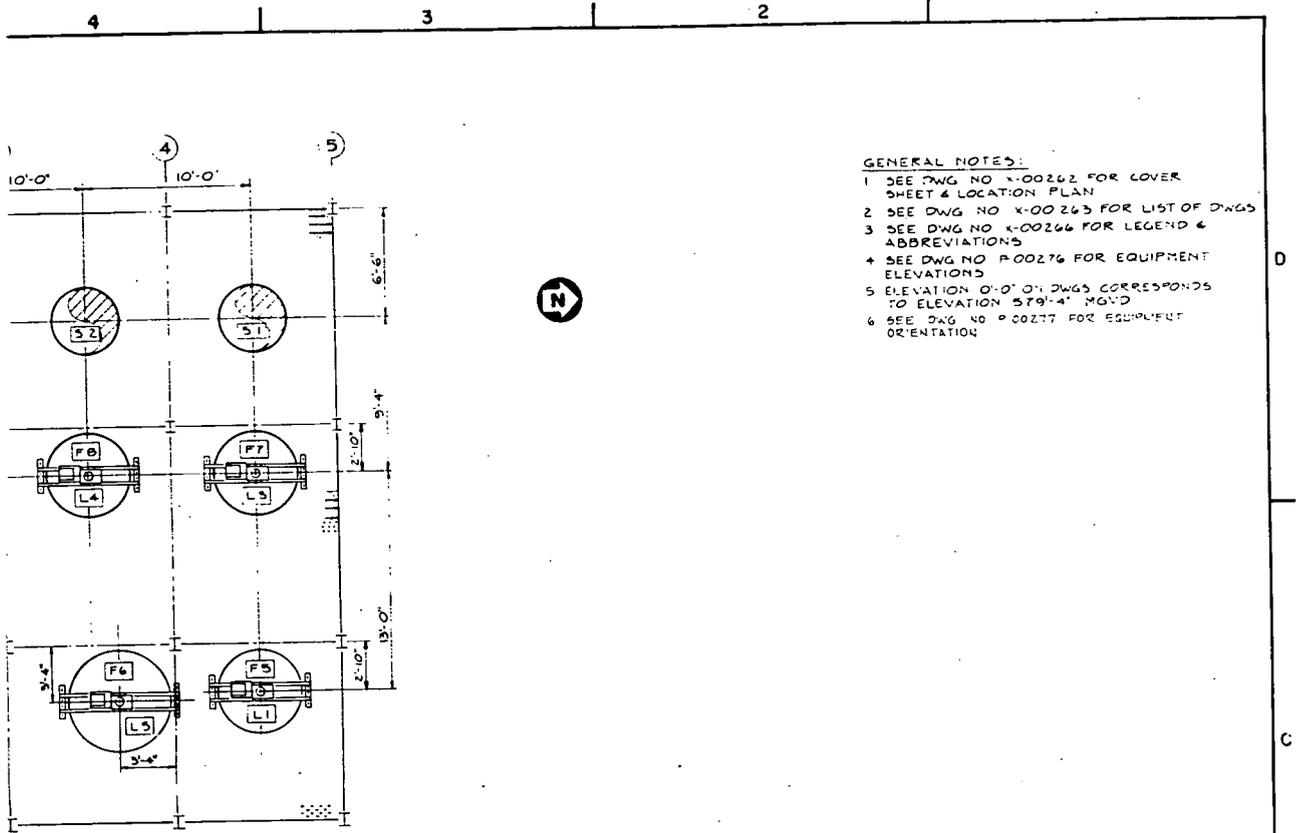






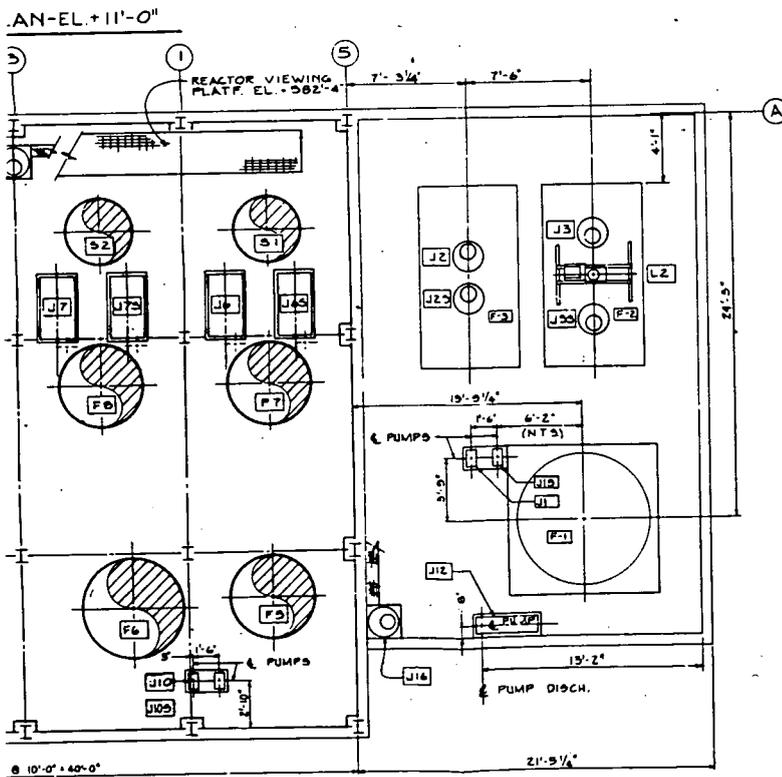






**GENERAL NOTES:**

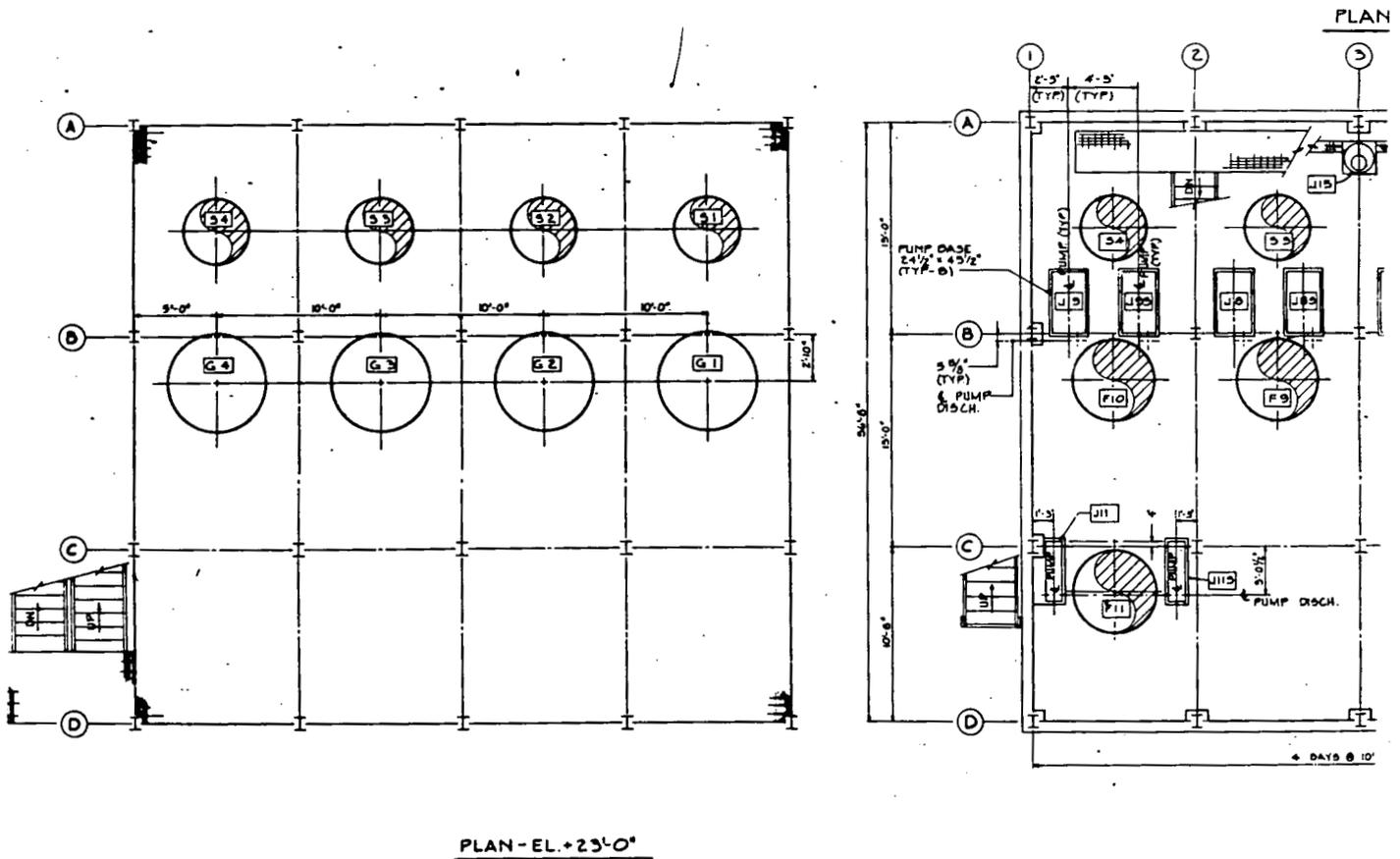
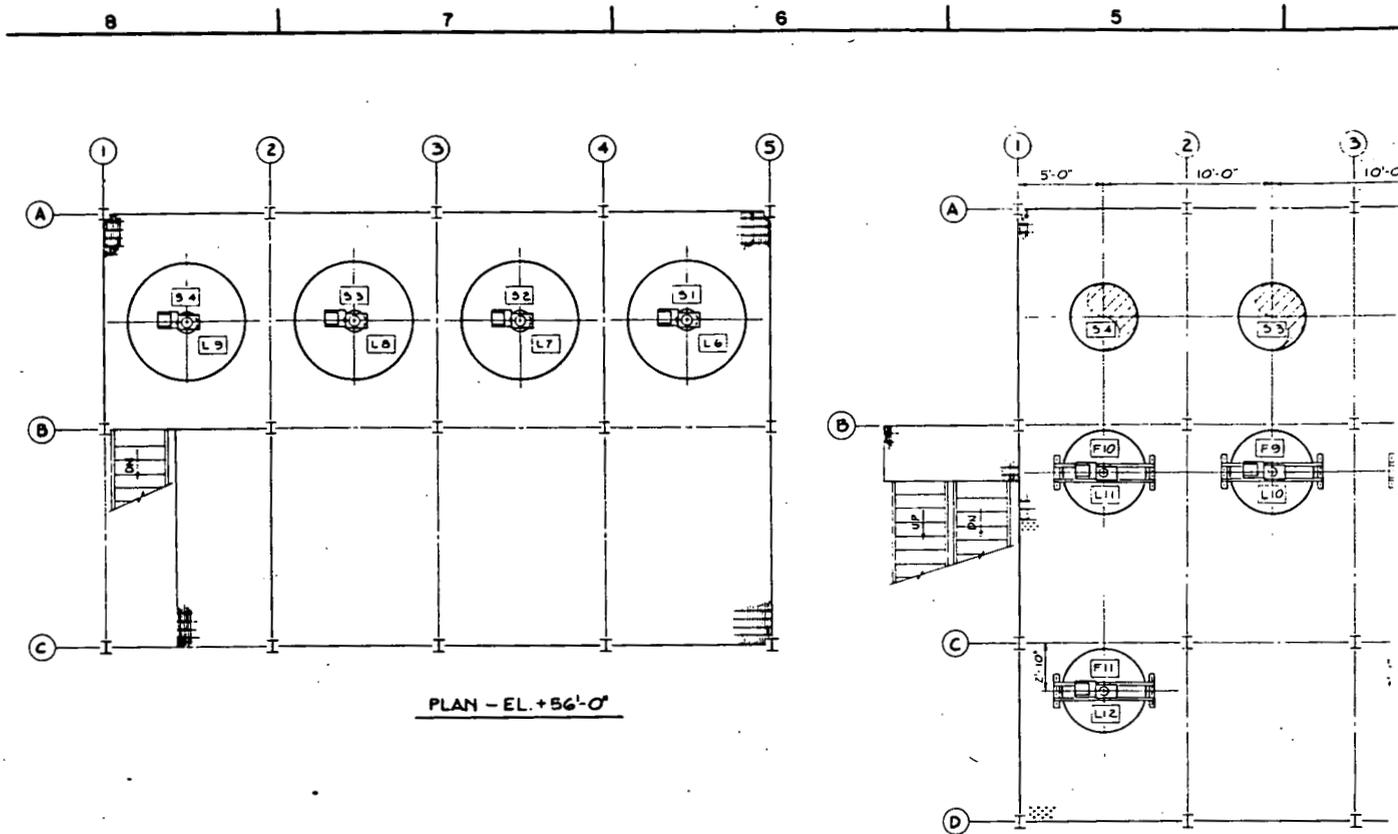
- 1 SEE DWG NO X-00262 FOR COVER SHEET & LOCATION PLAN
- 2 SEE DWG NO X-00263 FOR LIST OF DWGS
- 3 SEE DWG NO X-00266 FOR LEGEND & ABBREVIATIONS
- 4 SEE DWG NO P-00276 FOR EQUIPMENT ELEVATIONS
- 5 ELEVATION 0'-0" ON DWGS CORRESPONDS TO ELEVATION 579'-4" MGD
- 6 SEE DWG NO P-00277 FOR EQUIPMENT ORIENTATION



PLAN-EL. 0'-0"

0		CERTIFIED FOR CONSTRUCTION		SEE	DATE	DATE	
REV. NO.	ISSUE OR REVISION PURPOSE-DESCRIPTION				A-E	NO.	DATE
<p align="center"><b>UNITED STATES DEPARTMENT OF ENERGY</b></p> <p align="center">THIS DRAWING PREPARED BY  <b>WILEY &amp; WILSON</b>          ARCHITECTS - ENGINEERS - PLANNERS          LYNCHBURG, VIRGINIA</p> <p>DOE CONTRACT NO. DE-AC05-83OR21404 A-E NO. 83100</p>							
<p align="center"><b>WATER POLLUTION CONTROL</b></p> <p align="center">DRAWING TITLE</p> <p align="center"><b>BIODENITRIFICATION SYSTEM EQUIPMENT ARRANGEMENT PLANS</b></p>							
DRAWN BY	AOM	DATE DESIGNED AND CHECKED BY	1-10-84	PG	1-10-84	CHECKED BY	JMP
PLANT	FMPDC	FLOOR	1 NA	SCALE	1/4"=1'-0"	CLASS	LI
SUBMITTED FOR APPROVAL		APPROVAL RECOMMENDED		DRAWING APPROVED			
A-E	DATE	NO.	DATE	NO.	DATE	NO.	DATE
PROJECT NO.		DRAWING NUMBER		REV. NO.			

**DO NOT SCALE  
REDUCED DRAWING**



**RCRA PART B  
PERMIT APPLICATION**

**SECTION K - OTHER LAWS**

**SEPTEMBER 22, 1989**

**FEED MATERIALS PRODUCTION CENTER  
U.S. DEPARTMENT OF ENERGY  
CINCINNATI, OHIO 45239-8705**

**U.S. EPA IDENTIFICATION No. OH6890008976  
OHIO EPA PERMIT No. 05-31-0681**

**SECTION K - OTHER LAWS**

**TABLE OF CONTENTS**

**SECTION K OTHER LAWS ..... K-1**

**LIST OF TABLES**

NONE

**LIST OF FIGURES**

NONE

**LIST OF APPENDICES**

NONE

**SECTION K - OTHER LAWS****Part B Permit Application  
Feed Materials Production Center  
Fernald, Ohio**

The Feed Materials Production Center (FMPC) has reviewed and is in compliance with any applicable sections of the following laws:

- 1) The Wild and Scenic Rivers Act of 1968 (16 U.S.C. 1273 et seq.).
- 2) The National Historic Preservation Act of 1966 (16 U.S.C. 470 et seq.).
- 3) The Endangered Species Act of 1973 (16 U.S.C. 1531 et seq.).
- 4) The Coastal Zone Management Act of 1972 (16 U.S.C. 1451 et seq.).
- 5) The Fish and Wildlife Coordination Act of 1934 (16 U.S.C. 661 et seq.).

**RCRA PART B  
PERMIT APPLICATION**

**SECTION L - PART B CERTIFICATION**

**SEPTEMBER 22, 1989**

**FEED MATERIALS PRODUCTION CENTER  
U.S. DEPARTMENT OF ENERGY  
CINCINNATI, OHIO 45239-8705**

**U.S. EPA IDENTIFICATION No. OH6890008976  
OHIO EPA PERMIT No. 05-31-0681**

SECTION L - PART B CERTIFICATION

TABLE OF CONTENTS

SECTION L PART B CERTIFICATION ..... L-1

LIST OF TABLES

NONE

LIST OF FIGURES

NONE

LIST OF APPENDICES

NONE

SECTION L - PART B CERTIFICATION

Part B Permit Application  
Feed Materials Production Center  
Fernald, Ohio

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

The certification is for the Department of Energy FMPC facility located at 7400 Willey Road, Fernald, Ohio 45030, which is operating under U.S. EPA Identification No. OH6890008976 and Ohio Permit No. 05-31-0681.

---

James A. Reafsnyder, FMPC Site Manager

Date: 9/22/89

Telephone No: (513) 738-6357