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**PALM BEACH COUNTY
SOLID WASTE AUTHORITY**

AUG 23 1985



P P S

August 16, 1985

Florida Department of
Environmental Regulation
Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, FL 32301-8241

Attn: Mr. Hamilton S. Oven, Jr., P.E.
Administrator
Siting Coordination Section

Re: Response to July 17, 1985 Letter
Application for Power Plant Siting Certification
Resource Recovery Facility
Palm Beach County Solid Waste Authority

Dear Mr. Oven:

Accompanying this letter are 45 copies of the response to your letter of July 17, 1985 in which a total of 30 questions/comments were raised concerning the application. Individual responses to each of the 30 questions/comments are included in each response book for distribution.

In the response book the questions from the Department of Environmental Regulation's Solid Waste Section and Groundwater Section have been combined and are numbered in consecutive order, 1 through 30. The responses to the Solid Waste Section's questions are numbered 1 through 10. The responses to the Groundwater Section's questions are numbered 11 through 30 as indicated on a copy of your letter which is attached.

Should you have any further questions please contact our office.

Very truly yours,

Thomas R. Keith
Environmental Compliance
Administrator

TRK/pc
enclosures

RESPONSE TO FLORIDA DEPARTMENT OF ENVIRONMENTAL REGULATION

Letter Dated July 17, 1985

ITEM 1: In the scenario for total plant shutdown, Class III landfill area would be transferred for use as Class I and constructed in accordance with all applicable requirements (page 2-9). Would this include a double liner? What would be the fate of the interceptor wells (used for cooling water)?

RESPONSE: In this scenario for total plant shutdown it is anticipated that all Class I material will be disposed of in the Class I sanitary landfill. In the unlikely event that a total plant shutdown occurs for an extended period of time and the Class I landfill capacity is reached, it would be possible to expand the Class I landfill into the proposed Class III area in accordance with all applicable regulatory requirements. More specifically, this would require modification of the design to include a double liner with a double leachate collection system similar in design to the proposed Class I landfill of this application.

The pumping rates and locations of the interceptor wells were established to contain ground water beneath the landfills and to prevent its off-site migration. Monitor wells were planned to allow on-going assessment of ground water quality and ground water levels and to measure the effectiveness of the interceptor wells. In the event of total plant shutdown, the interceptor wells will continue to provide irrigation water for the capped

RESPONSE TO FLORIDA DEPARTMENT OF ENVIRONMENTAL REGULATION

Letter Dated July 17, 1985

portions of the proposed landfills and the existing Dyer Boulevard Landfill. The annual total water volume pumped from the interceptor wells will be equivalent to 0.5 mgd (million gallons per day). Irrigation pumping will take place predominantly during the dry season.

If the plant is shut down and pumping from interceptor wells is reduced, the interceptor wells will be used as monitor wells; water pumped from these wells for irrigation will be analyzed for indicators of leachate. If indicators of leachate appear in any of the monitor wells, the interceptor wells will be activated as appropriate to contain the leachate. Water pumped in this case will be diverted to the injection well for disposal.

The previously described plume of mineralized ground water beneath the Dyer Boulevard Landfill will be entirely contained if the interceptor wells are pumped at design rates. Numerous monitor wells exist in the vicinity of the Dyer Boulevard Landfill; these wells will be used for their intended purpose whether or not the interceptor wells are pumped at design capacity. Should leachate be detected in monitor wells, the interceptor wells will be activated for containment of the leachate, and water will be pumped to the injection well for disposal.

RESPONSE TO FLORIDA DEPARTMENT OF ENVIRONMENTAL REGULATION

Letter Dated July 17, 1985

ITEM 2: Recommend stormwater discharge culvert from "conservation" area to EPB-10 (see Sheet 20 of 25, Appendix 10.4) not go under landfill.

RESPONSE: According to the proposed plan, the stormwater discharge culvert will be developed beneath the landfill and will ultimately discharge into the EPB-10 canal. The DER's recommendation to reroute this culvert has been considered and is taken into advisement. However, the cost effectiveness of routing the EPB-10 canal and the extension to that discharge culvert is considerably more expensive in cost as well as valuable landfill capacity. We believe that neither the environment nor safety has been compromised in the proposed design. The proposed culverts, as depicted in our detail sheet 24 of 25, are proposed as two reinforced concrete 76 in. by 48 in., culverts extending approximately 400 ft. across the landfill with extensions of 200 ft. (minimum) on either side of the landfill. The anticipated height at that crossing is not to extend above the culvert more than 40 ft. This is equivalent to a loading of approximately 15 lbs./in.². To avoid unnecessary loading during installation, the culvert will be built around and covered last in that area. Reinforced concrete pipes with sealed joints which are large enough to allow periodic inspection will be used. Furthermore, the culverts have been designed to carry twice the capacity expected in that channel during a 25-year 72-hour storm. The additional weight imposed by the placement of garbage should not jeopardize the integrity of the culvert.

RESPONSE TO FLORIDA DEPARTMENT OF ENVIRONMENTAL REGULATION

Letter Dated July 17, 1985

ITEM 3: Concept of double liner good, but will need actual specifications (type, thickness, joining procedure, etc.) on liner and quality assurance procedure for sealing area around leachate collection pipe where it intersects the liner.

RESPONSE: The actual specifications on the liner and quality assurance procedures for sealing the area around leachate collection pipes and other penetrations are detailed in Sheet 23 of 25. It is anticipated and specified that the primary liner will be high density polyethylene (HDPE). The secondary liner will be polyolefin or the equivalent. Both liners are anticipated to be 40 mils in thickness. To supplement the details on Sheet 23 of 25 in the submitted plans, the following specifications will be incorporated into the construction documents:

High Density Polyethylene Field Joints

Joints between the lining sheets shall be field welded using the manufacturer's extrusion joining equipment and techniques. The joining procedure shall consist of softening the liner material by heated air ranging in temperature from 420°F to 680°F. The exact temperature used shall be determined by the installation supervisor. Directly following the application of heat, a 1 in. minimum-width strip made of the same high density polyethylene resin as the sheet shall be extruded between the overlapped sheets. The temperature of the resin as it emerges from the extrusion die shall range from 428°F to 526°F. The overlapped sheets will then be pressed together to form the extrusion joint.

Penetrations of Liner Material

Penetrations through the liner for pipe flashings, patches, etc. shall be field welded using an extrusion hand-welder. The joining procedure shall consist of softening the liner material by heated air as described above. Directly following the application of heat, a hot strip of the same material from which the

RESPONSE TO FLORIDA DEPARTMENT OF ENVIRONMENTAL REGULATION

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sheet is made will be extruded over the joint to produce the extruded joint.

Any required repair of small holes in the liner surface shall be made with the extrusion hand welder. Liner material shall be cleaned of all dirt, dust, and other foreign material; all smooth HDPE surfaces roughened; the air heated to the prescribed temperature, and the strip of HDPE resin extruded over the hole to produce an extruded welded repair.

Seals Around Penetrations. All pipe penetrations shall be sleeved with HDPE pipe sealed to the liquid-carrying pipe to prevent leakage. The basin liner shall be anchored to a concrete collar surrounding the penetration. An HDPE apron shall be extrusion welded to the pipe sleeve and to the base sheet outside of the area where the base sheet is anchored to the concrete collar.

Polyolefin Field Joints

Individual panels of liner material shall be laid out and overlapped by a minimum of 2 inches prior to welding. Extreme care shall be taken by the installer in the preparation of the areas to be welded. The area to be welded shall be carefully cleaned and prepared according to the procedures laid down by the material manufacturer. All sheeting shall be welded together by means of the homogeneous overlap-extrusion fusion process which provides continuous dynamic integration of the extrudate bead with the lining material. The composition of the extrudate shall be identical to the lining material.

Penetrations of Liner Material

Same as the HDPE installation instructions.

RESPONSE TO FLORIDA DEPARTMENT OF ENVIRONMENTAL REGULATION

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ITEM 4: Monitoring well no. 10 (shallow) appears to be located between the landfill access road and the liner near proposed Phase IV of the Class I area. As its location seems prone to much activity, what measure will be taken to protect this well?

RESPONSE: Monitoring well no. 10 is approximately 10 ft. west of contour elevation 30 as depicted on the submitted plans Sheet 15 of 25. Monitoring well no. 10 is a shallow monitoring well and may be utilized during the operation of the landfill. It is anticipated that the well will be extended to a top casing at elevation 17 so that a seasonal high water table will not effect the well. During construction of the landfill and in the vicinity of well no. 10, a corrugated metal pipe will be placed vertically around the well casing at a reasonable distance above ground. This procedure will insure that construction equipment, vehicles, and activities do not jeopardize the integrity of the well. Once construction is finished in the vicinity of well no. 10, a field crew will inspect the well to insure proper operation.

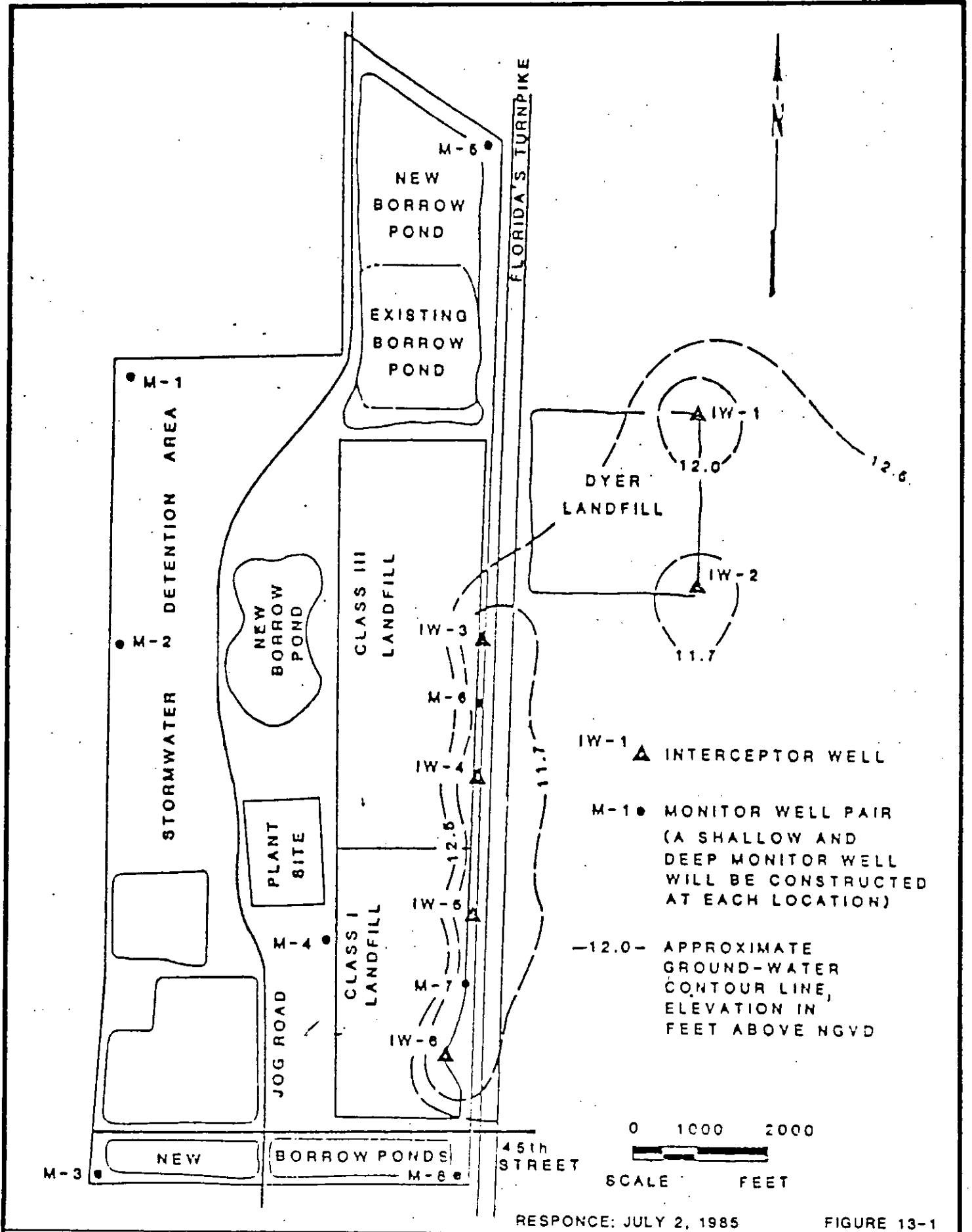
Monitor wells 1 through 14, as shown on Sheets 14, 15, 16, 18, 19, and 20 of Appendix 10.4, are existing monitor wells and should have been so designated. These wells will be used only to the extent that their locations do not interfere with other

RESPONSE TO FLORIDA DEPARTMENT OF ENVIRONMENTAL REGULATION

Letter Dated July 17, 1985

planned structures; otherwise, they will be properly abandoned. The proposed monitor wells will be constructed at locations shown on Figure 4.2-1 (Figure 13-1, Response to July 2, 1985 Letter). The ground water monitoring program, including a discussion of the proposed monitor wells, is described in Chapter 4, Section 4.2.2.1.

The "Typical Monitor Well" diagram shown on Sheet 21 of Appendix 10.4 pertains to the proposed monitor wells. Proposed monitor wells will be constructed in pairs -- a shallow well and a deep well -- at each proposed monitor well site. The well screen intervals will be from 5- to 50-ft. deep and 50- to 125-ft. deep, respectively.



PALM BEACH COUNTY
 SOLID WASTE AUTHORITY
 RESOURCE RECOVERY FACILITY



INTERCEPTOR AND MONITOR WELL
 LOCATIONS AND APPROXIMATE
 CONES OF DEPRESSION

Figure 4.2-1

RESPONSE TO FLORIDA DEPARTMENT OF ENVIRONMENTAL REGULATION

Letter Dated July 17, 1985

ITEM 5: To insure cover is applied at the end of each working day, will personnel remain on site to complete this work after gates are locked (6 p.m.) to incoming waste?

RESPONSE: In accordance with the operating plan of this landfill, cover will be applied at the end of each working day until all waste is covered. Sufficient equipment and manpower will be available after 6 p.m. to insure that complete daily cover is obtained.

RESPONSE TO FLORIDA DEPARTMENT OF ENVIRONMENTAL REGULATION

Letter Dated July 17, 1985

ITEM 6: Tires will not be used in RDF, but will be disposed of in Class I area. What measures (splitting, shredding, etc.), if any, will be taken to insure they stay covered?

RESPONSE: The Solid Waste Authority at its meeting on June 19, 1985 approved the purchase of a mobile tire shredder to shred passenger and truck tires prior to landfilling in the Class I landfill. The tire shredder will be moved to the resource recovery plant once the plant is in operation to shred incoming tires. The shredded tires will then be mixed with the RDF and used for combustion. Tires will represent approximately 1.5% (by weight) of the fuel for the boilers and supply approximately 2% of the heat value of the fuel.

Since the Solid Waste Authority recently approved the purchase of a tire shredder, the statement made in Chapter 3, page 3-3, second paragraph should reflect the use of shredded tires as a processible material and will not be removed for disposal in the landfill. The incoming tires will be separated on the storage room floor and removed for shredding. However, in the event of a malfunction in the operation of the shredder, whole tires may be landfilled.

RESPONSE TO FLORIDA DEPARTMENT OF ENVIRONMENTAL REGULATION

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ITEM 7: Tipping area capacity is 3,000 tons which is sufficient overcapacity for initial operation of 2,000 T/D, but will additional capacity be provided when facility operates at 3,000 T/D?

RESPONSE: Standard design for storage of refuse in the tipping area is generally one (1) day's receipt, or 2,000 tons for the Authority's initial operations. Three thousand ton capacity is specified, since the ultimate operation is planned for 3,000 TPD. The 3,000 TPD operation may not require the addition of another RDF processing line, but, if adding another processing line is felt to be prudent and another line is added, the storage capacity would then increase to 4,000 tons.

This decision will not need to be made for several years, and by then the expected availability of the fuel preparation system will be well established.

RESPONSE TO FLORIDA DEPARTMENT OF ENVIRONMENTAL REGULATION

Letter Dated July 17, 1985

ITEM 8: What provisions will be made in the event of a RDF manufacturing plant shut down for either removal of the stored waste in the tipping area within 48 hours or for vector (flies, rodents, odor) control?

RESPONSE: The refuse storage (charging) area is elevated about 16 ft. above grade and has provisions at one end of the building to remove material through floor openings into top loading trailers (typical transfer station design). These two (2) openings are normally used to remove non-processible materials.

The two dump positions can handle 100 tons per hour minimum. It would require a maximum of 30 hours to remove 3,000 tons of refuse from storage.

RESPONSE TO FLORIDA DEPARTMENT OF ENVIRONMENTAL REGULATION

Letter Dated July 17, 1985

ITEM 9: If composting of sludge is proposed (page 8-4) on this site, adequate information (location, method, etc.) must be submitted.

RESPONSE: As discussed in Section 8.2.8.2, Composting of dewatered sludge (12% solids minimum) which is currently being mixed with cover material to enhance top soil may also be mixed with vegetative wastes to produce humus that could be utilized by the Solid Waste Authority or the community, or put up for sale. The composting of dewatered sludge and vegetative wastes is an alternative which was reviewed for this project; however, at this time the composting alternative will not be implemented. Should the Solid Waste Authority in the future reconsider the composting alternative, plans as to the location, method, use and other items will be submitted to the Department of Environmental Regulation for approval prior to starting a composting project.

RESPONSE TO FLORIDA DEPARTMENT OF ENVIRONMENTAL REGULATION

Letter Dated July 17, 1985

ITEM 10: Where will the conduits for transporting the water from the interceptor wells to the resource recovery facility be located?

RESPONSE: The proposed route of the process water main to connect the two (2) interceptor wells, IW1 and IW2, (to be located at the Dyer Boulevard Landfill) with the four (4) interceptor wells, IW3 through IW6, (to be located adjacent to the Class I and Class III Landfills and which will supply the process water to the resource recovery plant) is described in the following paragraphs. The locations of the interceptor wells have been described in Appendix 10.14.7

The process water main for the two interceptor wells IW1 and IW2 located at the Dyer Boulevard Landfill will be constructed parallel to the extension of Dyer Boulevard west to the Florida Turnpike east right-of-way. The process water main will then turn south, adjacent to the east right-of-way of the Turnpike, within an easement granted to the Solid Waste Authority. Located approximately 4,600 ft. north of 45th Street, the process water main will cross under the Turnpike through an existing box culvert and connect to the process water main that will serve interceptor wells IW3 through IW6.

Interceptor wells IW3 through IW6 will be connected to a process water main which will run in a north to south direction adjacent to the landfill perimeter access road. At the southern end of the Class I landfill, the process water main will turn west and run to a point approximately 2,000 ft. west of the Florida Turnpike. The process water main will then turn north and run approximately 3,000 ft. to the resource recovery plant.

RESPONSE TO FLORIDA DEPARTMENT OF ENVIRONMENTAL REGULATION

Letter Dated July 17, 1985.

ITEM 1: Joint Venture's surge protection features along with the supporting calculations must be provided before an injection well construction permit is considered complete. (Rule 17-28.22(1)(f))

SWA RESPONSE NO. 11: The surge protection features of the deep well injection system will consist of an in-line hydropneumatic tank, pump controlled valves, and air release valves properly placed so as to provide adequate protection to the system. The actual calculations of the surge protection features will be submitted to the Department of Environmental Regulation for approval prior to construction of the deep well injection system.

RESPONSE TO FLORIDA DEPARTMENT OF ENVIRONMENTAL REGULATION

Letter Dated July 17, 1985

ITEM 2: Please provide a more detailed map showing ground water flow in the Floridan aquifer. The regional potentiometric surface map presented (Appendix 10.8, Figure 4) is not adequate for this purpose.

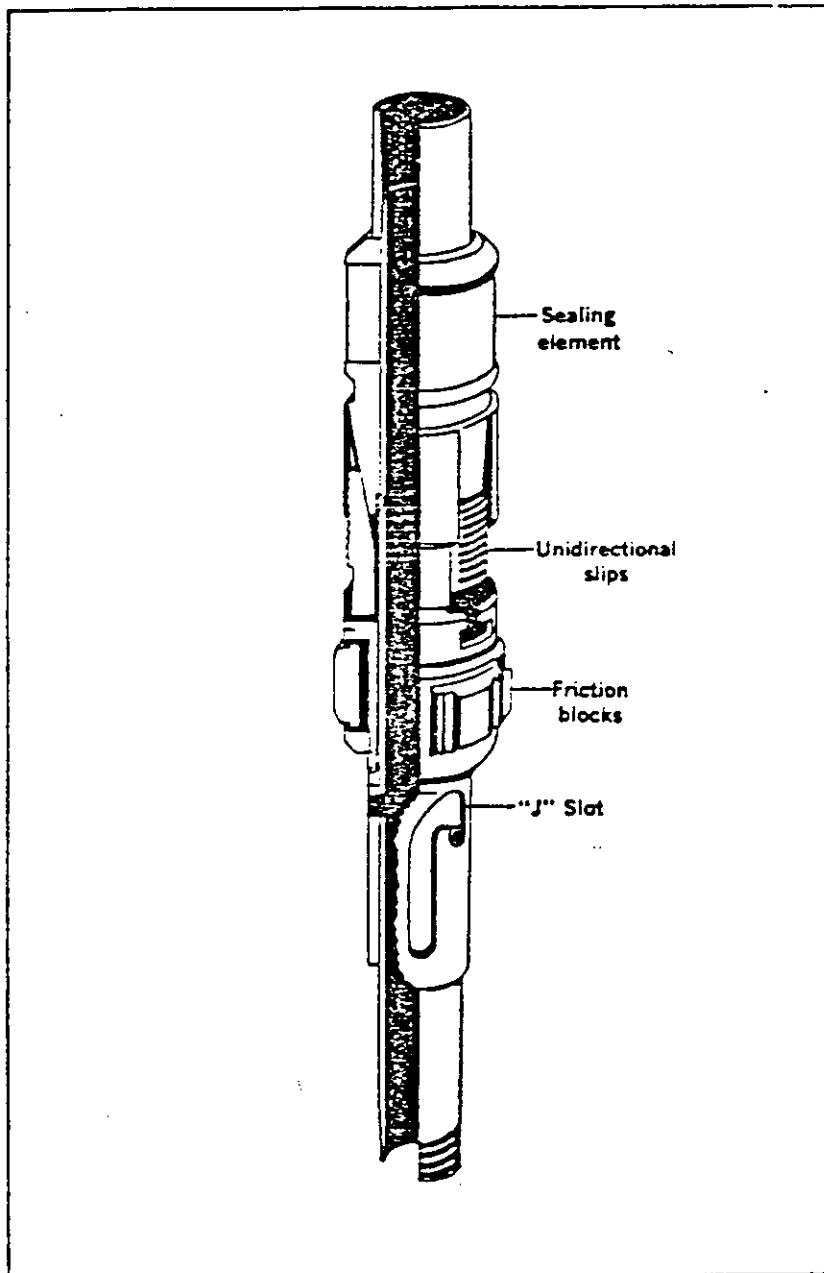
SWA RESPONSE NO. 12: As shown on Figure 1, Appendix A, and Page 2 of the Injection Well Construction and Testing Program (Appendix 10.8), none of the wells in the area of review penetrate the Floridan aquifer. Therefore, based on existing information, a site specific map depicting the direction of ground water flow in the Floridan aquifer can not be prepared. The regional map of the potentiometric surface included in the report (Figure 4) was taken from a publication prepared by the USGS for FDER specifically for use in the UIC program. The map depicts the general direction of ground water flow in the Floridan aquifer at the site and satisfies the requirements in Section 17-28.33(2)(c) and (e).

RESPONSE TO FLORIDA DEPARTMENT OF ENVIRONMENTAL REGULATION

Letter Dated July 17, 1985

ITEM 3: Details of the packer assembly should be provided (preferably a drawing).

SWA RESPONSE NO. 13: A schematic drawing of a typical packer assembly has been included as Figure 13-1.



RESPONSE: JULY 17, 1985

PALM BEACH COUNTY
SOLID WASTE AUTHORITY
RESOURCE RECOVERY FACILITY



TYPICAL
WEIGHT-SET PACKER

FIGURE 13-1

RESPONSE TO FLORIDA DEPARTMENT OF ENVIRONMENTAL REGULATION

Letter Dated July 17, 1985

ITEM 4.: Specify the type of corrosion inhibitors which will be used in the annulus between the eight inch injection tubing and the 12 inch final casing.

SWA RESPONSE NO. 14: At this time corrosion inhibitors will not be used in the fresh water in the annulus because commercially available corrosion inhibitors contain priority pollutants.

RESPONSE TO FLORIDA DEPARTMENT OF ENVIRONMENTAL REGULATION

Letter Dated July 17, 1985

ITEM 5: Specify whether the intermediate casing (22 inch) will extend below all ground water containing less than 10,000 mg/l total dissolved solids (TDS).

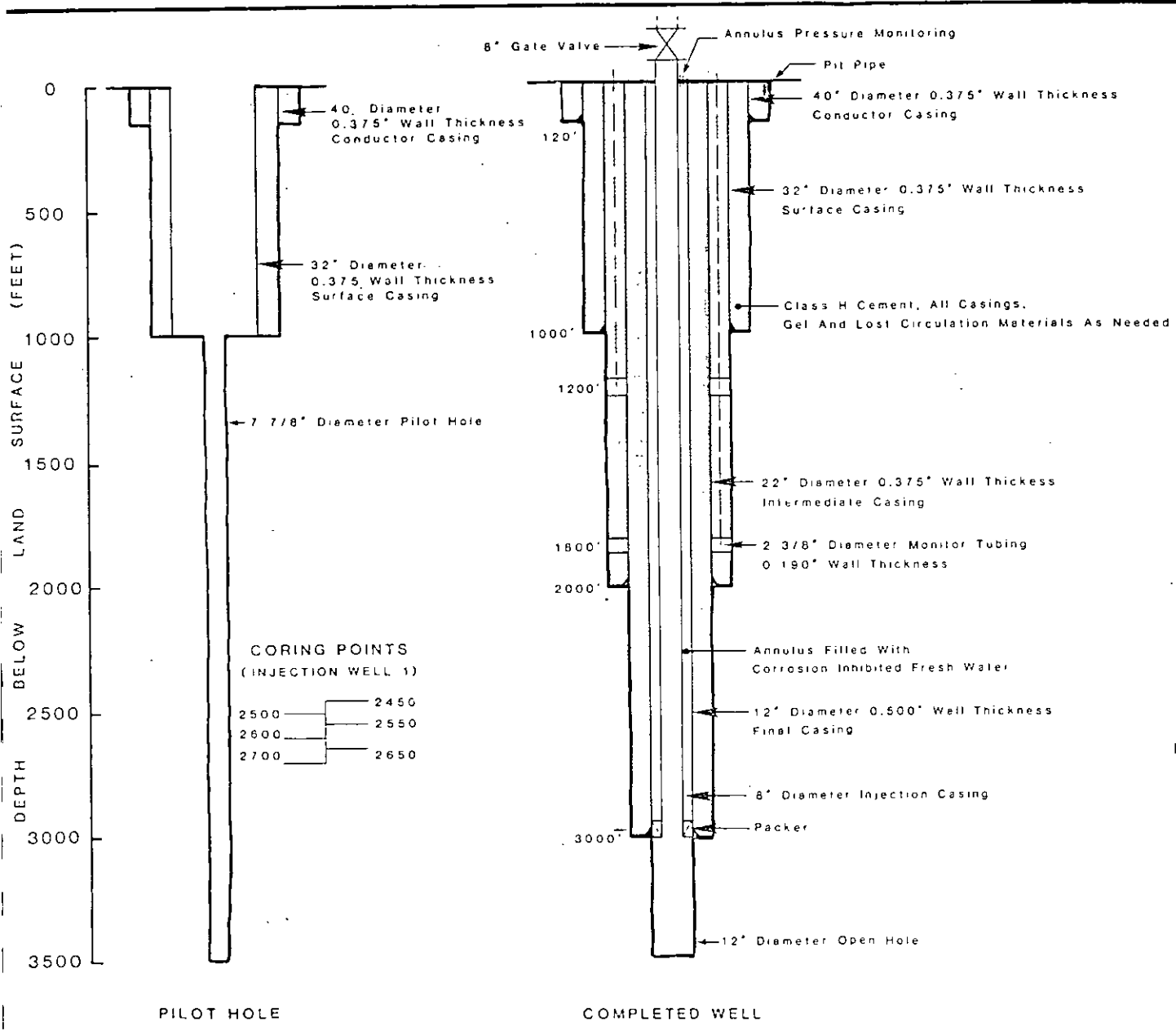
SWA RESPONSE NO. 15: The 27 in. casing will be set below waters containing less than 10,000 mg/l TDS.

RESPONSE TO FLORIDA DEPARTMENT OF ENVIRONMENTAL REGULATION

Letter Dated July 17, 1985

ITEM 6: Specify whether the proposed monitor well will monitor waters containing greater or less than 10,000 mg/l TDS. Why is no monitoring of the upper Floridan aquifer proposed? This is a deviation from the current practice in the area.

SWA RESPONSE NO. 16: The upper monitor tube, included in the Specifications, will be set at approximately 1,200 ft. and used to monitor the upper Floridan aquifer. The upper monitor tube is shown on the accompanying Figure 16-1. The lower monitor tube will be set below waters containing less than 10,000 mg/l TDS.



CASING SCHEDULE

Conductor	40-Inch Diameter, Casing: 0.375 Inch Wall Pipe May Be Spiral Wound, ERW, Or DSAW Pipe, Welded Joints
Surface	32- Inch Diameter, Casing: 0.375 Inch Wall Pipe May Be Spiral Wound, ERW, Or DSAW Pipe, Welded Joints
Intermediate	22- Inch Diameter, Casing: 0.375 Inch Wall Pipe May Be Spiral Wound, ERW, Or DSAW Pipe, Welded Joints
Final	12- Inch Diameter, Casing: 0.500 Inch Wall, Seamless, Welded Joints
Injection	8- Inch Diameter, Casing: 0.352 Inch Wall, Threaded And Coupled

RESPONSE, JULY 17, 1985

INJECTION WELL DESIGN
AND DETAILS OF THE CORING
AND TESTING PROGRAM



PALM BEACH COUNTY
SOLID WASTE AUTHORITY
RESOURCE RECOVERY FACILITY

RESPONSE TO FLORIDA DEPARTMENT OF ENVIRONMENTAL REGULATION

Letter Dated July 17, 1985

ITEM 7: The 40 inch casing should extend below all producing zones used for drinking water (private or public) supplies in the area.

SWA RESPONSE NO. 17: The suggested requirement that the 40 in. casing extend below all producing zones, to the best of our knowledge, does not appear in current regulations. Further, review of recently issued deep-well injection system construction permits do not evidence the imposition of this particular requirement. Construction permits reviewed by this office include:

Coral Springs Improvement District
Acme Improvement District
Palm Beach County System 3
Loxahatchee River Environmental Control District
City of West Palm Beach
City of Plantation
Pratt & Whitney

The technical basis for this requirement is not clear. The well will be drilled to the top of the Floridan aquifer using the mud rotary method. Surface casing designed to protect the surficial aquifer from the more saline waters in the lower formations will be cemented in place to this depth. We, therefore, respectfully seek clarification regarding the Department's intent and basis for the referenced requirement.

RESPONSE TO FLORIDA DEPARTMENT OF ENVIRONMENTAL REGULATION

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ITEM 8: Rule 17-28.22(1)(c)1., FAC, requires corrosion protection for a minimum of 30 feet above and below any uncemented portions of casing. This is not discussed in the injection well specifications.

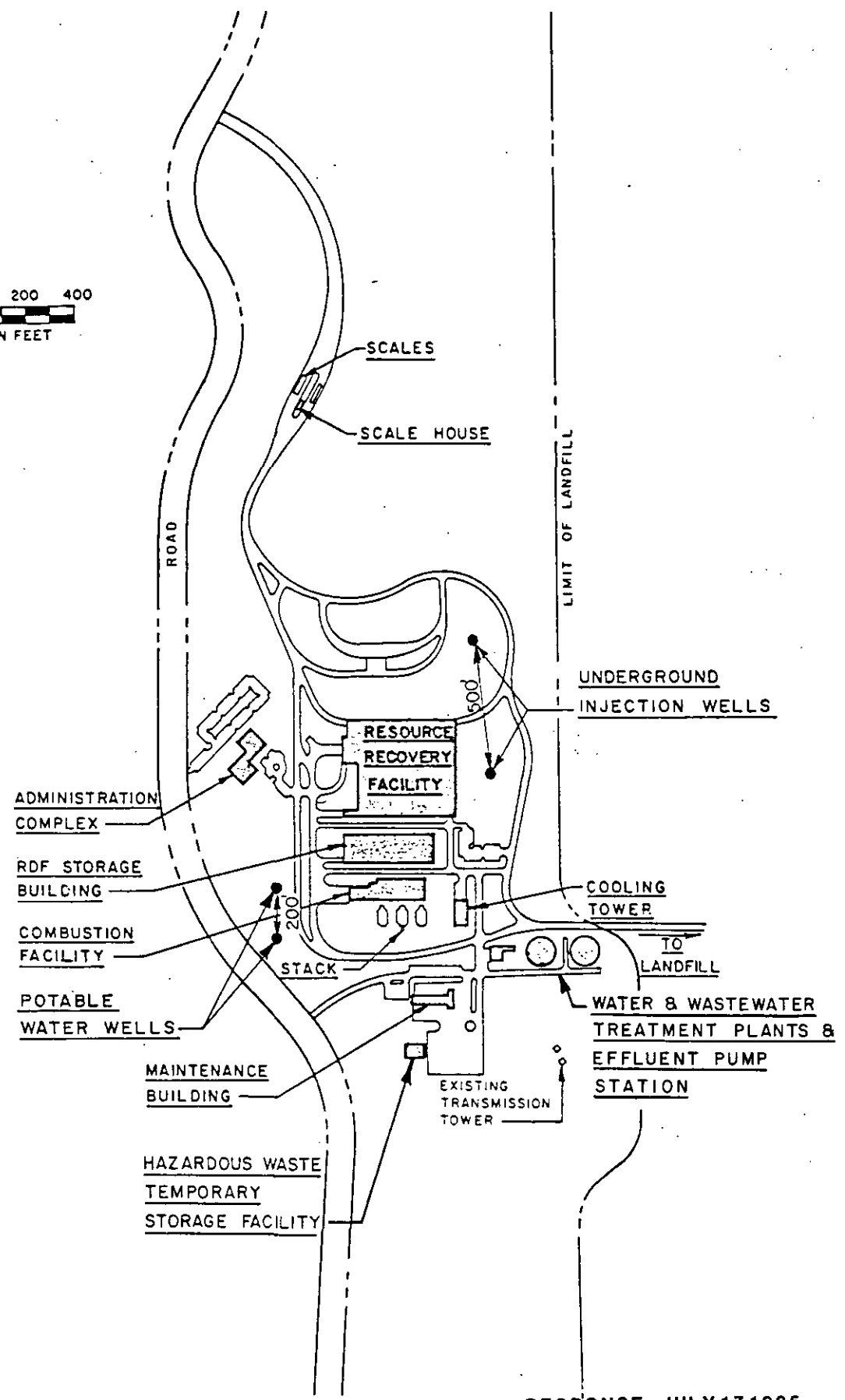
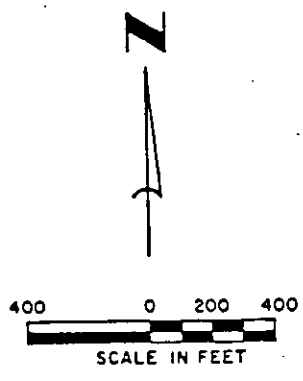
SWA RESPONSE NO. 18: Specifications for this well were prepared prior to the May 8, 1985 rule amendment. Subsequent to that amendment, corrosion protection to meet or exceed the requirement of FAC rule 17-28.22(1)(c)1 will be provided.

RESPONSE TO FLORIDA DEPARTMENT OF ENVIRONMENTAL REGULATION

Letter Dated July 17, 1985

ITEM 9: A site drawing showing the proposed location of the injection wells is required. At a minimum, this drawing should indicate the distance between the wells.

SWA RESPONSE NO. 19: The location of the deep wells are shown on the accompanying Figure 19-1, Response to July 2, 1985 Letter. The separation distance between wells will be approximately 500 ft.



RESPONSE: JULY 17, 1985

PALM BEACH COUNTY
SOLID WASTE AUTHORITY
RESOURCE RECOVERY FACILITY



RESOURCE RECOVERY PLANT
SITE PLAN

RESPONSE TO FLORIDA DEPARTMENT OF ENVIRONMENTAL REGULATION

Letter Dated July 17, 1985

ITEM 10: A drawing showing drilling pad dimensions and features (slopes, concrete thickness, curb height, etc.) is necessary either as a part of the permit application or completed as per a specific condition of the construction permit before drilling can commence.

SWA RESPONSE NO. 20: Design of the pad will be based on the Contractor's drilling equipment. Because the Contractor will not be selected until a permit to construct the well is issued, we therefore, suggest that this requirement be included as a specific condition of the construction permit.

RESPONSE TO FLORIDA DEPARTMENT OF ENVIRONMENTAL REGULATION

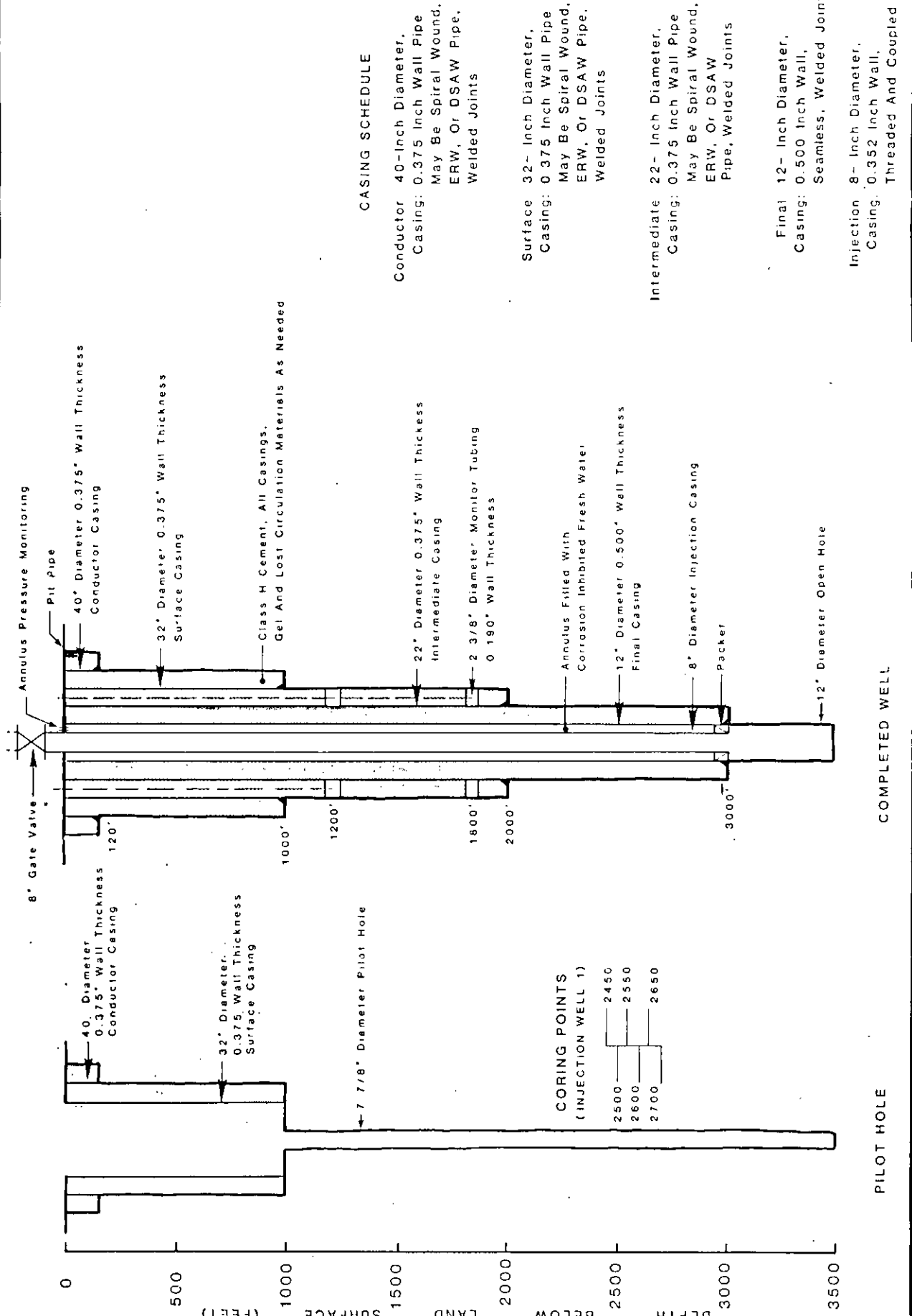
Letter Dated July 17, 1985

ITEM 11: Figure 5 (Appendix 10.8) shows the final casing string (12 inch) as being ERW pipe with a wall thickness of 0.500 inch. The Construction and Testing Program and Technical Specifications texts indicate this casing string will be seamless pipe with a 0.500 inch wall thickness. Which is it? Any deviation from seamless pipe with a 0.500 inch wall thickness must be justified in writing (Rule 17-28.(4)(b), FAC).

SWA RESPONSE NO. 21: Figure 21-1 has been corrected and included to show that the injection casing will be 0.500 in. (wall thickness) seamless casing as specified in the Program and Specifications.



RESPONSE, JULY 17, 1985



COMPLETED WELL

PILOT HOLE

RESPONSE TO FLORIDA DEPARTMENT OF ENVIRONMENTAL REGULATION

Letter Dated July 17, 1985

ITEM 12: The applicant must specify the disposal location for excess mud, drill cuttings, drilling fluids, etc., before drilling can begin. This location must be acceptable to all parties involved before drilling can begin.

SWA RESPONSE NO. 22: This requirement should be included as a specific condition of the construction permit. Once a Contractor is selected, this information will be furnished to the Technical Advisory Committee (TAC).

RESPONSE TO FLORIDA DEPARTMENT OF ENVIRONMENTAL REGULATION

Letter Dated July 17, 1985

ITEM 13: Cuttings (formation samples) must be collected from land surface to total well depth not just below 1,000 feet depth as proposed in item #5(a) of the drilling plan.

SWA RESPONSE NO. 23: As stated on Page 9 of the Drilling and Testing Program, samples will be collected at 10 ft. intervals during all drilling.

RESPONSE TO FLORIDA DEPARTMENT OF ENVIRONMENTAL REGULATION

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ITEM 14: The pressure test of the final casing string must be at least 1.5 times the expected injection pressure.

SWA RESPONSE NO. 24: The expected well-head pressure at the design flow rate (1 mgd) is approximately 57 psi. The pressure test will be conducted at 1.5 times this pressure, or approximately 85 psi.

RESPONSE TO FLORIDA DEPARTMENT OF ENVIRONMENTAL REGULATION

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ITEM 15: No indication of the distance between the two injection wells is given in the specifications.

SWA RESPONSE NO. 25: Please refer back to SWA Response No. 19.

RESPONSE TO FLORIDA DEPARTMENT OF ENVIRONMENTAL REGULATION

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ITEM 16: Rule 17-28.13(6), FAC, requires that a temperature or noise log be run on the completed injection well for mechanical integrity testing purposes. A temperature log run in the pilot hole is not sufficient to fulfill this requirement.

SWA RESPONSE NO. 26: We believe that the temperature log specified in the Program and Specifications satisfies the requirements in Chapter 17-28 FAC and will provide useful information when compared with temperature logs run in the future in order to evaluate mechanical integrity.

In order to use temperature logs to evaluate mechanical integrity (absence of fluid movement along the outside of the injection casing), the background temperature of the fluid in the formations penetrated by the well must be established. In order for the temperature log to be representative of background conditions, it should be run prior to operation of the well and during a period when the temperature of the fluid in the well is not influenced by the heat given off from curing cement. The best time to obtain a background temperature log is during the geophysical logging of the pilot hole.

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ITEM 17: The daily drilling log must also include the type and volume (amount) of weighting materials (such as salt) used to control artesian flow.

SWA RESPONSE NO. 27: Records of the type and volume of weight materials will be kept and supplied to the Technical Advisory Committee (TAC) along with the daily reports.

RESPONSE TO FLORIDA DEPARTMENT OF ENVIRONMENTAL REGULATION

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ITEM 18: Background water quality must be established for the following parameters pursuant to Rule 17-28.25(1)(e), FAC.

- A. Monitor zones containing less than 10,00 mg/1 TDS:
 - 1. Primary drinking water parameters
 - 2. Secondary drinking water parameters
 - 3. Minimum Criteria (free forms)
- B. Monitor zones containing greater than 10,000 mg/1 TDS:
 - 1. Parameters left up to the Department

SWA RESPONSE NO. 28: The monitor zones will be sampled and tested for primary and secondary drinking water standards and EPA Test Method 608, 624, and 625 constituents.

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ITEM 19: An analysis of the compatability of the five waste streams which are to be injected must be made. This study should include analyses of the compatability of the waste streams with each other as well as with the formation materials, formation fluids and well construction materials.

SWA RESPONSE NO. 29: The waste streams which will be combined for injection into the "Boulder Zone" are: 1) Resource Recovery Plant Blowdown from boilers, cooling towers and demineralizers; 2) Domestic wastewater treatment plant effluent and; 3) Leachate. The characteristics of the Resource Recovery Plant effluent has been described in Chapter 3 of the Application and Table 3.5-2, Characteristics of Blowdown Mixture, has been included in this response. The characteristics of the effluent from the domestic wastewater treatment plant are representative of values found in effluents in South Florida. The characteristics of the leachate were discussed in Chapter 3 and Appendix 10.7.

An analysis of the combined waste streams is shown on the accompanying table, and as discussed above, representative values have been used. As discussed in the Application, once the monitoring programs are started, actual data on the waste streams can be utilized to conduct a more conclusive analysis. A flow diagram of the waste streams which will be combined is also included in this response.

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Based on the representative values available, combining the waste streams will not have an adverse impact on the formation materials, the fluid in the Boulder Zone, or the well construction materials of the Class I industrial deep-well injection system as outlined in Appendix 10.8.

RESPONSE TO FLORIDA DEPARTMENT OF ENVIRONMENTAL REGULATION

PROJECTED AVERAGE FLOW

Plant Blowdown 371 gallons/minute
 Sanitary 14 gallons/minute
 Leachate 7 gallons/minute

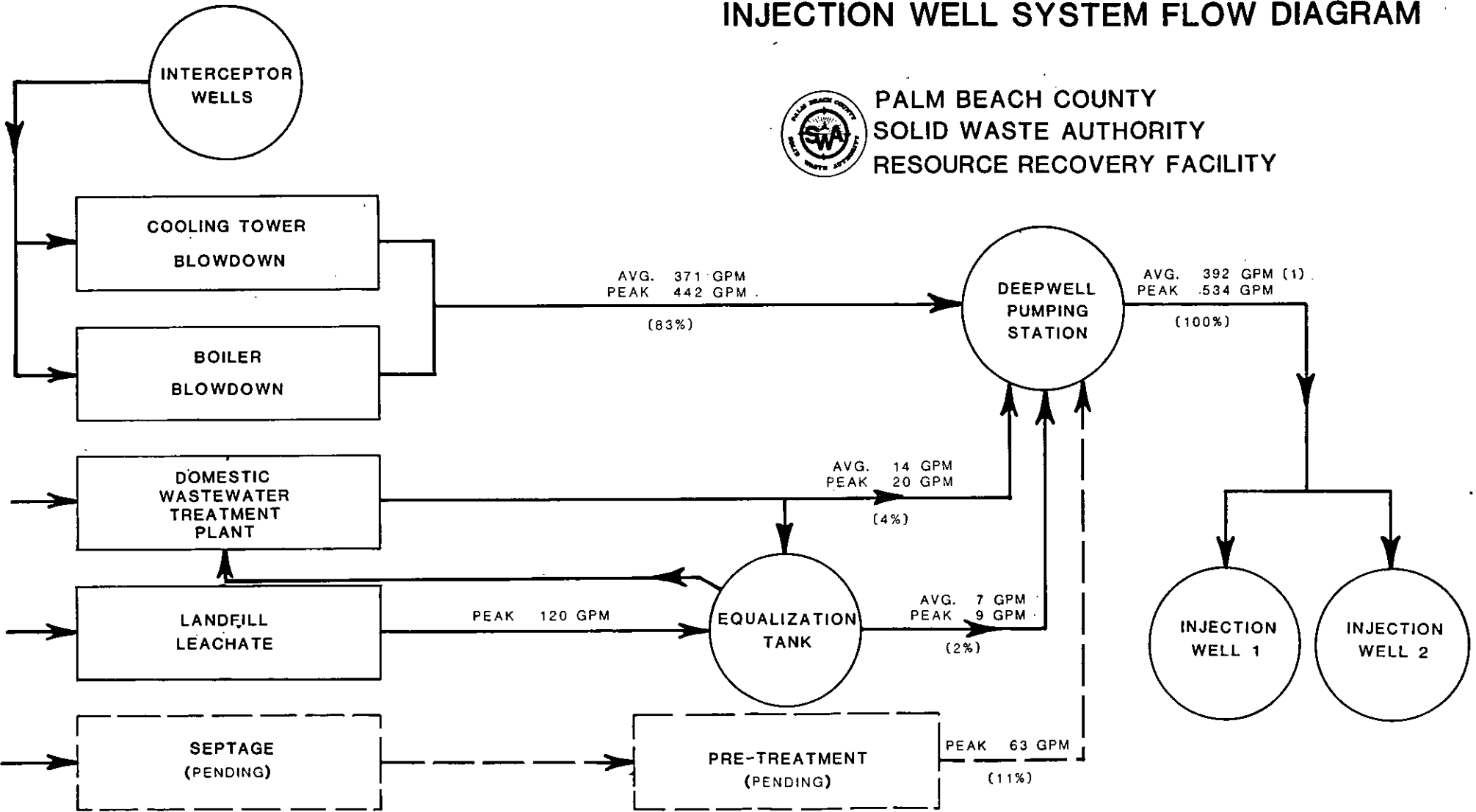
Parameter	PLANT BLOWDOWN		SANITARY		LEACHATE		COMBINED EFFLUENT	
	Mg/l	lb/day	Mg/l	lb/day	Mg/l	lb/day	Mg/l	lb/day
Ca as CaCO ₃	361	1612	129	22	400	34	354	1668
Mg as CaCO ₃	21	96	2.9	.5	20	2	21	98.5
Na as CaCO ₃	246	1,097	50	8	200	17	238	1,122
HCO ₃ as CaCO ₃	1,000	4,459	369	62	500	42	969	4,563
CO ₃ as CaCO ₃	149	666	0	0	150	13	144	679
SO ₄ as CaCO ₃	92	413	1.3	.2	57	5	89	418.2
Cl as CaCO ₃	236	1,053	30.5	5	900	76	241	1,134
PO ₄ as CaCO ₃	9	40	10	2	150	13	12	55
TDS	1,773	7,983	370	62	6,120	514	1,818	8,559
TSS	22	96	8	1	0	0	20	98
BOD	0	0	8	1	1,000	84	18	87
² Arsenic	-	-	-	-	20 ¹	1.7x10 ⁻⁶	.4 ¹	1.7x10 ⁻⁶
² Barium	-	-	-	-	<100 ¹	<8.4x10 ⁻⁶	<1.8 ¹	<8.4x10 ⁻⁶
² Cadmium	-	-	-	-	< 5 ¹	<4.2x10 ⁻⁷	<.09 ¹	<4.2x10 ⁻⁷
² Chromium	-	-	-	-	< 10 ¹	<8.4x10 ⁻⁷	< .2 ¹	<8.4x10 ⁻⁷
² Lead	-	-	-	-	< 10 ¹	< 8.4x10 ⁻⁷	< .2 ¹	<8.4x10 ⁻⁷
² Mercury	-	-	-	-	< .5 ¹	<4.2x10 ⁻⁸	<.009 ¹	<4.2x10 ⁻⁸
² Selenium	-	-	-	-	< 5 ¹	<4.2x10 ⁻⁷	<.09 ¹	<4.2x10 ⁻⁷
² Silver	-	-	-	-	< 10 ¹	<8.4x10 ⁻⁷	<.18 ¹	<8.4x10 ⁻⁷

1. Expressed in terms of ug/l.
2. Data taken from samples at the Dyer Boulevard Landfill
See Appendix 10.7

INJECTION WELL SYSTEM FLOW DIAGRAM



PALM BEACH COUNTY
SOLID WASTE AUTHORITY
RESOURCE RECOVERY FACILITY



(1) EXCLUDES SEPTAGE FLOW

RESPONSE: JULY 17, 1985

FIGURE 29-1

RESPONSE TO FLORIDA DEPARTMENT OF ENVIRONMENTAL REGULATION

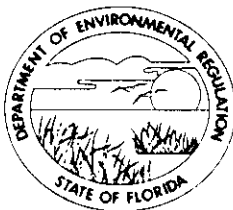
Letter Dated July 17, 1985

ITEM 20: In the future it would be preferable if the information were presented in the format of form 17-1.209(9). Items such as the injection waste stream analysis should be presented in Appendix 10.8 which discusses the injection program not somewhere else in the document.

SWA RESPONSE NO. 30: In the future, information concerning the deep-well injection system will be presented in the format as outlined in form 17-1.209(9).

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION

TWIN TOWERS OFFICE BUILDING
2600 BLAIR STONE ROAD
TALLAHASSEE, FLORIDA 32301-8241



BOB GRAHAM
GOVERNOR
VICTORIA J. TSCHINKEL
SECRETARY

July 2, 1985

Mr. James T. Wilburn, Chief
Air Management Branch
Air & Waste Management Division
U.S. EPA, Region IV
345 Courtland Street, N.E.
Atlanta, Georgia 30365

Dear Mr. Wilburn:

RE: Palm Beach County Solid Waste Resource Recovery Facility
Application for Power Plant Site Certification, PSD-FL-108

The Bureau of Air Quality Management is reviewing Palm Beach County's Solid Waste Resource Recovery Facility Application for Power Plant Site Certification. We are sending you a copy of the complete application under separate cover. Please review the application and submit any comments or questions to Tom Rogers or Ed Svec at the above address or at (904)488-1344.

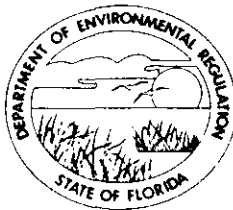
Sincerely,

Patty Adams
Bureau of Air Quality
Management

/pa

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION

TWIN TOWERS OFFICE BUILDING
2600 BLAIR STONE ROAD
TALLAHASSEE, FLORIDA 32301-8241



BOB GRAHAM
GOVERNOR

VICTORIA J. TSCHINKEL
SECRETARY

July 2, 1985

Chief, Permit Review and Technical
Support Branch
National Park Service - AIR
Post Office Box 25287
Denver, Colorado 80225

Dear Sir:

RE: Palm Beach County Solid Waste Resource Recovery Facility
Application for Power Plant Site Certification, PSD-FL-108

The Bureau of Air Quality Management is reviewing Palm Beach County's Solid Waste Resource Recovery Facility Application for Power Plant Site Certification. We are sending you a copy of the complete application under separate cover. Please review the application and submit any comments or questions to Tom Rogers at the above address or at (904)488-1344.

Sincerely,

Patty Adams
Bureau of Air Quality
Management

/pa

Hayden | Wegman

Barker, Osha & Anderson

A Joint Venture
860 U. S. Highway One
North Palm Beach, Florida 33408
305/626-4653

Received DER

JUN 26 1985

June 24, 1985

E P S

State of Florida
Department of Environmental Regulation
Division of Environmental Permitting
Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, Florida 32301

DER

JUN 28 1985

PAOM

Attn: Mr. Hamilton Oven, P.E.
Power Plant Siting Section

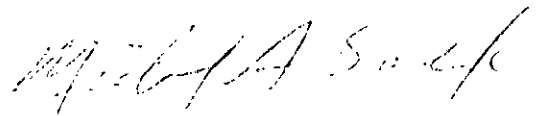
Re: Application for Power Plant Site Certification
Palm Beach County Solid Waste Authority
Resource Recovery Facility

Gentlemen:

Accompanying this letter are 45 copies of the revision to Appendix 10.6, Existing State Permits. Please remove the information as submitted in its entirety and replace it with this revised Appendix 10.6.

Very truly yours,

BARKER, OSHA & ANDERSON, INC.
HAYDEN/WEGMAN, INC.



Michael A. Schenk, P.E.
For the Joint Venture

MAS/pc
enclosures
cc: Mr. Tim Hunt

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION

TWIN TOWERS OFFICE BUILDING
2600 BLAIR STONE ROAD
TALLAHASSEE, FLORIDA 32301-8241



BOB GRAHAM
GOVERNOR

VICTORIA J. TSCHINKEL
SECRETARY

DER

JUN 28 1985

June 27, 1985
BAQM

Mr. William J. Kendrick
Division of Administrative Hearings
The Oakland Building
2009 Apalachee Parkway
Tallahassee, FL 32301

RE: Palm Beach County Resource Recovery Facility
PA 84-20

Dear Mr. Kendrick:

Enclosed please find an amendment to the Palm Beach County Resource Recovery Facility power plant siting application.

Sincerely,

Karen Westbury for HSO

Hamilton S. Oven, Jr., P.E.
Administrator
Siting Coordination Section

HSOjr/sb

cc: All Parties
PPSRC

DEK

JUN 28 1985

BAQM

APPENDIX 10.6

EXISTING STATE PERMITS

There have been no state permits issued to date for the Resource Recovery Facility. Application for all applicable state permits for the Resource Recovery Facility have been included in this application for Power Plant Site Certification.

RECEIVED
JUL 22 1985

STATE OF FLORIDA

DEPARTMENT OF ENVIRONMENTAL REGULATION

TWIN TOWERS OFFICE BUILDING
2600 BLAIR STONE ROAD
TALLAHASSEE, FLORIDA 32301 8241



BOB GRAHAM
GOVERNOR

VICTORIA J. TSCHINKEL
SECRETARY

July 17, 1985

Mr. Timothy Hunt, Jr.
Palm Beach County Solid Waste Authority
5114 Okeechobee Boulevard
Suite 2C
West Palm Beach, FL 33409

Dear Mr. Hunt:

The Department of Environmental Regulation's Solid Waste Section raised the following questions or comments about the sufficiency of your power plant siting application:

1. In the scenario for total plant shutdown, Class III landfill area would be transferred for use as Class I and constructed in accordance with all applicable requirements (page 2-9). Would this include a double liner? What would be the fate of the interceptor wells (used for cooling water)?
2. Recommend stormwater discharge culvert from "conservation" area to EPB-10 (see Sheet 20 of 25, Appendix 10.4) not go under landfill.
3. Concept of double liner good, but will need actual specifications (type, thickness, joining procedure, etc.) on liner and quality assurance procedure for sealing area around leachate collection pipe where it intersects the liner.
4. Monitoring well No. 10 (shallow) appears to be located between the landfill access road and the liner near proposed Phase IV of the Class I area. As its location seems prone to much activity, what measure will be taken to protect this well?
5. To insure cover is applied at the end of each working day, will personnel remain on site to complete this work after gates are locked (6 p.m.) to incoming waste?
6. Tires will not be used in RDF, but will be disposed of in Class I area. What measures (splitting, shredding, etc.), if any, will be taken to insure they stay covered?

Page Two
Mr. Hunt
July 17, 1985

7. Tipping area capacity is 3,000 tons which is sufficient over-capacity for initial operation of 2,000 T/D, but will additional capacity be provided when facility operates at 3,000 T/D?
8. What provisions will be made in the event of a RDF manufacturing plant shut down for either removal of the stored waste in the tipping area within 48 hours or for vector (flies, rodents, odor) control?
9. If composting of sludge is proposed (page 8-4) on this site, adequate information (location, method, etc.) must be submitted.
10. Where will the conduits for transporting the water from the interceptor wells to the resource recovery facility be located?

SWA
RESPONSE The department's Groundwater Section raised the following concerns about the proposed injection well:

- 11 1. Joint Venture's surge protection features along with the supporting calculations must be provided before an injection well construction permit is considered complete. (Rule 17-28.22(1)(f))
- 12 2. Please provide a more detailed map showing ground water flow in the Floridan aquifer. The regional potentiometric surface map presented (Appendix 10.8, Figure 4) is not adequate for this purpose.
- 13 3. Details of the packer assembly should be provided (preferably a drawing).
- 14 4. Specify the type of corrosion inhibitors which will be used in the annulus between the eight inch injection tubing and the 12 inch final casing.
- 15 5. Specify whether the intermediate casing (22 inch) will extend below all ground water containing less than 10,000 mg/l total dissolved solids (TDS).
- 16 6. Specify whether the proposed monitor well will monitor waters containing greater or less than 10,000 mg/l TDS. Why is no monitoring of the upper Floridan aquifer proposed? This is a deviation from the current practice in the area.
- 17 7. The 40 inch casing should extend below all producing zones used for drinking water (private or public) supplies in the area.

SWA
RESPONSE

- 18 8. Rule 17-28.22(1)(c)1., FAC, requires corrosion protection for a minimum of 30 feet above and below any uncemented portions of casing. This is not discussed in the injection well specifications.
- 19 9. A site drawing showing the proposed location of the injection wells is required. At a minimum, this drawing should indicate the distance between the wells.
- 20 10. A drawing showing drilling pad dimensions and features (slopes, concrete thickness, curb height, etc.) is necessary either as a part of the permit application or completed as per a specific condition of the construction permit before drilling can commence.
- 21 11. Figure 5 (Appendix 10.8) shows the final casing string (12 inch) as being ERW pipe with a wall thickness of 0.500 inch. The Construction and Testing Program and Technical Specifications texts indicate this casing string will be seamless pipe with a 0.500 inch wall thickness. Which is it? Any deviation from seamless pipe with a 0.500 inch wall thickness must be justified in writing (Rule 17-28.(4)(b), FAC).
- 22 12. The applicant must specify the disposal location for excess mud, drill cuttings, drilling fluids, etc., before drilling can begin. This location must be acceptable to all parties involved before drilling can begin.
- 23 13. Cuttings (formation samples) must be collected from land surface to total well depth not just below 1,000 feet depth as proposed in item #5(a) of the drilling plan.
- 24 14. The pressure test of the final casing string must be at least 1.5 times the expected injection pressure.
- 25 15. No indication of the distance between the two injection wells is given in the specifications. Will these wells be far enough apart so that the pumping well does not interfere with the injecting well during these tests?
- 26 16. Rule 17-28.13(6), FAC, requires that a temperature or noise log be run on the completed injection well for mechanical integrity testing purposes. A temperature log run in the pilot hole is not sufficient to fulfill this requirement.
- 27 17. The daily drilling log must also include the type and volume (amount) of weighting materials (such as salt) used to control artesian flow.

Page Four
Mr. Hunt
July 17, 1985

SWA

RESPONSE

- 28 18. Background water quality must be established for the following parameters pursuant to Rule 17-28.25(1)(e), FAC.
- A. Monitor zones containing less than 10,000 mg/l TDS:
 - i Primary drinking water parameters
 - ii Secondary drinking water parameters
 - iii Minimum Criteria (free froms)
 - B. Monitor zones containing greater than 10,000 mg/l TDS:
 - i Parameters left up to the Department
- 29 19. An analysis of the compatability of the five waste streams which are to be injected must be made. This study should include analyses of the compatability of the waste streams with each other as well as with the formation materials, formation fluids and well construction materials.
- 30 20. In the future it would be preferable if the information were presented in the format of form 17-1.209(9). Items such as the injection waste stream analysis should be presented in Appendix 10.8 which discusses the injection program not somewhere else in the document.

Sincerely,

Hamilton S. Owen, Jr.
Hamilton S. Owen, Jr., P.E.
Administrator
Siting Coordination Section

HSOjr/sb

cc: William J. Kendrick
Don White
All Parties



STATE OF FLORIDA

DEPARTMENT OF ENVIRONMENTAL REGULATION

TWIN TOWERS OFFICE BUILDING
2600 BLAIR STONE ROAD
TALLAHASSEE, FLORIDA 32301 8241



BOB GRAHAM
GOVERNOR

VICTORIA J. TSCHINKEL
SECRETARY

July 2, 1985

Mr. William J. Kendrick
Division of Administrative Hearings
The Oakland Building
2009 Apalachee Parkway
Tallahassee, FL 32301

RE: Palm Beach County Resource Recovery Facility
PA 84-20, DOAH Case No. 85-2032

Dear Mr. Kendrick:

The Department of Environmental Regulation has reviewed the Palm Beach County Resource Recovery Facility power plant site certification application for completeness pursuant to subsection 403.506(2), Florida Statutes. The department finds the application to be complete. During the review, however, the department noted that the application was insufficient in addressing the following areas in DER Form 17-1.211(1):

1. Section 2.2.4 fails to discuss how drainage structures may affect the works of the water management agencies in the area.
2. Section 2.3.4.2, Measurement Programs, should describe the background physical and chemical parameters of surface waters with respect to spatial and temporal changes. The data submitted does not include a station location map indicating where the samples were taken nor are the dates of sampling indicated.
3. A dredge and fill jurisdictional of the project site was conducted prior to the passage of the Henderson Wetland Protection Act. This jurisdictional was not grandfathered pursuant to Chapter 17.4.022, F.A.C., and therefore is not a valid dredge and fill jurisdictional under the current rules. The acreage of jurisdictional wetland impacted given in Appendix 10.1 may therefore not be correct.
4. No dredge and fill jurisdictional has been conducted for the transmission line corridor. The transmission line corridor is not included in the dredge and fill application in Appendix 10.1. No acreage of jurisdictional wetlands impacted by the transmission line is given.

Page Two
July 2, 1985
Mr. Kendrick

5. A plan view drawing showing the location and indicating the acreage of created wetlands should be submitted.
6. Table 2.3-13, Table 3.3-1, and Table 3.4-1 do not agree with respect to sulfur content. Please explain.
6. Table 2.3-13, Table 3.3-1 and Table 3.4-1 do not agree with respect to sulfur content. Please explain.
7. Design criteria on page 3-11(3.4.1.4.1.2) mentions that the furnaces will have assistance from gas fed auxillary burners to aid in the combustion process yet on page 3-7(section 3.3) it states that no provision is made for auxillary fuels except for natural gas which is to be used as a start-up fuel. Page 3-18 mentions natural gas and oil firing. Please clarify.
8. Please show on the appropriate Figure or map the location of well DW 10A and its proximity to the proposed landfill.
9. No flow diagrams are provided as asked for in 3.6 of the application format guide for the chemical waste system.
10. Does Palm Beach County have any plans to possibly use the ash in road construction, fill or other purposes?
11. Could more specific information be provided on how Palm Beach County plans to keep stormwater run-off and leachate separated while the landfill is active?
12. If ash may be used as a daily cover for the class III landfill (page 3.43), why will only a single liner leachate collection system be utilized?
13. Figure 4.2-1 is referenced to (page 5-9) but is not present in the application. Drawdown contours (plotted) are not present for the area within 5 miles of the plant's water supply wells.
14. In section 4.5.2.2 please clarify what chemicals are potentially to be used for dust control.
15. Location of the hazardous waste storage facility is not shown on any of the provided maps although it is mentioned that it will be located next to the maintenance building.
16. What are the units for Table 5.3.1?
17. When will Palm Beach County know if they will need a Special Exception to the RS zoning for a switching station?

Page Three
July 2, 1985
Mr. Kendrick

18. For section 6.1.9.1, list any herbicides proposed for use and provide aquatic organism toxicity data. Also discuss application techniques and impacts on off-property vegetation.

19. How many flail mills will there be?

20. Please fill out DER Form 17-1.209(9) for Construction and Operation of an Underground Injection Well. The information contained in the application insufficiently addresses the injection well.

21. Are the air pollution impact modelling computer runs previously furnished to the department current?

Sincerely,

Hamilton S. Oven, Jr.

Hamilton S. Oven, Jr., P.E.
Administrator
Siting Coordination Section

HSOjr/sb

cc: Don White
Julie Cobb
Larry Keeseey
Thomas Schwartz
Steve Tribble
Tim Hunt

RECEIVED
JUL - 8 1985