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**CATEGORICAL EXCLUSION DETERMINATION
STORMWATER RETENTION BASIN EXPANSION
NEPA DOC NO. 15**

03/23/88

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FMPC		COGNIZANT PROJECT ENGINEER R. F. Gimpel
NEPA DOCUMENTATION		PROJECT LOCATION South FMPC Parking Lot
PROJECT/PROGRAM TITLE GPP-GE (FA-166)		PROJECT COST \$1.2 Million
Stormwater Retention Basin Expansion		CONSTRUCTION START DATE Spring 1988
PROJECT/PROGRAM NUMBER PA 18-87102	NEPA DOCUMENT NUMBER 15	NEPA SUBMITTAL DATE July 20, 1987

PROJECT EXECUTIVE SUMMARY

This project will increase the stormwater retention capacity by installing a new 6.3 million gallon basin adjacent to the old basin. This basin will be located south of the FMPC parking lot and east of the existing basin. The existing and new basin will be connected in parallel. Flow to the basins will be accomplished by gravity. The water will be pumped to the Great Miami River via an existing sump station. The new basin will have a double-liner system. The inner liner (the primary liner in direct contact with the water) will be a flexible membrane liner (FML or also called synthetic liner). The outer liner (or secondary liner) will be 18 inches of Bentonite clay. The new basin will have (1) a leachate detection system to determine the integrity of the inner liner and (2) a groundwater intercept system to relieve any groundwater uplift pressure on the liner.

PROJECT JUSTIFICATION

The basin serves as a collection and detention reservoir for stormwater runoff and also as a solids settling basin. The stormwater runoff is from the plant process area (136 acres) and the support facilities. These facilities include the parking lot, laboratory, and office areas (24 acres). Outflow from the basin is pumped to the Great Miami River. If the basin were to overflow, the discharge would go to Paddy's Run. The present basin is capable of controlling approximately seven million gallons of stormwater runoff which equals an isolated two-year, twenty-four hour storm event. The Ohio Environmental Protection Agency (OEPA) has officially ordered that the basin be enlarged by October 1, 1987 to hold a ten year, twenty-four hour storm event. This project will (1) satisfy OEPA's order and (2) greatly reduce the chances of overflows to Paddy's Run. Cumulative impacts of this project have been assessed to be positive overall. Other options have not been precluded by this action.

-no drawings
 -no data
 -no info

EXISTING NEPA DOCUMENTATION/DATE SUBMITTED				DOCUMENT DISPOSITION	
NONE	N.C.	ADM.	E.A.	APPROVED DISAPPROVED	
XX				CE	_____
THIS NEPA DOCUMENT				NC	_____
N.C.	ADM.	E.A.	E.I.S.	ADM	_____
JUL 28 1987				EA	_____
DOE APPROVAL REQUESTED	COGNIZANT PROJECT ENGINEER/DATE			FMPC WILL NEED TO PREPARE	NO ADDITIONAL _____
	<i>R. F. Gimpel 7-20-87</i>				
	SITE NEPA COORDINATOR/DATE				
	<i>Sue... 7-21-87</i>				
	SITE NEPA MANAGER/DATE				
DOE/FMPC	<i>... 7-22-87</i>			ADM	_____
DOE/ORO	SITE DOE OFFICER/DATE			EA	_____
DOE/HQ	<i>Ray... 7/27/88</i>			EIS	_____
	ADDITIONAL DOE APPROVAL (IF NEEDED) DATE				

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5/24/88

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1.0 PURPOSE AND NEED FOR ACTION

The major purpose of this project is to reduce the chances of overflowing plant stormwater to Paddy's Run. If the Stormwater Retention Basin were to overflow, the discharge would go to Paddy's Run. The present basin is capable of controlling approximately seven million gallons of stormwater runoff which equals an isolated two-year, twenty-four hour storm event. This project will install a second basin to increase the stormwater holding capacity to a ten year, twenty-four hour storm event.

The secondary purpose of this project is to reduce the Total Suspended Solids (TSS) leaving the basin. The average TSS leaving the existing basin is 41 mg/l (ppm). The future OEPA point source daily limit is 30 mg/l. The settling of solids is a function of surface area and flow rate. Therefore, expanding the basin's area and capacity will help reduce the TSS to below the OEPA limits.

2.0 DESCRIPTION OF PROPOSED ACTION

The new basin will be sized for 6.3 million gallons of surface runoff. This basin will be located south of the FMPC parking lot and east of the existing basin. See Figures 1, 2, and 3.

The proposed new basin will incorporate the safety and security requirements for basins as required by DOE/OSHA 1926.106. These will include lighting, fencing, ring buoys and rowboats.

The new basin will have a double-liner system. The inner liner (the primary liner in direct contact with the water) will be a flexible membrane liner (FML or also called synthetic liner). The outer liner (or secondary liner) will be 18 inches of Bentonite clay. The clay will be compacted in six-inch lifts to 10⁻⁷ ft/min permeability.

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The new basin will have:

- A leachate detection system to determine the integrity of the inner liner.
- A groundwater intercept system to relieve any groundwater uplift pressure on the liner.

The new basin will be drained by a floating intake line that removes water from the surface. The water will flow by gravity to the existing basin sump for pumping to the Great Miami River via the existing discharge piping.

The following structures will be included in the project if funds allow. The new basin could operate without these modifications, but not as desired:

- Half Gates: Gates will be placed in the branches from the 60-inch main feeding the basins. These manually operated gates will direct the flow to either or both basins. However, the gates will not be full height so water will flow to both basins during severe storm conditions.
- Modify The Existing Spillway: The exiting spillway will be modified to manually determine, by a sharp-crested weir, the amount of water leaving during overflow conditions. Height of the spillway will allow both basins to fill to maximum capacity.

Construction of the basin is scheduled for April 1987 through September 1987. Approximately 38,000 cubic yards (2,500 - 3,000 scraper loads) of soil will be excavated to form the basin and 115 tons (12 - 16 truck loads) of Bentonite clay will be hauled in and compacted in lifts to form the 18 inch liner. 125,000 sqft of 30- to 60-mil synthetic liner will be placed and welded to form the inner liner. Work crews are expected to range between 6 and 20 workers.

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Soil samples will be taken to characterize the area of excavation. Uranium contamination has not been noted in this area before. Therefore, the soil is expected to be classified clean. Plans are to use the excavated soil to fill Pit #4. This pit is being decommissioned by a another FY-1987 GP project. The project's task is to fill the pit with soil and cover it first with 18 inches of Bentonite clay and and then second with a synthetic liner. Soil not used at the pit will remain on the site. This soil and disturbed soil at the basin will be seeded and fertilized to limit erosion. This project will be conducted in conformance with DOE, OSHA, and FMPC regulations governing health and safety. Required permits will be obtained.

3.0 ALTERNATIVES CONSIDERED

3.1 NO ACTION

Failure to construct the basin would put WMCO and DOE in noncompliance with the OEPA order. Discharges from the stormwater retention basin will continue to be frequent (approximately once a year). WMCO and DOE would have less probable success of meeting Ohio's limits for Total Suspended Solids discharged to the Great Miami River.

3.2 PROPOSED ACTION

Construction of the proposed basin will:

- Satisfy OEPA's order.
- Greatly reduce the chances of overflows to Paddy's Run.
- WMCO and DOE would have high probable success of meeting Ohio's limits for Total Suspended Solids discharged to the Great Miami River.

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3.3 OTHER ALTERNATIVES

The only alternatives to increase the stormwater holding capacity is to (1) build an additional basin as proposed (2) or enlarge the existing basin. Physically enlarging the existing basin is not practical. The wall of the existing basin would need to be moved while the basin was being enlarged. This would require taking the basin out of service and leaving the Plant without stormwater retention during construction.

4.0 POTENTIAL ENVIRONMENTAL IMPACT OF PROPOSED ACTION

4.1 CONSTRUCTION

Workers should encounter normal construction hazards during construction of the new basin. Dust from construction work drifting north to the Plant parking lot and covering the cars is possible. At least fifty feet of greenbelt area with trees and scrubs to be maintained between the basin and the parking lot. This will help limit the spread of airborne dust. If this is perceived to be a problem, employees will be asked to park their cars at the further end of the parking lot. There will be heavy construction equipment noise in the area; however, the construction site is removed from the populated areas of the plant.

4.2 OPERATION

The environmental impact will be positive. This project will reduce the chances of overflowing plant stormwater to Paddy's Run. The present basin is capable of controlling approximately seven million gallons of stormwater runoff which equals an isolated two-year, twenty-four hour storm event. This project will install a second basin to increase the stormwater holding capacity to a ten year, twenty-four hour storm event.

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The amount of Total Suspended Solids going to the Great Miami River will be reduced by the increased settling time of a larger basin.

Water drainage presently passes through the construction site. Ditches will be cut to allow the water to flow around the perimeter of the basin.

4.3 PERMIT COMPLIANCE

A Permit To Install (PTI) will be submitted at the completion of Title I design to the OEPA in late September 1987. Title I design details of the basin will be submitted with the PTI. Approval of the PTI is required before construction of the new basin can begin.

4.4 SITE RESTORATION

The construction work will take place at the FMPC. If decommissioning becomes necessary, this project will not impair those activities.

5.0 CONCLUSION

Construction of the proposed basin will:

- Satisfy OEPA's order.
- Greatly reduce the chances of the basin overflowing to Paddy's Run during a severe storm. The present basin is capable of controlling approximately seven million gallons of stormwater runoff which equals an isolated two-year, twenty-four hour storm event. The capacity will be increased with the addition of the new basin to hold a combined 13.3 million gallons which equates to a ten year, twenty-four hour storm event.

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- WMCO and DOE will have high probable success of meeting Ohio's limits for Total Suspended Solids discharged to the Great Miami River.

The new basin will be double lined to preserve and protect the environment and the groundwater. Also, a leachate collection system will be installed to collect the water and return it to the basin should the inner liner leak.

The proposed new basin will incorporate the safety and security requirements for basins as required by DOE/OSHA 1926.106. These will include lighting, fencing, ring buoys and rowboats.

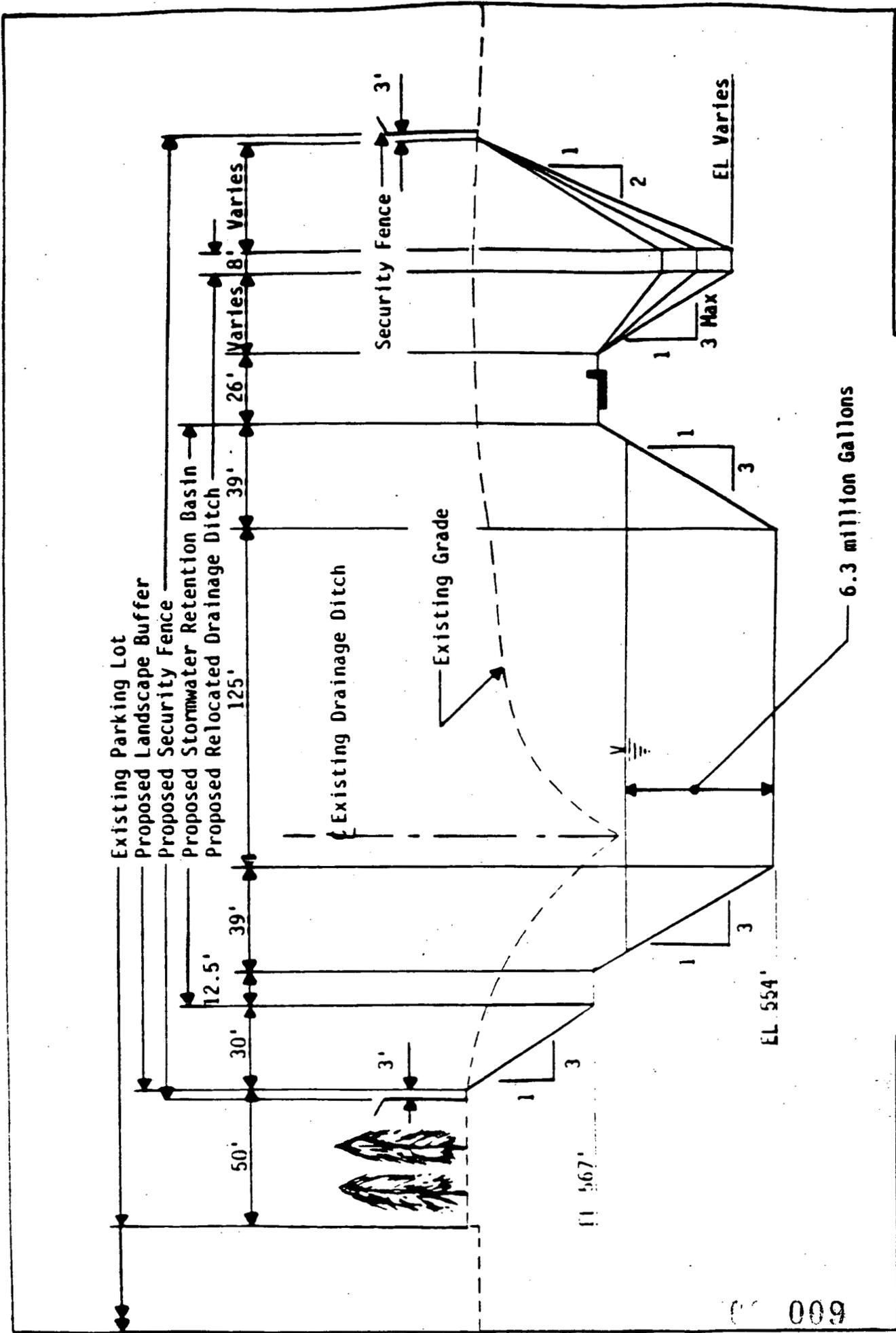
The major impact to the environment during construction will be normal dust and noise from the operation of large heavy equipment. Soil from the excavation will be used to fill Pit #4 if possible. Disturbed soil will be seeded with grass and fertilized to prevent erosion.

In conclusion the project has overwhelming positive impacts to the environment. Specifically, this project will greatly reduce the number of overflows to Patty's Run and increase the quality of the effluent to the Great Miami River.

6.0 CUMULATIVE IMPACTS

The consequences to the human environment are overwhelmingly positive, and will result in a far lower probability of unacceptable discharges to the Great Miami River. This action also responds to a specific order of the OEPA.

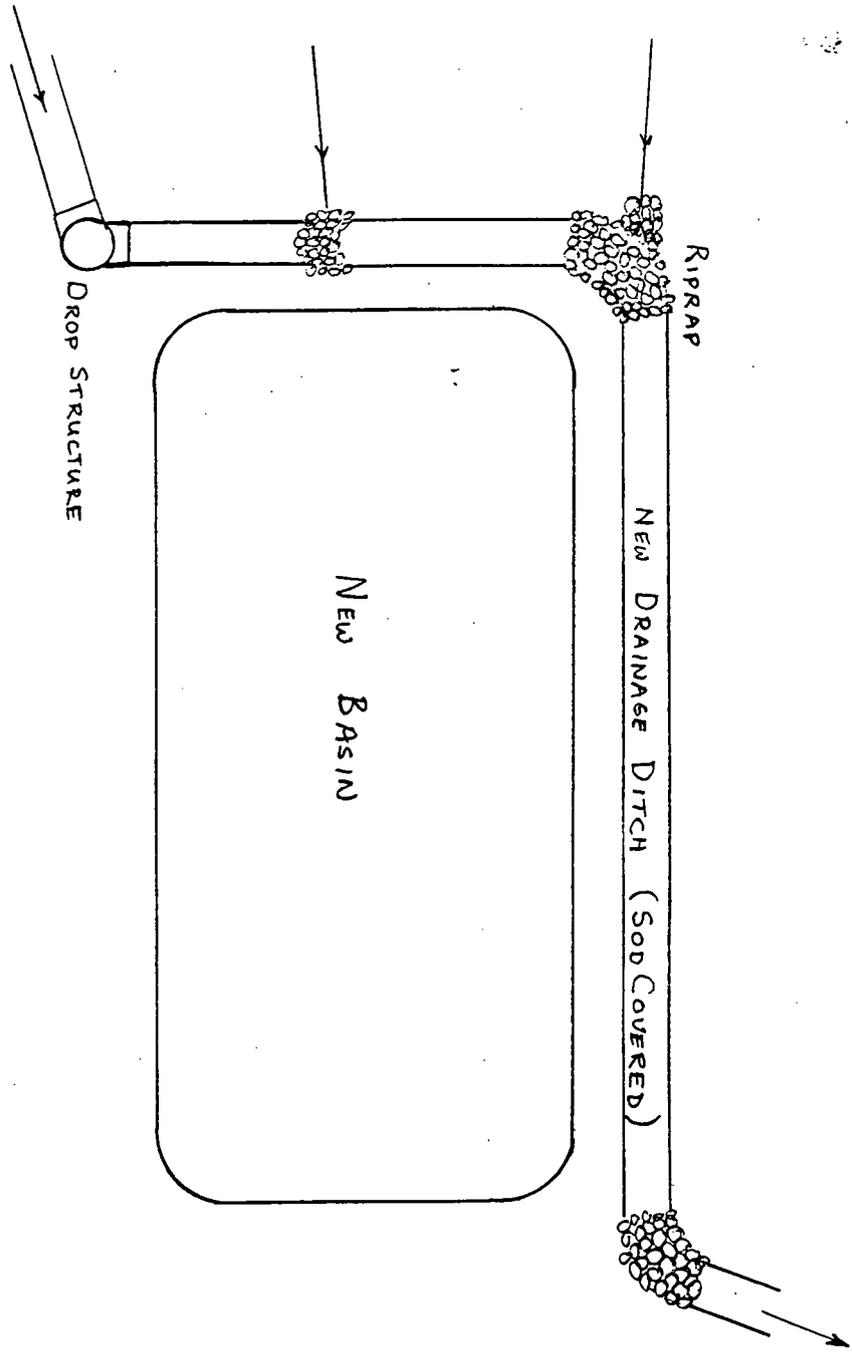
Construction of the stormwater retention basin is being initiated to comply with state orders regulating water discharges from the FMPC. This action is required by the OEPA. As such, this action would be considered for a possible categorical exclusion, if the action was not part of an ongoing sitewide EIS. FR 47, No. 36, Sect. D states that categorical exclusions may be considered for "Compliance actions, including investigations, conferences, hearings, notices of probable violations and remedial orders."



PROPOSED SECTION OF NEW STORMWATER DETENTION BASIN

HORIZONTAL: 1"=50'

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BASIN SITE DRAINAGE
FIGURE 3

FMPC NEPA CHECKLIST ATTACHMENT		COORDINATING PROJECT ENGINEER R. F. Gimpel
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1.0 Will any of the following be encountered, handled, stored, used, or disposed of during the construction of the proposed program or project?

Radioactive materials (identify) Soil samples will be taken to characterize the area excavation. Uranium contamination has not been noted in this area before. Therefore, the soil is expected to be classified clean.	Y	N	(U)
Hazardous materials (identify)	Y	(N)	U
Toxic materials (identify)	Y	(N)	U
Mixed hazardous and radioactive materials (identify)	Y	(N)	U
PCB's (identify source)	Y	(N)	U
Asbestos (identify source)	Y	(N)	U
Organic chemicals (identify)	Y	(N)	U
Heavy metals (identify)	Y	(N)	U

2.0 Will program activities involve discharges to any one of the following systems during the construction of the proposed project?

Low level waste disposal (describe)	Y	N	<input checked="" type="radio"/>
<u>Soil samples will be taken to characterize the area of excavation. Uranium contamination has not been noted in this area before. Therefore, the soil is expected to be classified.</u>			
Process waste stream	Y	<input checked="" type="radio"/>	U

Sanitary waste stream	Y	<input checked="" type="radio"/>	U

Storm sewer	Y	<input checked="" type="radio"/>	U

3.0 Will any of the following be encountered, handled, stored, used, or disposed of during operation of, or following the proposed program changes?

Radioactive materials (identify)	Y	<input checked="" type="radio"/>	U
<u>No change from existing practices.</u>			

Hazardous materials (identify)	Y	<input checked="" type="radio"/>	U

Toxic materials (identify)	Y	<input checked="" type="radio"/>	U

Mixed hazardous and radioactive materials (identify)	Y	<input checked="" type="radio"/>	U

PCB's (identify source)	Y	<input checked="" type="radio"/>	U

Asbestos (identify source) Y N U

Organic chemicals (identify) Y N U

Heavy metals (identify) Y N U

4.0 Will program activities involve discharges to any one of the following systems during operation of, or following the proposed program changes?

Low level waste disposal (describe) Y N U

Process waste stream Y N U

Sanitary waste stream Y N U

Storm sewer Y N U

No chance from existing practices.

5.0 Are uncontrolled emissions, discharges, or spills possible during:

The construction phase of this project? Y N U

The operational phase, upon completion of the project? Y N U

The basin may overflow to Paddy's Run during a severe storm. However, this project's task is to reduce the possible frequency of this happening from once in two years to less than once in ten years.

6.0 Will the project involve any of the following:

- Need for aboveground storage during construction? Y N U
- Need for underground storage during construction? Y N U
- Need for aboveground storage during operations? Y N U
- Need for underground storage during operations? Y N U

7.0 Is the project located in close proximity to a natural stream or within the floodplain of a natural stream? Y

N U

8.0 Are controlled emissions or discharges planned during:

- The construction phase of this project Y N U
- The operational phase, upon completion of this project Y N U

7.0 The basin will be located where there is an existing manmade drainage ditch. This ditch will be relocated around the basin.

8.0 Expanding the basin's capacity will allow greater control of emissions to the Greater Miami River. Total Suspended Solids Count should be reduced.