



Seminole Fertilizer Corporation
P.O. Box 471
Bartow, Florida 33830
(813) 533-2171
Fax (813) 533-1319

December 12, 1989

Mr. Willard Hanks, P. E.
Dept. of Environmental Regulation
Bureau of Air Regulation
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

Dear Mr. Hanks:

RE: NO. 5 PHOSPHORIC ACID PLANT

The enclosed application for construction permit consists primarily of using the Prayon 18-B filter and an evaporator from the previously permitted No. 3 phosphoric acid plant (A053-94457) in parallel to No. 5 plant.

Facilities to pump reacted slurry to said 18-B filter, and to return the filtrate to No. 5 phosphoric acid plant will be new; the scrubbing systems in both plants will remain unchanged, as permitted.

The above modification will increase the P_2O_5 input to No. 5 phosphoric acid plant reactors from the presently permitted 67.5 TPH to maximum peaks of 92 TPH.

Increased fluoride emissions, permitted as well as actual, will not be significant, i.e. below 3 tons per year.

Please call me at (813) 534-9796 if you require any additional information.

Sincerely,

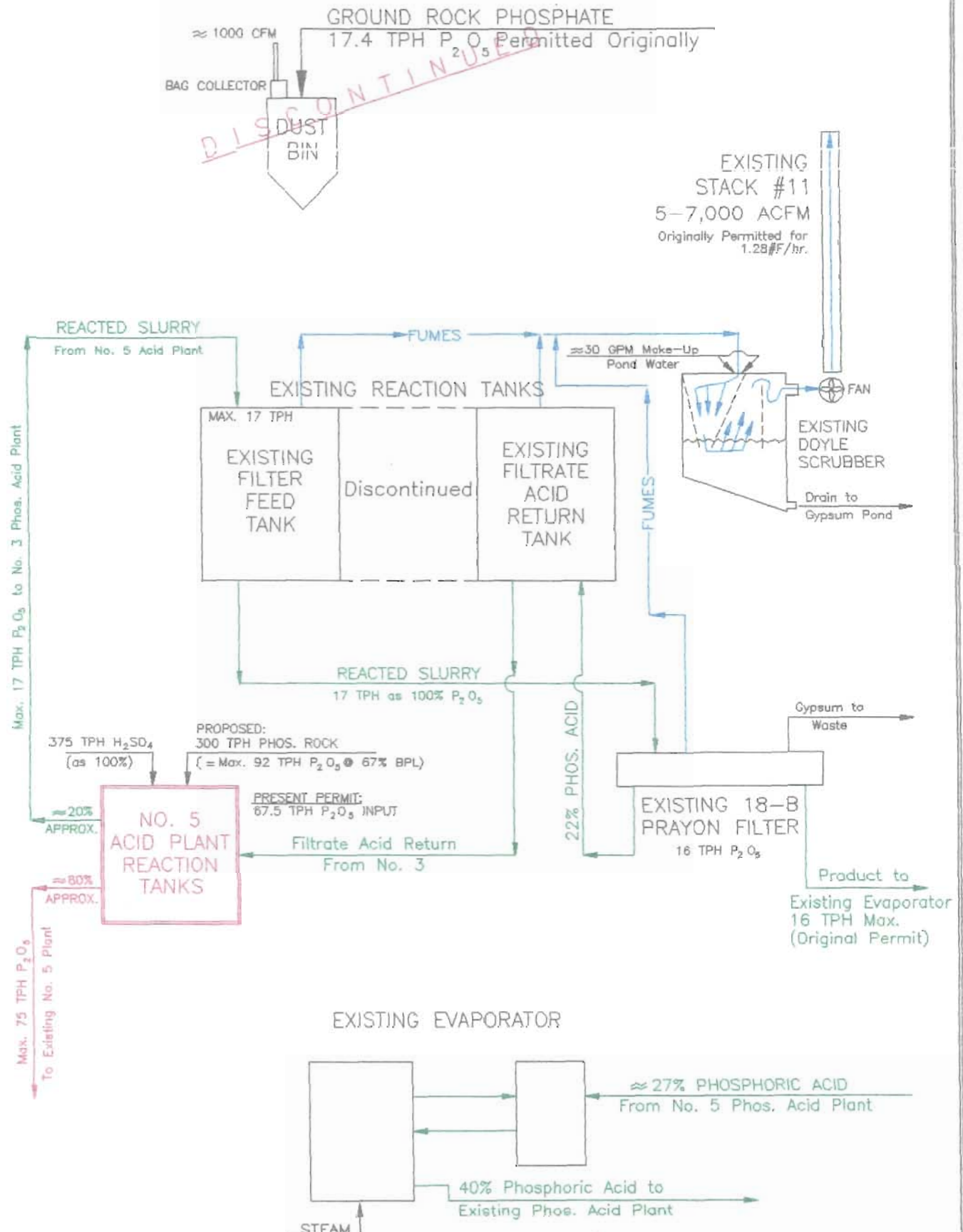

M. J. Martinasek
Sr. Environmental Engineer

db

Enclosure

cc: Al Castle
K. V. Ford
A. W. Martin
W. C. Thomas (DER Tampa)
A. F. Vondrasek

FLWSHEET of NO. 3 PHOSPHORIC ACID PLANT



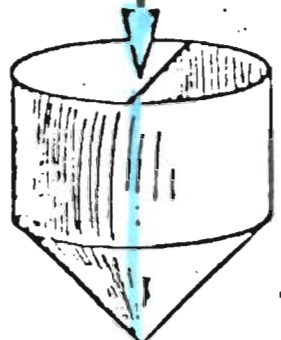
PRAYON PROCESS

WET-Ground Phosphate Rock
From Grinding Plant

No. 5 PHOS. ACID PLT.

PROPOSED: 270-300TPH
≈ 190TPH - 230TPH
@ 30-32% P₂O₅

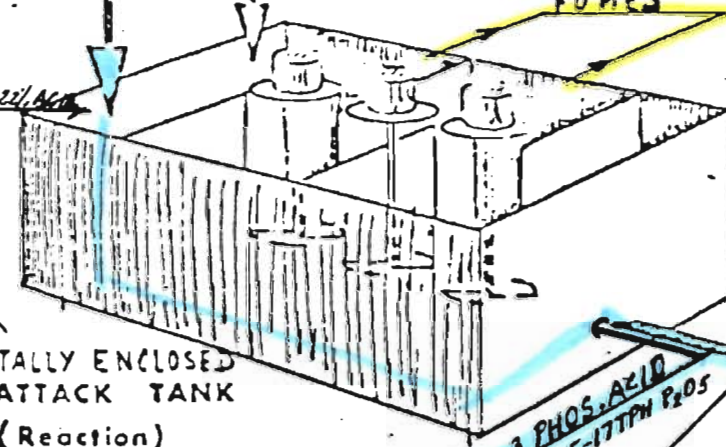
100' STACK
50' φ
MAX. 60,000 CFM FAN
ACTUAL 46,000 CFM



WET ROCK BIN

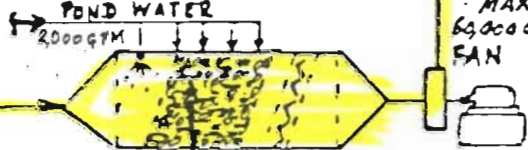
POND WATER
PROPOSED MAX. 250 TPH
Sulfuric Acid
From Storage

PROPOSED FILTRATE
FROM No. 3 PLANT



TOTALLY ENCLOSED
ATTACK TANK
(Reaction)

UNCHANGED
PACKED SCRUBBER



POND WATER
2000 GPM

FUMES

H₃PO₄ TANKS

TO SETTLING POND

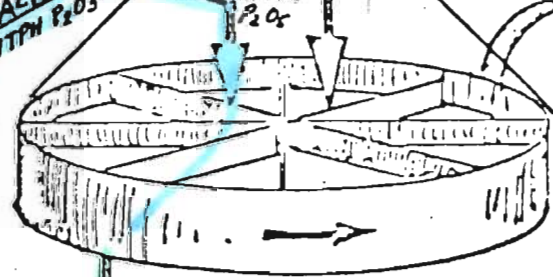
FUMES FROM SEAL TANKS,
HOT WELL and FILTRATE SUMP

Wash Water

HOOD

Reacted Slurry
75 TPH
P₂O₅

To No. 3 PHOS. ACID
PLANT: 15-17 TPH P₂O₅
PROPOSED PIPE

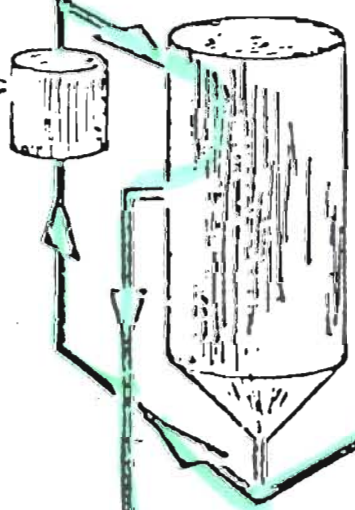


Gypsum
To Waste

PRAYON FILTER

EVAPORATORS

Steam



82% Phosphoric
ACID

84% Phosphoric Acid PRODUCT

≈ 52-65 TPH as 100% P₂O₅

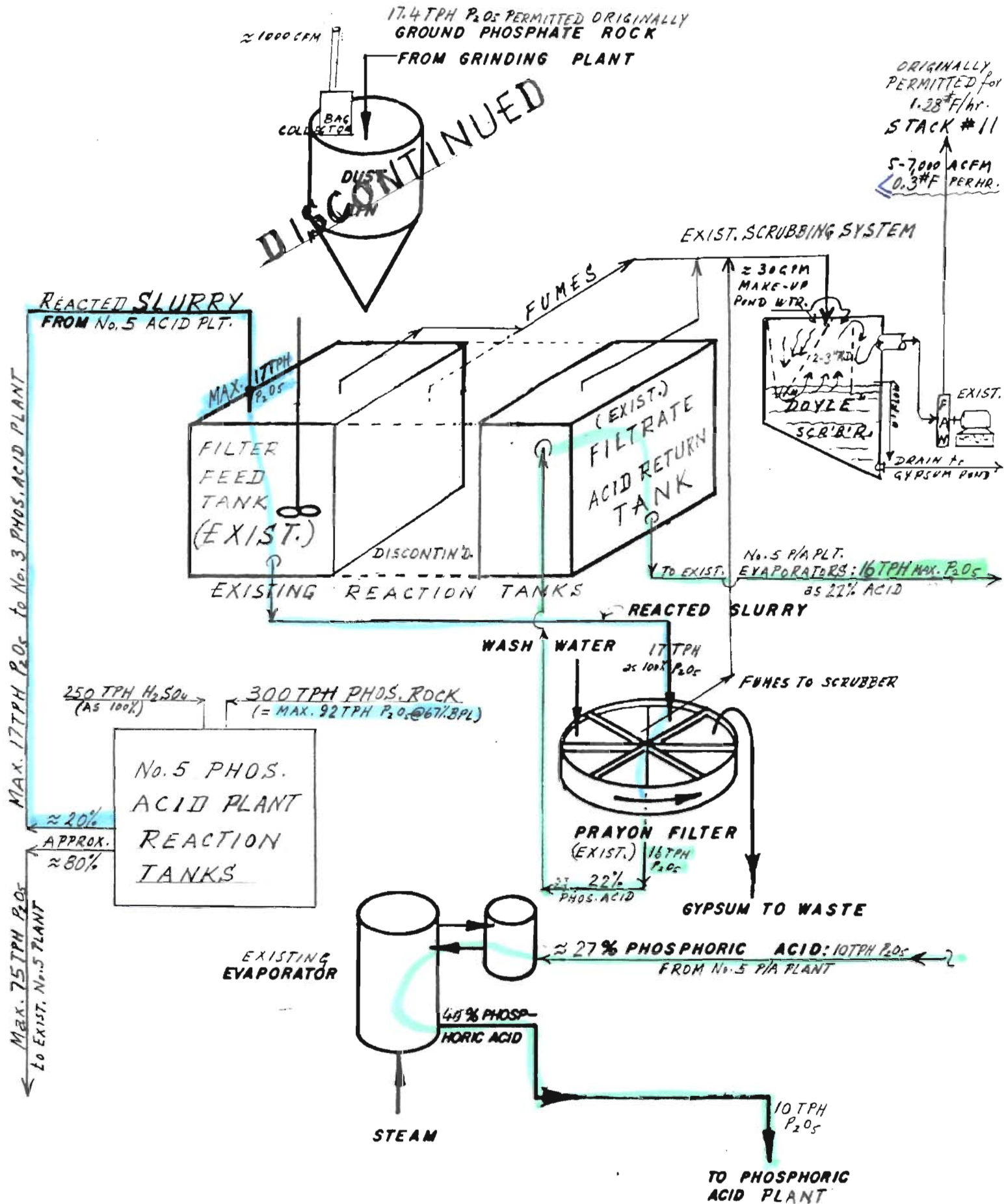
To Phosphoric
Acid Storage
& SHIPPING

PROPOSED: max. 85 TPH P₂O₅

FLOWSHEET of No. 3 PHOS. ACID PLT.

PHOSPHORIC ACID

PRAYON PROCESS

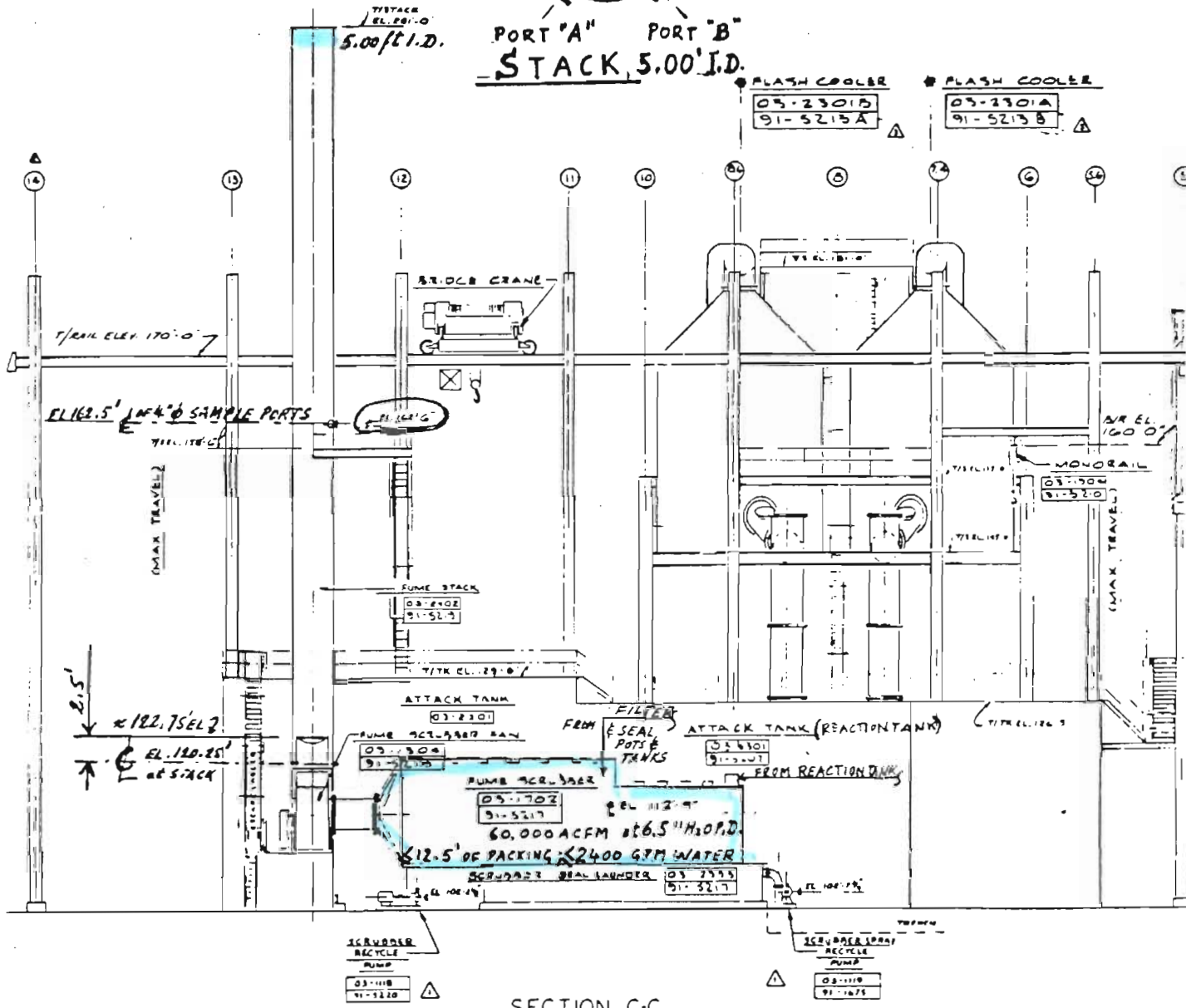
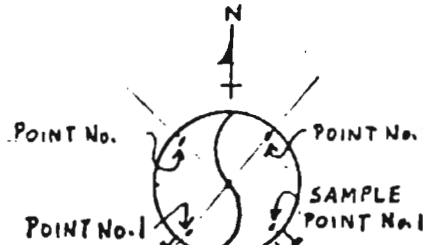


ORIGINALLY PERMITTED for 1.28°F/hr. STACK #11

5-7000 ACFM < 0.3 °F PER HR.

PHOSPHORIC ACID PLANT No. 5

DESIGN: 28.3 lbs. F/24 hrs.

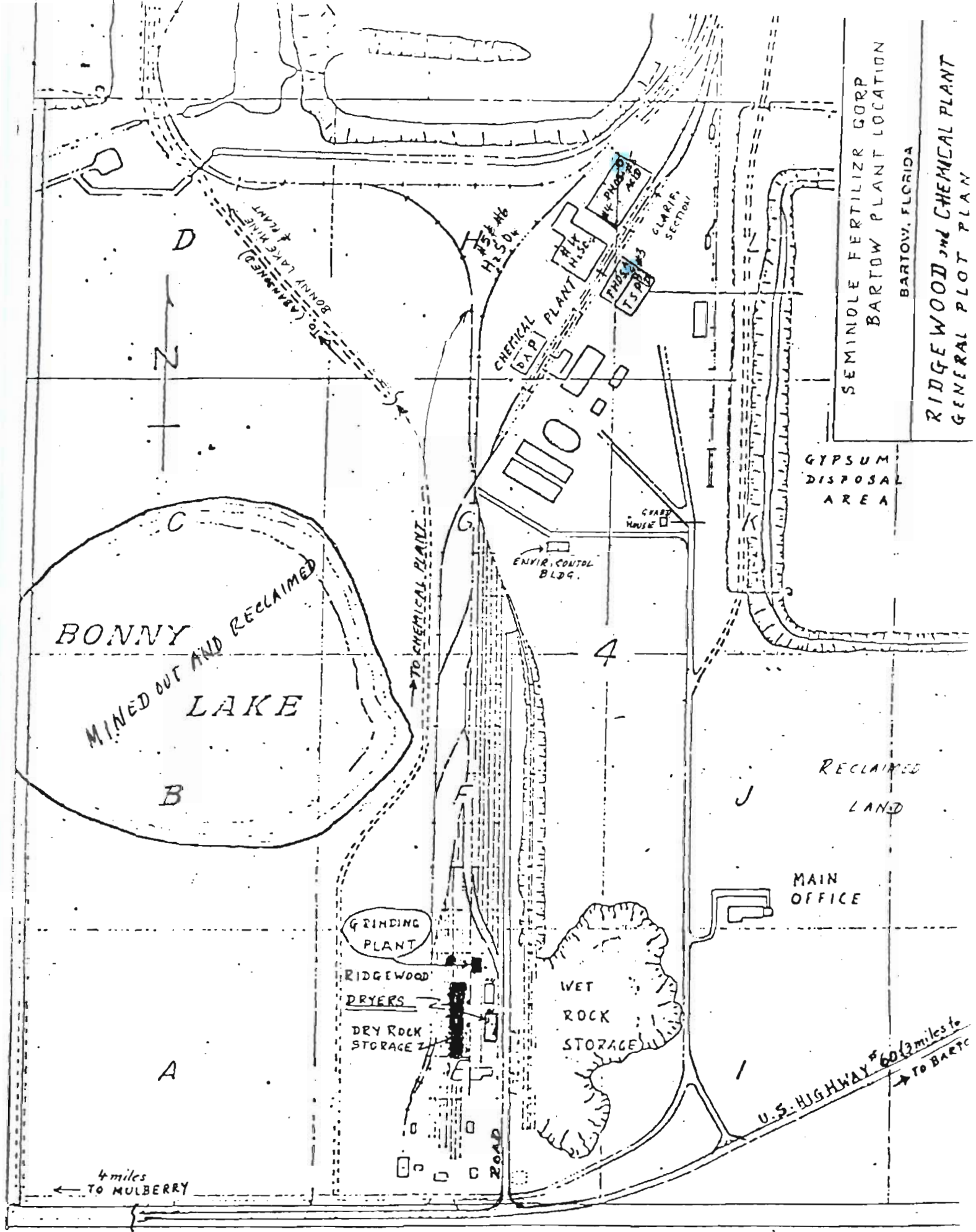


SECTION C-C
DWG 03-A-0301
West Elevation

SEMINOLE FERTILIZER CORP.

EX-W.R. GRACE & CO., BARTOW WORKS, 8-25-35

NO.	TITLE	NO.	DESCRIPTION	DATE	NO.	DESCRIPTION	DATE
1	PHOS. ACID PLANT No. 5						
	REFERENCE DRAWINGS						



SEMINDLE FERTILIZER CORP.
 BARTOW PLANT LOCATION
 BARTOW, FLORIDA
 RIDGEWOOD and CHEMICAL PLANT
 GENERAL PLOT PLAN

GYPSUM
 DISPOSAL
 AREA

RECLAIMED
 LAND

MAIN
 OFFICE

U.S. HIGHWAY #60 (3 miles to
 TO BARTO

BONNY
 LAKE

4 miles
 TO MULBERRY

GRINDING
 PLANT

RIDGEWOOD
 DRYERS

DRY ROCK
 STORAGE

WET
 ROCK
 STORAGE

CHEMICAL
 PLANT

ENVIR. CONTROL
 BLDG.

GRAB
 HOUSE

CLARIF.
 SECTION

N

A

C

D

G

4

J

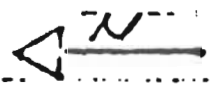
I

SEMINOLE FERTILIZER CORP. CHEMICAL COMPLEX

STO. NO. F-111
PAGE REV. 4/84 REV. #3: MJM
DATE 6-11-75

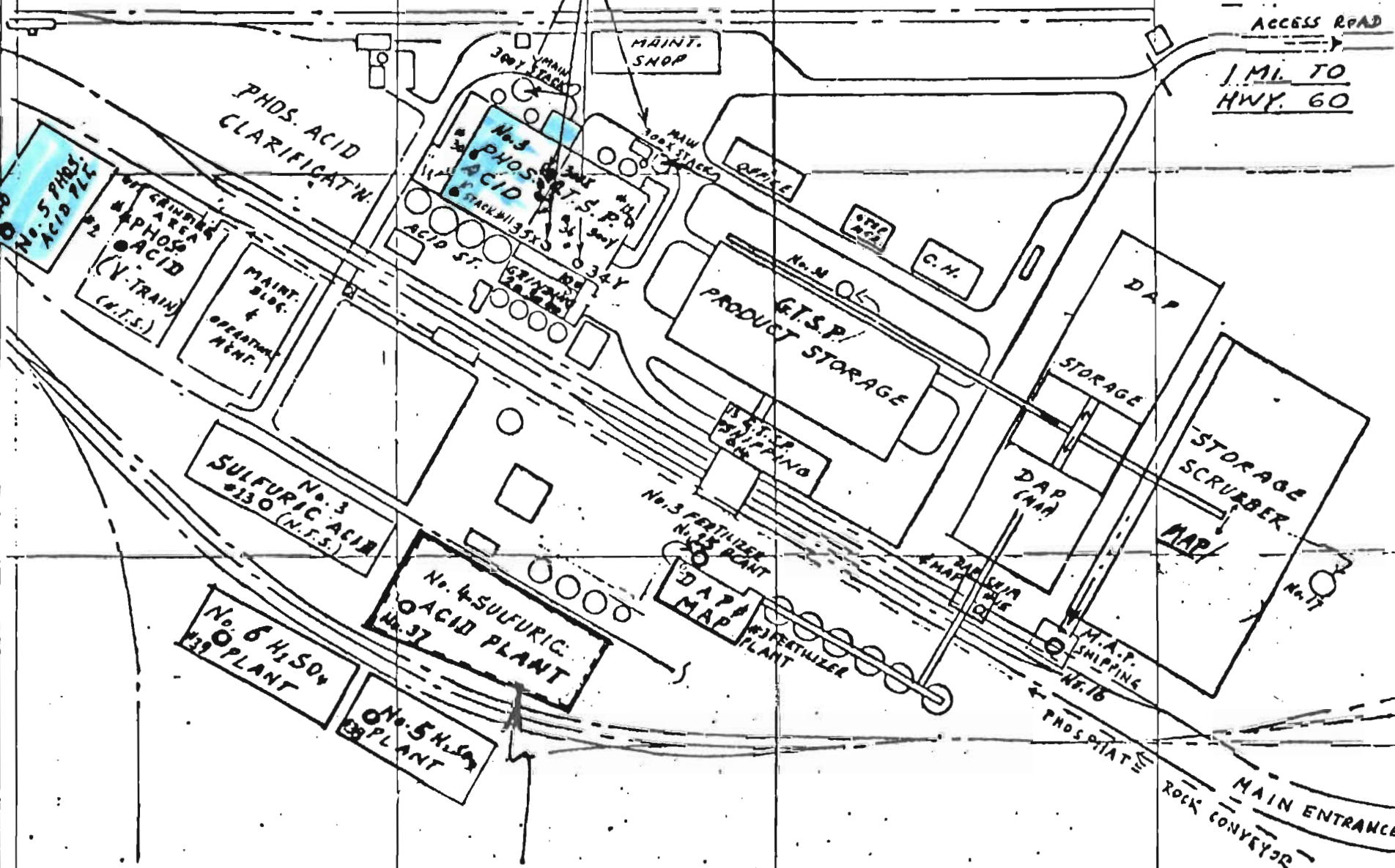
TITLE

PLANT PLAN, BARTOW, FLA.



GTSP SCRUBBING SYSTEMS
300-X AND 300-Y TRAINS (DAP) MAP 16 June

ACCESS ROAD
1 MI. TO
HWY. 60



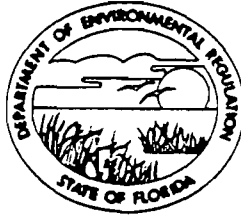
SCALE: 1:200
SKETCH No. E-111

28

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION

cc 12/89
\$1000 pd.
12-14-89
Recpt. #117648

TWIN TOWERS OFFICE BUILDING
2600 BLAIR STONE ROAD
TALLAHASSEE, FLORIDA 32399-2400



AC53-173934

BOB MARTINEZ
GOVERNOR
DALE TWACHTMANN
SECRETARY

APPLICATION TO OPERATE/CONSTRUCT AIR POLLUTION SOURCES

SOURCE TYPE: Wet Process Phosphoric Acid Plant [] New¹ [X] Existing¹

APPLICATION TYPE: [] Construction [] Operation [X] Modification

COMPANY NAME: Seminole Fertilizer Corporation COUNTY: Polk

Identify the specific emission point source(s) addressed in this application (i.e. Lime Kiln No. 4 with Venturi Scrubber; Peaking Unit No. 2, Gas Fired) Cross-flow packed scrubber

SOURCE LOCATION: Street 1 mile N of SR 60 City 3 miles W of Bartow

UTM: East 17-409.9 North 3,086.8

Latitude ° ' "N Longitude ° ' "W

APPLICANT NAME AND TITLE: Kenneth V. Ford, Manager Environmental Affairs

APPLICANT ADDRESS: P. O. Box 471, Bartow, Florida 33830

SECTION I: STATEMENTS BY APPLICANT AND ENGINEER

A. APPLICANT

I am the undersigned owner or authorized representative* of Seminole Fertilizer Corporation

I certify that the statements made in this application for a modification permit are true, correct and complete to the best of my knowledge and belief. Further, I agree to maintain and operate the pollution control source and pollution control facilities in such a manner as to comply with the provision of Chapter 403, Florida Statutes, and all the rules and regulations of the department and revisions thereof. I also understand that a permit, if granted by the department, will be non-transferable and I will promptly notify the department upon sale or legal transfer of the permitted establishment.

*Attach letter of authorization

Signed: Kenneth V. Ford

Kenneth V. Ford, Manager Environmental Affairs
Name and Title (Please Type)

Date: 12-12-89 Telephone No. (813) 533-2171

B. PROFESSIONAL ENGINEER REGISTERED IN FLORIDA (where required by Chapter 471, F.S.)

This is to certify that the engineering features of this pollution control project have been designed/examined by me and found to be in conformity with modern engineering principles applicable to the treatment and disposal of pollutants characterized in the permit application. There is reasonable assurance, in my professional judgment, that

¹ See Florida Administrative Code Rule 17-2.100(57) and (104)

the pollution control facilities, when properly maintained and operated, will discharge an effluent that complies with all applicable statutes of the State of Florida and the rules and regulations of the department. It is also agreed that the undersigned will furnish, if authorized by the owner, the applicant a set of instructions for the proper maintenance and operation of the pollution control facilities and, if applicable, pollution sources.

Signed *Ralph E. Remmert*

Ralph E. Remmert

Name (Please Type)

Seminole Fertilizer Corporation

Company Name (Please Type)

P. O. Box 471, Bartow, Florida 33830

Mailing Address (Please Type)



Florida Registration No. 39610 Date: 12-12-89 Telephone No. (813) 533-2171

SECTION II: GENERAL PROJECT INFORMATION

- A. Describe the nature and extent of the project. Refer to pollution control equipment, and expected improvements in source performance as a result of installation. State whether the project will result in full compliance. Attach additional sheet if necessary.

Install a pumping system to pump slurry from No. 5 Phos Acid plant reactors to presently inactive No. 3 Phos Acid plant prayon filter and return filtrate to No. 5 Phos Acid plant, and to pump weak Phos Acid to an evaporator in No. 3 Phos Acid plant and return intermediate acid to No. 5 Phos Acid plant. Scrubbers in both plants will remain unchanged, but worn-out equipment will be replaced.

- B. Schedule of project covered in this application (Construction Permit Application Only)
 Start of Construction upon receipt of permit Completion of Construction in three months

- C. Costs of pollution control system(s): (Note: Show breakdown of estimated costs only for individual components/units of the project serving pollution control purposes. Information on actual costs shall be furnished with the application for operation permit.)

<u>Reconditioning/replacement of some worn-out ductwork and piping.</u>	<u>\$ 50,000</u>
<u>(Cost of proposed slurry and phos acid pumps, repairs, electrical, etc.).</u>	<u>450,000</u>

- D. Indicate any previous DER permits, orders and notices associated with the emission point, including permit issuance and expiration dates.

No. 5 Phos Acid plant: A053-139168 through 2-28-93; Specific Condition 5: max. 67.5 TPH P₂O₅

Permitted fluoride emissions are 1.18 lb/hr.

No. 3 Phos Acid plant: A053-94457 through 2-26-87 for max. input of 17.4 TPH P₂O₅

Permitted fluoride emissions were 1.28 lb/hr.

E. Requested permitted equipment operating time: hrs/day 20-24; dsys/wk 7; wks/yr 50; if power plant, hrs/yr _____; if seasonal, describe: Spring and autumn seasons are approximately @ 28%, while the summer and winter seasons are estimated @ 22%. 8,000 operating hours average; 8,400 operating hours max.

F. If this is a new source or major modification, answer the following questions. (Yes or No) Not a major modification

1. Is this source in a non-attainment area for a particular pollutant? No
 - a. If yes, has "offset" been applied? No
 - b. If yes, has "Lowest Achievable Emission Rate" been applied? _____
 - c. If yes, list non-attainment pollutants. _____
2. Does best available control technology (BACT) apply to this source? If yes, see Section VI. _____
3. Does the State "Prevention of Significant Deterioration" (PSD) requirement apply to this source? If yes, see Sections VI and VII. No
4. Do "Standards of Performance for New Stationary Sources" (NSPS) apply to this source? Yes
5. Do "National Emission Standards for Hazardous Air Pollutants" (NESHAP) apply to this source? No
- H. Do "Reasonably Available Control Technology" (RACT) requirements apply to this source? -
 - a. If yes, for what pollutants? _____
 - b. If yes, in addition to the information required in this form, any information requested in Rule 17-2.650 must be submitted.

Attach all supportive information related to any answer of "Yes". Attach any justification for any answer of "No" that might be considered questionable.

SECTION I.1: AIR POLLUTION SOURCES & CONTROL DEVICES (Other than Incinerators)

A. Raw Materials and Chemicals Used in your Process, if applicable:

Description	Contaminants		Utilization Rate	Relate to Flow Diagram
	Type	% Wt		
Phosphate Rock	Fluorides	3-1/4 ^{to} 3-3/4	300 TPH	Nos. 3, 3, and 5, 1 see plant input
			= 92 TPH P ₂ O ₅	
Sulfuric Acid	NA	-	250 TPH	

B. Process Rate, if applicable: (See Section V, Item 1) @ 92% plant recovery of P₂O₅

1. Total Process Input Rate (lbs/hr): up to 6,000,000 of rock, or max. 92 TPH P₂O₅

2. Product Weight (lbs/hr): up to 85 TPH of P₂O₅ in Phosphoric Acid

C. Airborne Contaminants Emitted: (Information in this table must be submitted for each emission point, use additional sheets as necessary)

Name of Contaminant	Emission ¹		Allowed Emission ² Rate per Rule 17-2	Allowable ³ Emission lbs/hr	Potential ⁴ Emission		Relate to Flow Diagram
	Maximum lbs/hr	Actual T/yr			lbs/yr	T/yr	
Fluorides:	(@ 8,000 hrs)			(.02 x 75 TPH) =			Stack; Pt.
No. 5 P/A plt.	1.07*	2.8	} 0.02 lb/ton	=1.5	@ 92%F removal = 32		I.D. #34
No. 3 P/A plt.	0.20	0.4		0.3	@ 85%F removal = 2		I.D. #11
							(DER Nos.)

¹See Section V, Item 2.

²Reference applicable emission standards and units (e.g. Rule 17-2.600(5)(b)2. Table II, E. (1) - 0.1 pounds per million BTU heat input)

³Calculated from operating rate and applicable standard.

⁴Emission, if source operated without control (See Section V, Item 3).

*The two highest stack tests pulled showed the same emissions of 1.07 lb.F/hr. @ 59.1 TPH and 67.1 TPH P₂O₅ input

D. Control Devices: (See Section V, Item 4)

Name and Type (Model & Serial No.)	Contaminant	Efficiency	Range of Particles Size Collected (in microns) (If applicable)	Basis for Efficiency (Section V Item 5)
Existing:				
Welman-Lord, Packed	Fluorides	90-95 (92%)	NA	
Cross-flow scrubber		(governed by inlet concentration of fluorides)		Stack Tests
"Doyle" Engr.	Fluorides	85-90% (85%)	NA	
scrubber/demister				

E. Fuels None

Type (Be Specific)	Consumption*		Maximum Heat Input (MMSTU/hr)
	avg/hr	max./hr	

*Units: Natural Gas--MMCF/hr; Fuel Oils--gallons/hr; Coal, wood, refuse, other--lbs/hr.

Fuel Analysis:

Percent Sulfur: _____ Percent Ash: _____
 Density: _____ lbs/gal Typical Percent Nitrogen: _____
 Heat Capacity: _____ BTU/lb _____ BTU/gal
 Other Fuel Contaminants (which may cause air pollution): _____

F. If applicable, indicate the percent of fuel used for space heating.

Annual Average _____ Maximum _____

G. Indicate liquid or solid wastes generated and method of disposal.

EXISTING - UNCHANGED

H. Emission Stack Geometry and Flow Characteristics (Provide data for each stack):

Stack Height: 100 ft. and 90 ft. ft. Stack Diameter: 6.0 and 1.83 ft.
 Gas Flow Rate: 46,000 & 5,000 ACFM 4,300 & 4,500 DSCFM Gas Exit Temperature: 85° °F.
 Water Vapor Content: 6% % Velocity: 39 FPS

SECTION IV: INCINERATOR INFORMATION

NOT APPLICABLE

Type of Waste	Type 0 (Plastics)	Type I (Rubbish)	Type II (Refuse)	Type III (Garbage)	Type IV (Pathological)	Type V (Liq. & Gas By-prod.)	Type VI (Solid By-prod.)
Actual lb/hr Incinerated							
Uncontrolled (lbs/hr)							

Description of Waste _____

Total Weight Incinerated (lbs/hr) _____ Design Capacity (lbs/hr) _____

Approximate Number of Hours of Operation per day _____ day/wk _____ wks/yr. _____

Manufacturer _____

Date Constructed _____ Model No. _____

	Volume (ft) ³	Heat Release (BTU/hr)	Fuel		Temperature (°F)
			Type	BTU/hr	
Primary Chamber					
Secondary Chamber					

Stack Height: _____ ft. Stack Diameter: _____ Stack Temp. _____

Gas Flow Rate: _____ ACFM _____ DSCFM* Velocity: _____ FPS

*If 50 or more tons per day design capacity, submit the emissions rate in grains per standard cubic foot dry gas corrected to 50% excess air.

Type of pollution control device: Cyclone Wet Scrubber Afterburner
 Other (specify) _____

Brief description of operating characteristics of control devices: _____

Ultimate disposal of any effluent other than that emitted from the stack (scrubber water, ash, etc.):

NOTE: Items 2, 3, 4, 6, 7, 8, and 10 in Section V must be included where applicable?

SECTION V: SUPPLEMENTAL REQUIREMENTS

Please provide the following supplements where required for this application.

- 1. Total process input rate and product weight -- show derivation [Rule 17-2.100(127)]
- 2. $INPUT\ P_2O_5 \times 92\% \text{ CONVERSION} = PRODUCT\ P_2O_5$: ACTUAL STATISTICAL DATA
To a construction application, attach basis of emission estimate (e.g., design calculations, design drawings, pertinent manufacturer's test data, etc.) and attach proposed methods (e.g., FR Part 60 Methods 1, 2, 3, 4, 5) to show proof of compliance with applicable standards. To an operation application, attach test results or methods used to show proof of compliance. Information provided when applying for an operation permit from a construction permit shall be indicative of the time at which the test was made. RESULTS OF 5 YRS. OF STACK TESTS WERE USED. SCRUBBERS WILL REMAIN UNCHANGED AS PREVIOUSLY PERMITTED BY DEP
- 3. Attach basis of potential discharge (e.g., emission factor, that is, AP42 test).
STACK TESTS AND SCRUBBER EFFICIENCIES
- 4. With construction permit application, include design details for all air pollution control systems (e.g., for baghouse include cloth to air ratio; for scrubber include cross-section sketch, design pressure drop, etc.) EXISTING & UNCHANGED: NOT REQUIRED
- 5. With construction permit application, attach derivation of control device(s) efficiency. Include test or design data. Items 2, 3 and 5 should be consistent: actual emissions = potential (1-efficiency). EFFICIENCIES BASED ON STACK TESTS REMAIN UNCHANGED
- 6. An 8 1/2" x 11" flow diagram which will, without revealing trade secrets, identify the individual operations and/or processes. Indicate where raw materials enter, where solid and liquid waste exit, where gaseous emissions and/or airborne particles are evolved and where finished products are obtained. ✓OK
- 7. An 8 1/2" x 11" plot plan showing the location of the establishment, and points of airborne emissions, in relation to the surrounding area, residences and other permanent structures and roadways. ✓(Example: Copy of relevant portion of USGS topographic map).
- 8. An 8 1/2" x 11" plot plan of facility showing the location of manufacturing processes and outlets for airborne emissions. ✓Relate all flows to the flow diagram.

9. The appropriate application fee in accordance with Rule 17-4.05. The check should be made payable to the Department of Environmental Regulation. (\$1,000.00)
10. With an application for operation permit, attach a Certificate of Completion of Construction indicating that the source was constructed as shown in the construction permit.

SECTION VI: BEST AVAILABLE CONTROL TECHNOLOGY

A. Are standards of performance for new stationary sources pursuant to 40 C.F.R. Part 60 applicable to the source?

Yes No

Contaminant	Rate or Concentration
Fluoride	Emission = 0.02 lbF/ton P ₂ O ₅ input

B. Has EPA declared the best available control technology for this class of sources (If yes, attach copy)

Yes No

Contaminant	Rate or Concentration

C. What emission levels do you propose as best available control technology? N.S.P.S.

Contaminant	Rate or Concentration
Fluorides	0.02 lb/ton of P ₂ O ₅ input

D. Describe the existing control and treatment technology (if any).

- | | |
|--|--|
| <p>1. Control Device/System:
Scrubber with Demister</p> <p>3. Efficiency: *
Packed Scrubber: 90-95%
Doyle Scrubber: 85-90%</p> | <p>2. Operating Principles:
Hydrolize Fluorides and Flush the S₂O₃ build up</p> <p>4. Capital Costs:
a. Proposed Fume Control \$ 50,000
b. Total Cost of Proposed Project 500,000
c. Total Cost of New P/A Plant of this size 50,000,000</p> |
|--|--|

*Explain method of determining: Stack Tests
(Efficiency depends on inlet concentration)
DER Form 17-1.202(1)
Effective November 30, 1982

UNCHANGED FROM THE PERMITTED EXISTING SCRUBBERS

5. Useful Life:

6. Operating Costs:

7. Energy:

8. Maintenance Cost:

9. Emissions:

Contaminant	Rate or Concentration

10. Stack Parameters

- a. Height: ft. b. Diameter: ft.
- c. Flow Rate: ACFM d. Temperature: °F.
- e. Velocity: FPS

E. Describe the control and treatment technology available (As many types as applicable, use additional pages if necessary).

1.

- a. Control Device: b. Operating Principles:
- c. Efficiency:¹ d. Capital Cost:
- e. Useful Life: f. Operating Cost:
- g. Energy:² h. Maintenance Cost:
- i. Availability of construction materials and process chemicals:
- j. Applicability to manufacturing processes:
- k. Ability to construct with control device, install in available space, and operate within proposed levels:

2.

- a. Control Device: b. Operating Principles:
- c. Efficiency:¹ d. Capital Cost:
- e. Useful Life: f. Operating Cost:
- g. Energy:² h. Maintenance Cost:
- i. Availability of construction materials and process chemicals:

¹Explain method of determining efficiency.

²Energy to be reported in units of electrical power - KWH design rate.

PERMITTED EXISTING SCRUBBERS WILL REMAIN UNCHANGED

j. Applicability to manufacturing processes:

k. Ability to construct with control device, install in available space, and operate within proposed levels:

3.

a. Control Device:

b. Operating Principles:

c. Efficiency:¹

d. Capital Cost:

e. Useful Life:

f. Operating Cost:

g. Energy:²

h. Maintenance Cost:

i. Availability of construction materials and process chemicals:

j. Applicability to manufacturing processes:

k. Ability to construct with control device, install in available space, and operate within proposed levels:

4.

a. Control Device:

b. Operating Principles:

c. Efficiency:¹

d. Capital Costs:

e. Useful Life:

f. Operating Cost:

g. Energy:²

h. Maintenance Cost:

i. Availability of construction materials and process chemicals:

j. Applicability to manufacturing processes:

k. Ability to construct with control device, install in available space, and operate within proposed levels:

F. Describe the control technology selected:

1. Control Device:

2. Efficiency:¹

3. Capital Cost:

4. Useful Life:

5. Operating Cost:

6. Energy:²

7. Maintenance Cost:

8. Manufacturer:

9. Other locations where employed on similar processes:

a. (1) Company:

(2) Mailing Address:

(3) City:

(4) State:

¹Explain method of determining efficiency.

²Energy to be reported in units of electrical power - KWH design rate.

PERMITTED EXISTING SCRUBBERS WILL REMAIN UNCHANGED

(5) Environmental Manager:

(6) Telephone No.:

(7) Emissions:¹

Contaminant	Rate or Concentration

(8) Process Rate:¹

b. (1) Company:

(2) Mailing Address:

(3) City:

(4) State:

(5) Environmental Manager:

(6) Telephone No.:

(7) Emissions:¹

Contaminant	Rate or Concentration

(8) Process Rate:¹

10. Reason for selection and description of systems:

¹Applicant must provide this information when available. Should this information not be available, applicant must state the reason(s) why.

SECTION VII - PREVENTION OF SIGNIFICANT DETERIORATION NOT APPLICABLE

A. Company Monitored Data

1. _____ no. sites _____ TSP _____ () SO₂* _____ Wind spd/dir

Period of Monitoring _____ / _____ / _____ to _____ / _____ / _____
month day year month day year

Other data recorded _____

Attach all data or statistical summaries to this application.

*Specify bubbler (B) or continuous (C).

NOT APPLICABLE

2. Instrumentation, Field and Laboratory

- a. Was instrumentation EPA referenced or its equivalent? [] Yes [] No
b. Was instrumentation calibrated in accordance with Department procedures?
[] Yes [] No [] Unknown

B. Meteorological Data Used for Air Quality Modeling

1. _____ Year(s) of data from _____ / _____ / _____ to _____ / _____ / _____
month day year month day year
2. Surface data obtained from (location) _____
3. Upper air (mixing height) data obtained from (location) _____
4. Stability wind rose (STAR) data obtained from (location) _____

C. Computer Models Used

1. _____ Modified? If yes, attach description.
2. _____ Modified? If yes, attach description.
3. _____ Modified? If yes, attach description.
4. _____ Modified? If yes, attach description.

Attach copies of all final model runs showing input data, receptor locations, and principle output tables.

D. Applicants Maximum Allowable Emission Data

Pollutant	Emission Rate
TSP	_____ grams/sec
SO ₂	_____ grams/sec

E. Emission Data Used in Modeling

Attach list of emission sources. Emission data required is source name, description of point source (on NEDS point number), UTM coordinates, stack data, allowable emissions, and normal operating time.

F. Attach all other information supportive to the PSD review.

G. Discuss the social and economic impact of the selected technology versus other applicable technologies (i.e., jobs, payroll, production, taxes, energy, etc.). Include assessment of the environmental impact of the sources.

H. Attach scientific, engineering, and technical material, reports, publications, journals, and other competent relevant information describing the theory and application of the requested best available control technology.

AFFIDAVIT OF AUTHORIZATION

I, A. F. Vondrasek, Vice President and General Manager Florida Operations, hereby authorize Kenneth V. Ford, as Manager Environmental Affairs, to sign permit applications on behalf of Seminole Fertilizer Corporation for the Hookers Prairie Mine and the Bartow chemical complex.

SEMINOLE FERTILIZER CORP.

By: A. F. Vondrasek
A. F. Vondrasek
Vice President and General
Manager Florida Operations

STATE OF FLORIDA
COUNTY OF POLK

SWORN and subscribed to before me this 9th day of January, 1989.

Linda A. Cyalla
Notary Public

My Commission Expires:

Notary Public, State of Florida at Large

My Commission Expires Sept. 20, 1993