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May 5, 1994

### FEDERAL EXPRESS

Blanca S. Bayo, Director  
Division of Records and Reporting  
Florida Public Service Commission  
101 East Gaines Street  
Tallahassee, Florida 32399

**ORIGINAL  
FILE COPY**

**ACK**  Re: Prefiled Testimony to be filed with the State of Florida  
Public Service Commission.

**AFA** \_\_\_\_\_  
**APP** \_\_\_\_\_ Petition of SANLANDO UTILITIES CORPORATION for A Limited  
Proceeding to Implement Water Conservation Plan in Seminole  
County.  
**CAF** \_\_\_\_\_

**CMU** \_\_\_\_\_  
**CTR** \_\_\_\_\_ Docket No.: **930256-WS**

**EAC** Dear Ms. Bayo:

**LEG** 1 Enclosed is prefiled testimony which has been prepared on behalf of  
**LIN** Sanlando Utilities Corporation in the above-referenced matter. The  
testimony is that of William R. Holmes (with Exhibits A and B), George  
**CP** H. Billings, Jr. (with Exhibit C), Hampton P. Conley and Yaping Wang  
**RD** (with attachment). Per your staff's instructions, I have enclosed an  
**ISS** original and fifteen copies of each person's testimony. Please file  
this testimony appropriately.

**WAS** \_\_\_\_\_  
**OTH** \_\_\_\_\_

**RECEIVED & FILED**  
*mas*  
**FPSC-BUREAU OF RECORDS**

Very truly yours,

*Cleatous J. Simmons*  
Cleatous J. Simmons

CJS/tli  
Enclosures  
c: John F. Lowndes, Esquire  
Mr. Bob Mandell  
Mr. George Billings  
Mr. Hampton Conley

DOCUMENT NUMBER-DATE DOCUMENT NUMBER-DATE  
*Wang* 04359 MAY-6 94  
*Conley* 04358 MAY-6 94  
FPSC-RECORDS/REPORTING FPSC-RECORDS/REPORTING

*Holmes*  
DOCUMENT NUMBER-DATE

04356 MAY-6 94

FPSC-RECORDS/REPORTING

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*Billings*  
DOCUMENT NUMBER-DATE

04357 MAY-6 94

FPSC-RECORDS/REPORTING

MEMBER OF COMMERCIAL LAW AFFILIATES WITH OFFICES IN PRINCIPAL CITIES WORLDWIDE

STATE OF FLORIDA  
PUBLIC SERVICE COMMISSION

IN RE: )

)  
)  
Petition of SANLANDO UTILITIES )  
CORPORATION For A Limited )  
Proceeding to Implement Water )  
Conservation Plan in )  
Seminole County )

DOCKET NO.: 930256-WS

CERTIFICATE OF SERVICE

I HEREBY CERTIFY that the original and fifteen (15) copies of each of the Testimonies of Hampton P. Conley, George H. Billings, Jr., William R. Holmes and Yaping Wang were filed with the Division of Records and Reporting, Florida Public Service Commission and one (1) true and correct copy of each Testimony was forwarded by United States Mail/Hand Delivery(\*) this 5th day of May, 1994 to the following parties of record:

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Management District  
Post Office Box 1429  
Palatka, Florida 32178-1429

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Respectfully submitted,



CLEATUS J. SIMMONS, ESQUIRE  
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Attorney for  
SANLANDO UTILITIES CORPORATION

CERTIFICATE OF SERVICE

I HEREBY CERTIFY that the above-referenced Certificate of Service was mailed or hand delivered to each person referenced therein this 5<sup>th</sup> day of May, 1994.

  
\_\_\_\_\_  
Cleatous J. Simmons, Esquire

ORIGINAL  
FILE COPY

1           BEFORE THE FLORIDA PUBLIC SERVICE COMMISSION  
2           PREPARED DIRECT TESTIMONY OF WILLIAM R. HOLMES  
3           ON BEHALF OF SANLANDO UTILITIES CORPORATION

4                           DOCKET NO. 930256-WS

5                           MAY 1994

7 Q1: Please state your name, business address, and occupation.

8  
9 A1: William R. Holmes, P.E.  
10       1109 E. Robinson Street  
11       Orlando, Florida  
12       Professional Engineer

14 Q2: Please describe your position with your employer and your  
15       duties and responsibilities in that position.

16  
17 A2: I am a principal of Conklin Porter & Holmes, Engineers  
18       Inc. I am the Office Manager of the Orlando, Florida  
19       branch office of Conklin Porter & Holmes. My duties  
20       including acting as a project manager and project  
21       engineer for private and public utility water and sewer  
22       system development and upgrade type projects. I have  
23       recently served as engineer of record on a major reuse  
24       project for the City of Sanford, Florida. This project  
25       involved construction of an 1869 acre agricultural

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1 development utilizing reuse water for citrus grove and  
2 pasture irrigation. I coordinate staff efforts to  
3 produce construction documents and obtain permits on  
4 these projects and other engineering and design projects.

5

6 Q3: Please summarize your background and experience.

7

8 A3: I obtained a Bachelor Degree in Agricultural Engineering  
9 from the University of Florida in 1961. I obtained a  
10 Master of Commercial Science from Rollins College in  
11 1971. I have ten (10) years of agricultural engineering  
12 related service including irrigation, wells, pumping,  
13 water lines. I was a founding principal of Conklin  
14 Porter & Holmes when that company was formed in 1981 and  
15 have twenty-three (23) years experience with Conklin  
16 Porter & Holmes and its former parent firm. Much of my  
17 experience has been gained working on projects with  
18 Sanlando Utilities Corporation.

19

20 Q4: What is the purpose of your testimony?

21

22 A4: My testimony will explain the engineering design of the  
23 reuse system involved in Sanlando Utilities Corporation's  
24 Proposed Water Reuse Program which was the subject of its  
25 Petition for Limited Proceeding to Implement Water

1 Conservation Plan filed by Sanlando Utilities Corporation  
2 before the Florida Public Service Commission.

3

4 Q5: Have you prepared or are you sponsoring any exhibits to  
5 this case?

6

7 A5: Yes. I have prepared a conceptual diagram of the reuse  
8 system as embodied in the Proposed Water Reuse Program  
9 First Amendment Dated 1/31/93/ Sanlando Utilities  
10 Corporation which was attached to the Petition filed by  
11 Sanlando Utilities Corporation in this case. The  
12 conceptual diagram is Petitioner's Exhibit A. I have  
13 also prepared a diagram of the proposed distribution main  
14 location. That diagram is Petitioner's Exhibit B.

15

16 Q6: What assumptions have been used in designing the reuse  
17 system for Sanlando Utilities Corporation?

18

19 A6: Based upon the consumptive use permit data for each of  
20 the three golf courses that will be utilizing the reuse  
21 system, we have assumed slightly over 1 MGD is currently  
22 being used by the golf courses on an annual average  
23 basis. Thus, we have assumed in our design that the  
24 reuse system will need to have the capacity to provide  
25 that amount of water to the golf courses on a daily basis

1 plus an additional 225,000 GPD to other users in the near  
2 proximity of the main transmission route to the golf  
3 courses.

4

5 Q7: Are there any other assumptions which have been used in  
6 establishing the Proposed Water Reuse Program?

7

8 A7: Yes. We have assumed a demand pumping rate and that  
9 repumping would be required at each of the three golf  
10 courses to handle their daily usage requirements. The  
11 users of the reuse system other than the golf courses  
12 will be supplied directly from the main from pressure and  
13 storage provided at the Sanlando Utilities treatment  
14 plant site.

15

16 Q8: Please describe the reuse system which is being proposed  
17 by Sanlando Utilities Corporation in its Proposed Water  
18 Reuse Program.

19

20 A8: The treatment plant will be modified to provide on-line  
21 turbidity control for reuse water diversion to a chlorine  
22 contact chamber. The reuse water will then flow to the  
23 reuse pump wetwell for pumping to storage at the  
24 treatment plant site. From the treatment plant on-site  
25 storage system pumps will pressurize the transfer system

1 and provide variable pumping rates to the three golf  
2 course users and other users, on demand.

3

4 Q9: Can you provide an estimate of the cost of the reuse  
5 system and explain how you made that estimate?

6

7 A9: A preliminary plant configuration was developed to  
8 provide for the functions of treatment modification,  
9 transfer and storage and repumping. Rates of repumping  
10 were estimated and lines were sized to handle required  
11 flow rates without excessive friction losses which would  
12 raise pumping costs. Preliminary routes were selected  
13 and the resulting pipe installation cost was estimated  
14 along with the cost for plant modification to provide for  
15 the transfer and storage system.

16

17 Q10: Could you explain the steps it would take and how long it  
18 would take to construct the reuse system that you have  
19 designed?

20

21 A10: The steps would include:

22 A. The preliminary engineering study of the wastewater  
23 treatment plant and transmission system  
24 requirements would need to be updated and expanded.

25 B. Agreements would have to be reached with the golf

1 course users on storage and transfer methods  
2 (including booster repumping).

3 C. Pipeline routes would have to be selected taking  
4 into account ease of installation and access to  
5 other users along the pressurized main routes.  
6 Once selected, the routes would have to surveyed  
7 and researched. Where easements do not already  
8 exist, easements would have to be obtained. This  
9 could involve private owners, homeowner  
10 associations, Seminole County and power  
11 transmission companies.

12 D. Detailed surveys of site and pipeline routes for  
13 design and permitting purposes would have to be  
14 done.

15 E. Construction documents for on and off-site  
16 development would have to be prepared for bidding  
17 and construction contract purposes.

18 F. Finally, construction contracts will have to be  
19 negotiated and entered into before construction can  
20 commence.

21 This effort will take a minimum of eight (8) to ten (10)  
22 months and will be followed by a minimum of six (6)  
23 months construction. The exact length of time to plan  
24 and prepare for construction is substantially dependent  
25 on cooperation of the golf course owners, the property

1 owners along the pipe route and the permitting agencies,  
2 principally the Florida Department of Environmental  
3 Protection and the St. Johns River Water Management  
4 District. We have estimated that the cost of this  
5 construction project will be approximately \$1,087,874.00.

6

7 Q11: Please summarize your testimony.

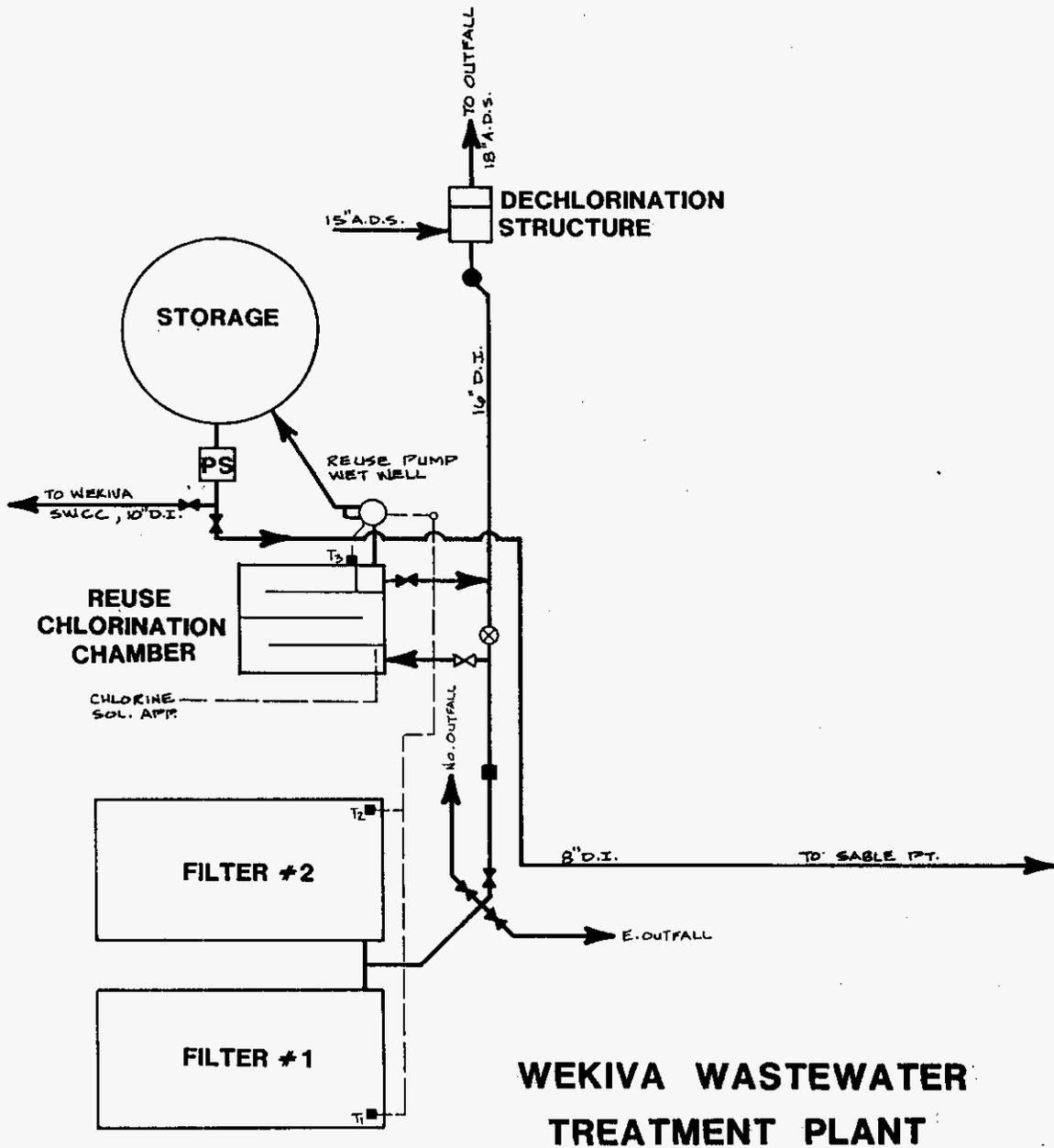
8

9 A11: We have developed a conceptual plan and design for a  
10 reuse program to supply treated effluent to meet the  
11 basic landscape irrigation requirements for three  
12 existing golf courses and some local users in the near  
13 proximity of transmission pipelines. The golf courses  
14 would need to repump with booster pumps to provide  
15 required flow rates and pressures. Easements and right-  
16 of-way use permits would need to be obtained along the  
17 pipeline route and permits from other permitting agencies  
18 secured. The project will take a minimum of fourteen  
19 (14) to sixteen (16) months from commencement of  
20 engineering design through completion of construction and  
21 the engineering, design and construction costs are  
22 estimated to be approximately \$1,087,874.00.

23

24 Q12: Does this conclude your testimony?

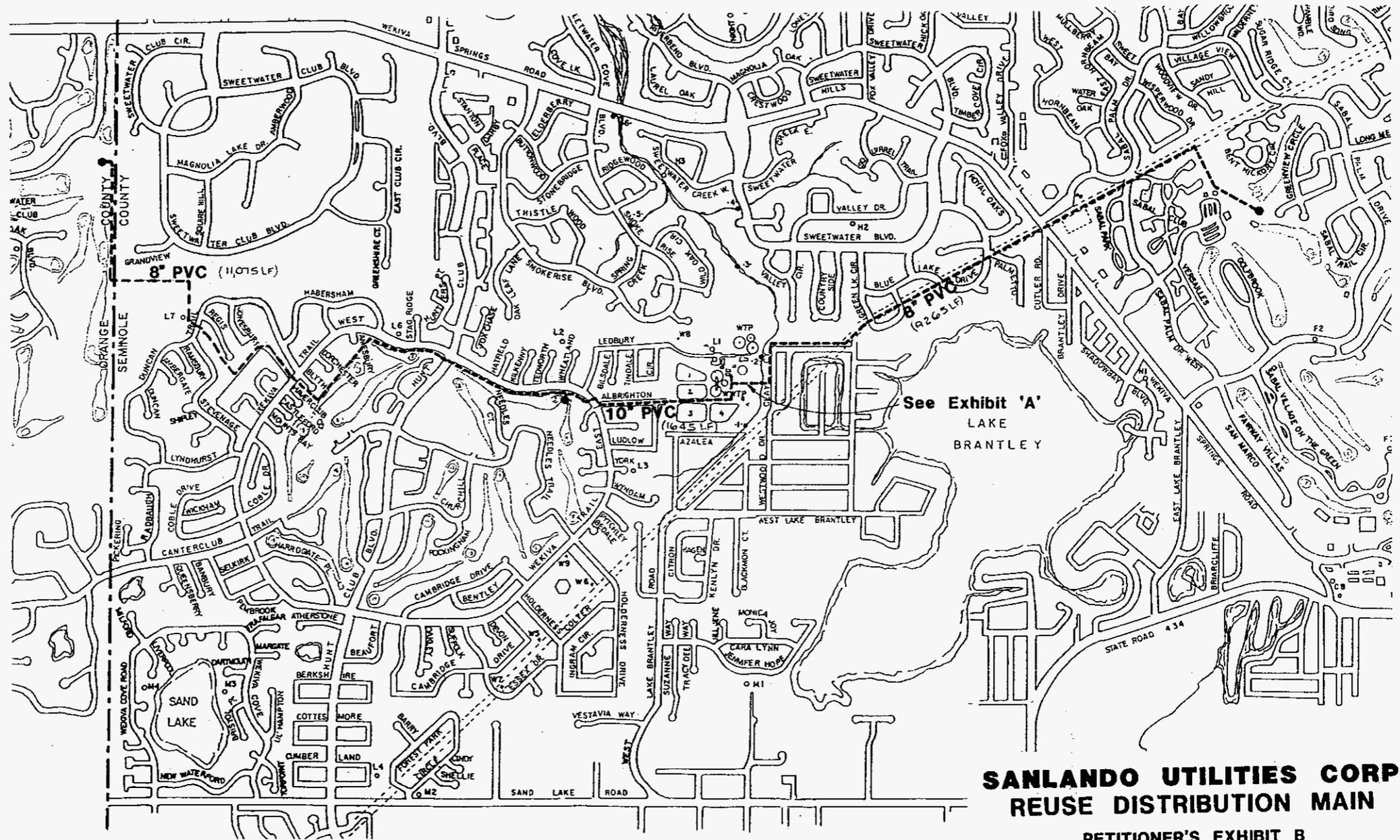
25 A12: Yes.



- : TEST POINT
- T<sub>1</sub> TURBIDITY
- T<sub>2</sub> TURBIDITY
- T<sub>3</sub> TURBIDITY

## REUSE SYSTEM SCHEMATIC

PETITIONER'S EXHIBIT A



See Exhibit 'A'  
LAKE  
BRANTLEY

**SANLANDO UTILITIES CORP**  
**REUSE DISTRIBUTION MAIN**  
PETITIONER'S EXHIBIT B