April 10, 1996

ORIGINAL FILE COPY

Ms. Blanca S. Bayo, Director
Divisions of Records and Reporting
Florida Public Service Commission
2540 Shumard Oak Blvd.
Tallahassee, Florida 32399-0850

Re: Docket No. 950387-SU

Dear Ms. Bayo:

Enclosed for filing are an original and fifteen copies of our Certificate of Service and Supplemental Testimony with Exhibits of the following persons:

1) Cheryl Walla
Exhibit (CW-12) 13 photographs of Lochmoor Golf Course site of reuse recipient. Sponsers: C. Walla J. Victor
Exhibit (CW-13) Two workpapers
Exhibit (CW-14) Two page letter to Mr. Roth of SFWMD accompanied by Technical & Economic Evaluation for the Reuse from FCWC received by SFWMD 1/4/90 5 pages. Memorandum to Steve Lamb, Director Water Use Division 2 pages received on 1/31/90 Sponsers: C. Walla J. Victor
Exhibit (CW-15) Two maps of reuse site from DER Sponsers: C. Walla J. Victor
Exhibit (CW-16) 1992 I &I program FCWC
Exhibit (CW-17) 1993 I & I program FCWC
Exhibit (CW-18) 1993 I & I program FCWC
Exhibit (CW-19) 1994 I & I program FCWC
Exhibit (CW-20) 1994 I & I program FCWC
Exhibit (CW-21) 1995 I & I program FCWC
Exhibit (JV-1) Chapter 2 Basis of Design pg 2
Exhibit (JV-2) CW-14 page 6
Exhibit (JV-3) Cummings testimony April 3, 1996 page 6 Line 1-9

Cheryl Walla

ACK ✓
AFA 2
APP
CAF
CMU
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RECEIVED & FILED
FPSC-BUREAU OF RECORDS

DOCUMENT NUMBER-DATE
04198 APR 11 96
FPSC-RECORDS/REPORTING

BEFORE THE PUBLIC SERVICE COMMISSION

Re: Application of Florida Cities Water Company, NFM Division for an increase in wastewater rates in Lee County, Fla

Docket No. 950387
Filed: April 11,1996

CERTIFICATE OF SERVICE

I HEREBY CERTIFY that a true and correct copy of the following Testimony and Exhibits:

1) Cheryl walla
   Exhibits CW-12 thru CW-21
2) Jerilyn Victor
   Exhibits JV-1 thru JV-3

has been furnished by U. S. Mail on this 11th day of April 1996 to:

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Gatlin, Woods & Carlson
The Mahan Station
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Tallahassee, Florida 32308

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Doris T. Hadley
1740 Dockway Drive
N. Ft. Myers, FL 33903

Respectfully Submitted

Cheryl L. Walla

Jerilyn D. Victor

SUPPLEMENTAL TESTIMONY

OF

CHERYL WALLA

Q. Please state your name.

A. Cheryl Walla

Q. Have you prefiled direct testimony in this docket?

A. Yes

Q. What is the purpose of this supplemental testimony?

A. To provide testimony on Florida Cities Water Co. I & I program and their rate case expense.

Q. Did FCWC provide documents requested on February 20, 1996 of their I & I program?

A. Yes they did for the years 1994 & 1995.

Q. Since the Prehearing Conference when FCWC was instructed to provide documentation of I & I program for 1992 & 1993 have they complied?

A. Yes, they did. I picked up the documentation from their Ft. Myers office on Monday April 8, 1996.

Q. Are all the above documents responsive, conclusive and concise?

A. No, they are not. There are numerous questions of what work was actually done compared to what the bid was for by these contractors for FCWC.

Q. Could you explain 1992 work done for I & I per FCWC documentation you received?

A. A bid was presented to FCWC from B.R.I.A.N., Inc. on 10/16/92 for $27,441.50. This included video inspection of 7160 LF of sections 16 & 20, clean 8475 LF of sections 14, 16, 20 and sealing 52 cracks in joints for the sections. Also included in bid was sealing up 100 LF of longitudinal cracks and 27 gallons of grout for manhole cracks. An agreement was signed between FCWC & B.R.I.A.N. on 11/24/92. A change order was issued on 6/7/93 for a net decrease of $6500 resulting in a contract price of $20,941.50. (CW-16)

Q. Was this work ever performed in part or at all?

A. This is very questionable because FCWC did not provide documents such as a Utility Construction pay request with the final figures and the work done. Also on the repair location map it is only showing a combined LF total of 5095 in sections 9,14 & 20.

Q. Shouldn't this appear on Schedule B-11 of the MFR as Major Maintenance or Source Contractual Services Other?

A. Yes, but not having the final on it one has to wonder if it was done,the amount and if it is under Major Maintenance for 1992 or 1993.

Q. Could you please continue on with FCWC documentation for 1993?

A. Yes. On 4/1/93 FCWC requested bids on the renovation

of 20 manholes in N. Ft. Myers. A bid was presented to FCWC from Stevens & Layton, Inc. On 5/4/93 an agreement was signed by FCWC and Stevens & Layton with work described in agreement as renovation of 10 manholes for a price of $10,295. Here again they have no final on this contract only an inspection sheet dated 8/2/93. (CW-17)

Q. What costs fall under the Major Maintenance for 1993?

A. This cannot be concluded with no Final Documentation.

Q. Could you explain any further work documented by FCWC in 1993?

A. Yes. On 6/29/93 requested bids for TV, inspect, clean and grout 9631 LF located in systems #13,14,16. A bid was received by FCWC from Ridin Pipeline Inc. d/b/a Roto-Rooter Inc. for a total bid price of $10,979.34. An agreement was signed on 8/3/93. There is a status report 1/19/94 stating work is complete however on the repair maps systems #14 and #16 show a LF of only 5257. From their documentation one can only speculate what the final was and what total work was done. (CW-18)

Q. Where was this charged and under what year?

A. This cannot be concluded because there isn't a Final amount nor is it known if included in Major Maintenance 1993 or Source/Contractual Services other 1994.

Q. Was there documented work in 1994?

A. Yes. In 1994 there is a Phase I repair to manholes (5) in NFM and Phase II repair to manholes (3) in NFM. Finalized at $13,154 and $5,230. The problem here again is that they were final 2/16/95 and 1/1/95. Where were these charged in the MFR Source Contractual other for 1994 or 1995? (CW-19)

Q. Was there other work done?

A. A bid was received by FCWC 10/20/94 from Williams Testing to TV, inspect and clean 10,105 LF of 8"vcp and 245 LF of 10" vcp for $9,327.25. Although the contract does not have a date it appears to be 11/26/94 on the final and with a change order totals the contract to $11823.60 finalized on 2/9/95. The problem with this project is that their is no LF on repair maps A or B. Therefore you cannot see where the work was done.Here again it is not known where this was charged under 1994 or 1995. (CW-20)

Q. Was there any work contracted in 1995?

A. On 8/15/95 FCWC & Ridin Pipeline Services entered into contract to video and clean 9846 LF of 8" vcp with a cost of $7,872. A change order was issued 12/29/95 for grouting 229 joints to a total of $10,197. Again this project was signed off on 2/23/96, so was this $17,979 included in test year or will it be in 1996. (CW-21)

Q. Could you summarize the conclusions from these documents?

A. Yes. Three projects in FCWC I&I program are questionable all together. Also where their final amounts fall in the MFRs and on what schedules is in question as well as to what fiscal year 92, 93, 94, or 95 they are put into. These conclusions have been based upon the information granted by FCWC of their I & I program.

Q. Are the following rate case expenses prudent?

A. No. The following rate case expenses are not prudent and should not be paid by the customers. The invoices for this list can be found in L. Coel testimony and L. Coel rebuttal testimony.

1. Avatar Utilities Inc. management time $420 for July 95 and $840 for Aug. 95.
2. L. Coel logged 23 hours for responses to interrogatories, documents requested and administration of all responses.
3. L. Coels logged 37 hours all under same description of work-Rate case review Paa order tariffs and customer notice, discussions.
4. Overnight Express 11/7/95 $8.50 and 12/8/95 $8.50.
5. 12/22/95 photocopy documents 553 @.20¢ for a total of $110.60 and postage 12/22/95 $7.93.

6. Cost advanced court reporter 1/22/96 $7.50
Postage Flat Charge 1/25/96 $49.10
7. Three videos of news 8/17/95 $260.
8. Travel Reimbursement for Schiefelbein $286
9. Costs advanced PSC for customer meeting 7/26/95 transcripts $31.10
10. Stenotype reporter 8/16/95 $10.83
11. Dinner prior to PSC customer hearing 7/26/95 $58.47
12. Lutheran Church customer meeting 6/22/95 $125.00
13. Film: 3/20/95 $5.75, 3/21/95 $28.75, 3/19/95 $26.50, 3/16/95 $55.46,3/21/95 $16.69,3/24/95 $6.59,5/31/95 $37.97 Microfilm services
14. L. Coel dinner before Customer meeting $52.22
15. P. Bradtmiller Dinner 7/9/95 $61.77
16. Lunch 6/26/95 $26.93
17. Dinner 6/29/95 $97.32
18. Overtime payment 7/17/95 janitor $70.00
19. Lunch 7/19/95 $20.12
20. Lunch 7/20/95 $51.09
21. Dinner 7/19/95 $35.80

Q. Are these all the rate case expenses that are not prudent?

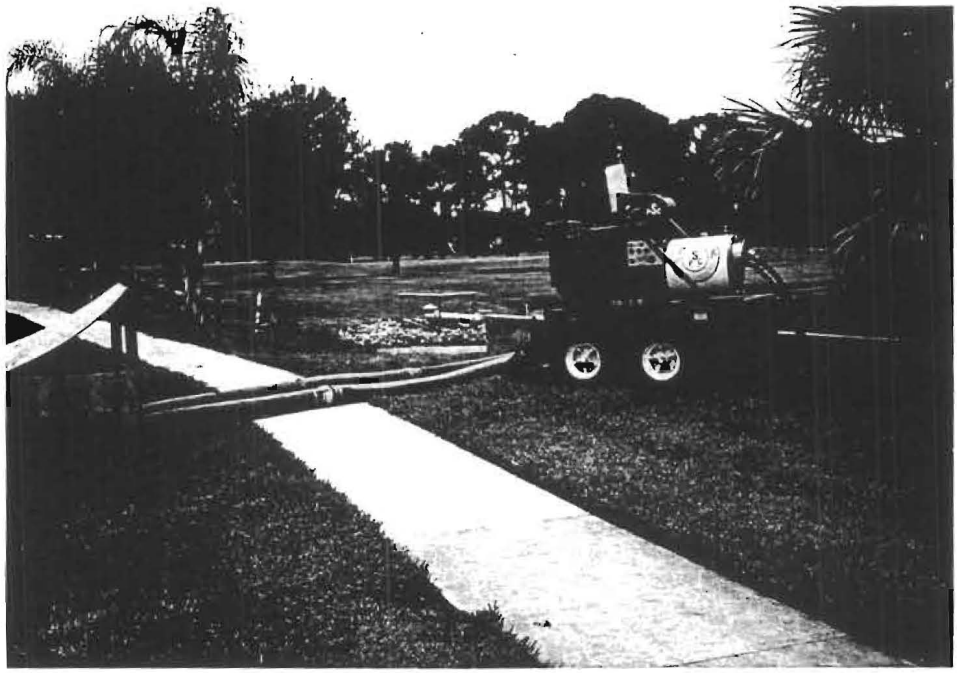
A. No. Hopefully the PSC will sift through the remainder

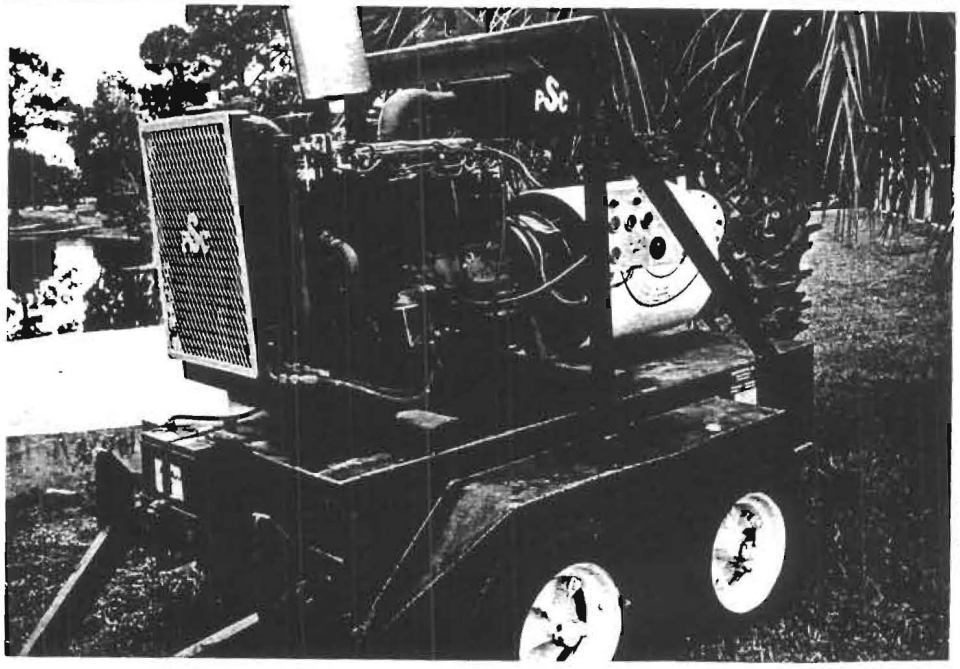
and take out what is not prudent.Again this should not be rendered as an opinion but should be listed what a utility can charge its customers in rate case expense.

Q. Does this conclude your testimony?

A. Yes.

3a-12





TESTIMONY

OF

JERILYN VICTOR

Q. Please state your name.

A. Jerilyn Victor.

Q. Have you filed testimony previously in this docket?

A. No, I have not.

Q. What is the purpose of this testimony?

A. The purpose of this testimony is the questionable Reuse site design. Specifically the inadequate study (poor research) by the design engineering firm Black & Veatch to evaluate the reuse needs of Lochmoor Golf Course.

Q. How did you conclude this?

A. I have spent considerable time researching the history of FCWC upgrade from a secondary WW facility to a advanced WWTP.

Q. What resources did you use?

A. FCWC own documents and the files of the governing agencies DEP, SFWMD and DNR.

Q. Did you find thorough documentation in these files?

A. The DEP had an impressive amount of files going back 20 years although the same cannot be said of the DNR or the SFWMD.

Q. What did you find in the files?

A. Several things, the EPA, SFWMD and DNR indicated the facility should include future effluent reuse considerations.

Q. Did FCWC respond?

A. Yes, they complied with a study dated 1990 that found reuse not economically feasible. Exhibit CW-14

Q. Did reuse come up again for the plant improvement, in 4/91 & 3/92?

A. They stated that the .300 mgd expansion also matches the reuse demand at adjacent golf course.Exhibit (JV-1)

Q. Were reuse sites selected and discussed?

A. Yes Lochmoor Golf Course and El Rio Golf Course stating the two courses together have a capacity established @ 383561 gpd on annual basis. Exhibit (JV-2)

Q. Are these the sites you wish to address and why?

A. Lochmoor was selected and the established gpd are .300 therefore the adjusted gpd for El Rio was only .083.

Q. Why did you find this interesting?

A. Lochmoor, though larger, has many irrigation ponds and has historically had better overall turf. Whereas El Rio has had difficulty maintaining turf. A result of less irrigation water. Therefore it is known they would have required a much larger gpd.

Q. Do you think the amount stated .300 mgd annual average for Lochmoor is to be questioned?

A. Yes, Lochmoor as stated, has many ponds and a fine irrigation system that provides adequate water.

Q. Do you have a technical understanding of the engineering design of Lochmoor Golf Course?

A. No, although not educated in the field of Hydrology Engineering , I have a basic understanding of the golf course layout, as a resident of the area and a golfer.

Q. Have you an opinion as to the reuse design?

A. Yes, it is common knowledge to residents and golfers alike that Lochmoor Golf Course has drainage problems. It was designed over 20 years ago before the technology for golf course design drainage advances were made. Therefore it is common for Lochmoor to be closed for play as it was in 1995 over 60 days. I have observed very little play for many weeks, although the course is open, it has ground water on surface, making golf a water sport.

Q. Have you observed the measures taken by Lochmoor to remedy this situation of flooding?

A. Many occasions they have resorted to bringing remedial pumps with huge generators that have run for days to relieve the flooding on the golf course.

Q. Why do you find this unusual, this past year was a exceptional rain event?

A. Yes, true, however please observe the photos that illustrate the reuse pond #5. Exhibit CW-12 #1

1. The level of the pond, quite low illustrates the gravity system in adjacent ponds. The standard flow from pond #3 was being drawn down, relieving the adjacent areas, (ponds 3 & 4) of deep water.

2. The use of pumps illustrates that the control structure is not functioning properly. Exhibit CW-12 #2 & 3

3. The control structure at C1 canal that returns the water to the river was open all the way.

4. The generators were pumping the water thru the system, back to WWTP. Further, I believe the original design of the golf course was for water to flow to pond #5 thru the concrete control structure to the C1 canal. Relieving the south end of the course of surface water. Therefore the design for reuse is **flawed**. Even if the existing pumping station in #3 could accommodate the gallonage and and disburse it by spraying, how could the water get to pond #7 and then to the 2nd pumping station in #8 at the north end of Lochmoor.

Q. Is it not part of the reuse design that additional pumps would be required to make this System work?

A. I could find no mention in the documents or permitting.

Q. Surely the answer must be in design documents?

A. There is nothing I have found in any agency including the DEP.

Q. Did you ask DEP about the approved design?

A. Yes, I spoke to Jim Grob in July and was told DEP approved the design.

Q. Did you ask him if he thought the golf course was designed with gravity fed ponds, and that they were capable of changing direction of flow?

A. Yes I did . He stated the best engineers designed the reuse. He seemed to think that if we looked in the many files we would find supporting data.

Q. Did you in fact find the data?

A. No however we took 2 maps of Lochmoor golf course that had been submitted, one for this case and one for 1992 feasibility study. Exhibit CW-15

Q. Do they differ?

A. Yes , they have been altered to indicate the change of pond flows, shown by the direction of arrows. Further the top of the page key has been changed from "Standard" to " Irrigation" which changes the definition . Notice also to the lower right, "Very high water only" has been erased.

Q. What do you conclude from this?

A. That the reuse design did not get questioned or studied by any of the agencies, even though these obvious discrepancies exist. Further, Black & Veatch's Mr. Cummings after the PAA order has testified that the actual irrigation rate was less than originally estimated, to account for usage during wet weather periods. Exhibit JV-3 This reaffirms my opening stated purpose for this testimony that the inadequate study of Black & Veatch to evaluate the reuse needs of Lochmoor Golf Course.

Q. Does this conclude your testimony?

A. Yes.

CHAPTER 2 - BASIS OF DESIGN

3
1992

A. Influent Characteristics

1. *Influent Flow*

a. Historical. The average monthly influent flow to the Waterway Estates WWTP was evaluated from January 1986 to March 1992 and is presented in Figure 1 and in Appendix A. Average daily flow (ADF) during the past year (April 1991 to March 1992) was 0.99 mgd, or approximately 99 percent of the FDER construction and NDPES permitted capacity. The influent flow has increased steadily since 1986. The maximum 3-month running average during the past year was 1.043 mgd. The average of the ratios of maximum 3-month average per year to annual average flow is 1.127 for the evaluated period.

b. Projected. Figure 1 presents a projection of average daily flow based on an extrapolation of historical data. The data is presented in Appendix A. A linear regression was performed to fit a regression line to the flow data from January 1986 to March 1992. Also presented in Figure 1 is a projection of the maximum 3-month average daily flow. This projection was made by applying the average of the ratios of yearly maximum 3-month average to the average daily flow; this approach is as described in "Guidelines for Preparation of Capacity Analysis Reports" by FDER.

FCWC staff indicate an ultimate ADF to the Waterway Estates WWTP of approximately 1.5 mgd based on buildout of the service area. The figure illustrates that 1.5 mgd ADF will be reached in the year 2000, which is 8 years in the future. FCWC intends on plant expansion in two phases. A 0.30 mgd expansion now will increase plant capacity to 1.30 mgd ADF. According to the projection figure, this will accommodate ADF flows until the year 1996. The 3-month average projection would be reached in 1994. The 0.3 mgd expansion also matches the reuse demand at the adjacent golf course.

This preliminary design will focus on the Phase I improvements to achieve a design capacity of 1.30 mgd. The anticipated Phase II modifications, including biological and hydraulic modeling will also be presented to ensure economical plant expansion and begin the planning requirements of Chapter 17-600.405.

EXHIBIT JV-2

Golf Course for irrigation. After the design was completed, it became apparent that the actual irrigation rate was less than originally estimated.

Q. What was the original irrigation rate use in the design?

A. The original irrigation rate used in the design was 0.96 inches per week over 81 acres. This was reduced to account for reduced usage during wet weather periods.

Q. Did you make the design change?

A. Yes.

Q. In your professional opinion, was this change prudent?

A. Yes.

Q. What is the capacity of the facility that was actually constructed by FCWC?

A. The plant capacity will be equal to 1.25 MGD based upon the average annual daily flow and the waste concentration associated with this flow.

Q. Is this capacity change reflected in the construction permit?

A. No. In discussions with FDEP staff, it was decided that it would be best to reflect this change in design capacity on the operating permit application, rather than submitting an application for modification of the construction permit.

Sept 94 p(1) CW-13

U & U Calculation

Utility's own water workpapers

Mine 4590/5580 ERC

	Mine		Utility
Plant Capacity	1.25		.2500
145 gpd per ERC — Ave. Daily flow max month (Av. Day Flow water sold 814 x 81.8% B. Dick; 814 x 71.26%)	665852		1,1753 ÷ 4590 → 256 gpd per ERC
	584,148 mgd		.0747 mgd

1.250000
− 669596
580,404 mgd Unused Capacity

145 gpd per ERC

ADF During year .942 mgd
÷ ERC for 1994 (4590)
= 205 gpd.

Unused Capacity

580,404 mgd ÷ 145 gpd/ERC = 4002 ERC

Therefore allowed

4002 ERC in

margin reserve.

Unused Capacity

74,700 ÷ 205 gpd per ERC
= 364 ERC's

@ 256 gpd

292 ERC's

Therefore allow

292 ERC in

margin reserve

3.9 years instead of norm of 18 months

pg ✓ LWIS 1-92

pg Infiltration formula given to me by Tom Walden (I

on 10/14 phone call. 500 gal per inch of pipe per mi

1 mile = 5,280 ft.

Emerf 94
Linear ft 155,616
of pipe
or 29.36 miles pipe

> ICWC
Annual Report
Wastewater Section
Exhibit "6"

[redacted] 118,554 gpd allowable

infiltration

Infiltration only mentioned in passing
on page 6 of final order.

This formula also given
to me on 10/14 phone
call from Tom Walden

Sept "94"

Water Av Daily Flow .669596 gpd

WWTP Av Daily Flow 1,175000 gpd

Water Av Daily Flow .669596 gpd
infiltration + .118554 gpd
.788150 gpd what flow should be
including infiltration

Actual WWTP Flow 1.175000
− .788150
.386850 gpd above allowable ⇐
infiltration

1,175000 + (74,752) margin reserve − (386850) excess infiltration ÷ 1.250 plant capacity = 69% used + useful

vs. my what
flow should
be

788150 + 74752 ÷ 1,250 =
69%
used + useful

DYER, RIDDLE, MILLS & PRECOURT, INC.
ENGINEERS • SURVEYORS • SCIENTISTS • PLANNERS

CW - 14179

January 2, 1990 DRMP #89-291.00

Mr. Tom Roth
Water Use Division
South Florida Water Management District
P. O Box 24780
3301 Gun Club Road
West Palm Beach, Florida 33416-4680

RECEIVED
JAN 04 1990
REGULATION DEPT. - 404

Subject: Water Use Permit Application
No. 890913-6 Water Way Estates
North Lee County System

Dear Mr. Roth:

This letter addresses your request for additional information dated October 6, 1989. The responses are presented separately below each of the items as stated in your letter.

1. Current allocation is not a recognized basis for granting a future allocation. The submitted Table F shows a projected water use of 457.8 MGY in 1994, the requested allocation is 570 MGY. Applicant should either revise the requested allocation or present additional documentation to support renewal of the permit as the requested allocation. Similarly, the requested maximum daily allocation is 1.75 MGD, while Table F shows a projected maximum daily use of only 1.68 MGD in 1994.

   We would like to revise the requested allocation to match the projected demand as estimated on Table F, i.e., 457.8 MGY with an associated maximum daily flow of 1.68 MGD in 1994.

2. What is the feasibility of wastewater recycling in the service area? Has this been considered and is planning under way to utilize recycled water?

   The feasibility of wastewater recycling has been studied extensively. Because of its extremely high cost, reuse is not currently considered a realistic option. A copy of the reuse feasibility study is presented as Attachment 1.

3. Applicant should document the source of the population projections shown in Table F. Historically, based on data from Table B, the population grew at approximately a 3% annual rate between 1983 and 1988. The projected growth rate in Table F appears excessive.

Please reply to P.O. Box 538505
1506 EAST COLONIAL DRIVE • P.O. BOX 538505 • ORLANDO, FLORIDA 32853-8505 • (407) 896-0594 • FAX (407) 896-4816
PRINCIPALS: DONALDSON K. BARTON • WILLIAM B. DYER • GERALD C. HARTMAN • RUSSELL L. MILLS • A.L. PRECOURT • ROBERT A. RIDDLE • REGINALD L. TISDALE
ORLANDO • JACKSONVILLE • MELBOURNE • TAMPA

CW 14 P9 -2

The sources of the population projections given in Table F are the local Planning Department and the U.S. Census Bureau. Supporting information is given in Attachment 2.

4. **Well 1D is listed as "not active" and does not have a pump attached to it. What is the future intention for this well? If this well is no longer to be used, it should be abandoned according to Chapter 40E-3, F.A.C.**

   This well will be incorporated into the wellfield system, and used to augment flow under maximum demand conditions. The water flow from this well will be blended with that of the others to produce water of adequate quality. This well has been permitted for potable water supply use by the FDER. A copy of a letter documenting its acceptance for use in this capacity is presented as Attachment 3.

5. **Have Wells N-5 and N-7 been abandoned according to procedures mandated by Chapter 40E-3, F.A.C.**

   Wells N-5 and N-7 have been abandoned according to the procedures set forth in 40E-3. Moreover, the wells are currently situated below paved ground.

6. **Please submit recent County aerial photos (1"=200') showing the location of each active production well.**

   We were unable to obtain aerial photos at the stated scale; however we received verbal approval from your department to submit maps at a 1"=300' scale. Such a map showing the wellfield location is included as Attachment 4.

Should you require additional information, or if you have any questions regarding this letter, please do not hesitate to contact our office.

Very truly yours,

Dyer, Riddle, Mills & Precourt, Inc.

Patrick A. Barnes
Hydrogeologist

PAB/pav/C28-26

cc: James Christopher, DRMP
Chuck Drake, DRMP
Robert French, Florida Cities Water Company

original submittal 12/26/89 SWFWMD

CW 14-3 pg 1

TECHNICAL AND ECONOMIC EVALUATION FOR THE REUSE OF RECLAIMED WATER FROM FLORIDA CITIES WATER CO. WATER WAY ESTATES WASTEWATER TREATMENT PLAN

NOVEMBER 29, 1989

by

James A. Elder

CW-14 pg 4

INTRODUCTION

The purpose of this report is to analyze the technical and economic feasibility of utilizing treated wastewater effluent from Florida Cities Water Co. Waterways Estates Treatment Plant for the irrigation of the Lochmoor and El Rio Golf Courses. The intent of this report is to satisfy the "anti-degradation" requirements of Florida Administrative Code, regarding the issuance of a permit to discharge treated wastewater effluent from Waterway Estates Waste Water Treatment Plant into the Caloosahatchee River.

BACKGROUND

After discussions with Ron Bishop the District Manager for Resorts International, the owners of the Lochmoor and El Rio Golf courses, it was determined the irrigation requirements for both golf courses is approximately 383,561 gpd, based on an annual average of 140 MG/yr. Mr. Bishop also indicated a willingness to accept and utilize reclaimed water from Waterway Estates Wastewater Treatment Plant.

Mr. Bishop also pointed out that there are extremely wide fluctuations in the amount of irrigation needed to optimize the golf course condition. During the summer rainy season, application rates could drop as low as 0 for several consecutive days, and during the winter and spring dry season, the application rates may reach 1,530,000 gpd for several consecutive days.

In order to supply reclaimed water to these golf courses, FAC 17-610 must be met. This code establishes comprehensive criteria for the reuse of reclaimed water in public access areas. Some of the more important criteria that impacts reuse of reclaimed water for the Lochmoor and El Rio golf courses are as follows:

1. The wastewater treatment plant producing the reclaimed water must have a licensed operator on site at all times the plant is producing water for reuse.

2. Class 1 reliability of the unit processes must be provided.

3. The quality of the reclaimed water must meet standards for total suspended solids that are achievable only by filtration.

4. High level disinfection.

CW 14 pg 5

ANALYSIS

Construction of facilities required to supply reclaimed water produced by Waterway Estates Wastewater Treatment Plant is technically feasible. Figure 1 indicates a schematic diagram of the facilities required to achieve this purpose.

In order to comply with FAC 17-610 requirements for the reuse of reclaimed water, a chlorine injection system would have to be constructed immediately after the discharge of the reclaimed water pump to achieve the water quality required.

All reclaimed water storage would have to be located at the referenced golf courses. It has been determined that there is approximately 1 MG of available storage at Lochmoor, and .5 MG of storage at El Rio that meet the necessary requirements for reclaimed water storage.

The system would consist of a variable speed reclaimed water pump, chlorine injection system, system controls, piping to both courses, a hydrophneumatic tank, and pond discharge valves actuated by a level control system, and an outfall discharge valve actuated (closed) by the pump start. The level control sensor at either course would signal the pond storage discharge valve to open, cause the pressure in the supply line to drop, and start the reclaimed water pump. When the reclaimed water pump starts, the valve on the outfall line would close, and a valve to the reclaimed water line would open. Based on the flow into the wet well, the pump would run the appropriate speed to discharge at the same rate the wet well is filling. Due to small amounts of leakage by the check valves and pond discharge valves, a hydrophneumatic tank is needed to maintain minimum pressure in the system, and keep the reclaimed water pump from short cycling. Both ponds would have high level alarms that will operate an emergency discharge shut off valve at the plant. These alarms would signal the emergency shut off valve via a telemetry system.

Table 1 outlines the estimated construction cost of the facilities described above. The total project cost for engineering, administration, and construction of the facilities required to reuse reclaimed water from Waterways Estates Wastewater Treatment Plant is $716,091.

Since the available storage for the reuse system is limited to 1.5 MGD, and the average irrigation usage is 383,561 gpd, this system is unable to accommodate the plant design capacity (1.0 MGD). Therefore, additional effluent disposal provisions must be permitted and maintained. It is anticipated that the reuse system would operate in conjunction with the discharge to the Caloosahatchee River. Because this alternative discharge will be required, no additional class 1 reliability facilities have been planned for this reuse facility. If a unit process were to fail, rendering a treated effluent quality lower than that permitted for public access, the alternative effluent disposal option (discharge into the Caloosahatchee River) would be utilized for the full flow, until repairs could be completed and the reuse system put back on line.

Chapter 17-610 FAC, requires licensed operators on site at the treatment plant where reuse water is produced at all times. The current FDER regulations would require a licensed operator on site at the proposed AWT Plant for Waterways Estates for 16 hours per day seven days per week. In order to provide 24 hour

CW14 pg 6

per day operation, two additional operators would be required. Table 1 indicates the estimated additional cost of operating Waterway Estates as a reclaimed water facility. The total additional cost including the additional operators, electrical costs for the reclaimed water pump system, and the appropriate repair and maintenance cost of these facilities is estimated to be $7[illegible],000 per year.

CONCLUSION

It is technically feasible to construct the facilities required to provide reuse water to Lochmoor and El Rio Golf courses. The capacity of these courses is approximately 383,561 gpd on an annual average. The necessary conditions established by the Florida Administrative Code for utilizing reclaimed water can technically be met, providing a reliable, workable facility as shown schematically in Figure 1.

The economic feasibility of constructing reclaim facilities at Waterway Estates for the Lochmoor and El Rio golf courses, however, is poor. The impact of a $716,091 capital cost and a $72,000 per year operating and maintenance cost of these reclaim facilities for a capacity of 383,561 gpd, equates to an increase in monthly user fees for the existing equivalent residential connections of $4.33 per month, or a 19% increase in monthly rates.

The costs represented in this anti-degradation study do not include the estimated 3.58 million dollar cost that will be an increase per ERC/month of $14.16, or a 62% increase in monthly rates to upgrade Waterway Estates Wastewater Treatment Facility from an existing secondary treatment facility to an advanced wastewater treatment facility (the 3.58 million dollar cost does not include any increase in O&M or chemical costs).

For these reasons, it is concluded that this project is not economically feasible at this time.

EX JV4

original submittal 12/26/96 SWFWMD

CW 14/097

TABLE I

WATERWAY ESTATES
WASTEWATER TREATMENT PLANT

RECLAIMED WATER FACILITIES COST
ESTIMATE AND FINANCIAL IMPACT

PROJECT COST	
11,088 L.F. 10" Pipe	388,080
2,640 L.F. 8" Pipe	66,000
Valves & Fittings	42,000
Electrical Controls	70,000
	566,080
Contingency	84,912
Overhead	65,099
TOTAL PROJECT	716,091
O & M EXPENSE	
2 Operators (Licensed) 26,000/operator	52,000
Electrical Consumption	10,000
Repairs & Maintenance	10,000
	72,000
USER IMPACT	
4,000 ERC	
Annual Capitalization 716,091 x 19%	136,057.29
O & M Expenses	72,000
TOTAL ANNUAL INCREASE	208,057.30
COST INCREASE PER ERC/YEAR	52.01
COST INCREASE PER ERC/MONTH	4.33

CW14 pg 8

RECEIVED
JAN 31 1990
REGULATION DEPT. - 404

MEMORANDUM

TO: **Steve Lamb**, Director
Water Use Division

THROUGH: Sharon Trost, Director
Water Supply Planning Division

FROM: Dean Powell, Senior Water Use Engineer
Water Supply Planning Division

DATE: January 31, 1990

SUBJECT: Feasibility of using reclaimed water from the Water Way Estates Wastewater Treatment Plant.

The purpose of this memo is to evaluate the attached report entitled "Technical and Economic Evaluation For the Reuse of Reclaimed Water From Florida Cities Water Co. Water Way Estates Wastewater Treatment Plan," by James Alder. This feasibility study was submitted to DER in support of a permit renewal for the Water Way Estates Wastewater Treatment Plant operated by Florida Cities Water Co. The feasibility study was also submitted to the SFWMD in support of a Water Use Permit application for Water Way Estates Water Plant operated by Florida Cities Water Co.

In the feasibility study, a major portion of the capital cost is attributed to the installation of reclaimed water distribution pipe. The study estimates the costs for distribution piping to be $445,080. It is not clear whether this figure includes the cost of installing pumps. This figure was evaluated using the lengths of pipe given in the feasibility study and the District's Wastewater Reuse Cost Model. The model generated distribution pipe cost of $183,744 and $107,382 for pump installation costs. This results in an estimated pipe and pump capital cost of $291,126, or about $150,000 less than the estimated pipe costs contained in the feasibility study.

Aerial photos and quad maps were consulted in an attempt to verify the distribution pipe lengths that were used in the feasibility study. The attached schematic of the system was generated from aerial photos and quad maps. It indicates that the pipe lengths used in the feasibility study are longer than may be necessary. Using pipe lengths estimated from aerials and the District's Wastewater Reuse Cost Model, distribution piping costs were estimated to be $139,500 and pump costs were estimated to be $71,668. This results in an estimated total cost of $211,168 for distribution pipe and pump, or less than one-half of what the feasibility study estimated for distribution piping.

CW14,199

Another section of the feasibility study that seems to overestimate the costs of installing the reuse system is the interest rate used to estimate annual capitalization costs. The feasibility study used a 19% interest rate. An interest rate of 10% would be more appropriate for this type of project. Using an interest rate of 10% and capital costs based on the attached schematic and the Wastewater Reuse cost model, the total Annual Capitalization is estimated to be $47,317.90. The feasibility study results in an Annual Capitalization of $136,057.29.

The District's evaluation of this system was done without the benefit of exact information on the layout of the proposed system and within a very short time frame. If more detailed information could be obtained and more time allowed for evaluation, a more refined cost estimate could be generated. However, it seems clear from this preliminary evaluation that the cost of developing the proposed reuse system is overstated in the feasibility report, perhaps by as much as 300%.

DP/kh
Attachment

c: James Harvey, Planning Department
Richard Rogers, Planning Department
Jeanne Hall, Regulation Department
John Morgan, Fort Myers Office
Dick March, Planning Department
Tom Roth, Regulation Department
Scott Burns, Research and Evaluation Department

WELL 338A USED TO REFILL NORTH SECTION
WELL 360 USED TO REFILL SOUTH SECTION
WELL 485 BACKUP USE ONLY

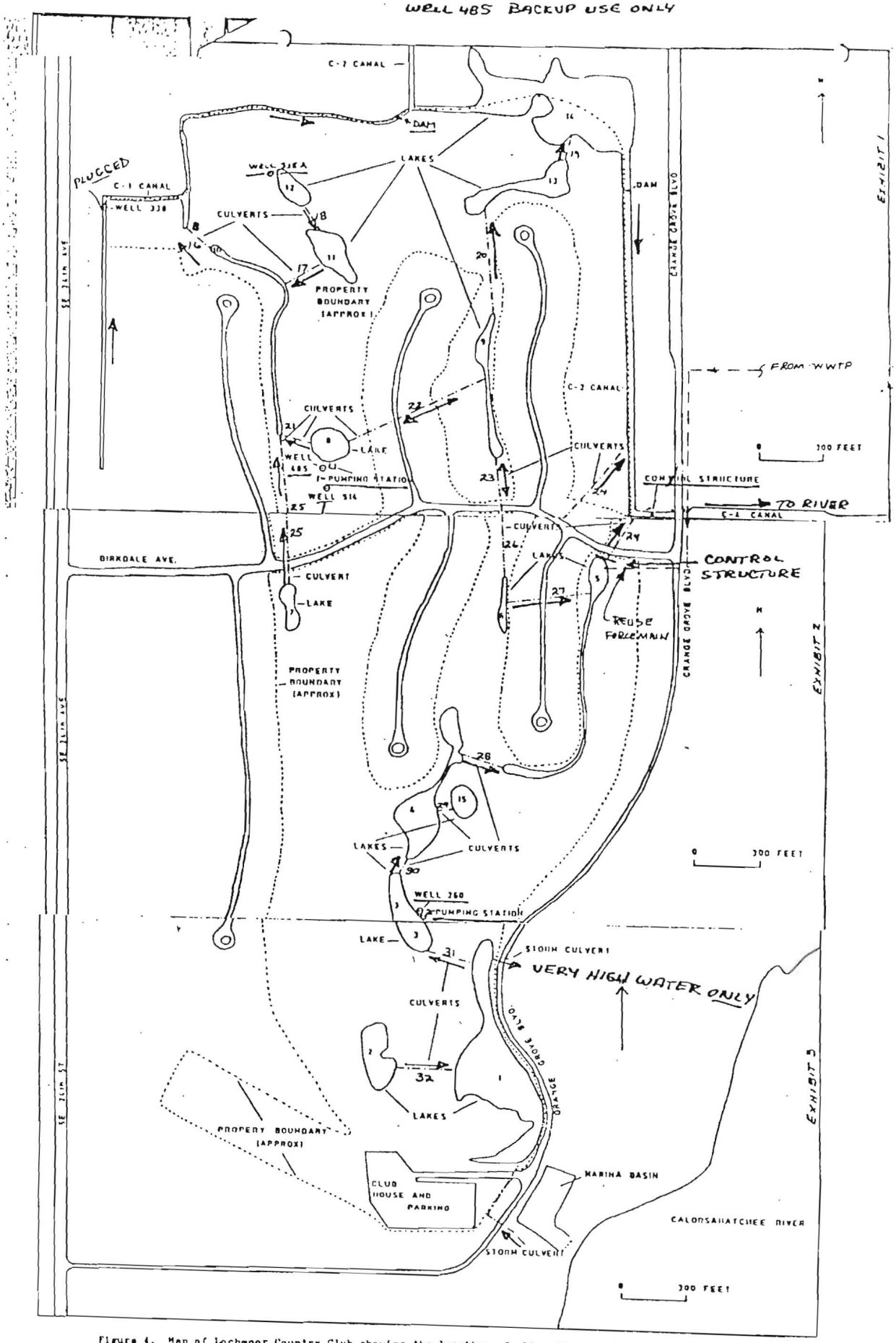


Figure 4. Map of Lochmoor Country Club showing the location of all wells, pumping stations, lakes, canals, drainage ditches, drainage outlets and control structure (south section).

FIGURE 8

EXHIBIT

EXHIBIT 3

PROPERTY BOUNDARY (APPROX.)

SE 24th AVE

SE 24th ST

28

29

15

4

LAKES

CULVERTS

30

MONITORING WELL

WELL 360

IRRIGATION PUMPING STATION

3

LAKE

31

STORM CULVERT

CULVERTS

GROVE BLVD.

ORANGE

2

32

1

LAKES

PROPERY BOUNDARY (APPROX)

CLUB HOUSE AND PARKING

HARINA BASIN

COMPLIANCE WELL

CALOOSAHATCHEE RIVER

STORM CULVERT

0 300 FEET

0 300 FEET

MAR 0 1 1994

D.E.P. SOUTH DISTRICT

the location of all wells, pumping stations, lakes

→ DENOTES "IRRIGATION" DRAINAGE FLOW

WELL 338A USED TO REFILL NORTH SECTION

WELL 360 USED TO REFILL SOUTH SECTION

WELL 485 BACKUP USE ONLY

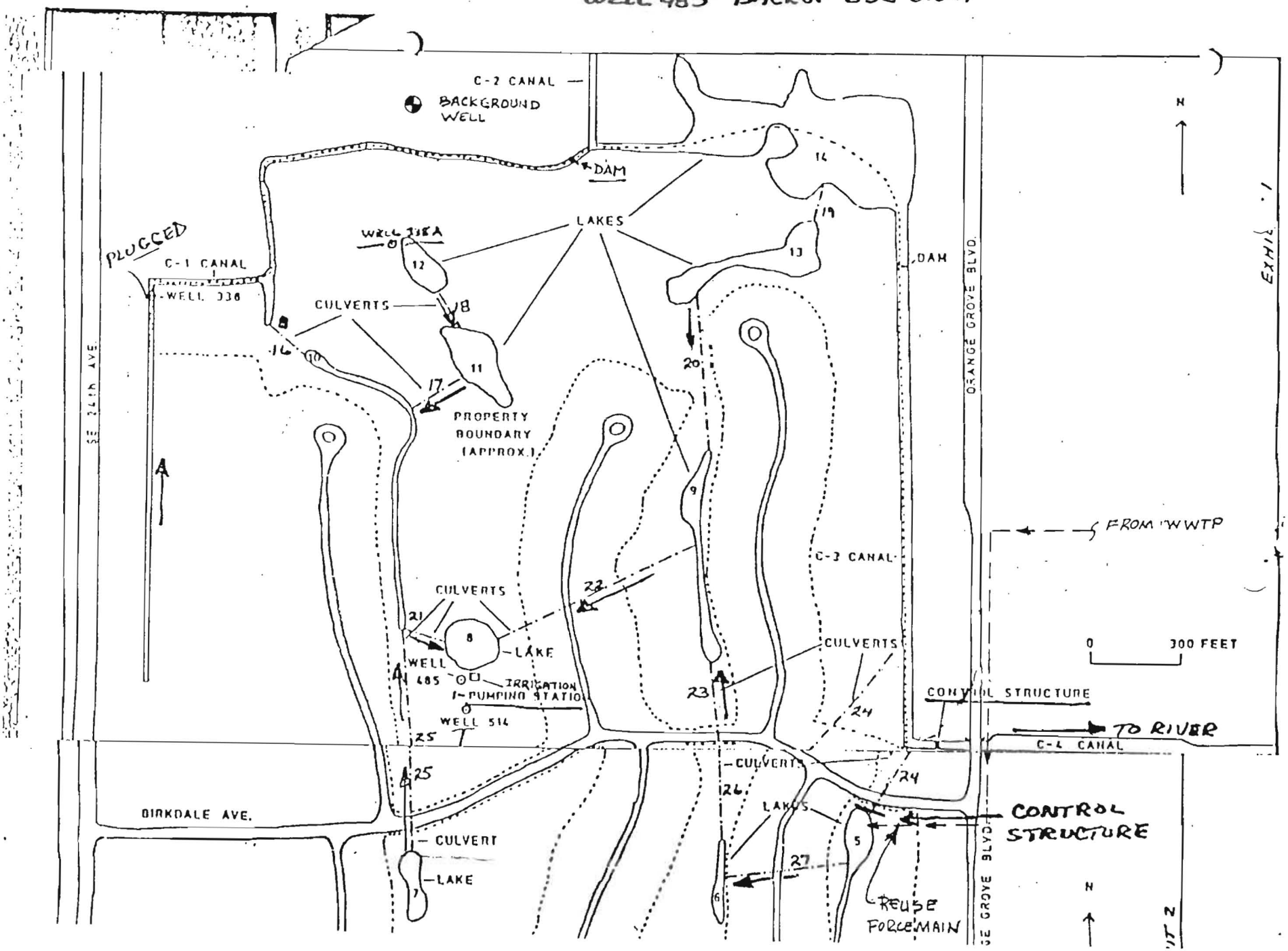


EXHIBIT 1

EXHIBIT 2

No. One (1)

CHANGE ORDER

Dated June 7, 1993

OWNER's Project No. 10-92-34 ENGINEER's Project No.

Project TV, CLEAN AND REPAIR SEWER SYSTEM IN NORTH FORT MYERS

CONTRACTOR B.R.I.A.N.

Contract for Above-referenced Project Contract Date November 24, 1992

To B.R.I.A.N.
Contractor

You are directed to make the changes noted below in the subject Contract:

FLORIDA CITIES WATER COMPANY

BY _____
Johnnie M. Overton, Senior Vice President

DATED 6/18/93

Nature of the Changes

To adjust the contract amount to actual project cost due to reduction in scope.

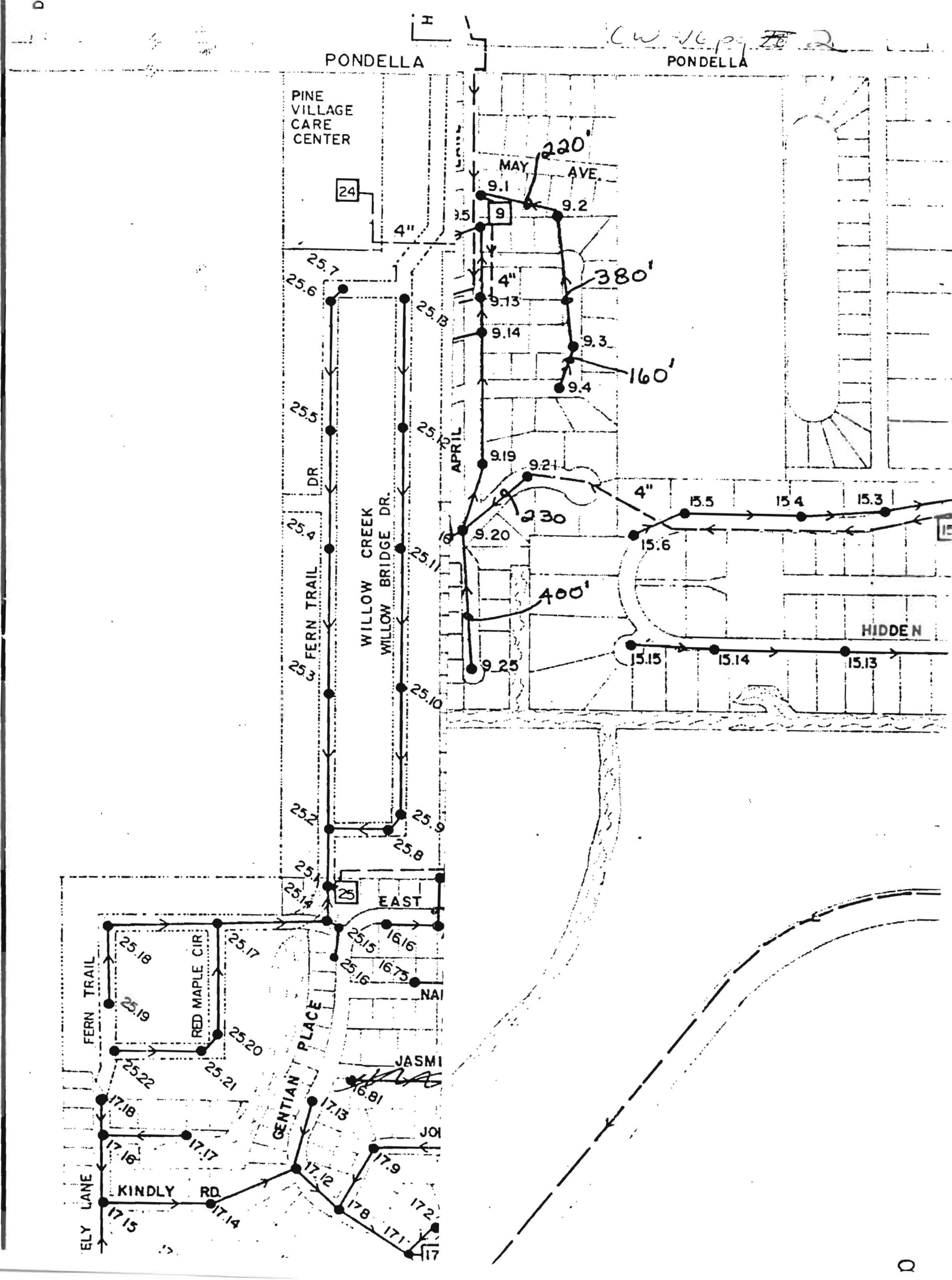
RECEIVED
JUN 10 1993
GENERAL OFFICE

Enclosures:

These changes result in the following adjustment of Contract Price and Contract Time:

Contract Price Prior to This Change Order	$ 27,441.50
Net (~~Increase~~)(Decrease) Resulting from this Changer Order	$ (6,500.00)
Current Contract Price Including This Change Order	$ 20,941.50

NSPE-ACEC 1910-8-B(1978 Edition)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PONDELLA
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25.7
25.6
4"
9.13
25.13
9.14
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9.3
160'
9.4
25.5
25.12
APRIL
9.19
9.21
4"
15.5
15.4
15.3
DR
230
9.20
15.6
25.4
25.11
FERN TRAIL
WILLOW CREEK
WILLOW BRIDGE DR.
400'
HIDDEN
25.3
9.25
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FERN TRAIL
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PLACE
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JASMI
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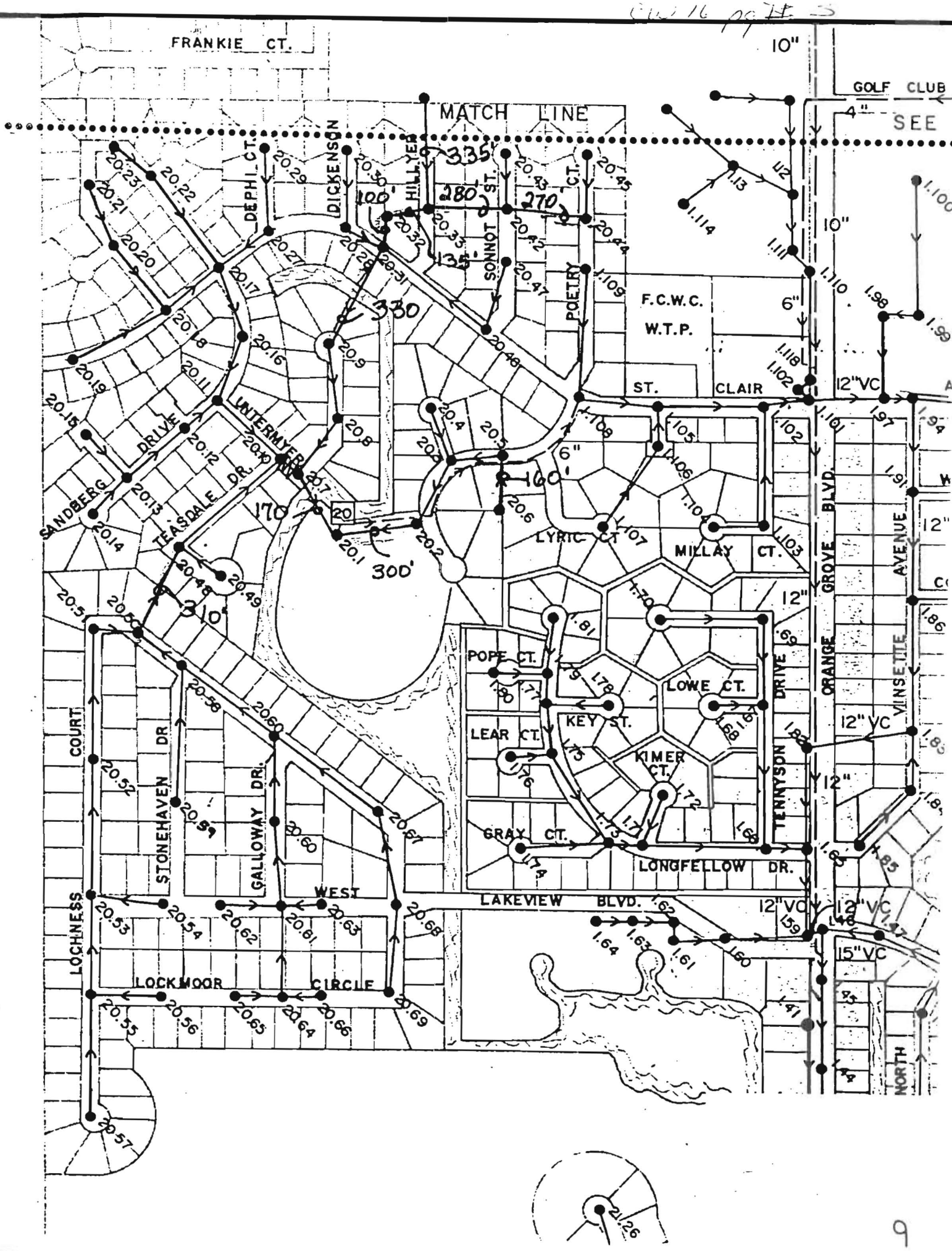
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GOLF CLUB
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4"
6"
12"VC
15"VC
F.C.W.C.
W.T.P.
ST. CLAIR
DEPHI CT.
DICKENSON
HILLYER
SONNOT ST.
POETRY CT.
POETRY
UNTERMYER
DRIVE
SANDBERG
TEASDALE DR.
LYRIC CT
MILLAY CT.
ORANGE GROVE BLVD.
VINSETTE AVENUE
POPE CT.
LOWE CT.
KEY ST.
LEAR CT.
KIMER CT.
GRAY CT.
TENNYSON DRIVE
LONGFELLOW DR.
LAKEVIEW BLVD.
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STONEHAVEN DR
GALLOWAY DR.
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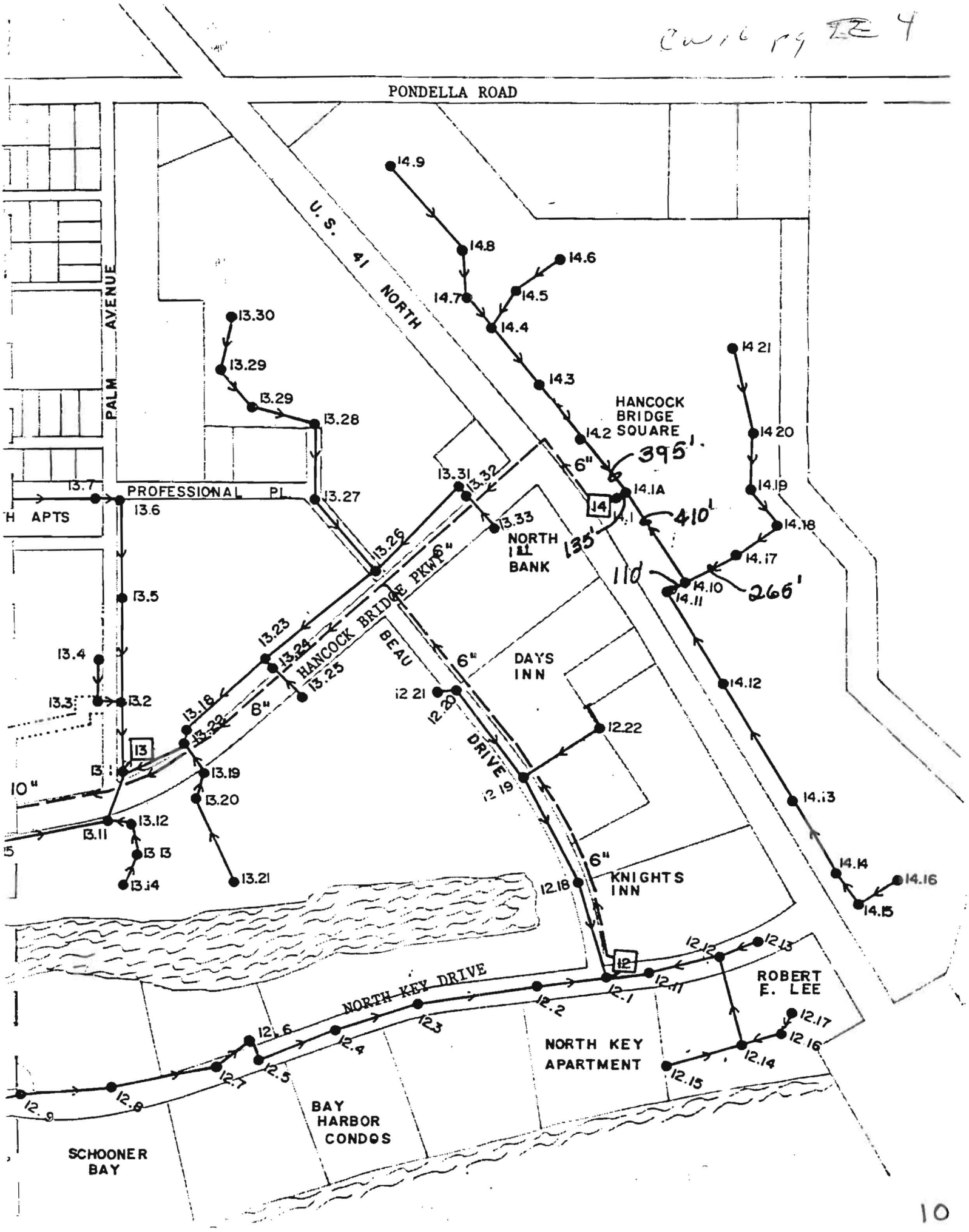
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U.S. 41 NORTH
PALM AVENUE
PROFESSIONAL PL
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BEAU
DRIVE
NORTH KEY DRIVE
HANCOCK BRIDGE SQUARE
NORTH
BANK
DAYS INN
KNIGHTS INN
ROBERT E. LEE
NORTH KEY APARTMENT
BAY HARBOR CONDOS
SCHOONER BAY
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CW 17 pg 4

FOLLOW UP INSPECTION	FLORIDA CITIES WATER COMPANY	DIVISION LEE COUNTY	
	7401 College Parkway P. O. Box 6459	PROJECT DESCR. NFM/SFM MANHOLE REHAB.	
☐ 1st Inspection	Fort Myers, Florida 33911	INSPECTOR C. JONES	Sheet 1 of 1
☐ Follow Up Inspec. # _____	PUNCH LIST	INSPECTION DATE: 8/2/93	Work Order No.

STAT.	DATE	DEFICIENCY DESCRIPTION AND/OR SUGGESTED ACTION
		THE FOLLOWING MANHOLES HAVE BEEN
		INSPECTED AND CLEARED.
		NORTH — SOUTH
		9.15 — 33.1
		9.16 — 33.2
		9.17 — 33.3
		16.42 — 33.4
		16.45
		16.46
		16.43
		16.44
		NOTE: MANHOLE 9.18 COULD NOT BE
		LOCATED AND MANHOLE 16.47 WAS TOO
		BAD TO COAT - MUST BE REPLACED

Craig A. Jones — (FCWC INSPECTOR SIGNATURE)

8/2/93 — DATE

SURETY SPECIALISTS, INC.
Member of
CUMBERLAND HOLDINGS, INC.

JAN 17 1994
GENERAL OFFICE

4311 West Waters
Suite 501
Tampa, FL 33614
813/885-2112
FAX: 813/885-6734

STATUS INQUIRY

CONTRACTOR RIDIN PIPELINE SERVICES

JOB DESCRIPTION TV, CLEAN AND REPAIR WASTEWATER COLLECTION LINES
NORTH FT. MYERS, FL

TO:

FLORIDA CITIES WATER COMPANY

P.O. BOX 21119
SARASOTA, FL 34276

BOND # NB157370

EFFECTIVE DATE 8/03/93

BOND AMOUNT $ 13,334.34

CONTRACT AMOUNT $ 13,334.34

CONTRACT #

AS AGENT FOR SURETY, WE NEED A STATUS REPORT ON THE PROGRESS OF THE JOB DESCRIBED. YOUR COMPLETION AND PROMPT RETURN OF THIS BRIEF INQUIRY WOULD BE APPRECIATED.

IF THE CONTRACT HAS BEEN COMPLETED:

DATE OF COMPLETION _____

DATE OF FINAL PAYMENT _____

FINAL CONTRACT AMOUNT _____

IT IS UNDERSTOOD THAT THE INFORMATION CONTAINED HEREIN IS FURNISHED AS A MATTER OF COURTESY FOR THE CONFIDENTIAL USE OF THE SURETY AND IS MERELY AN EXPRESSION OF OPINION. IT IS ALSO AGREED THAT IN FURNISHING THIS INFORMATION, NO GUARANTY OR WARRANTY OF ACCURACY OR CORRECTNESS IS MADE AND NO RESPONSIBILITY IS ASSUMED AS A RESULT OF RELIANCE BY THE SURETY, WHETHER SUCH INFORMATION IS FURNISHED BY THE OWNER OR BY AN ARCHITECT OR ENGINEER AS THE AGENT OF THE OWNER.

IF THE CONTRACT HAS NOT BEEN COMPLETED:

PERCENTAGE OF COMPLETION 90%

AMOUNT OF PAYMENT TO DATE $9,881.41

CONTRACT AMOUNT TO DATE $10,979.34

COMMENTS The work for this contract has been completed. However, Ridin has not yet applied for the 10% retainage remaining on the contract.

PLEASE SIGN AND RETURN THIS INQUIRY IN THE ENCLOSED ENVELOPE OR FAX

SIGNATURE Michael Acosta

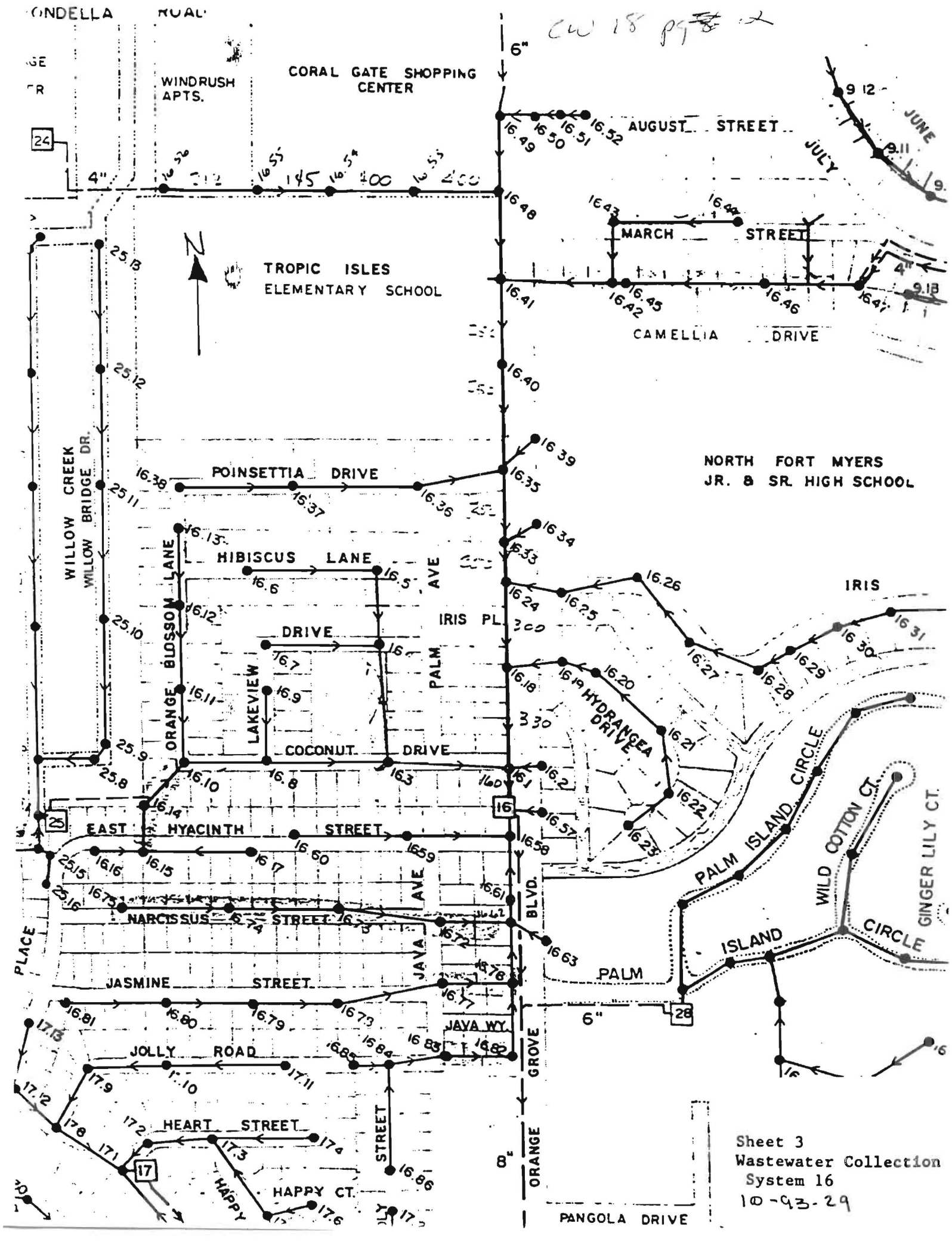
TITLE Michael Acosta, P.E.
Mgr., Engineering & Construction

DATE 1/19/94

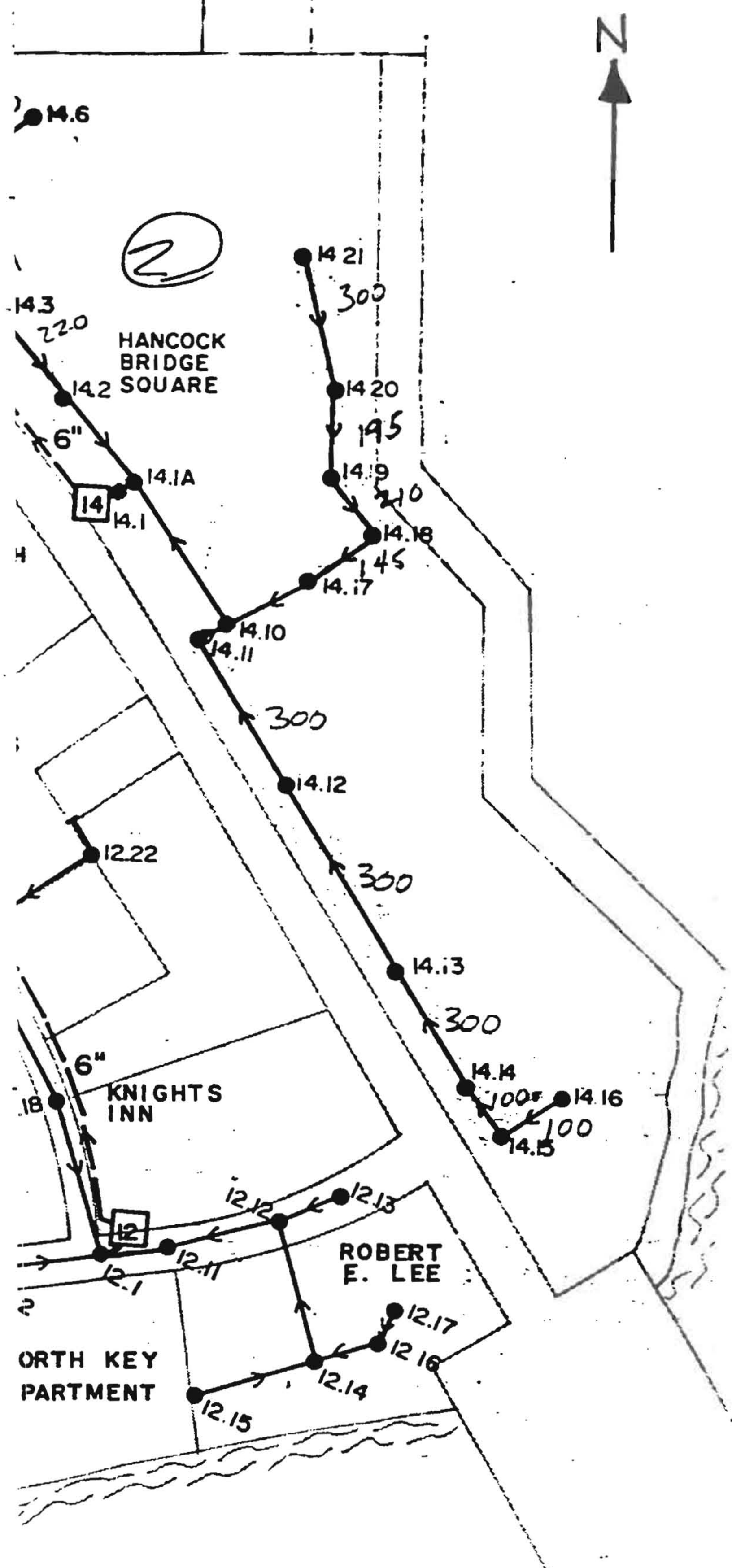
PHONE: (813) 925-3088

FAX # (813) 924-7203

TATINQ2


CW 18 pg 8 of 2
CORAL GATE SHOPPING CENTER
WINDRUSH APTS.
TROPIC ISLES ELEMENTARY SCHOOL
NORTH FORT MYERS JR. & SR. HIGH SCHOOL
AUGUST STREET
JUNE
JULY
MARCH STREET
CAMELLIA DRIVE
POINSETTIA DRIVE
HIBISCUS LANE
IRIS
IRIS PL.
DRIVE
COCONUT DRIVE
HYDRANGEA DRIVE
EAST HYACINTH STREET
NARCISSUS STREET
JASMINE STREET
JOLLY ROAD
HEART STREET
HAPPY CT.
HAPPY
PALM ISLAND CIRCLE
WILD COTTON CT.
GINGER LILY CT.
ISLAND CIRCLE
PALM
JAVA WY.
JAVA PLACE
JAVA AVE
PALM AVE
ORANGE BLOSSOM LANE
LAKEVIEW
WILLOW CREEK
WILLOW BRIDGE DR.
ORANGE GROVE BLVD.
PANGOLA DRIVE
6"
4"
8"
Sheet 3
Wastewater Collection
System 16
10-93-29

CW 18 pg 8 1-5



This is how I received copy from FCWC

Form 2 - Lump Sum

PAGE ___ OF ___

PROJECT NAME: 1994 Phase 1 Repair of Manholes in the Wastewater Collection System of North & South Ft. Myers

WORK ORDER NUMBER:

ITEM	DESCRIPTION	CONTRACT VALUE	CURRENT BILLING		TOTAL EARNED TO DATE	
			PERCENT COMPLETE	AMOUNT	PERCENT COMPLETE	AMOUNT
1	MH # 17.78 4' dia x 8'6" S. Ft. Myers	$1,705.00	100%	-0-	100%	$1,705.00
2	MH # 17.95 4' dia x 3'8" " " "	$1,084.00	"	-0-	"	$1,084.00
3	MH # 17.96 4' dia x 8'6" " " "	$1,705.00	"	-0-	"	$1,705.00
4	MH # 45.2A 4' dia x 7'6" " " "	$1,927.00	"	$1,927.00	"	~~-0-~~ 1927.00
5	MH # 33.23 4' dia x 7'0" " " "	$1,718.00	"	-0-	"	$1,718.00
6	MH # 33.35 4' dia x 5'0" " " "	$1,476.00	"	-0-	"	$1,476.00
7	MH # 1.34 4' dia x 14'6"N. Ft. Myers	$2,893.00	"	-0-	"	$2,893.00
8	MH # 1.42 4' dia x 13'6" " "	$2,755.00	"	-0-	"	$2,755.00
9	MH # 1.43 4' dia x 12'6" " "	$2,617.00	"	-0-	"	$2,617.00
10	MH # 1.44 4' dia x 12'0" " "	$2,548.00	"	-0-	"	$2,548.00
11	MH # 1.46 4' dia x 10'6" " "	$2,341.00	"	-0-	"	$2,341.00
						N.F.M. $13,154
						22,769.00
	SUBTOTAL		100%	$1,927.00	100%	~~$20,842.00~~

Form 2 - Lump Sum
REV. 8/93

(CWI 1p)

FLORIDA CITIES WATER COMPANY
UTILITY CONSTRUCTION PAY REQUEST

JAN 16 1995

RECEIVED

PROJECT: 1994 - PHASE II, REPAIR of MANHOLES WASTEWATER Collection System IN NORTH AND SOUTH FORT MYERS, FLORIDA

CONTRACTOR: INFRASTRUCTURE RESTORATION, INC.

ADDRESS: 334 EAST LAKE ROAD, PALM HARBOR, FLORIDA 34685

PAYMENT NO: 1 - FINAL   DATE: DECEMBER 22, 1994

BILLING PERIOD: WORK ORDER NO:

DATE OF CONTRACT: NOVEMBER 30, 1994   CONTRACT TIME: 30 (DAYS)

CONTRACT RECAP

CONTRACT AMOUNT:	$17,350.00
C.O. AMOUNT TO DATE:	Ø
CURRENT CONTRACT AMOUNT:	$17,350.00

PAYMENT RECAP

TOTAL COMPLETED:	100%
LESS 10% RETAINAGE:	Ø
AMOUNT DUE TO DATE:	$17,350.00
LESS PREVIOUS PAYMENTS:	Ø.00
AMOUNT DUE THIS APPLICATION:	$17,350.00

The undersigned Contractor hereby swears under penalty that (1) all previous progress payments received from the Owner on account of work performed under the contract referred to above have been applied by the undersigned to discharge in full all obligations of the undersigned incurred in connection with work covered by prior Applications for Payment under said contract, being Applications for Payment numbered 1 through ___ inclusive; and (2) title to all work, materials and equipment covered by this Application for Payment, whether incorporated in the Project or not, will pass to the Owner upon receipt of such payment by the Contractor, free and clear of all liens, claims security interests and encumbrances.

Dated DECEMBER 22, 1994

INFRASTRUCTURE RESTORATION, INC.
(Contractor)

CHRIS OLSON / VICE-PRESIDENT
(Name and Title)

COUNTY OF Pinellas)
STATE OF Florida)

Before me on this 22 day of December, 1994 personally appeared Chris Olson known to me, who being duly sworn, did depose and say that his is the VICE-president of the contractor above mentioned; that he executed the above Application for Payment on behalf of said Contractor; and that all of the statements contained therein are true, correct and complete.

My commission expires: MARCH 9, 1997

Anne McKinnon
Notary Public

ANNE MCKINNON
MY COMMISSION # CC 263716
EXPIRES: March 9, 1997
Bonded Thru Notary Public Underwriters

REVIEW AND APPROVALS

Consulting Engineer		DATE
Division Engineer	Gary Key	1/13/95 DATE
	Held for restoration work	
Division Manager	[signature]	1/16/95 DATE
Regional Manager	[signature]	1-18-95 DATE
Gen. Off. Engineer		DATE
Accounting		DATE
Senior Vice Pres.		DATE

FINAL

CW 20 P1

Williams TESTING
4686 ASHTON ROAD
SARASOTA, FL 34233

Schedule of Prices
TV, Clean, and Grout Sections of the Wastewater
Collection System in North Fort Myers, Florida

1. TV, videotape, and inspect 10,105 lf of 8" VCP gravity sewer lines.

Unit	Unit Price	Total Cost
lf	$ 0 [illegible]	$ [illegible]

2. TV, videotape, and inspect 245 lf of 10" VCP gravity sewer lines.

Unit	Unit Price	Total Cost
lf	$ 0.40	$ 93.00

3. Clean 10,105 lf of 8" VCP gravity sewer lines.

Unit	Unit Price	Total Cost
lf	$ 0.50	$ 5052.50

4. Clean 245 lf of 10" VCP gravity sewer lines.

Unit	Unit Price	Total Cost
lf	$ 0.55	$ 134.75

NOTES:

A: Individual prices are to include all labor, mobilization, supervision, equipment, materials, by-pass pumping (when required), post video, taxes, traffic control, bonds, permits, and any other miscellaneous expenses.

B: All active leaks showing flow during TV inspection shall be sealed at the time of viewing. NOT POSSIBLE. THIS SENTENCE IS IN CONFLICT WITH THE SPECS. THE CONTRACT SPECIFIES TO CLEAN THEN TV AND THEN GROUT. WHEN GROUTING THE CAMERA IS GOING BACKWARDS (1) WITH THE PACKER SEATED DIRECTLY IN FRONT IT IS HARD TO VIEW PROPERLY CRACKS LEAKS ETC... (2) IT IS EXTREMELY RISKY + DANGEROUS TO GROUT WITHOUT VIEWING THE WHOLE LINE FIRST. (COULD BACK INTO A COLLAPSED PIPE OR A TAP).

C: All stained joints shall be pressure tested and grouted if necessary. AT THE UNIT PRICE TO GROUT PER JOINT.

D: Payment for services supplied will be based on actual work completed and will not exceed the total cost or individual unit prices unless authorized by Owner.

E: Contractor shall perform all work in accordance with contract specifications.

F: Owner reserves the right to remove any bid item for determination of the final contract work.

G: Contractor shall be held responsible if grouting pressures damage the gravity lines beyond existing conditions. CONTRACTOR SHALL THEREFORE HAVE THE OPTION NOT TO ATTEMPT TO GROUT CRACKS WHICH MAY RESULT IN (IN THE CONTRACTORS OPINION) DAMAGE TO THE PIPE.

TOTAL BID PRICE FOR THE ENTIRE PROJECT: $ 9,327.25

PRICE IN WORDS: NINE THOUSAND THREE HUNDRED TWENTY SEVEN DOLLARS & 25/100

FINAL

CONSTRUCTION PAY REQUEST
FINAL PAYMENT APPROVAL FORM

02/09/95

W.O./PROJ. NO: 10-94-35

CONWARD NO:

CONTRACTOR: WILLIAMS TESTING

ADDRESS: 4686 ASHTON ROAD

SARASOTA, FLORIDA 34233

PROJECT: TV, CLEAN & GROUT WASTEWATER COLLECTION SYSTEM - NFM

DATE OF CONTRACT: 11/26/94 CONTRACT TIME (DAYS): 50

CONTRACT AMOUNT: $9,327.25

C.O. AMOUNT: $2,496.35 = $11,823.60

RELEASE OF LIEN SATISFIED: YES X NO

FINAL RECAP

Contract Amt:	$11,823.60
Paid to Date:	10,641.24
Final Billing (without retainage)	0.00
Retainage Released:	1,182.36
Final Payment:	$1,182.36

REVIEW AND APPROVALS

Gen. Off. Engineer _____ Date

Vice Pres., Eng & Opns Michael Curt 2/9/95 Date

Comptroller J. Robinson 2/9/95 Date

Exec. Vice President [illegible] 2/10/95 Date

Rev. 1/95 const\LEE\TV

CW 20 pg 3

CHANGE ORDER

No. 1

Dated 2/8/95

OWNER's Project No. 10-94-35 ENGINEER's Project No. _____

Project TV, CLEAN AND GROUT WASTEWATER COLLECTION SYSTEM IN NORTH FORT MYERS

CONTRACTOR Williams Testing

Contract for Above-referenced Project Contract Date November 26, 1994

To Williams Testing
Contractor

You are directed to make the changes noted below in the subject Contract:

FLORIDA CITIES WATER COMPANY

BY Michael Acosta
Michael Acosta, Vice President, Eng. & Opns.

DATED 2/9/95

Nature of the Changes

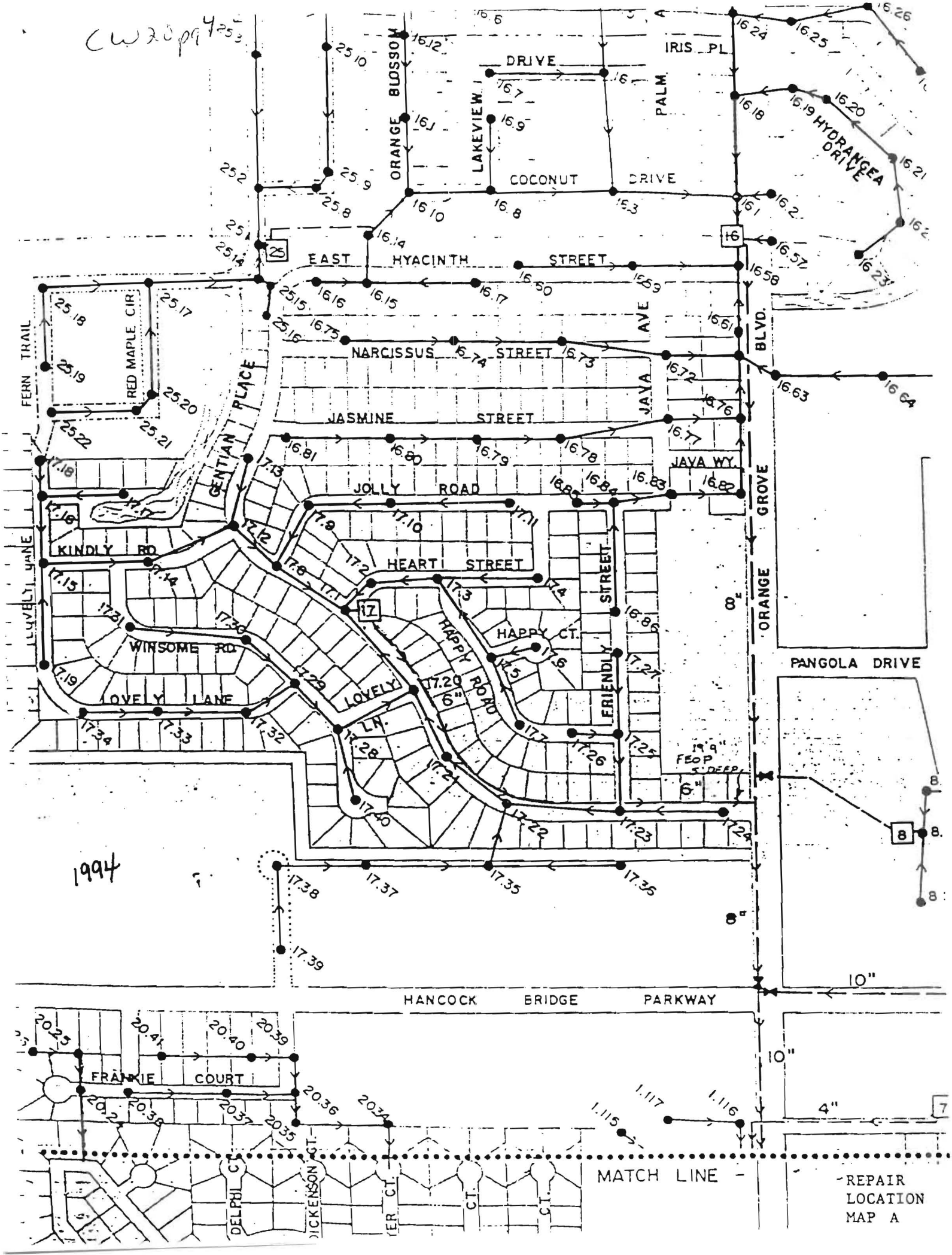
Additional Work:	
TV, Videotape and inspect 351 LF of 10" gravity line	$ 140.40
Clean 351 LF of 10" gravity line	193.05
Seal 87 visible cracked or leaking VCP joints @ $35.00 EA	3,045.00
Seal 2 LF longitudinal cracks in VCP gravity line @ $40 LF	80.00
Deletions:	
TV, Videotape and inspect 1,069 LF of 8" gravity line	(427.60)
Clean 1,069 LF of 8" gravity line	(534.50)
Total	$2,496.35

Enclosures:

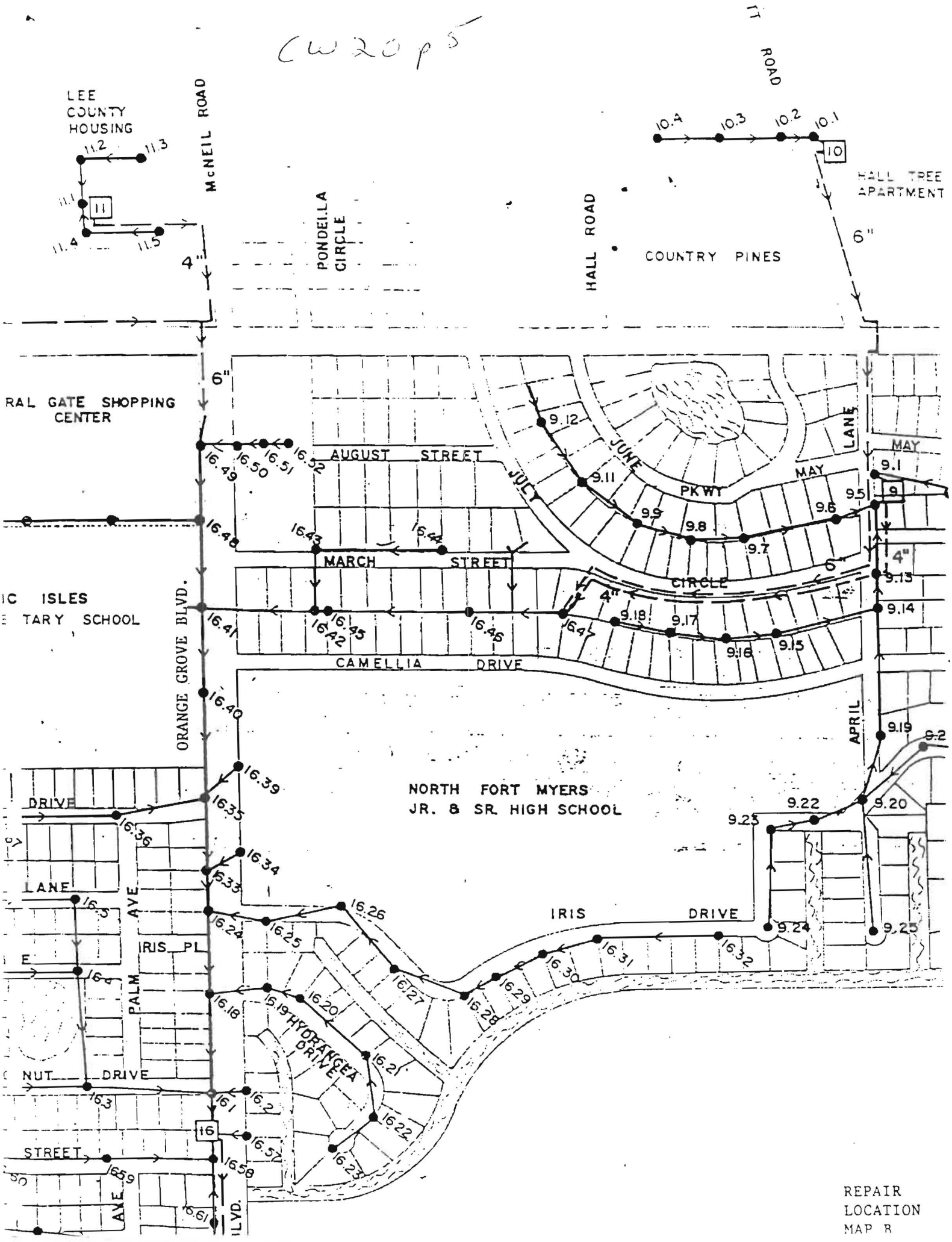
These changes result in the following adjustment of Contract Price and Contract Time:

Contract Price Prior to This Change Order	$ 9,327.25
Net (~~Increase~~) Resulting from this Change Order	$ 2,496.35
Current Contract Price Including This Change Order	$ 11,823.60

NSPE-ACEC 1910-8-B(1978 Edition)


CW20pg4
ORANGE BLOSSOM
LAKEVIEW
DRIVE
IRIS PL
PALM
HYDRANGEA DRIVE
COCONUT
DRIVE
EAST HYACINTH STREET
NARCISSUS STREET
JASMINE STREET
JOLLY ROAD
HEART STREET
HAPPY CT.
HAPPY ROAD
FRIENDLY STREET
JAVA WY.
JAVA BLVD.
ORANGE GROVE
PANGOLA DRIVE
FERN TRAIL
RED MAPLE CIR.
GENTIAN PLACE
KINDLY RD.
LOVELY LANE
WINSOME RD.
LOVELY LN.
FRANKIE COURT
DELPHI CT.
DICKENSON CT.
HANCOCK BRIDGE PARKWAY
FEOP 5' DEEP
8"
10"
6"
4"
1994
MATCH LINE
REPAIR LOCATION MAP A

CW20p5



REPAIR LOCATION MAP B

REV 8/91

UTILITY CONSTRUCTION PAY REQUEST

PROJECT: TV, Clean and Grout sections of the wastewater collection systems in North Fort Myers, South Fort Myers and Golden Gate, Florida

CONTRACTOR: Ridin Pipeline Services, Inc.

ADDRESS: P.O. Box 13627 Tampa, Fl. 33681

RECEIVED
FEB 27 1996
GENERAL OFFICE

PAYMENT NO: 5

DATE: 2/13/96

BILLING PERIOD: 2/96

WORK ORDER NO:

DATE OF CONTRACT: 7/31/95

CONTRACT TIME: 150 (DAYS)

The undersigned Contractor hereby swears under penalty that (1) all previous progress payments received from the Owner on account of work performed under the contract referred to above have been applied by the undersigned to discharge in full all obligations of the undersigned incurred in connection with work covered by prior Applications for Payment under said contract, being Applications for Payment numbered 1 through __ inclusive; and (2) title to all work, materials and equipment covered by this Application for Payment, whether incorporated in the Project or not, will pass to the Owner upon receipt of such payment by the Contractor, free and clear of all liens, claims security interests and encumbrances.

Dated 2/13/96

Ridin Pipeline Services, Inc
(Contractor)

Delynda Cooper, Pres
(Name and Title) Delynda Cooper, President

COUNTY OF Hillsborough)
STATE OF Florida)

Before me on this 13 day of February, 1996 personally appeared Delynda Cooper known to me, who being duly sworn, did depose and say that his is the President of the contractor above mentioned; that he executed the above Application for Payment on behalf of said Contractor; and that all of the statements contained therein are true, correct and complete.

My commission expires:

NOTARY PUBLIC STATE OF FLORIDA

CHERRY A PUTNAM
My Commission CC316286
Expires Apr. 30, 1998
Bonded by HAI
800-422-1566

Notary Public

CONTRACT RECAP

CONTRACT AMOUNT:
C.O. AMOUNT TO DATE:
CURRENT CONTRACT AMOUNT:

PAYMENT RECAP

TOTAL COMPLETED:	17979.00
LESS 10% RETAINAGE:	0
AMOUNT DUE TO DATE:	17979.00
LESS PREVIOUS PAYMENTS:	1716.90
AMOUNT DUE THIS APPLICATION:	16262.10

REVIEW AND APPROVALS

Consulting Engineer ____ DATE

Division Engineer Gary King 2/16/96 DATE

Division Manager 2/22/96 2-20-96 DATE

Regional Manager 2-23-96 DATE

Gen. Off. Engineer ____ DATE

Accounting ____ DATE

Vice President ____ DATE

CW 21 p2

SCHEDULE OF PRICES
FOR THE
TV, Clean, and Grout Section of the
Wastewater Collection Systems in North Fort Myers,
South Fort Myers, and Golden Gate, Florida

NORTH FORT MYERS

1. Clean 9840 lf of 8" VCP wastewater collection lines per FCWC specifications.

Units	Unit Price	Total Cost
9840 lf	$ .40	$ 3936.00

2. TV, videotape, and inspect 9840 lf of 8" VCP wastewater collection lines per FCWC specifications.

Units	Unit Price	Total Cost
9840 lf	$ .40	$ 3936.00

TOTAL BID PRICE FOR NORTH FORT MYERS $ 7872.00

PRICE IN WORDS _____

SOUTH FORT MYERS

3. Clean 12,250 lf of 8" VCP wastewater collection lines per FCWC specifications.

Units	Unit Price	Total Cost
12,250 lf	$ .40	$ 4900.00

4. TV, videotape, and inspect 12,250 lf of 8" VCP wastewater collection lines per FCWC specifications.

Units	Unit Price	Total Cost
12,250 lf	$ .40	$ 4900.00

TOTAL BID PRICE FOR SOUTH FORT MYERS $ 9800.00

PRICE IN WORDS Nine Thousand Eight Hundred 00/100

CW21 p 3

No. 1

CHANGE ORDER

Dated 12/29/95

OWNER's Project No. 10-95-22 ENGINEER's Project No.

Project TV, Clean & Grout Wastewater Collection Systems in North and South Fort Myers and Golden Gate Divisions

CONTRACTOR Ridin Pipeline Services, Inc.

Contract for Above-referenced Project Contract Date

To Ridin Pipeline Services, Inc.
Contractor

You are directed to make the changes noted below in the subject Contract:

FLORIDA CITIES WATER COMPANY

BY Michael Acosta
Michael Acosta, Vice President, Eng. & Opns.

DATED 1/3/96

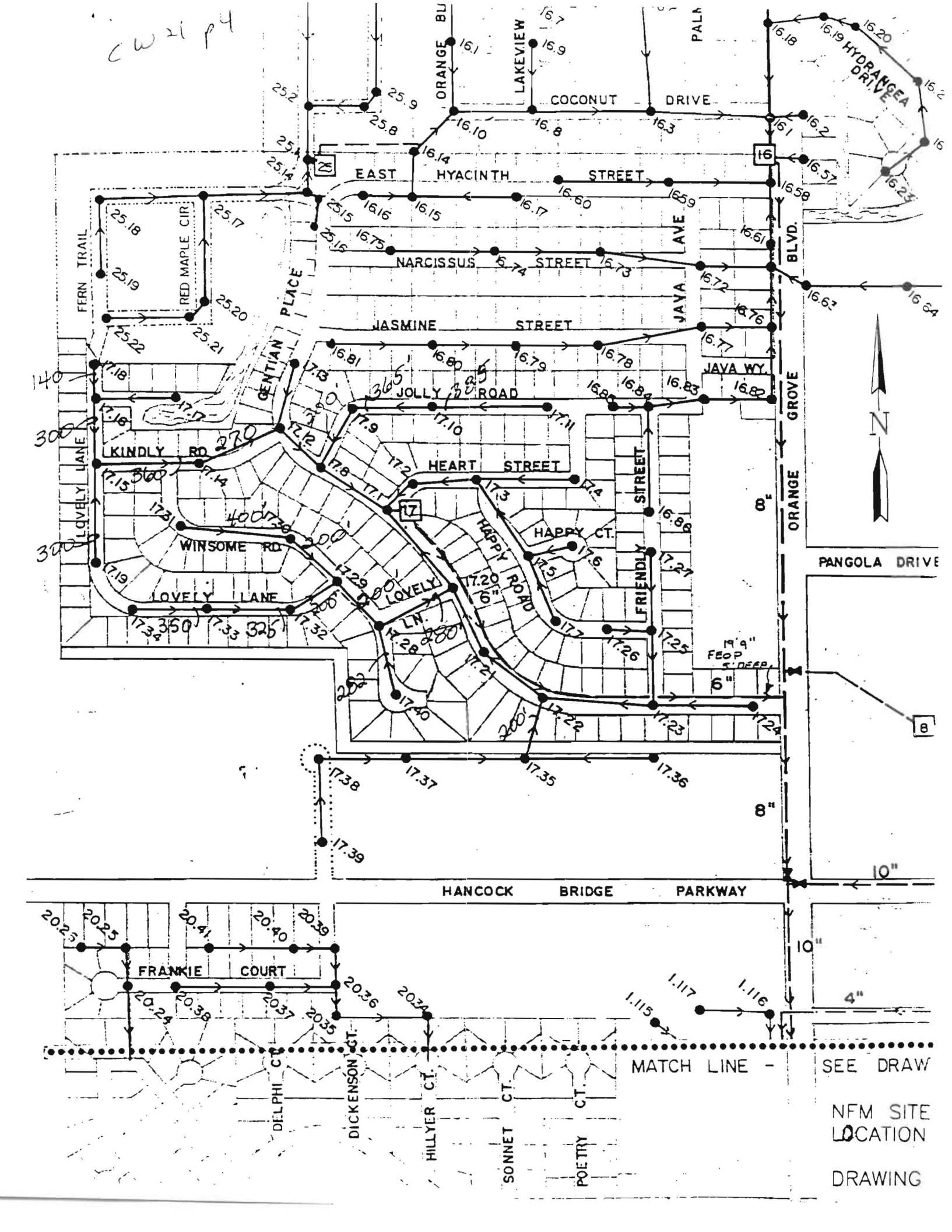
Nature of the Changes

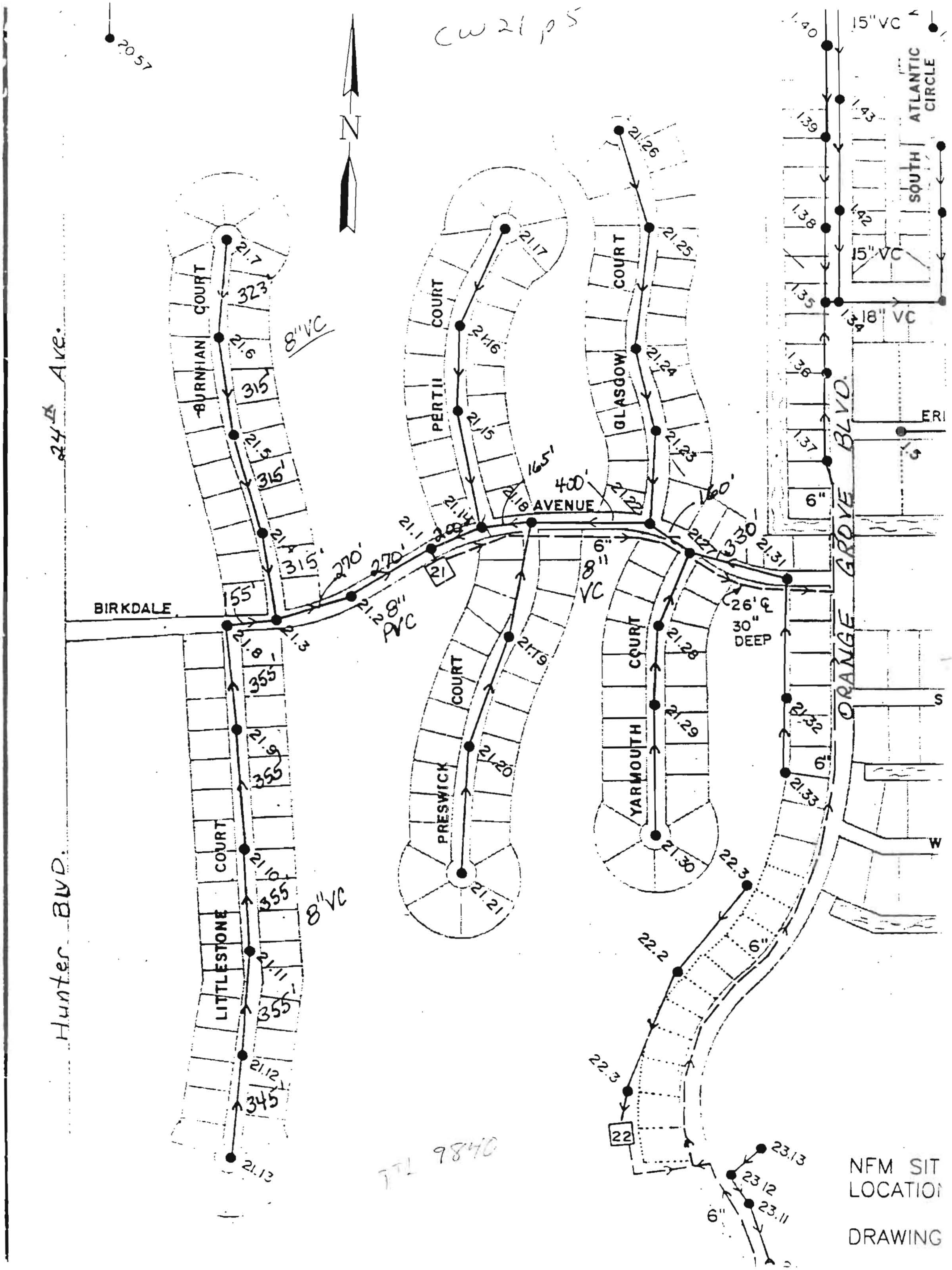
Deletions	
TV, clean, videotape & inspect 135 LF of wastewater collection system in North Fort Myers Division	$(108.00)
Additions	
TV, clean, videotape & inspect 1,079 LF of wastewater collection system in South Fort Myers Division	863.20
TV, clean, videotape & inspect 22 LF of wastewater collection system in Golden Gate Division	17.60
Grout 229 joints @ $45/joint in NFM Division	10,305.00
Grout 158 joints @ $45/joint in SFM Division	7,110.00
Seal 3 LF of longitudinal cracks @ $75/ft. in SFM Division	225.00
Grout 255 joints @ $45/joint in Golden Gate Division	11,475.00
Seal 5 LF of longitudinal cracks @ $75/ft. in Golden Gate Div.	375.00
Seal cracks in 2 service laterals @ $100/lateral in SFM Div.	200.00
Seal cracks in 12 service laterals @ $100/lateral in GG Div.	1,200.00
Net Change Order	$ 31,662.80

Enclosures:

NSPE-ACEC 1910-8-B(1978 Edition)

NFM
$10,197


CW21 P4
ORANGE BL
LAKEVIEW
COCONUT DRIVE
HYDRANGEA DRIVE
EAST HYACINTH STREET
NARCISSUS STREET
JASMINE STREET
JOLLY ROAD
HEART STREET
HAPPY CT.
HAPPY ROAD
KINDLY RD.
WINSOME RD.
LOVELY LANE
LOVELY LN.
FRIENDLY STREET
ORANGE GROVE BLVD.
JAVA LANE
JAVA WY.
GENTIAN PLACE
FERN TRAIL
RED MAPLE CIR.
PANGOLA DRIVE
HANCOCK BRIDGE PARKWAY
FRANKIE COURT
DELPHI CT.
DICKENSON CT.
HILLYER CT.
SONNET CT.
POETRY
19'9" FEOP 5' DEEP
8"
6"
10"
4"
MATCH LINE - SEE DRAW
NFM SITE LOCATION DRAWING
N



CW 21 p5
N
24th Ave.
Hunter Blvd.
BIRKDALE
AVENUE
BURNIAN COURT
PERTH COURT
GLASGOW COURT
LITTLESTONE COURT
PRESWICK COURT
YARMOUTH COURT
ORANGE GROVE BLVD.
SOUTH ATLANTIC CIRCLE
8" VC
8" PVC
6"
15" VC
18" VC
26' ℄
30" DEEP
21
22
NFM SIT
LOCATIO
DRAWING
TTL 9840