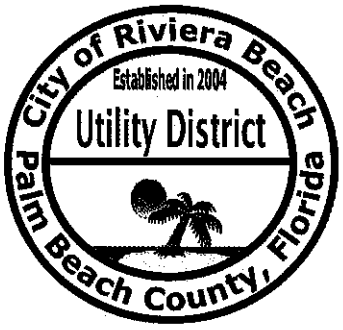
City of Riviera Beach
Established in 2004
Utility District
Palm Beach County, Florida

Item No. 3

CITY OF RIVIERA BEACH DISTRICT BOARD
AGENDA ITEM SUMMARY

MEETING DATE: AUGUST 17, 2011 AGENDA ITEM SUMMARY NO. J11-072-3

[ ] AWARDS / PRESENTATIONS / PETITIONS	[ ] REGULAR
[ ] CONSENT	[X] RESOLUTION
[ ] PUBLIC HEARING	[X] DISCUSSION & DELIBERATION
[ ] ORDINANCE ON SECOND READING	[ ] BOARD APPOINTMENT
[ ] ORDINANCE ON FIRST HEARING	[ ] WORKSHOP

TITLE / SUBJECT: BARNES FERLAND and ASSOCIATES, Inc. – WORK AUTHORIZATION #13 TO PROVIDE ENGINEERING SERVICES – SOUTH FLORIDA WATER MANAGEMENT DISTRICT CONSUMPTIVE USE PERMIT RENEWAL (PART 3).

RECOMMENDATION / MOTION: Staff recommends that the Utility District Board approve Work Authorization #13 from BFA, Inc., to provide additional professional engineering services as outlined in the attached scope of services, in order to respond to Request for Additional Information (RAI) #2, dated March 10, 2011, for the required Consumptive Use Permit from the South Florida Water Management District, for a fee of $51,942.46.

DEPARTMENTAL APPROVAL REVIEW & DATE

♦City Manager PAW for RJ 8/11/11	Library
♦District Attorney PHR 8/10/11	Marina
♦District Clerk	Police
Community Development	Public Works
♦District Finance Director KA 8/10/11	Purchasing
Fire	Recreation & Parks
Human Resources	♦Utility Special District LCA
Information Systems	Other

APPROVED BY UTILITY DISTRICT: Tonia C. Aurigemma DATE: JUL 27 2011

Originator: UTILITY SPECIAL DISTRICT LCA	Costs: $51,942.46	District Board Actions: [ ] Approved [ ] Approved w/conditions [ ] Denied [ ] Tabled to [ ] Referred to Staff
User: UTILITY SPECIAL DISTRICT LCA	Current FY: 2010-2011 Funding Source:	
Advertised: Date: Paper: [X] Not Required Affected Parties [ ]Notified [X]Not Required	[ ] Capital Improvement [X] Operating [ ] Other Budget Account Number: 411-1417-536-0-3106	Attachments: 1. Resolution 2. Proposal from BFA dated July 20, 2011

BACKGROUND/SUMMARY: The District is in need of a renewal of its Consumptive Use Permit in order to continue operation of the Water Treatment Plant. The renewal of the permit requires engineering expertise as outlined in the attached scope of services. These services include; data collection and review, development of a wellfield operation plan, an update of the 2003 groundwater modeling, impact analysis and reporting, wetland evaluation with a monitoring/mitigation plan, salt water intrusion monitoring plan, SFWMD request for additional

information response preparation, meetings and field support services that are required by the South Florida Water Management District.

The Utility District received Request for Additional Information (RAI) #2, dated March 10, 2011, which outlined updated analyses required to satisfy the SFWMD's concerns with the permit application.

These efforts will combine with BFA's previous Work Authorizations (#1, approved in April 2010 & #5, approved in August 2010), to fully address all issues associated with the Consumptive Use Permit approval through the SFWMD. The intent of these efforts is to obtain our 20-year water use permit in order to continue operation of the Utility District's Water Treatment Plant.

FISCAL IMPACT ANALYSIS

A. Five Year Summary of Fiscal Impact:

Fiscal Years	2011	2012	2013	2014	2015
Capital Expenditures	$ 51,942.46	0	0	0	0
Operating Costs	0	0	0	0	0
External Revenues	0	0	0	0	0
Program Income (City)	0	0	0	0	0
In-Kind Match (City)	0	0	0	0	0
NET FISCAL IMPACT	$ 51,942.46	0	0	0	0
NO. ADDITIONAL FTE POSITIONS (Cumulative)	0				

Is Item Included In Current Budget? Yes X No

Budget Account No.: Fund 411 Dept/Division 1417 Org. 536-0 Object 3106

Reporting Category: OPERATING – ENGINEERING SERVICES

B. Recommended Sources of Funds/Summary of Fiscal Impact:

C. District Fiscal Review: Louis C. Aurigemma

Mr. Louis C. Aurigemma, P.E., Executive Director

III. REVIEW COMMENTS

A. Finance Department and/or Purchasing/Intergovernmental Relations/Grant Comments:

Finance Department

Purchasing and Grants

B. Other Department Review:

RESOLUTION NO. _____

A RESOLUTION OF THE BOARD OF DIRECTORS OF THE CITY OF RIVIERA BEACH UTILITY SPECIAL DISTRICT, PALM BEACH COUNTY, FLORIDA, APPROVING THE PROPOSAL FROM BFA, Inc., IN THE AMOUNT OF $51,942.46 TO PROVIDE ADDITIONAL PROFESSIONAL ENGINEERING SERVICES AS OUTLINED IN THE ATTACHED SCOPE OF SERVICES IN RESPONSE TO THE CUP REQUEST FOR ADDITIONAL INFORMATION (RAI) #2; AND AUTHORIZING THE INTERIM DISTRICT FINANCE DIRECTOR TO PAY THIS AMOUNT FROM ACCOUNT NO. 411-1417-536-0-3106; AND PROVIDING AN EFFECTIVE DATE.

WHEREAS, the consulting engineering firm of BFA, Inc, has prepared and submitted to the Utility Special District, a proposal for additional professional engineering services to respond to the Request for Additional Information (RAI) #2 required for the Consumptive Use Permit from the South Florida Water Management District (SFWMD), for a fee of $51,942.46; and

WHEREAS, the primary purpose of this project is to renew the District's Consumptive Use Permit (CUP) in order to continue operations of the Water Treatment Plant.

NOW, THEREFORE, BE IT RESOLVED BY THE UTILITY SPECIAL DISTRICT OF THE CITY OF RIVIERA BEACH, PALM BEACH COUNTY, FLORIDA, AS FOLLOWS:

SECTION 1: That the Utility Special District Board approves the proposal from BFA, Inc., in the amount of $51,942.46, to provide additional professional engineering responding to a Request for Additional Information (RAI) #2 for the CUP from SFWMD.

SECTION 2: That the Interim District Finance Director is authorized to make payment for same under Account Number 411-1417-536-0-3106 in the amount of $51,942.46.

SECTION 3: This Resolution shall take effect upon its passage and approval by the Utility Special District Board.

PASSED AND APPROVED this 17th day of August, 2011.

UTILITY SPECIAL DISTRICT

APPROVED:

JUDY L. DAVIS
CHAIRPERSON

ATTEST:

CARRIE E. WARD
MASTER MUNICIPAL CLERK
UTILITY SPECIAL DISTRICT CLERK

BILLIE E. BROOKS
VICE CHAIRPERSON

CEDRICK A. THOMAS
BOARD MEMBER

DAWN S. PARDO
BOARD MEMBER

SHELBY L. LOWE
BOARD MEMBER

MOTIONED BY: _____

SECONDED BY: _____

J. DAVIS _____

B. BROOKS _____

C. THOMAS _____

D. PARDO _____

S. LOWE _____

REVIEWED AS TO LEGAL SUFFICIENCY

PAMALA HANNA RYAN, CITY ATTORNEY

DATE: 8/10/11

TO: Louis C. Aurigemma, P.E., Executive Director, City of Riviera Beach Utility District
Mario E. Loaiza, P.E., Sr. Engineer, City of Riviera Beach Utility District

FROM: Willie E. Thomas, P.E., BFA Environmental
Patrick A. Barnes., P.G., BFA Environmental

DATE: July 20, 2011

SUBJECT: Revised: Barnes, Ferland and Associates, Inc. (BFA) proposal for hydrogeological and engineering services for preparing a response to the SFWMD's March 10, 2011 Request for Additional Information (RAI).

Barnes, Ferland and Associates, Inc. (BFA) is pleased to submit our proposal to assist the City of Riviera Beach Utility District (RBUD) with preparing a detailed response to the SFWMD's RAI.

PROPOSED SCOPE

Task 1 – Updated Population and Demand Analysis (RAI #1 and #2) – The SFWMD is requesting revised population and demand projections based on population projections revised by the Palm Beach County Planning Department as of November, 2010 and confirmation from the RBUD that the revised projections are consistent with the RBUD planning projections. BFA proposes the following evaluations to address this comment:

1. Review and revise Section 3.0 of the BFA Technical Memorandum dated December 28, 2010 based on the revised Palm Beach County population projections;
2. Coordination with the City Planning Department to confirm consistency with RBUD projections;
3. Revise and resubmit Tables F and G.

Based on the above evaluations, BFA will prepare a response to address these planning projections

Task 2 – Submittal of the City's Draft Florida Friendly Landscape Ordinance and Water Conservation Ordinance (RAI #3 and #5) – The SFWMD is requesting submittal of the draft Florida Friendly Landscape Ordinance for staff review and a time frame for adoption of the ordinance, and submittal of a certified copy of the Water Conservation Ordinance. BFA proposes the following to address this comment:

1. Coordination with Tom Mullin of RSB for submittal of the draft ordinance and the certified Water Conservation Ordinance.

BFA will prepare a response to address these RAI questions, based on information from and coordination with RSB.

Task 3 – Proposed Water Conservation Public Education Program (RAI #4) – The SFWMD is requesting that the RBUD provide a list of those Conservation Education Program items that will be used in the program and a time frame for implementation. BFA proposes the following to address this comment:

1. Coordination with Tom Mullin of RSB and the RBUD for finalization of the public education program and development of a time frame for implementation.

BFA will prepare a response to address the RAI question, based on information from and coordination with RSB.

Task 4 – Water Treatment Efficiency, Metered Flows and Meter Calibration (RAI #6, #7 and #8) – The SFWMD is requesting an explanation regarding the decline in treatment efficiency from 2005 to 2009 and the metering discrepancy between metered raw water flow versus metered treated water flow. Submittal of the latest meter calibrations to the SFWMD for review. BFA proposes the following evaluations to address these comments:

1. Provide an explanation of the metered flow discrepancies and the corrective measures implemented by the RBUD;
2. Coordination with the RBUD for review and submittal of the well meter calibration reports.

Based on the above evaluations, BFA will prepare a response to address these RAI questions.

Task 5 – Well 2004 Chloride Analysis (RAI #9) – Well 2004 was constructed during 2004 and produces groundwater with elevated chloride levels (+-270 mg/L). The objective of this RAI question is to determine the source of higher chloride levels in the vicinity of Well 2004 and the potential for saline water intrusion at the Eastern Well Field vicinity. BFA proposes to conduct a desktop analysis consisting of the following evaluations to locate possible sources of the elevated chlorides and to assess the magnitude of potential impacts to RBUD's raw water quality:

1. Review existing hydrogeologic related reports (USGS/FGS/SFWMD/Consultant) with focus on chloride data/isochlor maps;
2. Review Well 2004 records/data obtained during drilling with focus on chloride data;
3. Graph historical chloride/pumpage/rainfall data from well 2004 and identify any trends;
4. Research the C-17 canal for locations of any structures/salinity barriers and existing chloride data and tidal influences;
5. Review land use in vicinity of Well 2004 (site visit) and perform an ASTM search for contaminated sites (using First Search database software) for a one mile radius at Well 2004.

Based on the results of the desktop analysis, BFA will provide recommendations to the RBUD for additional testing if necessary and prepare a response to adequately address the RAI question for issuance of the permit.

Task 6 – Saline Water Monitoring Plan (RAI #10) – The RBUD's eastern supply wells are less than one mile from the coast and lateral saltwater intrusion is a concern. The objective of this RAI question is to evaluate existing chloride data and prepare a Saline Water Monitoring Plan for long term chloride monitoring in the vicinity of the Eastern Well field. BFA proposes the following evaluations to address this concern:

1. Review existing eastern RBUD supply well and monitor well records/data with focus on chloride data and depths;
2. Review existing hydrogeologic related reports (USGS/FGS/SFWMD/Consultant) with focus on chloride data/isochlor maps;
3. Perform an inventory and identify any existing monitor wells that may be used for monitoring chloride levels.

Based on the above evaluations, BFA will prepare a Saline Water Monitoring Plan to address the RAI question objectives. This may include identifying locations for additional saline monitor wells (new well(s) as suggested by SFWMD).

Task 7 – Evaluate Drawdown Changes at Well Nos. 14, A and B (RAI # 11) – The RBUD is proposing to shift some withdrawals from their western wells to their eastern well field area by adding two new wells (A & B) and increasing pumpage from existing Well No. 14. The objective of this RAI question is to evaluate if the increased pumpage/drawdown from these wells will increase the potential for saline water intrusion or migration of contaminants from two sites that are contaminated w/chlorinated solvents. BFA proposes the following evaluations to address this concern:

1. Visit FDEP and review available/pertinent files and meet w/compliance staff to determine the current plume migration conditions of the contaminated sites. Obtain available data and reports related to hydrogeology and water quality monitoring results.
2. Using the existing MODFLOW model, run pumping scenarios and prepare two Figures that compare drawdown contours/gradients at the plume locations as discussed and budgeted in Task 8 (RAI #11).
3. Perform velocity vector analysis as discussed and budgeted in Task 8 (RAI #16).

Based on the above evaluations, BFA will prepare a response to address the RAI question objectives.

Task 8 – Groundwater Modeling (RAI #11, 12, 13, 14, 15, 16, 17 and 18)

BFA will rerun/adjust the existing MODFLOW model to address the following RAI questions. This will involve preparing approximately 30 figures.

RAI#11 - Using the existing MODFLOW model, run pumping scenarios and prepare two Figures that compare drawdown contours/gradients at the plume locations as follows:

- Base condition drawdown contours (Average 7.95 mgd) also with proposed 2031 drawdown contours (Average 9.26 mgd) *including* proposed Wells A & B and Well 14 increase.

- Base condition drawdown contours (Average 7.95 mgd) also with proposed 2031 drawdown contours (Average 9.26 mgd) *without* proposed Wells A & B and Well 14 increase.

RAI#12 – Application of recharge to Century Village, Vista Center and Riverwalk were updated in the previously submitted model, based on the City of West Palm Beach Staff Report dated in 2006. During our permit application review meeting with SFWMD, it was concerned that these recharge sources cannot be substantiated. Therefore, the recharge at these sites will be removed from the current model which should have minimal effects due to the proximity.

RAI#13 – The District's concern is that there could be additional induced seepage from the M Canal because of the proposed pumping condition over the base condition. The objective of this RAI question is to perform flux analysis on M Canal for both conditions to evaluate the potential for additional flow seepage.

RAI#14 – The objective of this RAI is to provide alternate water supply scenarios if the results of the flux analysis show more than 0.1% of additional seepage from the M Canal. If necessary, pumpage may be shifted/reduced from Wells 851 and 852 to wells in the Eastern Well Field in order to reduce drawdown/seepage at M Canal.

RAI#15 – A table of withdrawal rates simulated in the model for each RBUD well for each stress period in the base condition and proposed condition will be provided.

RAI#16 – The District's concern is that the elevated conductivity and dissolved solids in a few of the western wells may be related to landfill leachate migration. In addition, concerns are also raised for a few of the eastern wells that are close to contaminated sites. Velocity vector analyses in all five layers of the current model will be performed to evaluate the potential for leachate migration at the RBUD's Western Wellfield and contaminants migration at the Eastern Wellfield. This method assumes that offsite landfill leachate plume migration would follow the direction of flow path/vectors.

RAI#17 – An explanation regarding how the conductance values for the river package of Winding Waters Natural Area recharge feature will be provided.

RAI#18 – The Palm Beach County Winding Waters Natural Area project reports, plans and permit will be further researched to determine if sufficient water will be available to maintain the surface water level at the control elevation (13.3 feet, NGVD). BFA will evaluate recent dry season water levels data for the Winding Waters Natural Area, provided by Palm Beach County, for comparison purposes.

Based on the above evaluations, BFA will prepare a response to address each of these RAI questions.

Task 9 – Evaluate Possible Landfill Leachate Migration (RAI #16) – The RBUD's western supply wells are located approximately 3,000 feet east of the Palm Beach County Resource Recovery Facility landfills and less than one mile south from the Dyer Blvd landfill and leachate migration is a concern due to elevated TDS and specific conductivity concentrations. The objective of this RAI question is to evaluate existing water quality data, and existing landfill and hydrogeologic information to determine if landfill leachate has potentially migrated to the RBUD's western wells (Nos. 922, 861, 921, 862, 871 & 805). BFA proposes the following evaluations to address this concern:

1. Visit FDEP and review available/pertinent landfill files and meet w/compliance staff to determine if leachate migration is known to occur. Obtain pertinent data and reports related to hydrogeology and leachate results.
2. Review RBUD's western well records/data with focus on historical water quality trends and construction details;
3. Perform velocity vector analysis as discussed and budgeted in Task 8 (RAI #16).

Based on the results of the desktop analysis, BFA will provide recommendations to the RBUD for additional testing if necessary and prepare a response to adequately address the RAI question for issuance of the permit.

Task 10 – Wetlands Assessment (RAI # 19, #20, #21 and #22) – Based on RBUD and BFA discussions with the SFWMD, the SFWMD has decided to forego all actions regarding "Past Harm" of wetlands that may have been affected by the RBUD's well field withdrawals and to forego the requirements stipulated in RAI items 19, 20, 21 and 22 regarding "Future Harm" relative to wetlands and surface waters that presently exist within the RBUD's 0.1 ft cone of influence as determined by existing and proposed well field withdrawals. SFWMD's evaluation and review of the previously submitted wetlands assessment provided by BFA has been determined to be sufficient baseline information for determination of "Future Harm" relative to wetlands and surface waters located within the RBUD's 1.0 ft cone of influence relative to existing and proposed well field withdrawals.

Task 11 – Project Meetings – BFA representatives will attend meetings and coordinate with the RBUD, SFWMD and other members of the project team as required for finalizing responses to the RAI items, including:

1. Preparation for and attendance at meetings with SFWMD staff.
2. Preparation for and attendance at meetings with RBUD representatives.

ASSUMPTIONS

The scope and fee for the services described above was developed based on the following assumptions:

1. Tasks 2 and 3 assume coordination with and participation from RSB for finalization of Florida Friendly Landscape Ordinance and the Public Education Program along with input from the RBUD.

2. Task 4 assumes the RBUD will provide recent meter calibration reports for the existing water supply wells.
3. Tasks 5 and 9, based on recent discussions with the SFWMD it is assumed that review of existing data and desktop analysis is sufficient to address this RAI item and that any drilling and testing if required will take the form of a permit condition.
4. Task 10 assumes that based on recent discussions with the SFWMD, no additional analysis or revisions to previously submitted information regarding wetlands assessment is required to address RAI items 19, 20, 21 and 22. It is also assumed that the proposed groundwater model revisions for future withdrawals will not negatively impact the RBUD's 1.0 ft cone of influence relative to existing and proposed well field withdrawals.

SCHEDULE

BFA proposes to complete the services described above and provide responses to the RAI items prior to the September 1, 2011 response deadline. BFA will coordinate with the RBUD and SFWMD as the work progresses and will provide proper notification if additional time is warranted.

PROPOSED FEE

BFA proposed hourly-not-to exceed fee estimate for the services described above is $51,942.46. A complete description of the proposed fee providing man-hour and fee information per task is provided in Attachment A.

We appreciate the opportunity to be of service to the RBUD and look forward to working with you on this project. If you have any questions or require further information, please do not hesitate to contact me.

Attachment A
City of Riviera Beach Utility District
March 10, 2011 RAI Response Fee Estimate

Project Task Description			Principal Hydrogeologist	Project Manager	Hydrogeologist IV	Hydrogeologist III	Engineer III	Engineer II	Engineer I	Administrative Support	Totals
			$220.22	$142.15	$124.27	$106.39	$116.22	$88.80	$77.48	$44.40	
Task 1	RAI # 1 & 2	Updated Population & Demand Analysis									
		Task 1 Hours		6				4			10
		Task 1 Costs	$0.00	$852.90	$0.00	$0.00	$0.00	$355.20	$0.00	$0.00	$1,208.10
Task 2	RAI # 3 & 5	Submittal of the City's Draft Florida Friendly Landscape Ordinance & Water Conservation Ordinance									
		Task 2 Hours		6							6
		Task 2 Costs	$0.00	$852.90	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$852.90
Task 3	RAI # 4	Proposed Water Conservation Public Education Program									
		Task 3 Hours		6							6
		Task 3 Costs	$0.00	$852.90	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$852.90
Task 4	RAI # 6, 7, & 8	Water Treatment Efficiency, Metered Flows & Meter Calibration									
		Task 4 Hours		4				4			8
		Task 4 Costs	$0.00	$568.60	$0.00	$0.00	$0.00	$355.20	$0.00	$0.00	$923.80
Task 5	RAI # 9	Well 2004 Chloride Evaluation									
		Task 5 Hours	2	5	10			24			41
		Task 5 Costs	$440.44	$710.75	$1,242.70	$0.00	$0.00	$2,131.20	$0.00	$0.00	$4,525.09
Task 6	RAI # 10	Prepare Saline Water Monitoring Plan									
		Tasks 6 Hours	4	6	20			12	8	2	52
		Task 6 Costs	$880.88	$852.90	$2,485.40	$0.00	$0.00	$1,065.60	$619.84	$88.80	$5,993.42
Task 7	RAI # 11	Evaluate Drawdown Changes at Wells A, B and 14									
		Task 7 Hours	4	6	16	16			2	2	46
		Task 7 Costs	$880.88	$852.90	$1,988.32	$1,702.24	$0.00	$0.00	$154.96	$88.80	$5,668.10
Task 8	RAI # 11, 12, 13, 14, 15, 16, 17 & 18	Groundwater Modeling									
		Task 8 Hours	12	12	8		116	2	4	4	158
		Task 8 Costs	$2,642.64	$1,705.80	$994.16	$0.00	$13,481.52	$177.60	$309.92	$177.60	$19,489.24
Task 9	RAI # 16	Evaluate Landfill Leachate Migration									
		Task 9 Hours	8	6	10			16			40
		Task 9 Costs	$1,761.76	$852.90	$1,242.70	$0.00	$0.00	$1,420.80	$0.00	$0.00	$5,278.16
Task 10	RAI # 19, 20, 21 & 22	Wetlands Assessment									
		Task 10 Hours									0
		Task 10 Costs	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
Task 10	General	Project Meetings									
		Task 11 Hours	14	18		8					40
		Task 11 Costs	$3,083.08	$2,558.70	$0.00	$851.12	$0.00	$0.00	$0.00	$0.00	$6,492.90
BFA LABOR		TOTAL BFA HOURS	44	75	64	24	116	62	14	8	407
		TOTAL BFA LABOR COST	$9,689.68	$10,661.25	$7,953.28	$2,553.36	$13,481.52	$5,505.60	$1,084.72	$355.20	$51,284.61
REIMBURSABLE EXPENSES (Direct Costs, Mileage, Copies)											$657.85
TOTAL COSTS											$51,942.46

SOUTH FLORIDA WATER MANAGEMENT DISTRICT

March 10, 2011

RECEIVED
MAR 1 5 2011
Per _____

Patrick A. Barnes, P.G.
Barnes, Ferland and Associates, Inc.
1230 Hillcrest Street
Orlando, Florida 32803

Dear Mr. Barnes;

Subject: Application No. 950724-10
Project: City of Riviera Beach Public Water Utility
County: Palm Beach

A review of the application for the above project indicates that additional information will be required in order to complete the evaluation, pursuant to Rule 40E-1.603, Florida Administrative Code (F.A.C.). Please answer all parts of the following comments:

1. The February 10, 2011 response to RAI question #3 indicated that the City of Riviera Beach Community Development and Planning Departments has recently confirmed that the Palm Beach County projections are consistent with the City planning projections. However, the population projections in the Technical Memorandum dated December 28, 2011 (sic) in Attachment B – Population and Demand Analysis details data from the earlier Palm Beach County forecast model in 2009. Those projections have since been revised by Palm Beach County Planning Department as of November, 2010.

   Please verify these numbers are accurate for projecting the future water demands and confirm coordination with the Palm Beach County Planning Department.

   If verified, please revise the appropriate population and demand analysis, as well as Tables F and G, using these new lowered projections, pursuant to Section 2.6 of the Water Use Basis of Review (BOR).

2. The per capita usage evaluation presented in Section 3.0 of the response extends through 2009. Please revise the evaluation to extend through 2010 (Section 2.6.3, BOR).

3. Please submit the City's draft Florida Friendly Landscape Ordinance for staff review and the time frame for adoption of the ordinance (Section 2.6.1(B), BOR).

4. We have reviewed the list of proposed items for the water conservation public education program. Please provide a list of those items that will be used in the program and a time frame for their implementation (Section 2.6.1(I), BOR).

5. Please provide confirmation that City Ordinance 3085 (Water Conservation Ordinance) has been formally adopted (Section 2.6.1(I), BOR).

6. Section 2.2 of the response support document states that the efficiency of the water treatment facility has decreased from 100 percent in 2005 to 85 percent in 2009. Please explain the decline in efficiency and how the City proposes to resolve the issue (Section 2.6.2(D), BOR).

7. Section 2.3.1 of the response support document states that the metered raw water flow and the metered finished (treated) water flow varied as much as 14.5 percent. Please explain the metering discrepancy and how the City proposes to resolve the issue (Section 2.6.2(D), BOR).

8. Please provide a copy of the latest meter calibrations to Marjorie Craig, Section Leader, Water Use Compliance (MS 2492) for review (Section 4.1, BOR).

9. The submittal states that the chloride concentrations in City well 2004 are approximately 270 mg/L and attribute these concentrations to the proximity of saline water in the C-17 canal. Please provide an analysis of the higher chloride levels in the vicinity of this well and provide assurances that the proposed operation of this well will not increase the potential for saline water intrusion in the vicinity of the Eastern Wellfield (Section 3.4, BOR).

10. The February 10, 2010 RAI requested an updated Saline Water Intrusion monitoring plan for the City that identifies the location for additional monitoring wells in the vicinity of the Eastern Wellfield. Please provide the requested plan (Section 4.2, BOR).

11. The submittal states that additional drawdown is expected to occur due to increased withdrawals from well 14 and proposed wells A and B in the Eastern Wellfield. Please provide the results of the comparison of the base condition and proposed withdrawals with and without the increased well 14 pumpage and proposed wells. Please provide assurances that the increased pumpage from these wells will not increase the potential for saline water intrusion or the migration of contaminants from the two Superfund sites known to exist in the vicinity of the Eastern Wellfield or other known sources of contamination in the vicinity (Sections 3.4 and 3.5, BOR).

The following questions refer to the Appendix C – Groundwater Modeling Impact Analysis. Please contact Mr. John Lockwood at (561) 682-6884 to discuss your response.

12. Please provide supporting information justifying the application of recharge to Century Village, Vista Center, and Riverwalk (Table 1 and Table 2) (Rule 40E-2.301(2)).

13. It is not clear from the contour plots shown on Figure C-25 and C-26 that the proposed withdrawal scenario will not cause an increase in the volume or change in timing of water from the M Canal as a result of the requested withdrawal scenario. As per Section 3.2.1.E(4) of the BOR, please quantify the net movement of water from the M Canal under the base condition and the proposed condition.

14. If the results of the flux analysis requested above for the potential for additional seepage from the M Canal indicate additional induced seepage will occur, please provide an alternate water supply scenario (Section 3.2.1.E(5) BOR).

15. Please provide a table of the withdrawal rates simulated in the model for each City well for each stress period in the base condition and the proposed condition. Please include model row, column and layer information for each pumped City well. The pumping distribution used in the modeling evaluation should reflect the wellfield pumping and rotation schedule submitted as Table D-3 (Rule 40E-2.301(2), Section 1.7.5.2, BOR).

16. The submittal stated that a few of the western wells have elevated conductivity and dissolved solids that may be related to landfill leachate migration. Please provide assurances, such as through the use of particle tracking or velocity vector analyses, that potential landfill leachate from the Dyer Blvd. and Palm Beach County Resource Recovery Facility landfills will not migrate into the City wells through lower layers (production zones) of the model (Section 3.5, BOR).

17. Please explain how the conductance values for the river package used to simulate the Winding Waters Natural Area recharge feature were derived (Section 1.7.5.2, BOR).

18. Please provide assurances that sufficient water will be available to maintain water at the control elevation (13.3 feet, NGVD) simulated in the model for the Winding Waters Natural Area (Rule 40E-2.301(2), Section 1.7.5.2, BOR).

The following questions refer to the Attachment E – Wetlands Assessment. Please contact Ms. Trisha Stone at (561) 682-6954 to discuss your response.

19. Pursuant to Section 3.3.5, of the BOR, if modeling indicates future harm to wetlands and other surface waters located within the area of influence of the proposed water use, please indicate how the applicant will modify the project design or water, to the extent practicable, to eliminate or reduce future harm to the wetlands and other surface waters.

20. Pursuant to Section 3.3, BOR, please provide the following information for all state jurisdictional wetlands and other surface waters, as defined in by Rule 62-340, Florida Administrative Code, that occurs within the area of influence of the existing water use for both the Western Wellfield and the Eastern Wellfield. This baseline information is necessary for identifying the existing wetlands and other surface waters areas within the areas of influence which may need to be evaluated under this application and applications for future permit modifications. Please provide a scaled map(s) and aerial photograph(s) which depict the following:

    a. The area of influence of the existing water use (Section 3.3.2(A), BOR);
    b. The locations of existing withdrawal facilities (Section 3.3.2(A), BOR);
    c. The locations of proposed withdrawal facilities (Section 3.3.2(A), BOR);
    d. The locations and boundaries of all state jurisdictional wetlands and other surface waters (Sections 3.3.1(A), 3.3.2 and 3.3.3 BOR);
    e. The categories (Category 1, 2 or 3) of all state jurisdictional wetlands and other surface waters, in accordance with Sections 3.3.1(A), 3.3.2 and 3.3.3, BOR. Additionally, for each wetland/other surface water, please provide:
        - Site specific topographical data
        - Elevations of hydrologic indicators
        - Wetland boundary elevations, and
        - Wetland bottom elevations;

    f. The locations, boundaries, and categories of all wetlands/other surface waters for which harm reduction, elimination and/or mitigation is not required, in accordance with Sections 3.3.1(B) and 3.3.2(A), BOR. These would include:
        - Isolated wetlands 0.5 acre or less in size, unless the wetlands are used by threatened or endangered species, are located in an area of critical state concern, or are hydrologically contiguous with other wetlands that would be greater than 0.5 acre when combined,
        - Wetlands and other surface waters authorized for impacts under a Environmental Resource Permit or Surface Water Permit,
        - Wetlands and other surface waters authorized for impacts under a Water Use Permit, and
        - Constructed water bodies and water management systems which are not part of a permitted wetland creation, preservation, restoration or enhancement area.

In addition to providing this information on a scaled map and recent aerial photograph, please provide supporting information for each wetland/other surface water area to indicate the reason for the area being excluded from harm reduction, elimination and/or mitigation review pursuant to the BOR.

Western Wellfield

21. Staff has reviewed the submitted *Assessment of Wetlands Near the City of Riviera Beach Western Wellfield* report, as well as aerial photographs and previously issued District Environmental Resource and Surface Water Management permits. This review indicates that some of the information included in that report regarding the wetlands/other surface waters located within the area of influence of the existing water use needs to be modified to accurately reflect the current baseline conditions. Therefore, please also modify all submitted wetlands/other surface waters baseline information as follows.

    a. Please provide a scaled map and aerial photograph of the areas of the existing influence which more accurately depicts the locations of existing state jurisdictional wetlands located at the Palm Beach County Winding Waters Natural Area in the Western Wellfield, (Sections 3.3.1(A), 3.3.2 and 3.3.3 BOR) which addresses the following issues;

        i. Submitted information inaccurately indicates the presence of five (5) state jurisdictional wetland areas located within the Palm Beach County Winding Waters Natural Area (referred to as WW-1, WW-2, WW-3, WW-4, WW-5 and WW-6 in the submitted wetlands assessment report). Environmental Resource Permit (Permit No. 50-05663-P, Application No. 080912-18) indicates that, the site only contained one (1) jurisdictional wetland area - a 1.2-acre disturbed cypress wetland located near the northeast corner of the site.

        ii. Please modify the information to include the man-made wetlands and other surface waters that have been constructed at the site, as identified in the District Environmental Resource Permit (Permit No. 50-05663-P, Application No. 080912-18), that would need to be considered under a future permit modification.

    b. Please provide a scaled map and aerial photograph which more accurately depicts the existing location of wetland W-18 in the Western Wellfield. (Sections 3.3.1(A), 3.3.2 and 3.3.3 BOR)

The aerial photograph used for Figure 1 in the submitted wetlands assessment report indicates that wetland W-18 is primarily located on a parcel which was recently filled and developed into a storm water management pond, which is associated with the permitted 45th Street roadway widening project in accordance with a District Environmental Resource Permit (Permit No. 50-08189-P, Application No. 050601-22). Therefore, it appears to staff that wetland W-18 may have been entirely or partially impacted.

c. Please provide a scaled map and aerial photograph which more accurately depicts the locations of existing wetland mitigation areas located at the West Palm Commerce Park project (Environmental Resource Permit No. 50-04316-P, Application No. 980826-5), which is located near the southwest corner of the intersection of 45th Street and Haverhill Road. (Sections 3.3.1(A), 3.3.2 and 3.3.3 BOR).

Submitted information depicting the wetlands at the West Palm Commerce Park did not include the wetland mitigation area(s) located along the south side of the property adjacent to the M-Canal.

d. Please provide a scaled map and aerial photograph which more accurately depicts the location(s) of wetland W-1, located near the southeast corner of the intersection of 45th Street and the Florida Turnpike. (Sections 3.3.1(A), 3.3.2 and 3.3.3 BOR).

Specifically, the wetland location map included in the wetlands assessment report (Figure 1) depicts to location of wetland W-1; however, the submitted drawdown modeling maps do not include this wetland.

Eastern Wellfield

22. Please provide a scaled map and aerial photograph of the existing areas of influence which more accurately depicts the locations of existing state jurisdictional wetlands located within the Eastern Wellfield. (Sections 3.3.1(A), 3.3.2 and 3.3.3 BOR).

Submitted information inaccurately indicates that there are no wetlands located in the vicinity of the Eastern Wellfield. There are four (4) wetland mitigation areas located within the area of influence of the Eastern Wellfield which are associated with the following District Environmental Resource Permits:

- Northern Palm Beach County Business Park (Permit No. 50-06082-P);

- Westlake (Permit No. 50-05227-P);
- Wal-Mart Palm Beach Gardens Store (Permit No. 50-06907-P); and
- Thousand Oaks (Permit No. 50-06031-13).

Advisory Comments:
The following comments are advisory and do not require a response from the applicant. However, this information should be considered to assist in developing a permittable project.

A1. Prior to developing a response to the above questions/comments regarding existing jurisdictional wetlands and other surface waters, District staff recommends that the applicant's environmental consultant schedule a meeting to discuss these items. Please contact Trisha Stone at (561) 682-6954 to schedule this meeting.

A2. As identified above, the submitted water use modeling is not yet complete. Since accurate and completed modeling information is required to evaluate future harm to wetlands and other surface waters, staff recommends any additional detailed wetland evaluations to determine future wetland harm be conducted after the model has been accepted.

A3. Until the applicant completes the modeling information and receives concurrency from District staff, an evaluation of the potential for future wetland harm contained in the submittal and specifically within the submitted wetlands assessment report cannot be conducted. However, please note the following comments regarding the applicant's wetlands analysis within the report:

- The wetlands assessment report indicates that the overall condition of the wetlands was ranked on a scale of 1-10 based upon hydrologic conditions at the time of the field inspection(s) and the extent of invasive exotic vegetation.

  In the event that the proposed water use will potentially result in future harm to wetlands/other surface waters, the functional loss of the wetland harm or functional gain of any proposed mitigation to offset the harm, will be done utilizing the *Uniform Mitigation Assessment Method (*UMAM*)* in accordance with Section 3.3.6.1(A), BOR, Section 4.3.2, Environmental Resource Permits BOR, and Chapter 62-345, Florida Administrative Code. Additionally, the applicant would be responsible for submitting the necessary supporting information for staff to apply the UMAM.

- The wetlands assessment report and other submitted information indicate that proposed mitigation to offset any wetland harm would entail improving the hydrology and removing invasive exotic vegetation and animals from select wetlands located within the areas of influence of the existing water use and within close proximity to the production wells.

Based upon submitted information and in accordance with Section 3.3.6.1(A), BOR, Section 4.3.2, Environmental Resource Permits BOR, and Chapter 62-345, Florida Administrative Code, performing wetland mitigation within the areas of influence of the existing water use and within close proximity to the production wells may not be a suitable location for any type of wetland mitigation activities. This issue can be discussed in more detail at the meeting with District staff as suggested above.

Electronic versions of applicable statues, rules, basis of review, permit applications, and forms may be found at the following internet address:

http://my.sfwmd.gov/permitting/

In accordance with Rule 40E-1.603, F.A.C., a response is required within 30 days of receipt of this letter requesting additional information or the application may be processed for denial if not withdrawn by the applicant. Please use the enclosed transmittal form when responding and include four (4) copies of the information. Should you have any questions regarding this application or this letter, please contact me at (800) 432-2045 ext. 6935 or (561) 682-6935. Thank you for your cooperation in this matter.

Thank you for your continuing cooperation.

Sincerely,

Stephen E. Bell

Stephen E. Bell
Staff Hydrogeologist
Water Use Regulation Division
Water Resource Regulation Department
SEB/sb encl. - Transmittal Form

c: Gloria Shuttlesworth, Lou Aurigemma, David Danford , Mario Loaiza – City of Riviera Beach
John Fumero – Rose, Sundstrom & Bentley, LLP
D. Greg Braun – Sustainable Ecosystems International