

# CONCURRENCY ANALYSIS

## TROPICAL SOUP

## MALLORY SQUARE



TREPANIER



& ASSOCIATES INC

LAND USE PLANNING  
DEVELOPMENT CONSULTANTS

The City's Comprehensive Plan Objective 9-1.5 directs the City to ensure that facilities and services needed to support development are available concurrent with the impacts of new development.

The following specific issues are outlined:

1. Potable Water & Sanitary Sewer
2. Recreation
3. Solid Waste
4. Drainage
5. Roads/Trip Generation

The following concurrency analysis reflects the proposed redevelopment of Mallory Square. The site has a floor area of 43,296 sq. ft. on a lot size of 154,988 sq. ft.

**Potable Water & Sanitary Sewer** "Planned improvements in potable water and/or wastewater systems required to establish and/or maintain adopted water and wastewater levels of service. System improvements and proposed funding resources required for implementing any improvements required to establish and/or maintain adopted potable water and wastewater system level of service standards<sup>1</sup>:"

**Potable Water.** Sec. 94-68 sets the level of service for residential potable water at 93 gal/ capita/day and nonresidential at 650 gal/acre/day.

*Existing capacity required (measured by floor area):* **578.5 gal/day**

The total capacity required for the non-residential use on **0.890 acres**

650 gal/acres/day x 0.890 acres = 578.5 gal/day

*Proposed capacity required (measured by floor area):* **645.4 gal/day**

The total capacity required for the non-residential use on **0.993 acres**

<sup>1</sup> The City of Key West's Comprehensive Plan Policy 9-1.5.1: Resolving Concurrency Issues.



$$650 \text{ gal/acres/day} \times 0.993 \text{ acres} = 645.4 \text{ gal/day}$$

Based on the concurrency management calculation prescribed in the Comprehensive Plan, there is no increase (66.9 gal/day) in the proposed capacity required by Key West Comprehensive Plan LOS standards; the Florida Keys Aqueduct Authority has the capacity to supply adequate service to this property, as demonstrated in the following:

Notwithstanding, the Florida Keys Aqueduct Authority ("FKAA") has adequate supply capacity to serve the potential development. FKAA has constructed facilities on the mainland in Florida City to expand water supply for the Florida Keys. This permitted and constructed improvement enables FKAA to provide over 23 MGD, which will provide sufficient capacity through 2022<sup>2</sup>. Operational in 2010, the recent expansion of the R.O. plant will provide 6.0 MGD, which combined with the 17.0 MGD permitted withdrawal from the Biscayne Aquifer, increased available water supply to 23 MGD for the Florida Keys.

*Expanded Florida City R.O. Plant.* The Department of Health issued Permit # 150092-007-wc/04 (Exhibit I) on November 14, 2006 to allow for the construction of an expanded reverse osmosis (R.O.) water plant in Florida City. The expanded water plant is designed to treat blended Floridian Aquifer water as an alternative water source to the Biscayne Aquifer. The permit design capacity of the expanded R.O. plant is 6 MGD.

*Revised Water Use Permit.* The SFWMD issued revised Water Use Permit (WUP) #13-00005-W (Exhibit II) on March 26, 2008, which recognizes the additional blended Floridian Aquifer capacity that will be provided by the expanded R.O. plant. Interim Water Use Allocations in the WUP permit provide FKAA with an allocation of 17.00 MGD (dry season) and 17.79 GPD (wet season) which may be withdrawn from the Biscayne Aquifer and allows FKAA to utilize the Stock Island and Marathon Reverse Osmosis plants for any demands exceeding the interim withdrawal limit, pending completion of the R.O. plant in Florida City. The Stock Island and Marathon R.O. plants have a combined capacity of 3.0 MGD providing an interim WUP water supply of 20.0 MGD during the dry season if needed. Once operational in 2010, the R.O. plant will provide an additional 6.0 MGD, which when combined with the 17.0 MGD permitted withdrawal from the Biscayne Aquifer, will increase available water supply to 23 MGD for the Florida Keys.

**The interim allocation of 20 MGD (7,300 MG/year) through 2010 and 23 MGD after 2010 provides ample water supply to support the adopted amendment and allocated growth well beyond 10 years.** The "Monroe County 2007 Annual Public Facilities Report" documents historic water use in the Florida Keys. Water demand has fluctuated significantly on an annual basis, however when evaluated over a ten-year period, the data shows an increase in water demand of more than 1 billion gallons over the last 10 years with an annual average increase of approximately 104 MG/year. This increase in demand can be shown in the following calculation:

$$1996 \text{ annual water demand} = 5,272 \text{ MG /year}$$

$$2006 \text{ annual water demand} = 6,310 \text{ MG /year}$$

<sup>2</sup> Excerpt from Analysis by Kenneth B. Metcalf, AICP, (Greenberg Traurig, P.A.), August 22, 2008.



Average Annual Increase = (6,310 MG - 5,272MG)/ 10 = 103.8 MG /year

Based on the average annual increase of 103.8 MG per year, the interim allocation would be sufficient for an additional 9.5 years of growth beyond 2006 or through 2015 until demand reaches the interim permitted withdrawal of 20 MGD (7,300 MG/year). Since completion of the Florida City facilities, the 23 MGD allocation is available to support yet another 9.5 years of growth. Based on these findings, sufficient permitted water supply is available to meet the needs of the Florida Keys through 2024.

*Improvements Schedule/Status.* Condition 30 of the WUP provides the R.O. plant and the associated Floridian deep wells that will provide 23 MGD of capacity through 2024:

- DEP Underground Injection and Control permit was obtained on May 21, 2008.
- Construction contracts were required within 180 days or by November 21, 2008;
- Testing is required within one year and 30 days from issuance of the permit or by June 21, 2009.
- The R.O. plant construction was completed in January, 2010.

**Sanitary Sewer**

Sec. 94-67 sets the level of service for residential sanitary sewer at 100 gal/capita/day and nonresidential sanitary sewer at 660 gal/acre/day.

*Existing capacity required (measured by floor area): 587.4 gal/day*

The total capacity required for the non-residential use on **0.890 acres**

660 gal/acres/day x 0.890 acres = gal/day

*Proposed capacity required (measured by floor area): 655.3 gal/day*

The total capacity required for the non-residential use on **0.993 acres**

660 gal/acres/day x 0.993 acres = 655.3gal/day

Based on the concurrency management calculation prescribed in the Comprehensive Plan, there is an increase of (67.9 gal/day) in the proposed total capacity; by the City of Key West Comprehensive Plan LOS standards, the current wastewater treatment plant has the potential treatment capacity of 10 million gallons per day. Only 4.8 million gallons per day of capacity are currently utilized<sup>3</sup>. The current plant has the capacity to supply service to this project's needs.

**Recreation-** "In cases where residential development is proposed, information shall be submitted describing plans for accommodating recreational demands generated by the

<sup>3</sup> Per September 3, 2010 memo from Greg Smith, project Manager for CH2M Hill OMI (Exhibit III)



development, including demonstrated evidence that the City's adopted level of service for recreation shall not be adversely impacted<sup>4</sup>:"

No residential development is proposed.

**Solid Waste-** "Projected demand generated by the development on the solid waste disposal system and assurances that the City's adopted level of service for solid waste disposal shall not be adversely impacted<sup>5</sup>:"

Sec. 94-71 sets the level of service for residential solid waste disposal (1994-2010) at 2.66 lb/capita/day and nonresidential solid waste disposal at 6.37 lb/capita/day<sup>6</sup>.

*Existing capacity required (measured by floor area):* **114.66 gal/day**

The total capacity required for the non-residential use on **18 employees**<sup>7</sup> 6.37 lb/capita/day x 18 employees = 114.66 gal/day

*Proposed capacity required (measured by floor area):* **414.05 gal/day**

The total capacity required for the non-residential use on **65 employees** 6.37 lb/capita/day x 65 employees = 414.05 gal/day

Based on the concurrency management calculation prescribed in the Comprehensive Plan, there will be an (299.3lb/day) increase of solid waste generated by this site. Waste Management has more than enough capacity to handle the proposed capacity<sup>8</sup>.

**Drainage** - "Conceptual plan for accommodating storm water run-off and demonstrated evidence that the proposed drainage improvements shall accommodate storm water run-off without adversely impacting natural systems or the City's adopted level of service for storm drainage:"

This site will meet the minimum requirements through best management practices as depicted on the attached storm water management plans.

**Roads/Trip Generation-** "Estimated trips for the peak hour generated by the proposed land use(s) together with anticipated on- and off-site improvements necessitated to accommodate the traffic impacts generated by the development including, additional R/W, roadway improvements, additional paved laneage, traffic signalization, proposed methods for controlling access and egress, and other similar improvements<sup>9</sup>:"

For the purposes of calculating traffic generation we used the Institute of Transportation Engineer's 7th Edition Trip Generation Volumes.

<sup>4</sup> The City of Key West's Comprehensive Plan Policy 9-1.5.1: Resolving Concurrency Issues.

<sup>5</sup> The City of Key West's Comprehensive Plan Policy 9-1.5.1: Resolving Concurrency Issues.

<sup>6</sup> For these calculations, we chose to use the number of employees to represent the "capita." Based on the Planner's Estimating Guide by Arthur C. Nelson (2004) which indicates 1 employee per 200 sq. ft. for bars/restaurants

<sup>7</sup> Based on employment density figures from pg. 55 of the Planner's Estimating Guide (Nelson, 2004)

<sup>8</sup> Per January 25, 2010 memo from Jay Gewin, City of Key West (Exhibit V)

<sup>9</sup> The City of Key West's Comprehensive Plan Policy 9-1.5.1: Resolving Concurrency Issues



Trip Generation		Week Day 2.86 trips/seat		Saturday 2.85 trips/seat		Sunday 2.15 trips/seat	
		Existing	Proposed	Existing	Proposed	Existing	Proposed
Quality Restaurant (ITE # 931)	Seats	30	156	30	156	30	156
	Trips Parcel 1	0.0	0.0	0.0	0.0	0.0	0.0
	Trips Parcel 2	85.8	446.2	85.5	444.6	64.5	335.4
	Total Trips	85.8	446.2	85.5	444.6	64.5	335.4

Trip Generation Calculations:

Weekday	Trips Parcel 1 – Existing	0 seats x 2.86 trips/ seat = 0 trips
	Trips Parcel 2 – Existing	30 seats x 2.86 trips/ seat = 85.8 trips
	Total Existing Trips	0 trips (parcel 1) + 85.8 trips (parcel 2) = 85.8 trips
	Trips Parcel 1 – Proposed (156 seats)	0 seats x 2.86 trips/ seat = 0 trips
	Trips Parcel 2 – Proposed (156 seats)	156 seats x 2.86 trips/ seat = 446.2 trips
	Total Proposed Trips (156 seats)	0 trips (parcel 1) + 446.2 trips (parcel 2) = 446.2 trips
Saturday	Trips Parcel 1 – Existing	0 seats x 2.85 trips/ seat = 0 trips
	Trips Parcel 2 – Existing	30 seats x 2.85 trips/ seat = 85.5 trips
	Total Existing Trips	0 trips (parcel 1) + 85.5 trips (parcel 2) = 85.5 trips
	Trips Parcel 1 – Proposed (156 seats)	0 seats x 2.85 trips/ seat = 0 trips
	Trips Parcel 2 – Proposed (156 seats)	156 seats x 2.85 trips/ seat = 444.6 trips
	Total Proposed Trips (156 seats)	0 trips (parcel 1) + 444.6 trips (parcel 2) = 444.6 trips
Sunday	Trips Parcel 1 – Existing	0 seats x 2.15 trips/ seat = 0 trips
	Trips Parcel 2 – Existing	30 seats x 2.15 trips/ seat = 64.5 trips
	Total Existing Trips	0 trips (parcel 1) + 64.5 trips (parcel 2) = 64.5 trips
	Trips Parcel 1 – Proposed (156 seats)	0 seats x 2.15 trips/ seat = 0 trips
	Trips Parcel 2 – Proposed (156 seats)	156 seats x 2.15 trips/ seat = 335.4 trips
	Total Proposed Trips (156 seats)	0 trips (parcel 1) + 335.4 trips (parcel 2) = 335.4 trips

This site is located at Mallory Square. Mallory Square is not a constrained street according to City of Key West Code Section 94-72.

The weekday traffic generation will increase by 360.4 trips when operating at 156 seats.

The Saturday traffic generation will increase by 359.1 trips when operating at 156 seats.

The Sunday traffic generation will increase by 270.9 trips when operating at 156 seats.

**Exhibits**

***Exhibit I*** – Department of Health Permit #150092-007-wc/04

***Exhibit II*** – Water Use Permit (WUP) #13-00005-W

***Exhibit III*** – September 3, 2010 Wastewater Memo

***Exhibit IV*** – Map of the City of Key West's Existing Recreation Services

***Exhibit V*** – January 25, 2010 Solid Waste Memo





Jeb Bush  
Governor

M. Rony Francis, M.D., M.S.P.H., Ph.D.  
Secretary

Lillian Rivera, RN, MSN, Administrator

**PERMITTEE:**

Florida Keys Aqueduct Authority (FKAA)  
C/o Ray M. Shimokubo  
PO BOX 1239, Kennedy Drive  
Key West, Florida 33041-1239

PERMIT No: 150092-007-WC/04  
DATE OF ISSUE: November 14, 2006  
EXPIRATION DATE: November 13, 2011  
COUNTY: MIAMI-DADE COUNTY  
LAT./LONG.: 25°26'25" N / 80°30'33" W  
SECTION/TOWNSHIP/RANGE:  
PROJECT: Reverse Osmosis (RO) Expansion  
Facility, 6.0 MGD Permeate production with  
blending options at FKAA J.Robert Dean WTP  
Florida City, Dade County

This permit is issued under the provisions of Chapter 403, Florida Statutes, and Florida Administrative Code Rule 62-4, 62-550, 62-555 & 62-560. The above named permittee is hereby authorized to perform the work shown on the application, technical specifications approved drawing(s), plans, and other documents attached hereto or on file with the Department and made a part hereof and specifically described as follows:

**TO CONSTRUCT:** A Reverse Osmosis, (RO) treatment facility with a permeate capacity of up to 6 Million Gallons per Day, (MGD) produced from Phase I, consisting of three (3) 1.5 MGD trains or Phase II, consisting of an additional 1.5 MGD or four (4) 1.5 MGD trains. The RO facility will be fully integrated with the existing lime softening plant. There will be the option of bypassing a limited amount of pretreated Floridan aquifer water and blending it with RU permeate thus adding alkalinity to the product water and increasing the overall plant "net" recovery. The RO system product water (degasified permeate/blended permeate) will be combined (blended) with existing lime softening plant product and a limited amount of cartridge-filtered Biscayne Aquifer RO bypass water. The blended product water will receive chemical addition and be transferred to existing finished water storage facilities and pumped to distribution with existing high service pumps. The water treatment plant construction permit application is for 6 MGD RO permeate capacity plus up to 3 MGD cartridge filtered Biscayne Aquifer blend flow and up to 0.576 MGD (400 gpm) pretreated Floridan Aquifer feed water bypass (which blends with RO permeate), and up to 0.7 MGD Floridan Aquifer water which blends with the existing lime softening facility influent Biscayne Aquifer water. The full operation of all the above described facility units could raise the Possible Facility Output Capacity to greater than 23.8 MGD existing permissible, plus 6.0 MGD covered under this permit application.  
**No other facilities or new wells are part of this permit.**

**TO SERVE:** The Florida Keys Water Distribution System, Monroe County, Florida.



Samir Elmir, M.S., P.E., DEE, Division Director  
Miami-Dade County Health Department  
Environmental Health and Engineering  
1725 N. W. 167<sup>th</sup> Street, Miami, Florida 33056  
Tel: (305) 623-3500 Fax: (305) 623-3502  
Email: Samir\_elmir@doh.state.fl.us  
Website: www.dadehealth.org

"A"

PERMIT NO: 150092-007-WC/04

PERMIT ISSUE DATE: November 14, 2006

**GENERAL CONDITIONS:**

1. The terms, conditions, requirements, limitations and restrictions set forth in this permit, are "permit conditions" and are binding and enforceable pursuant to Sections 403.141, 403.727, or 403.859 through 403.861, F.S. The permittee is placed on notice that the Department will review this permit periodically and may initiate enforcement action for any violation of these conditions.

2. This permit is valid only for the specific processes and operations applied for and indicated in the approved drawings or exhibits. Any unauthorized deviation from the approved drawings, exhibits, specifications, or conditions of this permit may constitute grounds for revocation and enforcement action by the Department.

3. As provided in subsections 403.087(6) and 403.722(5), F.S., the issuance of this permit does not convey any vested rights or any exclusive privileges. Neither does it authorize any injury to public or private property or any invasion of personal rights, nor any infringement of federal, state, or local laws or regulations. This permit is not a waiver of or approval of any other Department permit that may be required for other aspects of the total project which are not addressed in this permit.

4. This permit conveys no title to land or water, does not constitute State recognition or acknowledgment of title, and does not constitute authority for the use of submerged lands unless herein provided and the necessary title or leasehold interests have been obtained from the State. Only the Trustees of the Internal Improvement Trust Fund may express State opinion as to title.

5. This permit does not relieve the permittee from liability for harm or injury to human health or welfare, animal, or plant life, or property caused by the construction or operation of this permitted source, or from penalties therefore; nor does it allow the permittee to cause pollution in contravention of Florida Statutes and Department rules, unless specifically authorized by an order from the Department.

6. The permittee shall properly operate and maintain the facility and systems of treatment and control (and related appurtenances) that are installed and used by the permittee to achieve compliance with the conditions of this permit, are required by Department rules. This provision includes the operation of backup or auxiliary facilities or similar systems when necessary to achieve compliance with the conditions of the permit and when required by Department rules.

7. The permittee, by accepting this permit, specifically agrees to allow authorized Department personnel, upon presentation of credentials or other documents as may be required by law and at reasonable times, access to the premises where the permitted activity is located or conducted to:

- (a) Have access to and copy any records that must be kept under conditions of the permit;
- (b) Inspect the facility, equipment, practices, or operations regulated or required under this permit; and



PERMIT NO: 150092-007-WC/04

PERMIT ISSUE DATE: November 14, 2006

- (c) Sample or monitor any substances or parameters at any location reasonably necessary to assure compliance with this permit or Department rules.

Reasonable time may depend on the nature of the concern being investigated.

8. If, for any reason, the permittee does not comply with or will be unable to comply with any condition or limitation specified in this permit, the permittee shall immediately provide the Department with the following information:

- (a) A description of and cause of noncompliance; and
- (b) The period of noncompliance, including dates and times; or, if not corrected, the anticipated time the noncompliance is expected to continue, and steps being taken to reduce, eliminate, and prevent recurrence if the noncompliance. The permittee shall be responsible for any and all damages which may result and may be subject to enforcement action by the Department for penalties or for revocation of this permit.

9. In accepting this permit, the permittee understands and agrees that all records, notes, monitoring data and other information relating to the construction or operation of this permitted source which are submitted to the Department may be used by the Department as evidence in any enforcement case involving the permitted source arising under the Florida Statutes or Department rules, except where such use is prescribed by Section 403.111 and 403.73, F.S. Such evidence shall only be used to the extent it is consistent with the Florida Rules of Civil Procedure and appropriate evidentiary rules.

10: The permittee agrees to comply with changes in Department rules and Florida Statutes after a reasonable time for compliance; provided, however, the permittee does not waive any other rights granted by Florida Statutes or Department rules.

11. This permit is transferable only upon Department approval in accordance with Rule 62-4.120 and 62-30.300, F.A.C., as applicable. The permittee shall be liable for any non-compliance of the permitted activity until the transfer is approved by the Department.

12. This permit or a copy thereof shall be kept at the work site of the permitted activity.

13. This permit also constitutes:

(X) Determination of Best Available Control Technology (BACT)

( ) Determination of Prevention of Significant Deterioration (PSD)

( ) Certification of compliance with state Water Quality Standards (Section 401, PL 92-500)

( ) Compliance with New Source Performance Standards

PERMIT NO: 150092-007-WC/04

PERMIT ISSUE DATE: November 14, 2006

14. When requested by the Department, the permittee shall within a reasonable time furnish any information required by law, which is needed to determine compliance with the permit. If the permittee becomes aware the relevant facts were not submitted or were incorrect in the permit application or in any report to the Department, such facts or information shall be corrected promptly.

**SPECIFIC CONDITIONS:**

1. The applicant is responsible for retaining the engineer of record in the application for supervision of the construction of this project and upon completion, the engineer shall inspect for complete conformity to the plans and specifications as approved.

2. All concrete coatings/admixtures, liners, grouts, hoses, tubings, and protective paints and coatings shall be listed by the National Sanitation Foundation as acceptable for contact with potable water.

3. Bacteriological points depicted on the plans may be modified with Department consent to meet convenient locations where taps would be inserted in the Main for Fire, Metering, Air Release or other connections but not less than 900 foot intervals for new mains. "Additionally, each part or system module shall be Bacteriologically cleared with 2 consecutive days of sampling before being placed in service as well as the final stream going to storage and subsequent service.

4. The Applicant or his designee shall notify The Department at the local DOH office of the start of the study/construction for purposes of allowing Department Personnel to observe the actual process.

5. The owner or permittee is advised that approval is given to the functional aspects of this project on the basis of representation, and data furnished to this division. There may be County, Municipal or other Local Regulations to be complied with by the owner or permittee prior to construction of the facilities represented by the plans referred to above.

6. This construction permit is issued with the understanding that pipe material and appurtenances used in this installation will be in accordance with the latest applicable AWWA & NSF Standards for public water supplies.

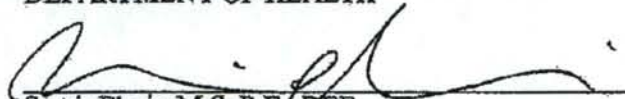
7. The applicant Public Water System as a condition of this permit is hereby advised they shall revert to (2) two-six Month periods of standard monitoring for Lead and Copper upon issuance of Clearance to put the facilities into service. If no Lead or Copper exceedance occurs within the 2-6 Month periods, the System may return to annual monitoring.

PERMIT NO: 150092-007-WC/04  
PERMIT ISSUE DATE: November 14, 2006

8. Prior to placing a system into service, the applicant shall submit to the Department, if requested, one set of record drawings of the completed project with completed form DEP 62.555.910(9) [Certification of Construction Completion and Request for a Letter of Clearance to Place a Public Drinking water facility into Service] signed by the engineer of record. Drawings are to be at the same scale and in the same sequence as those submitted and approved for permit. Deviations from the original permitted drawings are to be highlighted and/or noted for the Department's review. Include with the DEP form the bacteriological clearance data, pressure test results and backflow inspection certification (if applicable).

Issued this 30<sup>th</sup> day of November 2006

STATE OF FLORIDA  
DEPARTMENT OF HEALTH

  
Samir Elmir, M.S., P.E., DEE,  
Division Director



FORM #0209  
Rev. 5/03

**SOUTH FLORIDA WATER MANAGEMENT DISTRICT  
WATER USE PERMIT NO. RE-ISSUE 13-00005-W  
( NON - ASSIGNABLE )**

**Date Issued:** 13-MAR-2008

**Expiration Date:** March 13, 2028

**Authorizing:** THE CONTINUATION OF AN EXISTING USE OF GROUND WATER FROM THE BISCAYNE AQUIFER AND FLORIDAN AQUIFER SYSTEM FOR PUBLIC WATER SUPPLY USE WITH AN ANNUAL ALLOCATION OF 8750.84 MILLION GALLONS.

**Located In:** Miami-Dade County, S26/T57S/R38E

**Issued To:** FLORIDA KEYS AQUEDUCT AUTHORITY FKA  
(FLORIDA KEYS AQUEDUCT AUTHORITY)  
1100 KENNEDY DR  
KEY WEST. FL 33401

This Permit is issued pursuant to Application No.050329-23 , dated March 29, 2005, for the Use of Water as specified above and subject to the Special Conditions set forth below. Permittee agrees to hold and save the South Florida Water Management District and its successors harmless from any and all damages, claims or liabilities which may arise by reason of the construction, maintenance or use of activities authorized by this permit. Said application, including all plan and specifications attached thereto, is by reference made a part hereof.

Upon written notice to the permittee, this permit may be temporarily modified, or restricted under a Declaration of Water Shortage or a Declaration of Emergency due to Water Shortage in accordance with provisions of Chapter 373, Fla. Statutes, and applicable rules and regulations of the South Florida Water Management District.

This Permit may be permanently or temporarily revoked, in whole or in part, for the violation of the conditions of the permit or for the violation of any provision of the Water Resources Act and regulations thereunder.

This Permit does not convey to the permittee any property rights nor any privileges other than those specified herein, nor relieve the permittee from complying with any law, regulation, or requirement affecting the rights of other bodies or agencies.

**Limiting Conditions are as follows:**

SEE PAGES 2 - 7 OF 7 ( 35 LIMITING CONDITIONS).

South Florida Water Management  
District, by its Governing Board

On March 13, 2008  
By [Signature]  
Deputy Clerk

**LIMITING CONDITIONS**

1. This permit shall expire on March 13, 2028.
2. Application for a permit modification may be made at any time.
3. Water use classification:

Public water supply

4. Source classification is:

Ground Water from:  
Biscayne Aquifer  
Floridan Aquifer System

5. Annual allocation shall not exceed 8751 MG.

Maximum monthly allocation shall not exceed 809.0088 MG.

The following limitations to annual withdrawals from specific sources are stipulated:  
Biscayne Aquifer-: 6,492 MG:

6. Pursuant to Rule 40E-1.6105, F.A.C., Notification of Transfer of Interest in Real Property, within 30 days of any transfer of interest or control of the real property at which any permitted facility, system, consumptive use, or activity is located, the permittee must notify the District, in writing, of the transfer giving the name and address of the new owner or person in control and providing a copy of the instrument effectuating the transfer, as set forth in Rule 40E-1.6107, F.A.C.

Pursuant to Rule 40E-1.6107 (4), until transfer is approved by the District, the permittee shall be liable for compliance with the permit. The permittee transferring the permit shall remain liable for all actions that are required as well as all violations of the permit which occurred prior to the transfer of the permit.

Failure to comply with this or any other condition of this permit constitutes a violation and pursuant to Rule 40E-1.609, Suspension, Revocation and Modification of Permits, the District may suspend or revoke the permit.

This Permit is issued to:

Florida Keys Aqueduct Authority  
1100 Kennedy Drive  
Key West, Florida 33401

7. Withdrawal facilities:

Ground Water - Existing:

2 - 24" X 60' X 2000 GPM Wells Cased To 35 Feet  
3 - 24" X 56' X 2000 GPM Wells Cased To 36 Feet  
1 - 20" X 60' X 2100 GPM Well Cased To 20 Feet  
2 - 24" X 57' X 2000 GPM Wells Cased To 37 Feet  
1 - 24" X 60' X 1400 GPM Well Cased To 24 Feet  
1 - 20" X 1300' X 2000 GPM Well Cased To 880 Feet  
1 - 24" X 60' X 1400 GPM Well Cased To 20 Feet

Ground Water - Proposed:

4 - 17" X 1300' X 2000 GPM Wells Cased To 880 Feet

8. Permittee shall mitigate interference with existing legal uses that was caused in whole or in part by the permittee's withdrawals, consistent with the approved mitigation plan. As necessary to offset the interference, mitigation will include pumpage reduction, replacement of the impacted individual's equipment, relocation of wells, change in withdrawal source, or other means.

Interference to an existing legal use is defined as an impact that occurs under hydrologic conditions equal to or less severe than a 1 in 10 year drought event that results in the:

(1) Inability to withdraw water consistent with provisions of the permit, such as when remedial structural or operational actions not materially authorized by existing permits must be taken to address the interference; or

(2) Change in the quality of water pursuant to primary State Drinking Water Standards to the extent that the water can no longer be used for its authorized purpose, or such change is imminent.

9. Permittee shall mitigate harm to existing off-site land uses caused by the permittee's withdrawals, as determined through reference to the conditions for permit issuance. When harm occurs, or is imminent, the District will require the permittee to modify withdrawal rates or mitigate the harm. Harm caused by withdrawals, as determined through reference to the conditions for permit issuance, includes:

(1) Significant reduction in water levels on the property to the extent that the designed function of the water body and related surface water management improvements are damaged, not including aesthetic values. The designed function of a water body is identified in the original permit or other governmental authorization issued for the construction of the water body. In cases where a permit was not required, the designed function shall be determined based on the purpose for the original construction of the water body (e.g. fill for construction, mining, drainage canal, etc.)

(2) Damage to agriculture, including damage resulting from reduction in soil moisture resulting from consumptive use; or

(3) Land collapse or subsidence caused by reduction in water levels associated with consumptive use.

10. Permittee shall mitigate harm to the natural resources caused by the permittee's withdrawals, as determined through reference to the conditions for permit issuance. When harm occurs, or is imminent, the District will require the permittee to modify withdrawal rates or mitigate the harm. Harm, as determined through reference to the conditions for permit issuance includes:

(1) Reduction in ground or surface water levels that results in harmful lateral movement of the fresh water/salt water interface,

(2) Reduction in water levels that harm the hydroperiod of wetlands,

(3) Significant reduction in water levels or hydroperiod in a naturally occurring water body such as a lake or pond,

(4) Harmful movement of contaminants in violation of state water quality standards, or

(5) Harm to the natural system including damage to habitat for rare or endangered species.

11. If any condition of the permit is violated, the permit shall be subject to review and possible modification, enforcement action, or revocation.

12. Authorized representatives of the District shall be permitted to enter, inspect, and observe the permitted system to determine compliance with special conditions.
13. The Permittee is advised that this permit does not relieve any person from the requirement to obtain all necessary federal, state, local and special district authorizations.
14. The permit does not convey any property right to the Permittee, nor any rights and privileges other than those specified in the Permit and Chapter 40E-2, Florida Administrative Code.
15. Permittee shall submit all data as required by the implementation schedule for each of the limiting conditions to: S.F.W.M.D., Supervising Hydrogeologist - Post-Permit Compliance, Water Use Regulation Dept. (4320), P.O. Box 24680, West Palm Beach, FL 33416-4680.
16. In the event of a declared water shortage, water withdrawal reductions will be ordered by the District in accordance with the Water Shortage Plan, Chapter 40E-21, F.A.C. The Permittee is advised that during a water shortage, pumpage reports shall be submitted as required by Chapter 40E-21, F.A.C.
17. Prior to the use of any proposed water withdrawal facility authorized under this permit, unless otherwise specified, the Permittee shall equip each facility with a District-approved operating water use accounting system and submit a report of calibration to the District, pursuant to Section 4.1, Basis of Review for Water Use Permit Applications.  
  
In addition, the Permittee shall submit a report of recalibration for the water use accounting system for each water withdrawal facility (existing and proposed) authorized under this permit every five years from each previous calibration, continuing at five-year increments.
18. Monthly withdrawals for each withdrawal facility shall be submitted to the District quarterly. The water accounting method and means of calibration shall be stated on each report.
19. The Permittee shall notify the District within 30 days of any change in service area boundary. If the Permittee will not serve a new demand within the service area for which the annual allocation was calculated, the annual allocation may then be subject to modification and reduction.
20. Permittee shall implement the following wellfield operating plan:  
The Biscayne Aquifer wellfield shall be operated according to the restrictions outlined in Limiting Conditions 5, 25, 26, and 27 of this permit. Upon completion and operation of the Reverse Osmosis system, pursuant to the schedule outlined in Limiting Condition 30, the Floridan Aquifer wellfield will be operated to provide the balance of the demands beyond those restrictions.
21. Permittee shall determine unaccounted-for distribution system losses. Losses shall be determined for the entire distribution system on a monthly basis. Permittee shall define the manner in which unaccounted-for losses are calculated. Data collection shall begin within six months of Permit issuance. Loss reporting shall be submitted to the District on a yearly basis from the date of Permit issuance.
22. Permittee shall maintain an accurate flow meter at the intake of the water treatment plant for the purpose of measuring daily inflow of water.
23. The Permittee shall continue to submit monitoring data in accordance with the approved saline water intrusion monitoring program for this project.
24. The Water Conservation Plan required by Section 2.6.1 of the Basis of Review for Water Use Permit Applications within the South Florida Water Management District, must be implemented in accordance with the approved implementation schedule.
25. In addition to the allocation specified in Limiting Condition 5, the permittee may apply a Special Event Peaking Factor Ratio of 1.3:1 to compensate for temporary increased demand during seasonal and Special Events up to a maximum daily withdrawal of 33.57 MG. The source limitations imposed by

Limiting Conditions 5 and 26 apply to the Special Event Peaking Factor Ratio. The permittee must notify the District in writing no less than 24 hours prior to applying this Special Event Peaking Factor Ratio and must specify the proposed duration of the use of the Special Event Peaking Factor Ratio. The use of the Special Event Peaking Factor Ratio shall be noted on the monthly pumpage reports.

26. In addition to the allocations specified in Limiting Conditions 5 and 25, during the dry season (December 1 to April 30), FKAA shall limit their average day withdrawals from the Biscayne Aquifer to 17 MGD, calculated on a monthly basis. The remaining dry season demands shall be provided by the reverse osmosis system. During the remainder of the year from May 1 to November 30, the withdrawals from the Biscayne Aquifer shall be limited to the Base Condition water use for the Biscayne Aquifer of 6,492 MGY, or an average day of 17.79 MGD. Demands in excess of these volumes shall be provided by the Floridan Aquifer System wells and the emergency desalination facilities.
27. Prior to the availability of the Floridan Aquifer reverse osmosis system, dry season demand in excess of the Biscayne Aquifer pumpage limitations specified in Limiting Condition 26 shall be obtained from emergency sources pursuant to Limiting Condition 29.
28. In addition to the monthly reporting required in Limiting Condition 18, and prior to the operation of the Reverse Osmosis system, on the 15th day of each month during and immediately following the dry season extending from December 1 to April 30, FKAA shall file a written report with the District ("mid-month report") evaluating the following: 1) the daily pumpage to date during the last 30 days; and 2) any daily pumpage distribution for the remainder of the dry season as necessary to comply with the 17 MGD Biscayne Aquifer average dry season limitation. Such report shall also identify any remedial actions necessary to ensure compliance that through the remainder of the dry season the applicable Biscayne Aquifer pumpage limitations described above will be met. This report shall replace the other reports required by the Consent Agreement (including the June 15 post-dry season report and the February 15th mid-dry season additional demand report). Such mid-month report shall be evaluated by District staff and revised by the District as necessary to achieve compliance with the above. Upon completion and operation of the Reverse Osmosis system, pursuant to the schedule outlined in Limiting Condition 30, this report requirement shall cease and the monthly Biscayne Aquifer withdrawals shall be reported as required by Limiting Condition 18 of this permit.
29. In order to reduce the potential for violating the 17 MGD Biscayne Aquifer average monthly withdrawal limitation during the dry season, FKAA must to the greatest extent practical utilize the emergency desalination facilities FKAA owns and operates at Stock Island and Marathon, which are potentially capable of treating saline water at rates up to 3.0 MGD. The FKAA shall use these two emergency desalination facilities as an alternative source of water in order to assist in limiting its dry season Biscayne Aquifer withdrawals. The FKAA's ability to use, and extent of use, of these emergency desalination facilities shall be subject to not causing (ii) significant adverse affects to FKAA's water treatment or distribution system; or (ii) a violation of any applicable primary or secondary drinking water standards.
30. The permittee shall adhere to the following schedule for the construction and operation of the Floridan Aquifer System reverse osmosis wellfield and treatment facility:
- Florida Keys Aqueduct Authority - Schedule for Construction and Operation of Floridan Aquifer Production Well, Floridan Aquifer Reverse Osmosis Treatment Facility, and Demineralized Concentrate Disposal Well
- Reverse osmosis water treatment plant expansion  
Award Contract - September 30, 2007  
Complete Construction - December 31, 2009



--Deep Injection Well  
Obtain FDEP Permit - March 31, 2008  
Award Contract - 152 days after receiving FDEP Underground Injection Control Permit  
Complete Drilling and Testing - 1 year and 30 days after receiving FDEP Underground Injection Control Permit

--Complete reverse osmosis water treatment plant system  
Begin and Stabilize Operation - 2 years and 60 days after receiving FDEP Underground Injection Control Permit

31.

In the event that a milestone specified in the alternative water supply schedule and plan contained in Limiting Condition 30 is going to be missed, the permittee shall notify the Executive Director of the District in writing explaining the nature of the delay, actions taken to bring the project back on schedule and an assessment of the impact the delay would have on the rates of withdrawals from the Everglades water bodies and associated canals as defined in District CUP rules. The District will evaluate the situation and take actions as appropriate which could include: a) granting an extension of time to complete the project (if the delay is minor and doesn't affect the Everglades Waterbodies or otherwise violates permit conditions), b) take enforcement actions including consent orders and penalties, c) modify allocations contained in this permit from the Biscayne Aquifer including capping withdrawal rates until the alternative water supply project(s) are completed (in cases where the delay would result in violations of permit conditions) or d) working with the Department of Community Affairs to limit increase demands for water until the alternative water supply project is completed. In addition, Permittee shall make to the District payment of funds as identified below for non-compliance with any timeline for development of the Floridan Aquifer System production and treatment system as provided in Limiting Condition 30, as follows:

A. Reverse Osmosis Plant construction and operation timelines in Limiting Condition 30

-- Award Contract - \$2,000.00 per week

-- Complete Construction - \$2,000.00 per week

B. Floridan Deep Injection Well(s) Construction and Operation

-- Award Contract - \$2,000.00 per week

-- Complete drilling and Testing - \$2,000.00 per week

-- Complete reverse Osmosis Water Treatment Plant System - \$2,000.00 per week

-- Begin and Stabilize Operation - \$2,000.00 per week

32. Prior to any application to renew or modify this permit, the Permittee shall evaluate long term water supply alternatives and submit a long term water supply plan to the District. Within one year of permit issuance, the Permittee shall submit to the District an outline of the proposed plan. The assessment should include consideration of saline intrusion, wellfield protection, plans for compliance with applicable wellfield protection ordinances, expected frequencies and plans to cope with water shortages or well field failures, and conservation measures to reduce overall stresses on the aquifer.

33. For uses with an annual allocation greater than 10 MGD and a permit duration of 20 years, every five years from the date of permit issuance, the permittee shall submit a water use compliance report for review and approval by District Staff, which addresses the following:

1. The results of a water conservation audit that documents the efficiency of water use on the project site using data produced from an onsite evaluation conducted. In the event that the audit indicates additional water conservation is appropriate or the per capita use rate authorized in the permit is exceeded, the permittee shall propose and implement specific actions to reduce the water use to acceptable levels within timeframes proposed by the permittee and approved by the District.
2. A comparison of the permitted allocation and the allocation that would apply to the project based on current District allocation rules and updated population and per capita use rates. In the event the permit allocation is greater than the allocation provided for under District rule, the permittee shall apply for a letter modification to reduce the allocation consistent with District rules and the updated population and per capita use rates to the extent they are considered by the District to be indicative of long term trends in the population and per capita use rates over the permit duration. In the event that the permit allocation is less than allowable under District rule, the permittee shall apply for a modification of the permit to increase the allocation if the permittee intends to utilize an additional allocation, or modify its operation to comply with the existing conditions of the permit.
34. If at any time there is an indication that the well casing, valves, or controls leak or have become inoperative, repairs or replacement shall be made to restore the system to an operating condition. Failure to make such repairs shall be cause for filling and abandoning the well, in accordance with procedures outlined in Chapters 40E-3 and 40E-30, Florida Administrative Code.
35. It has been determined that this project relies, in part, on the waters from the Central and Southern Florida Project, and as such is considered to be an indirect withdrawal from an MFL water body under recovery (Everglades). The 2005-2006 Lower East Coast Water Supply Plan Update (February, 2007), which is the recovery plan for the Everglades, incorporates a series of water resource development projects and operational changes that are to be completed over the duration of the permit and beyond. If the recovery plan is modified and it is determined that this project is inconsistent with the approved recovery plan, the permittee shall be required to modify the permit consistent with the provisions of Chapter 373, Florida Statutes.

## Mehdi Benkhatar

---

**To:** Jay Gewin  
**Subject:** RE: Wastewater Capacity for the City of Key West

---

**From:** Jay Gewin [mailto:jgewin@keywestcity.com]  
**Sent:** Friday, September 03, 2010 8:27 AM  
**To:** Mehdi Benkhatar  
**Cc:** Owen Trepanier  
**Subject:** RE: Wastewater Capacity for the City of Key West

The City of Key West transports its wastewater to its state of the art wastewater treatment facility located on Fleming Key. The facility is permitted to treat 10 million gallons per day (mgd), and currently the average daily influent flow is 4.8 mgd. This average daily flow can go much higher during heavy rain and flood events, up to the capacity of the plant a few times during the year.

The Wastewater Treatment Plant is of course, the final destination for wastewater after it passes through the City's collection system. The capacity of the collection system varies at different locations on the island, as the wastewater passes through a series of lift stations on its way to the Treatment Plant.

*Jay Gewin  
Utilities Manager  
City of Key West  
305-809-3902*

---

**From:** Mehdi Benkhatar [mailto:mehdi@owentrepanier.com]  
**Sent:** Thursday, September 02, 2010 4:17 PM  
**To:** Jay Gewin  
**Cc:** Owen Trepanier  
**Subject:** Wastewater Capacity for the City of Key West

Good afternoon Jay,

The City is asking Trepanier & Associates for information regarding the Key West's wastewater capacity. Would you be able to provide me a short memo similar to the one below explaining the current wastewater capacity situation?

Thanks very much,

***Mehdi Benkhatar***  
***Planner/Development Specialist***  
***Trepanier & Associates, Inc.***  
***305-293-8983***

**Mehdi Benkhatar**

---

**Subject:** FW: Solid Waste Capacity for the City of Key West

---

**From:** Jay Gewin [mailto:jgewin@keywestcity.com]  
**Sent:** Monday, January 25, 2010 4:53 PM  
**To:** Mehdi Benkhatar  
**Cc:** Owen Trepanier  
**Subject:** RE: Solid Waste Capacity for the City of Key West

The City of Key West ships its solid waste to one of two waste-to-energy facilities on the mainland, that are shared by other municipalities. Those facilities are capable of receiving 2,500 tons per day, and currently they are only receiving about 70% of that capacity. Our contractor, Waste Management, has informed us that we are in no danger of surpassing our capacity.

Primarily due to ROGO limitations, lack of buildable space, and economic factors; the population of Key West has stayed flat in recent years compared to the rest of Florida. Therefore we have not had to plan for continued growth in solid waste as other high-growth areas of Florida had in better economic times. We currently are generating approximately 45,000 tons of solid waste per year. In better economic times, that figure was closer to 50,000 or slightly higher. In the future, the City plans on increasing its rate of recycling which should lessen the amount of solid waste generated. Our recyclables are shipped to a single-stream recycle facility also located on the mainland.

*Jay Gewin  
Utilities Manager  
City of Key West  
305-809-3902*

# The City of Key West's Recreation Facilities

