

Miami-Dade Water and Sewer Department Update

February 22, 2012

Topics

- Water Use Permit Amendments
- Water Conservation
- BBCW Rehydration Pilot Project
- Government Cut Pipeline
- Reuse Projects
- Reclaimed Water for FPL

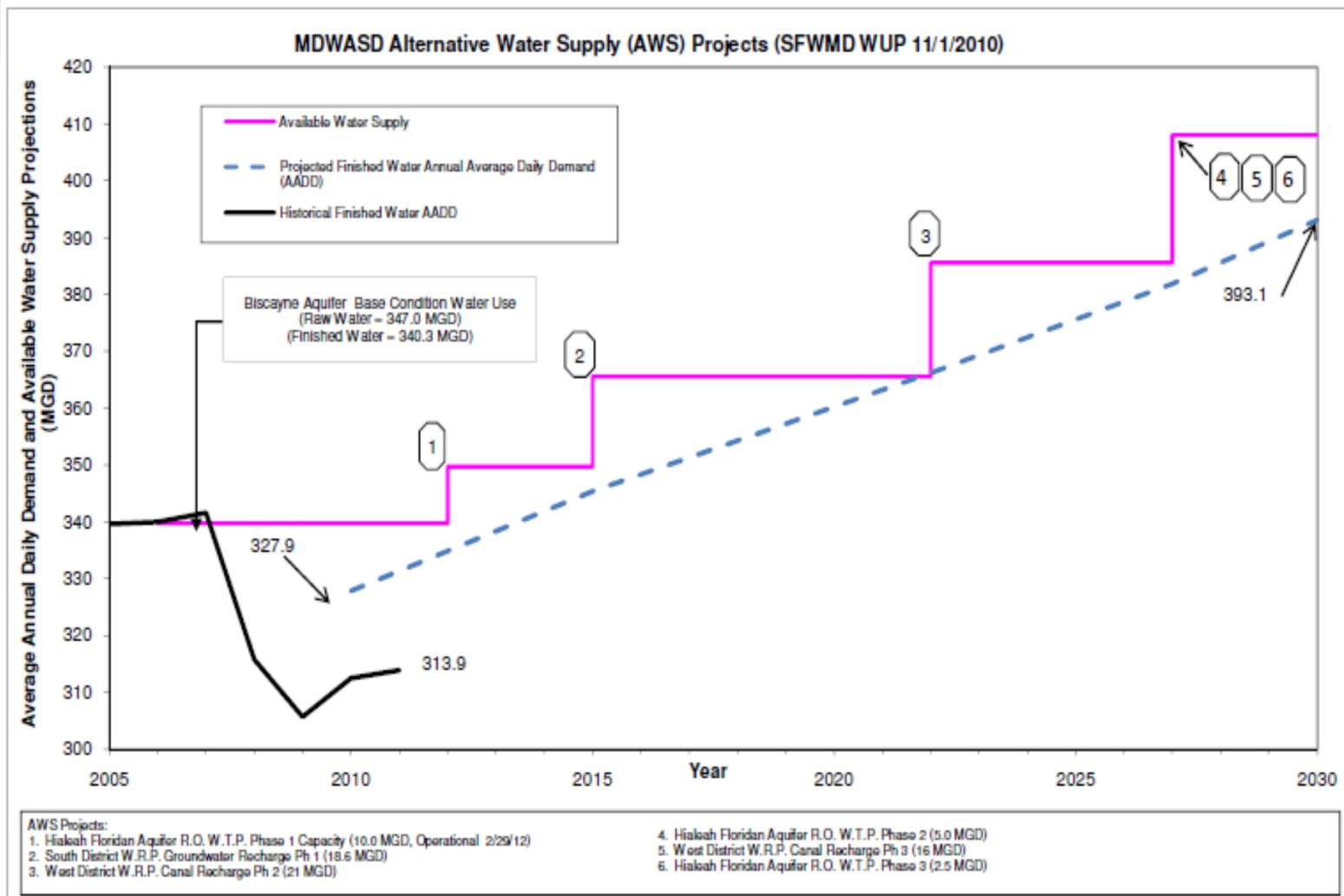
Water Use Permit

- Permit Approved by South Florida Water Management District Governing Board on November 15, 2007 and modified November 1, 2010
- Permit Expiration 2030
- Biscayne Aquifer Baseline Allocation Complies with Regional Water Availability Rule
- 52 Limiting Conditions

WUP (continued)

- Water Supply Sources:
 - Biscayne Aquifer
 - Floridan Aquifer
 - Reclaimed Water
 - Aquifer Storage and Recovery (ASR)
- Implementation of:
 - Conservation
 - Alternative Water Supplies
 - Reuse Projects
 - Water Loss Reduction Program

WUP (continued)

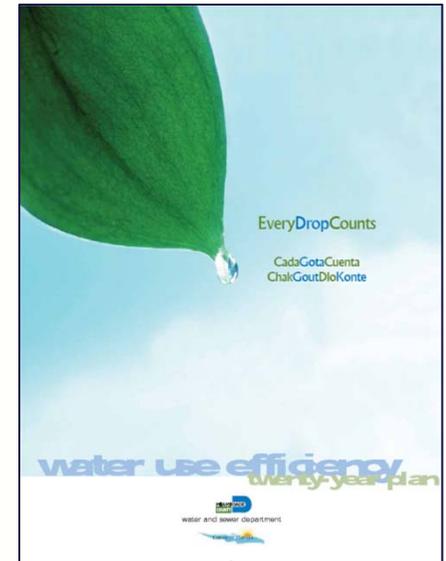


WUP 2nd Amendment

- Use of Floridan aquifer at South Miami Heights new WTP to supplement Biscayne baseline
- Cancel the South District Water Reclamation Plant project
- Extend some deadlines
- Reallocation of annual limits for Alex Orr/SW wellfields

Water Use Efficiency Plan

- A five year Plan approved by the Board of County Commissioners in April 2006
- In March 2007 expanded the Plan to 20-year as part of the Water Use Permit (WUP) application
- Plan includes:
 - Implementation of BMPs
 - Water Loss Reduction Program
 - Legislative Initiatives
 - Public Outreach



Water Conservation Plan

Best Management Practices

Indoor Residential

- High Efficiency Toilet Rebate
- High Efficiency Showerhead/Faucet Rebate
- High-Efficiency Showerhead Exchanges/Large Volume Retrofits
- Senior & Low Income Retrofit



Outdoor Residential

- HOA Landscape Irrigation Evaluation
- Single-Family Landscape Irrigation Evaluation

Industrial, Commercial and Institutional (ICI)

- Green Lodging Hotel and Restaurant Project
- County facility Landscape Irrigation Evaluations



Water Savings Achieved Through BMPs

Year	Water Savings (MGD)	
	Planned	Reported
2007	1.085854	1.212308
2008	2.243228	3.476908
2009	3.529212	4.902751
2010	4.815196	6.541536
2011	6.10118	8.463445
2016	11.69942	--
2021	15.66834	--
2026	19.62226	--

2011 Water Savings (BMPs)

Category	Actual Gal. Of Water Saved Per Day	Actual Number of Applications
HET Rebate	74,414	2566
Senior & Low Income Retrofit	45,184	706
Single Family Showerhead	67,760	1936
Water Conservation Kits (Single Family)	17,004	1417
Multifamily Showerhead	99,995	2857
Water Conservation Kits (Multifamily)	31,416	2618
Green Lodging	4,851	3
Single Family Irrigation Evaluation	33,785	145
HOA Irrigation Evaluation	1,540,000	44
County Landscape Evaluations	7,500	17
	1,921,909.00	

Policy Measures

Ordinances:

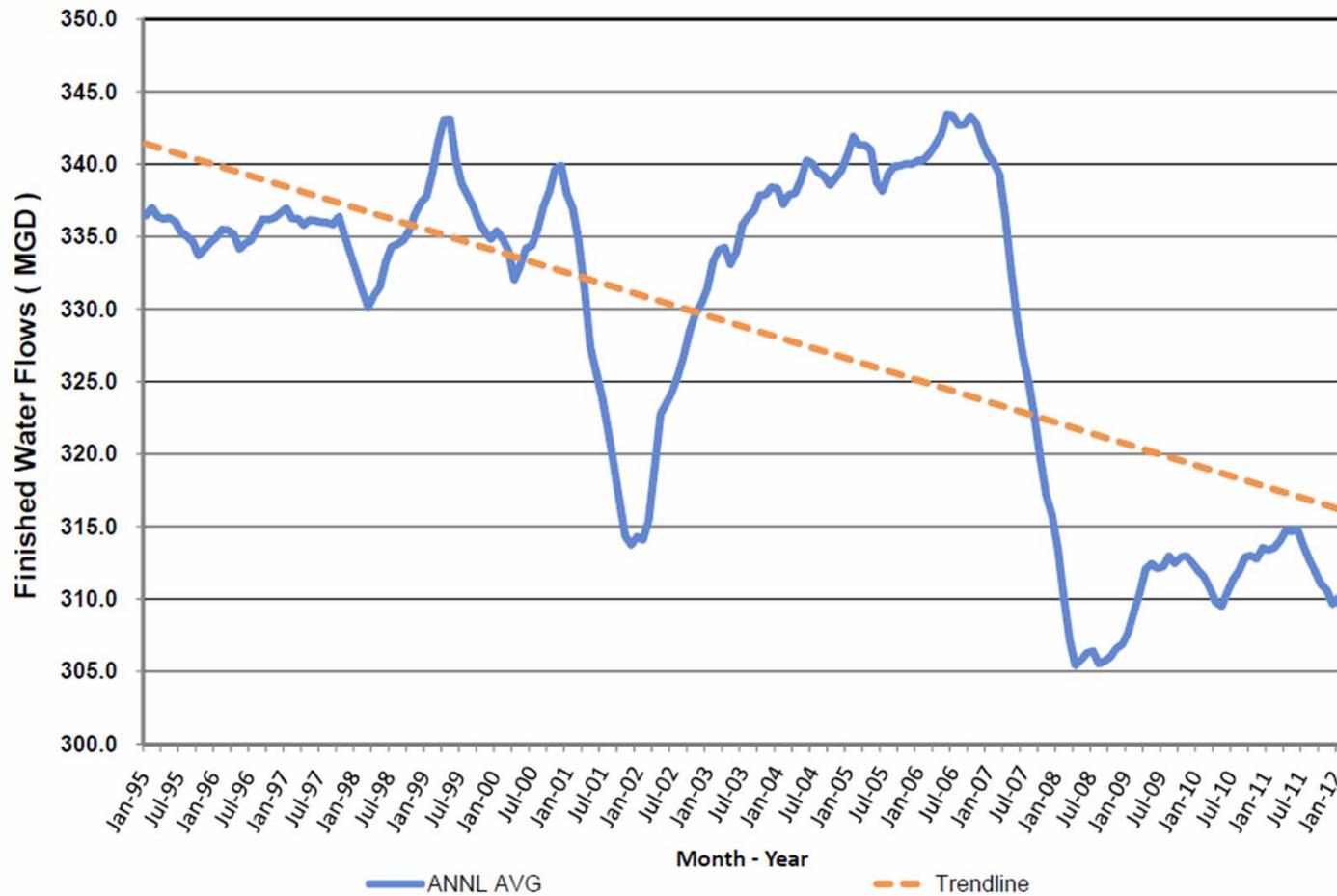
Water Use Efficiency Standards for new developments and renovations (Effective January 2009)

Permanent Landscape Irrigation Ordinance (Ord. 09-25)

Landscape Ordinance Amendments (Section 18-A)



Annual Average Daily Finished Water Flows

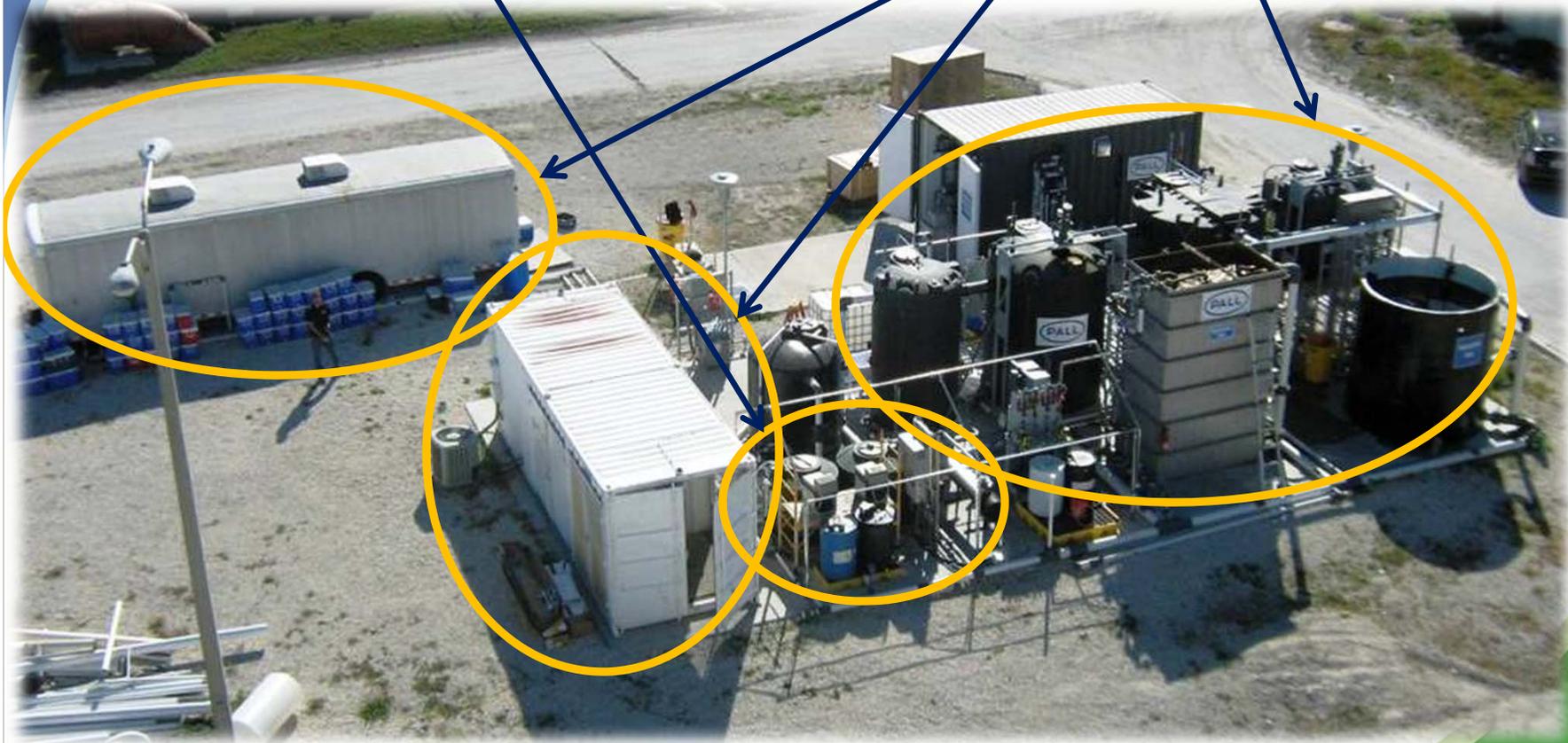


BBCW Rehydration Pilot Project

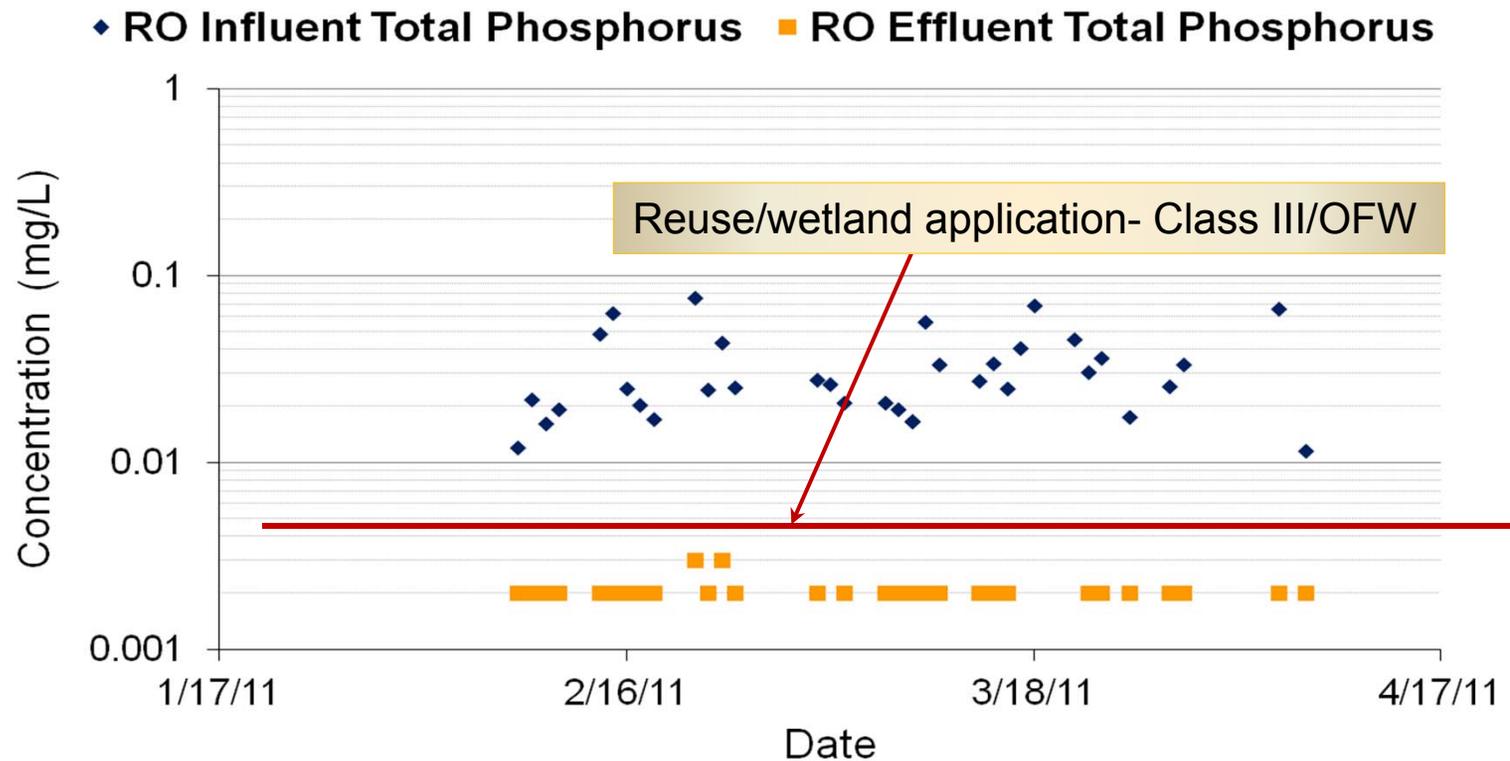
- Pilot required by WUP
- Pilot planning started in 2007
- Run pilot units from Nov 2010 to April 2011
- Submitted final report to SFWMD, FDEP and BNP on October 2011

Pilot Plant Facility

Biological Process – equalization, screening nitrification
and denitrification MBR) Peroxide/Ozone
Peroxide/UV Reverse Osmosis



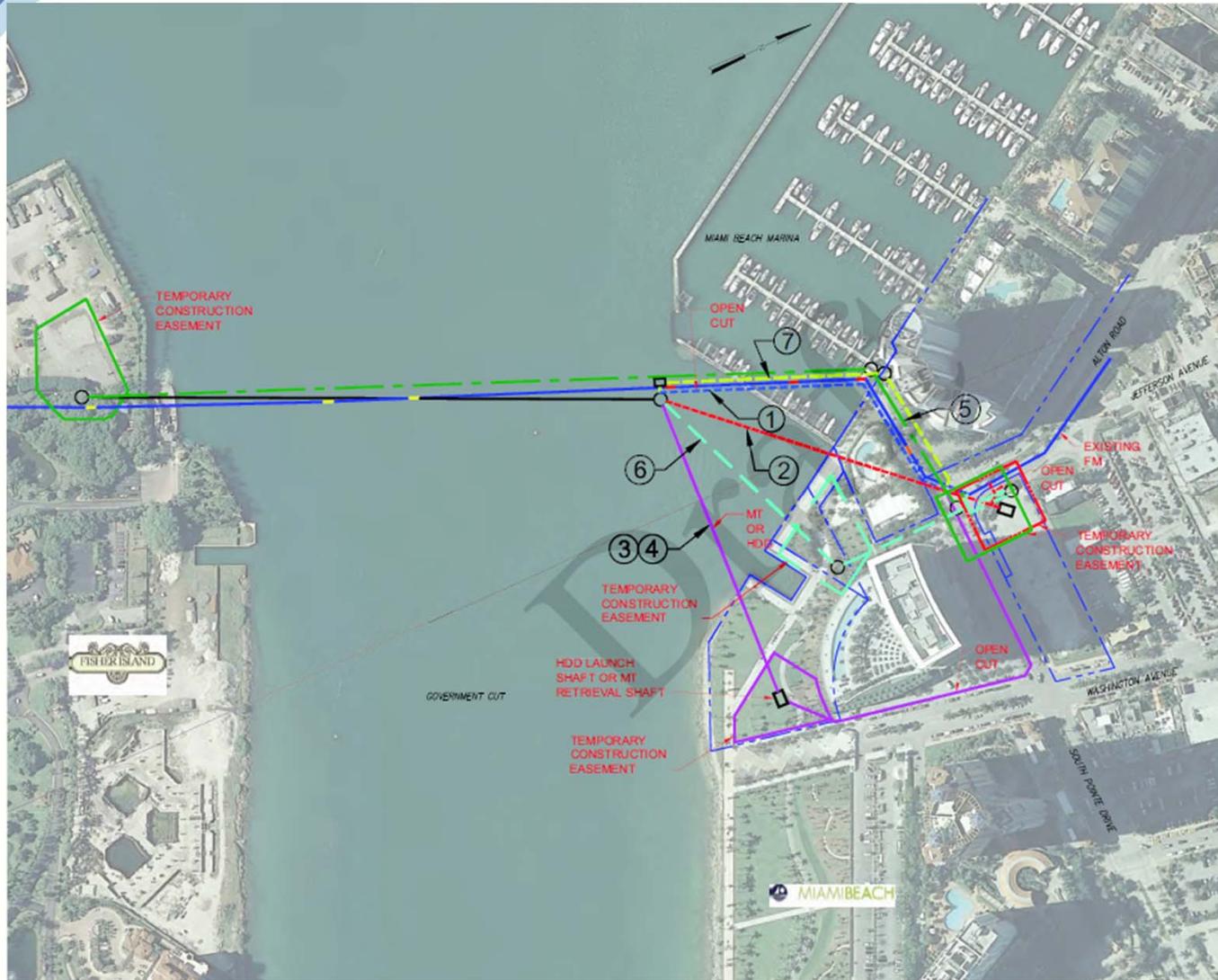
Effluent TP – Train C BNR/MBR → RO → AOP



BBCW Pilot Conclusion

- All the treatment processes tested could be viable options for implementation. **Train C (MBR, RO, AOP)** would likely achieve removals to potentially comply with proposed water quality targets for direct discharge.
- RO would likely be necessary as a treatment element in any treatment train to reclaim wastewater for enhancing or restoring the coastal wetlands

Government Cut Pipeline



Reuse Projects

- Recharge of the Floridan aquifer to meet Ocean Outfall Legislation requirements of 117 MGD of reuse (60% of baseline flow) by 2025
- Evaluating the feasibility of recharge at the CDWWTP, at Virginia Key
- Treatment requirement will be High Level Disinfection

SDWWTP FDEP CO

- Implement High Level Disinfection prior to deep well injection (285 MGD)



Reclaimed Water to FPL

- Entered in Joint Participation Agreement with FPL in July 2010
- Up to 90 MGD of HLD water delivered to Turkey Point
- Current anticipated implementation dates: 2022 and 2023
- County pays for pipeline construction materials and labor