

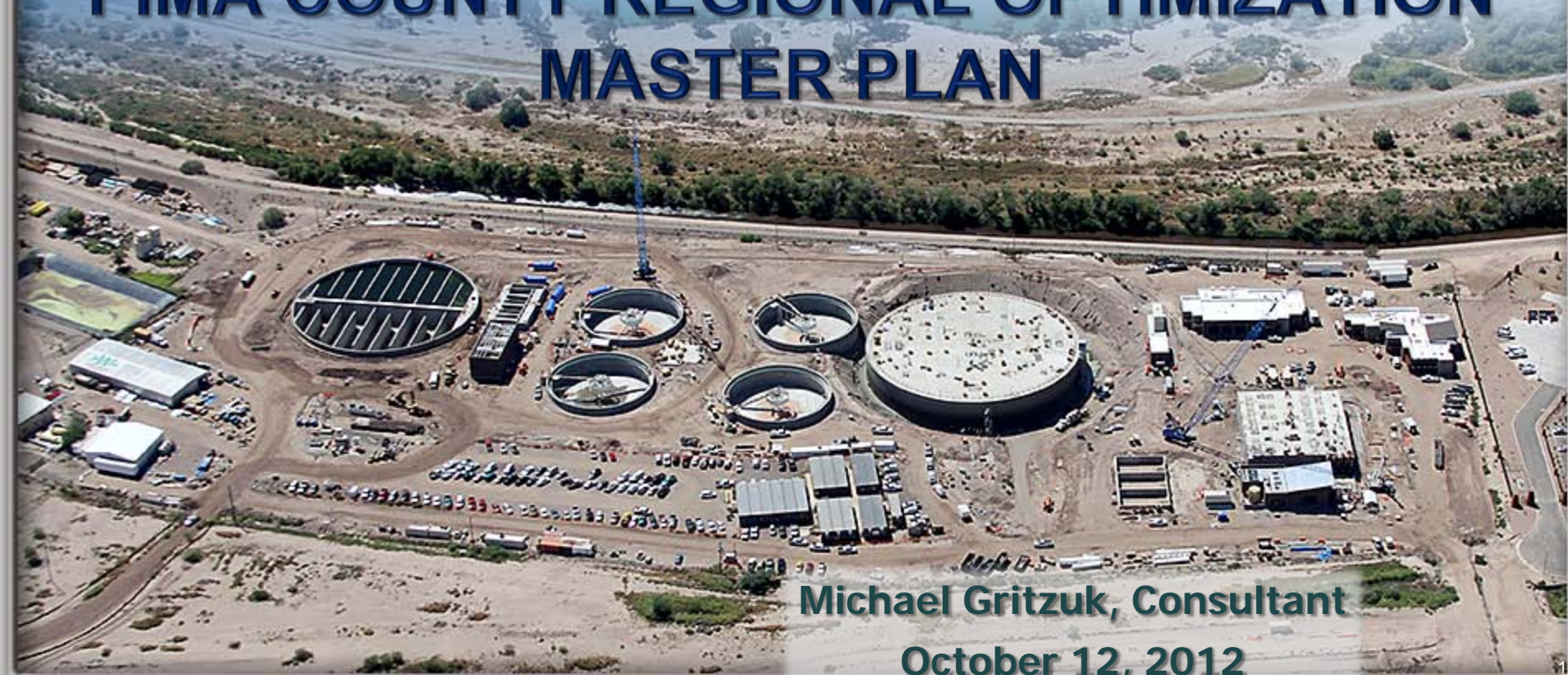
# WESTCAS 2012 FALL CONFERENCE

Tucson, Arizona

## PUBLIC-PRIVATE PARTNERSHIPS

in the

## PIMA COUNTY REGIONAL OPTIMIZATION MASTER PLAN



Michael Gritzuk, Consultant

October 12, 2012



# Regional Optimization Master Plan Goals/Program

- ✓ **Develop the optimal treatment process and plan to comply with regulatory requirements to reduce total nitrogen concentrations in effluent discharge to the Santa Cruz River**
- ✓ **Produce reuse quality effluent**
- ✓ **Master plan foreseeable future regulatory requirements**
- ✓ **Provide for the long-term treatment capacity needs of the County to 2030**



# Regional Optimization Master Plan Goals/Program

- ✓ Upgrade/rehabilitate aging infrastructure
- ✓ Utilize state-of-the-art technology/automation
- ✓ Develop long-term plan for the treatment, handling and reuse of system bio-solids and bio-gas
- ✓ Provide staff and community friendly facilities





# Regional Optimization Master Plan Goals/Program

- ✓ **Develop a detailed implementation schedule to meet regulatory implementation deadlines of 2014/2015**
- ✓ **Develop a financial plan to support the system's regulatory and other needs for the next fifteen years**
- ✓ **Obtain community acceptance**



# Regulatory Implementation Schedule to Reduce Effluent Nutrient Concentrations

	Ina Road WRF	Roger Road WRF
<ul style="list-style-type: none"> <li>✓ Complete initial engineering study</li> <li>✓ Submit recommended plan letter to ADEQ</li> </ul>	February 1, 2007	January 30, 2007
<b>Complied</b>	<b>January 2007</b>	<b>January 2007</b>
<ul style="list-style-type: none"> <li>✓ Award contract for construction</li> </ul>	December 31, 2010	January 30, 2011
<b>Contract Date</b>	<b>July 1, 2008</b>	<b>December 9, 2010</b>
<ul style="list-style-type: none"> <li>✓ Treatment of effluent to non-toxic levels</li> </ul>	January 30, 2014	January 30, 2015
<b>Contract Date</b>	<b>October 19, 2013</b>	<b>August 14, 2014</b>

# ROMP BUDGET

<b>Ina Road Upgrade &amp; Expansion Project</b>	<b>\$301,290,000</b>
<b>Plant Interconnect</b>	<b>41,190,000</b>
<b>Water Reclamation Campus 32 MGD Facility</b>	<b>275,100,000</b>
<b>Central Laboratory/Training Center</b>	<b>28,870,000</b>
<b>Biosolids/Biogas Master Plan</b>	<b>21,810,000</b>
<b>SCADA</b>	<b>13,460,000</b>
<b>Roger Road Decommissioning/ Clean Closure/Deconstruction</b>	<b>38,290,000</b>
	<hr/>
	<b>\$720,010,000</b>
	
<b>Bonding/Debt Service</b>	<b>\$1+ billion</b>

**Note: Largest Capital Improvement Program in Pima County to date**

# **History of Design-Bid-Build Projects in RWRD**

## **= History of Litigation**

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**Ina Road WRF  
12.5 MGD  
Expansion**

**35.2% over  
budget**

**38 months over  
schedule**

**Litigation**

**Green Valley  
Sub-Regional  
WRF Expansion**

**34.8% over  
budget**

**15 months over  
schedule**

**Litigation**



# Procurement Method Selection

- All construction projects within ROMP Program undergo an in-depth analysis of procurement methods best suited for the particular project
- Analysis of procurement methods is a program management requirement within the ROMP Program
- Procurement method determinations made by multi-disciplined teams of program management consultants and Department staff in workshop settings





# Procurement Method Selection Criteria

## Evaluation Criteria

- Capital and life-cycle cost comparisons
- Risk and risk transfer analysis
- Implementability in the marketplace
- Public-Private Partnership opportunity
- Financial analysis
- Implementation schedules / regulatory compliance schedule
- Design quality / design competition
- Cost competition
- Accountability, responsibility, liability
- Staff impacts
- Level of County control / Service Contract

## PROCUREMENT METHOD

Evaluations are performed in workshop setting leading to a formal recommendation

# Definition: PUBLIC-PRIVATE PARTNERSHIPS

**A Public-Private Partnership (PPP) is a contractual agreement between a public agency and a private sector entity. Through this agreement, the skills and assets of each sector are shared in delivering a project for the use of the general public. In addition to the sharing of resources, each party shares in the risks and rewards in the delivery of the project.**



*~ The National Council of Public-Private Partnerships*



# What is a Public-Private Partnership

- Joint undertaking by public and private parties
  - Not arms-length relationship
- Both parties take responsibility for the success (or failure) of the project
- Appropriate sharing of risk, responsibility and reward
- Each party doing what it does best for the mutual benefit of the project



# Project Delivery Alternatives

**Design-Bid-Build (DBB)**

**Public-Private Partnerships (PPP)**

**Construction-Manager-at-Risk (CM@R)**

**Design-Build (DB)**

**Design-Build-Operate (DBO)**

**Design-Build-Finance-Operate (DBFO)**

**Design-Build-Finance-Own-Operate (DBFOO)**

**Request for Expressions of Interest (RFEI)**





# ROMP

## Public-Private Partnerships



# **Ina Rd WRF Upgrade & Expansion Project**

## **Construction Manager at Risk (CM@R)**

### **Procurement Method Selected**

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- **Project is complex, not clearly defined**
- **Complicated design**
- **Contractor input needed from inception of design**
- **Design professional / contractor / staff to partner design**
- **Poor as-built drawings / unknown subsurface conditions**
- **Transfer of construction risk to contractor**
- **Existing plant to remain in operation and in compliance during construction**
- **Stringent regulatory compliance schedule**
- **Can proceed with design and construction of project in a series of negotiated Guaranteed Maximum Price (GMPs) segments**





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# **Ina Road WRF Upgrade & Expansion Project Status**

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**Original ROMP Budget = \$301,290,000**

**Current ROMP Budget \$311,720,000  
(Mostly owner initiated additions)**

**Project 71% Complete**

**On Schedule for October 19, 2013 Substantial Completion**



# **Water Reclamation Campus Treatment Facility Project**

## **Design-Build-Operate (DBO)**

### **Procurement Method Selected**

- **Replace existing 41 MGD antiquated Roger Road Treatment Facility:**
  - **Original plant built in early 1950s**
  - **Prohibitive upgrade and replacement cost**
  - **Maintaining existing operations during construction too risky**
- **Build new 32 MGD state-of-the-art treatment facility in green field setting**
- **Allows for design innovation to achieve effluent quality requirements and cost effectiveness**



# Design-Build-Operate Procurement

**All costs associated with:**

- **Designing, permitting, constructing, testing**
- **Placing the project into operations**
- **Meeting all regulatory requirements**



**are transferred to and are the obligation of the DBO Company without any additional cost to the County**



# DBO Partnering



# **Water Reclamation Campus DBO Project Status**

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<b>Original ROMP Budget =</b>	<b>\$275,100,000</b>
■ <b>Design &amp; Construction Budget</b>	<b>\$240,000,000</b>
<b>Awarded DBO Contract</b>	<b>\$164,063,000</b>
■ <b>Award under budget</b>	<b>\$79,937,000</b>
<b>Current ROMP Budget</b>	<b>\$182,466,000</b>

**Project 62% Complete**

**Ahead of schedule for August 14, 2014 Substantial Completion**



# Biogas to Biomethane Project

Design-Build-Finance-Own-Operate (DBFOO)



# **Biogas to Biomethane Project**

## **Design-Build-Finance-Own-Operate (DBFOO)**

### **Procurement Method Selected**

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**RWRD produces 1,000,000 cubic feet digester gas (biogas) daily**

**RFEI marketplace input:**

- **Cogeneration**
- **Clean biogas to natural gas pipeline quality to sell to national markets**
- **Compress biomethane to CNG vehicle fuel**
- **Strong recommendation from marketplace for private financing**



# **Biogas to Biomethane Project**

## **Design-Build-Finance-Own-Operate (DBFOO)**

### **Procurement Method Selected**

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**DBFOO procurement selected:**

- **Cleaning/marketing biomethane not a RWRD core function**
- **No capital cost outlay by RWRD**
- **Guaranteed revenue (royalty)**
- **Maximum risk assigned to DBFOO contractor**

**DBFOO procurement process underway**

**DBFOO project on line late 2014**

# **ROMP Status to Date**

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- 1. ROMP Budget of \$720,000,000 reduced to \$660,000,000**
- 2. All ROMP Projects on or ahead of schedule**
- 3. Overall ROMP Program 65% complete**
- 4. Only one litigation matter resulting in favor of Pima County**
- 5. On schedule to come in ahead of regulatory compliance dates**
- 6. RWRD has found Public-Private Partnership procurements viable and effective**





## Pima County Regional Wastewater Reclamation Department

