Redevelopment Opportunities for Walter Reed Medical Center

March 2, 2012

Electric Eels

Image Source: U.S. Army, posted by the Washington Post, http://www.washingtonpost.com/local/walter-reed-army-medical-center/2005/05/26/gIQAXSL2cI_gallery.html#photo=2

Introduction

- **Problem**: Design a policy that influences a developer to practice sustainability
- **Goals**:
  - Meet the District's energy and water efficiency goals
  - Maintain revenue neutrality for the District
- **Plan of action**: Provide tax credits that exceed the cost of energy and water efficient designs, and penalize the developer for not reaching sustainability targets

Plan of action

- Milestones and tax credits incorporated into:
  - WRAMC lease agreement

    or
  - Occupancy agreement if site is sold

Step 1

Cost of energy and water efficient development

Step 2

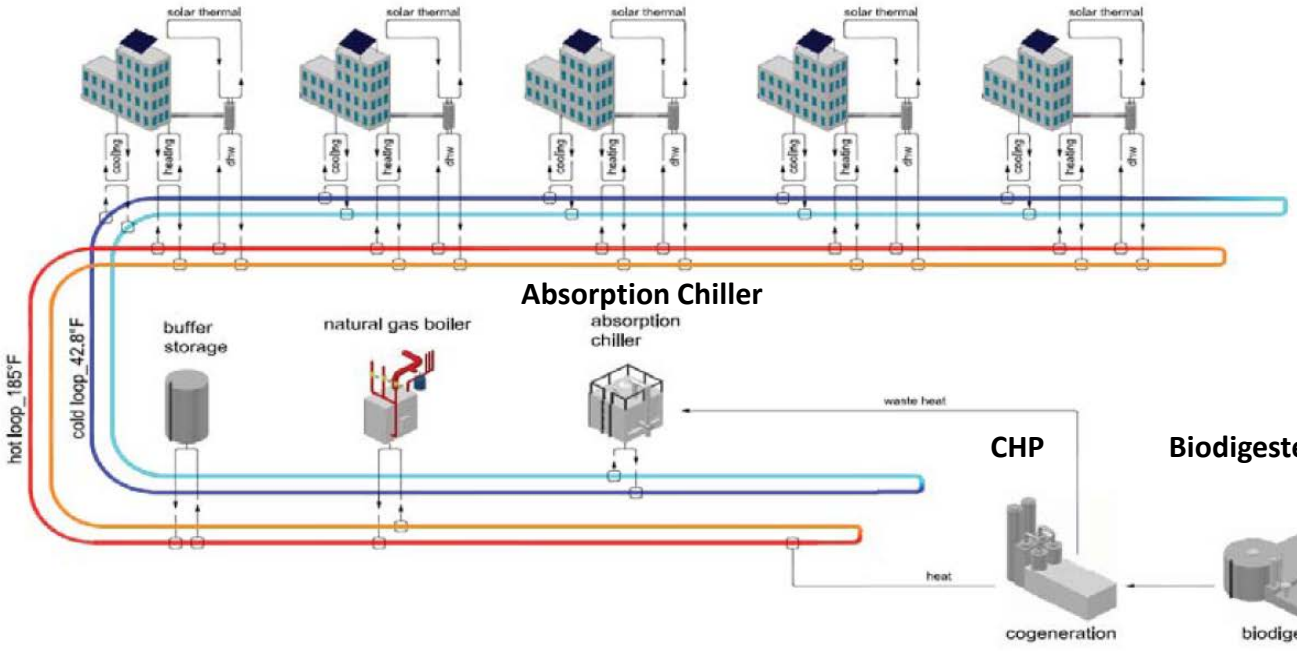
Tax credits provided by the District

Step 3

Benefits to the District and the Community

Technology Strategies

- **Building**
  - High performance buildings
  - Green roofs
- **Site**
  - Permeable surfaces
  - Vegetated swales & basins
- **Waste**
  - Anaerobic Biodigestion
- **Energy**
  - Combined Heat & Power
  - Ground Source Heat Pumps
  - Absorption Chillers



Facility Manager Education & Community Collaboration

Step 1 – Cost of energy / water efficiency

Item	2013 Cost
Biodigestion	$5,105,871
CHP Facility	$8,634,802
Wastewater Treatment Plant	$6,397,617
Building Construction	$5,064,790
Operating Costs	$1,397,713
Photovoltaics (incl. SRECs incentive)	$8,587,620
Electricity Benefits	($1,222,101)
Water Benefits	($713,402)
Community Benefits	($$$)

Step 1a – Incentives reduce cost

- Federal
  - Tax deduction 197D
- Local
  - PACE financing
  - Solar Renewable Energy Certificates (SREC)
  - Renewable energy incentive program
  - Anacostia Watershed Society
  - Eliminated runoff levy
- Utilities
  - PEPCO energy efficiency incentives

Step 2 – Tax credit policy

Item	2013 Cost	2020	2025	2030	2040	2050
Biodigestion	$5,105,871	$2,552,935	$1,531,761	$1,021,174	$255,294	$255,294
CHP Facility	$8,634,802	$4,317,401	$2,590,441	$1,726,960	$431,740	$431,740
Wastewater Treatment Plant	$6,397,617	$3,198,809	$1,919,285	$1,279,523	$319,881	$319,881
Building Construction	$5,064,790	$5,064,790	$0	$0	$0	$0
Operating Costs	$1,397,713	$1,397,713	$1,397,713	$1,397,713	$1,397,713	$1,397,713
Photovoltaics (w/ SRECs)	$8,587,620	$4,293,810	$2,576,286	$1,717,524	$429,381	$429,381
Electricity Benefits	($1,222,101)	($611,051)	($977,681)	($1,222,101)	($1,283,206)	($1,344,311)
Water Benefits	($713,402)	($142,680)	($285,361)	($428,041)	($570,722)	($713,402)
Total Costs of Achieving Goal By Year-End		$20,071,727	$8,752,444	$5,492,753	$980,081	$776,296
	Reuse Goal	*50% Energy / Gray*	*80% Energy*	*100% Energy / Black*	*105% Energy*	*110% Energy / Full Reuse*
Costs as a percent of the 2013 costs.	Energy/Water	50%	30%	20%	5%	5%
	Electric Utility	50%	80%	100%	105%	110%
	Water Utility	20%	40%	60%	80%	100%

Cash Flow	2021	2022	2023	2024	2025	Sum
Total costs of technologies by developer	$1,750,489	$1,750,489	$1,750,489	$1,750,489	$1,750,489	$8,752,444
Property tax break to developer	15%	15%	15%	15%	15%	-
Property tax break to developer	$3,000,000	$3,000,000	$3,000,000	$3,000,000	$3,000,000	$15,000,000
Property tax revenue to District	$17,000,000	$17,000,000	$17,000,000	$17,000,000	$17,000,000	$85,000,000

- Proportional penalties must be imposed if milestone is not reached

Step 2 – Tax credit policy

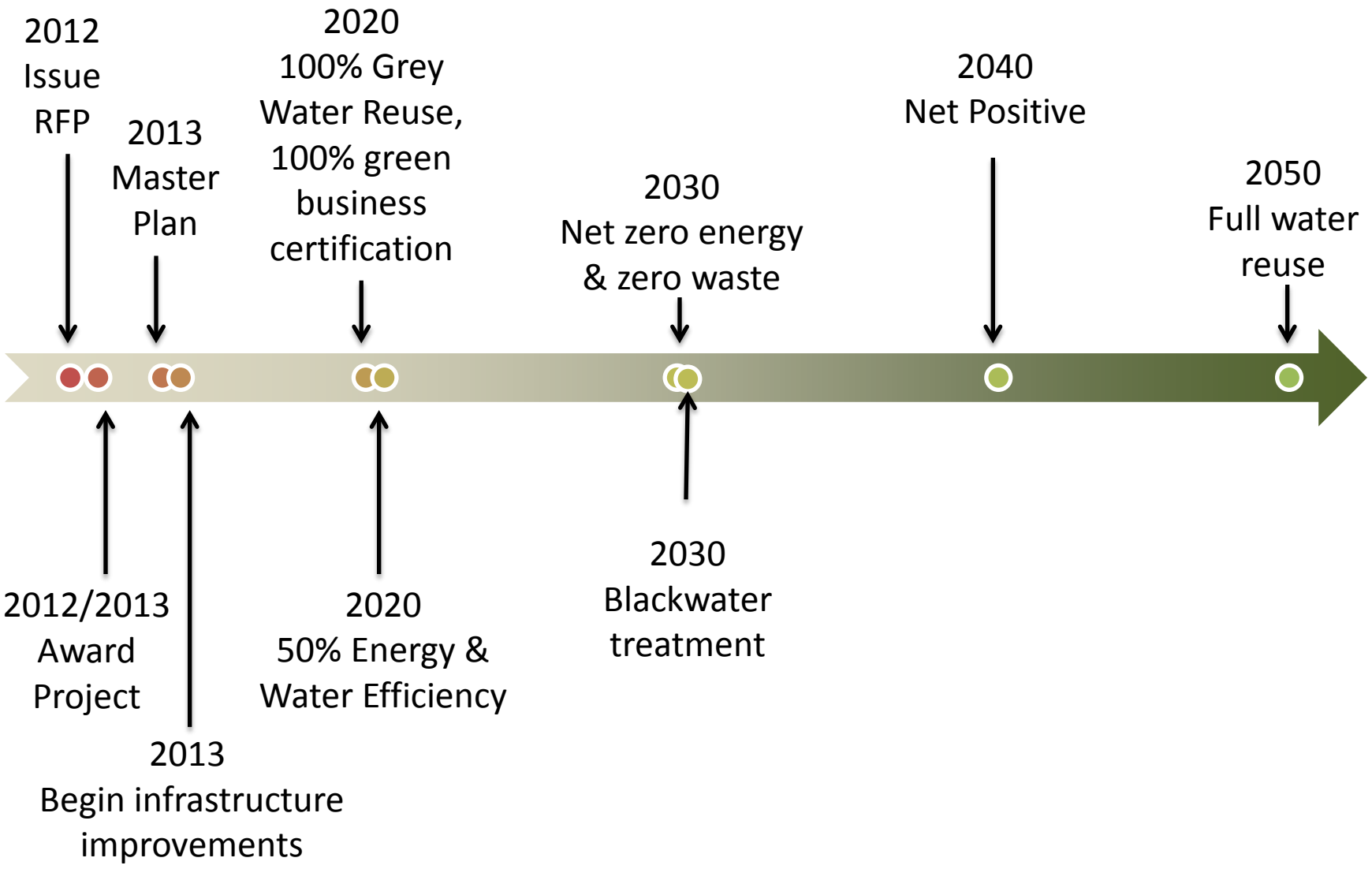
Property Tax Credit Schedule	
Year Span	Property Tax Break
2013 - 2020	20%
2021 - 2025	15%
2026 - 2030	10%
2031 - 2040	5%
2041 - 2050	2%

- Businesses: 1% sales tax break ($1.3M) for business that practice energy/water efficiency
- Make available for all District to avoid cannibalization

Step 2a - Implementation

Stakeholder	Responsibilities
Washington DC	• Providing tax credits • Participating in workshops • Managing “Sustainability Fund” • Field visits to track milestones
Community	• Participation in workshops and hearings
Developer	• Providing energy and water efficiency improvements. • Participation in workshops and hearings. • Meet development milestones.
Utility Companies	• Work with developer to provide incentives
Tenants	• Meet energy/water efficiency targets for sales tax break

Milestones


2012
Issue
RFP
2013
Master
Plan
2020
100% Grey
Water Reuse,
100% green
business
certification
2030
Net zero energy
& zero waste
2040
Net Positive
2050
Full water
reuse
2012/2013
Award
Project
2013
Begin infrastructure
improvements
2020
50% Energy &
Water Efficiency
2030
Blackwater
treatment

Step 3 – Benefits to the District

Economic, Environmental and Social

- Revenue neutral with “Sustainability Fund”
  - $15M+ per year
- Power reliability
  - $318k per year
- Reduced flood risks; storm water management
  - $100k for reduced storm water runoff
  - Less stress on combined sewer overflow system
  - Cleaner water
- Green Power Community goals
  - $580k per year
- Improved air quality
- Community sustainability

Outcomes & Scalability

- *Triple Bottom Line*: Economic, Environmental, & Social
  - Economic vitality for all stakeholders
  - Social and community engagement
  - Vibrant and walkable community
  - Natural habitat corridors
  - Achievable at any urban government property with revenue neutral goals
  - National and global example

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