Contract No. 98-RFP-10
Design, Build, Own, Finance, Operate and Maintain a
150 Dry Ton/Day Biosolids Processing Facility at the
Stickney Water Reclamation Plant

“A beneficial resource”

Steve Waters, P.E.
Biosolids...a beneficial resource

**Biosolids** are the nutrient-rich organic materials resulting from the treatment of domestic sewage at a wastewater treatment facility.
Federal government and public agencies did their part:

- 70’s – Federal Water Pollution Control Act
  - Prevent biosolids constituents entering waters
- 80’s – Pre-treatment programs
  - Reduce industrial discharges
- 90’s – Part 503 Rule
  - Identifies pollutants and concentration limits
  - Specifies management practices
Several companies were developing technologies to produce a marketable product

- Technologies that were being developed included:
  - Indirect drying
  - Direct drying
  - Lime stabilization
  - In-Vessel Composting
In the late 1990’s, the MWRDGC decided to diversify its biosolids program

At that time the MWRDGC program consisted of:

- air drying
- lagoons and
- direct land application
To diversify, the District invited private companies to provide solutions.

The bid process included:

- Request for Interest
- Request for Qualifications
- Request for Proposals
- Request for Best and Final Offer
MBM was selected as the successful bidder and awarded the contract in 2001.

Proposed Technology: Indirect Drying
The successful bidder

- Metropolitan Biosolids Management (MBM)

- Partnership between:
  - Biosolids Management, Inc.
  - &
  - Veolia Water North America Operating Services LLC
  - Formerly USFilter Operating Services, Inc.
  - Serving 14 million people in 600 Communities
The journey begins with the team...

Design:  N.A. Water Systems

Build:  INDEPENDENT MECHANICAL INDUSTRIES, INC.

HELM Electrical

Operate & Maintain:  VEOLIA WATER
Understanding the contract

- **Contract Structure : DBOOM**

  Finance → Design → Build → Operate & Maintain → Own
What we have achieved to date...

- **Key Project Milestones:**
  - March 2001 – Contract Signed
  - November 2004 – Siting Approval
  - September 2005 – IEPA Permits Issued
  - October 2005 – Start Construction
  - June 2007 – Start-up and Commissioning
What is remaining...

Projected Milestones:

► January 2008 – Performance Test
► April 2008 – Commercial Operations
What is indirect drying?

- Enclosed Conduit
- Water Vapor
- Biosolids Particle
- Heat Transfer Fluid
The Heart of the Process - Pelletizer Unit

- HTF Piping
- Vapor Duct
- Rake Arms
- Trays
- Drive Assembly
Pelletizer Views
How it works…
Major Process Systems

- **Pelletizers** – 4 @ 50 dry tons/day
- **Solids Handling** – Wet and Dry
  - Biosolids Pumps
  - Pellet Cooling & Classification
  - Pellet Transport & Storage
- **Heat Transfer**
  - Thermal Oil Heaters – 3 @ 27MMBtu/hr
  - Thermal Oil Circulation – Primary & Secondary
- **Emissions Control**
  - Vapor Treatment
  - Odor Control
The Product

- Hard Pellet
- 1 – 4 mm diameter
- 4-4-0 (NPK)
- Class A (EQ) biosolids
MBM has entered into an agreement with an experienced biosolids marketing firm to manage the sales and distribution of the product.
The Market

- Uses of Biosolids Pellets

- Commercial 14%
- Blenders 25%
- Landfill 4%
- Wisconsin Agriculture 20%
- Indiana Agriculture 8%
- Illinois Agriculture 29%
Progress Photographs

November 2005
Progress Photographs

January 2006
Progress Photographs

March 2006
Progress Photographs

May 2006
Progress Photographs

July 2006
Progress Photographs

September 2006
Progress Photographs

March 2007
Progress Photographs

November 2006
Questions