



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 Management, Inc.**

# Biosolids...a beneficial resource

■ **Biosolids** are the nutrient-rich organic materials resulting from the treatment of domestic sewage at a wastewater treatment facility.



# How to manage them safely and effectively?

- 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.**



**M B M**

**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



M B M



# The journey begins with the team...

**Design:**



**N.A. Water Systems**

CTE | AECOM

**Build:**



**INDEPENDENT**  
MECHANICAL INDUSTRIES, INC.



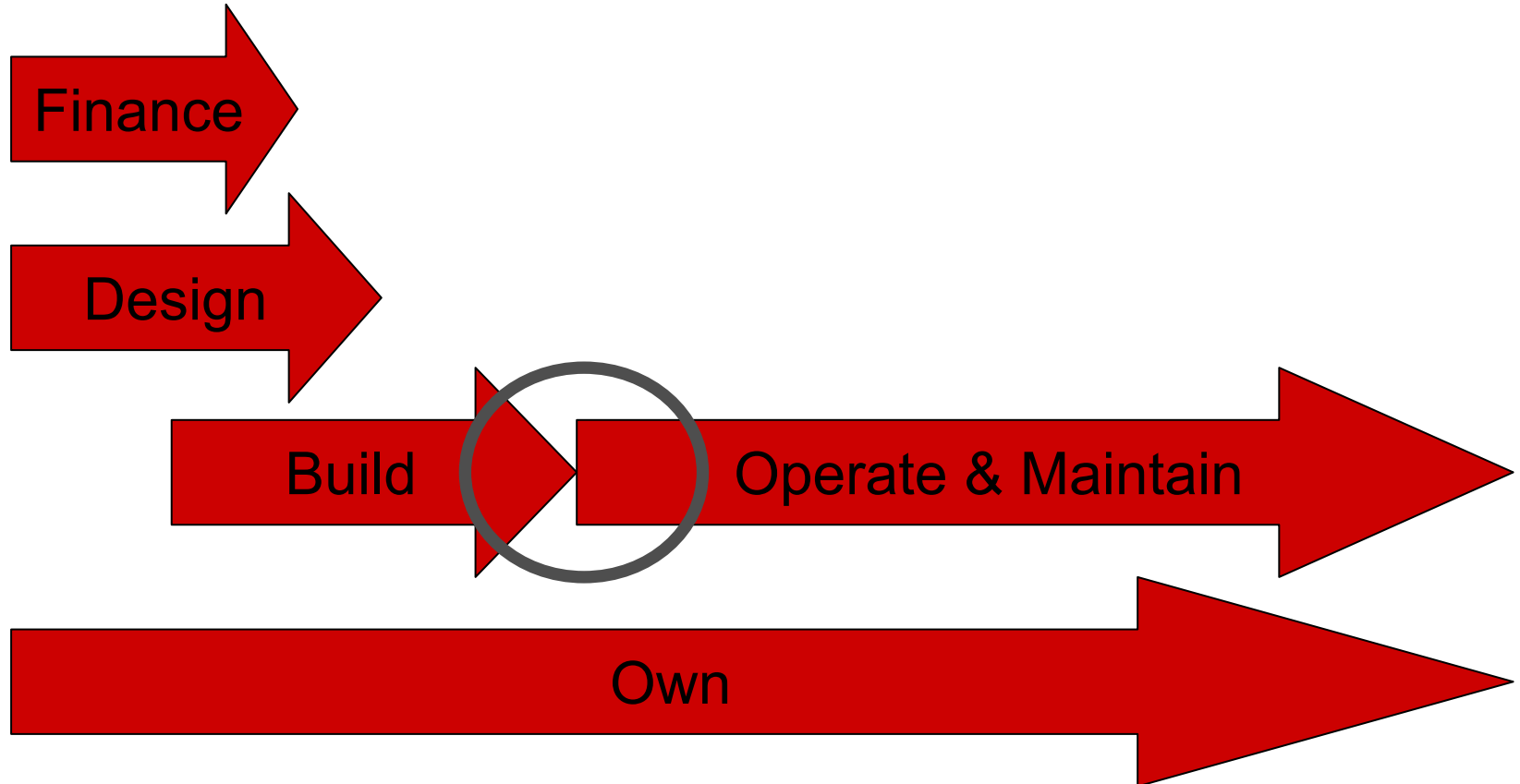
**HELM Electrical**

**Operate &  
Maintain:**



# Understanding the contract

## ■ Contract Structure : DBOOM



# What we have achieved to date...

## ■ Key Project Milestones:

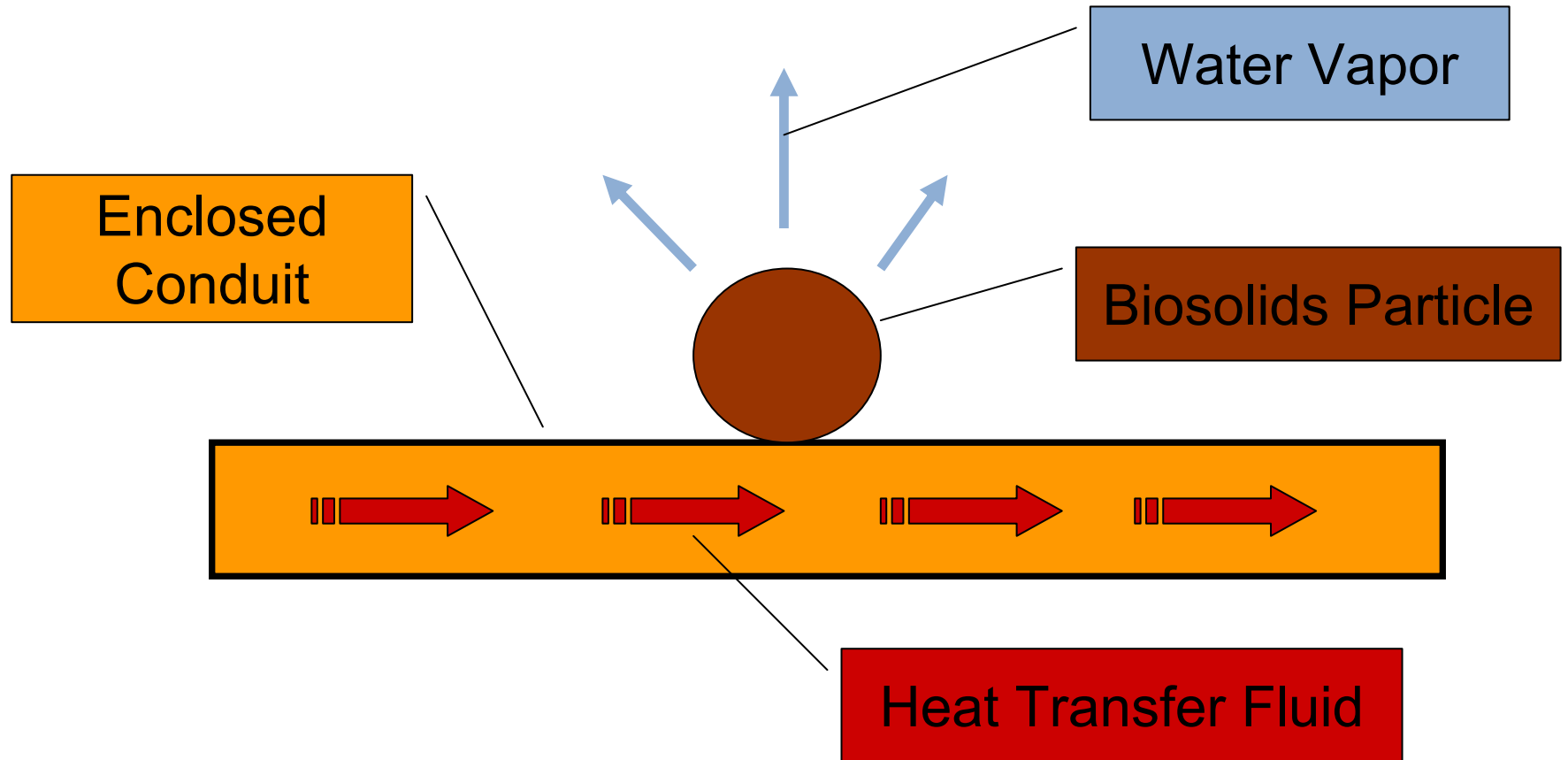
- ▶ March 2001 – Contract Signed
- ▶ November 2004 – Siting Approval
- ▶ September 2005 – IEPA Permits Issued
- ▶ October 2005 – Start Construction
- ▶ June 2007 – Start-up and Commissioning

# What is remaining...

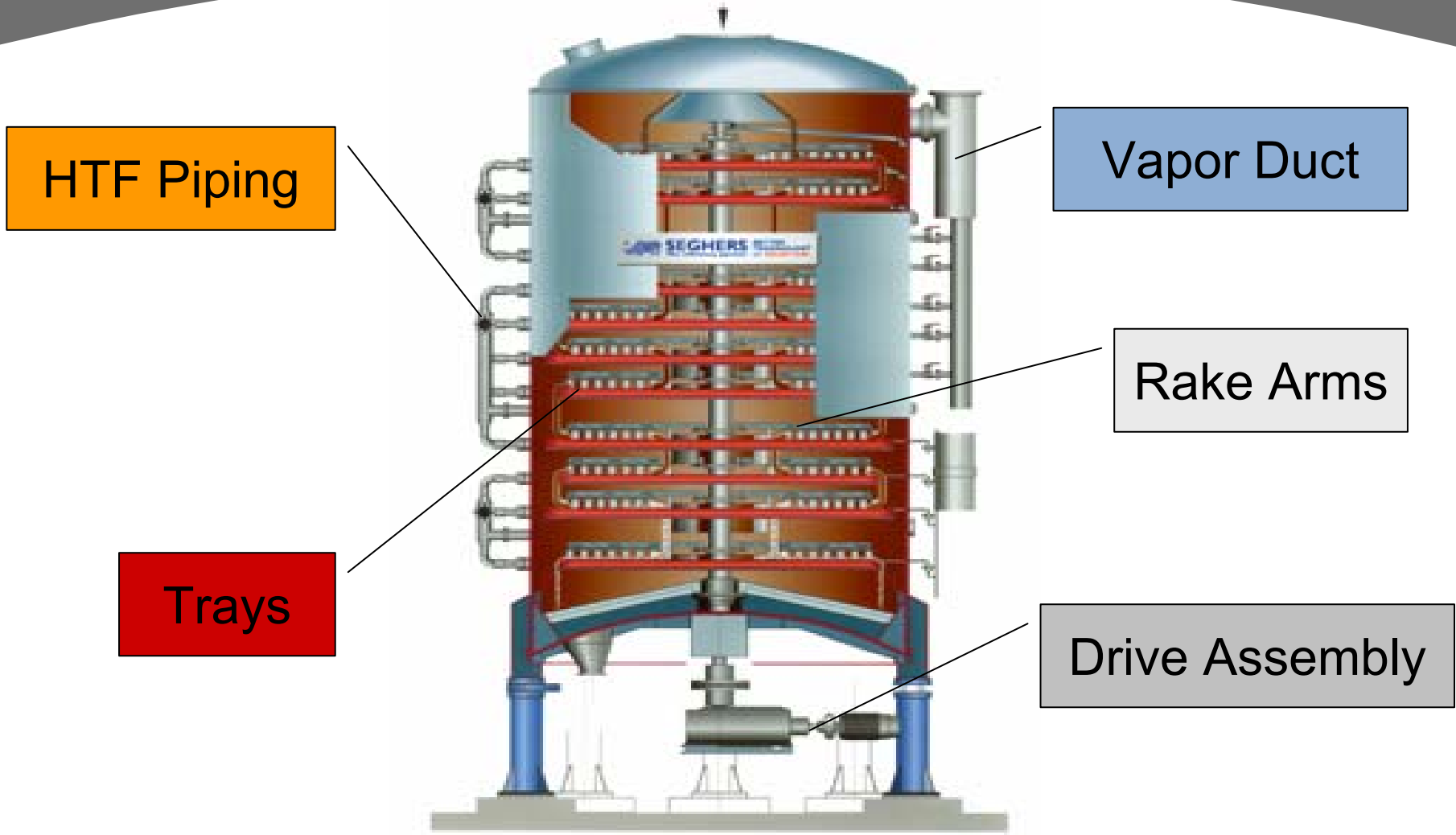
## ■ Projected Milestones:

- ▶ January 2008 – Performance Test
- ▶ April 2008 – Commercial Operations

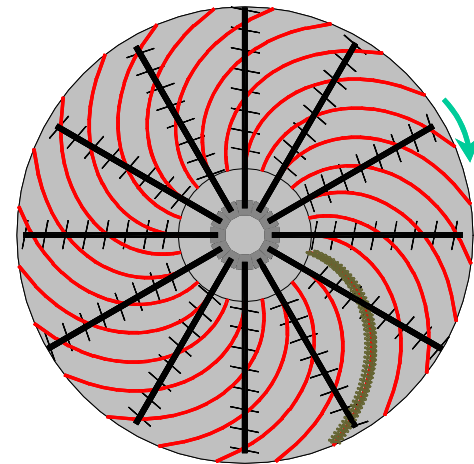
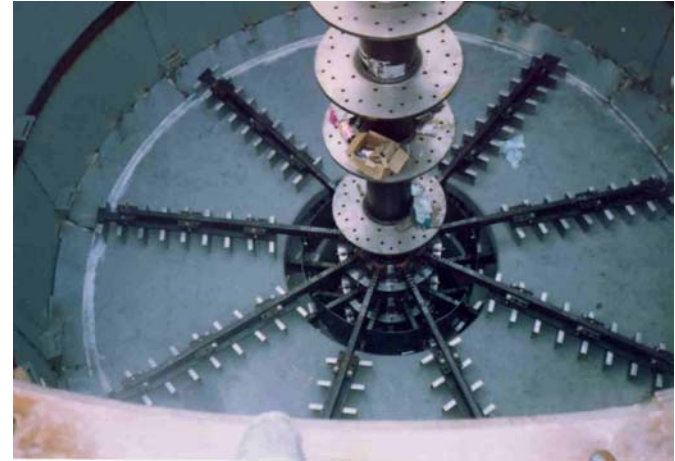
# What is indirect drying?



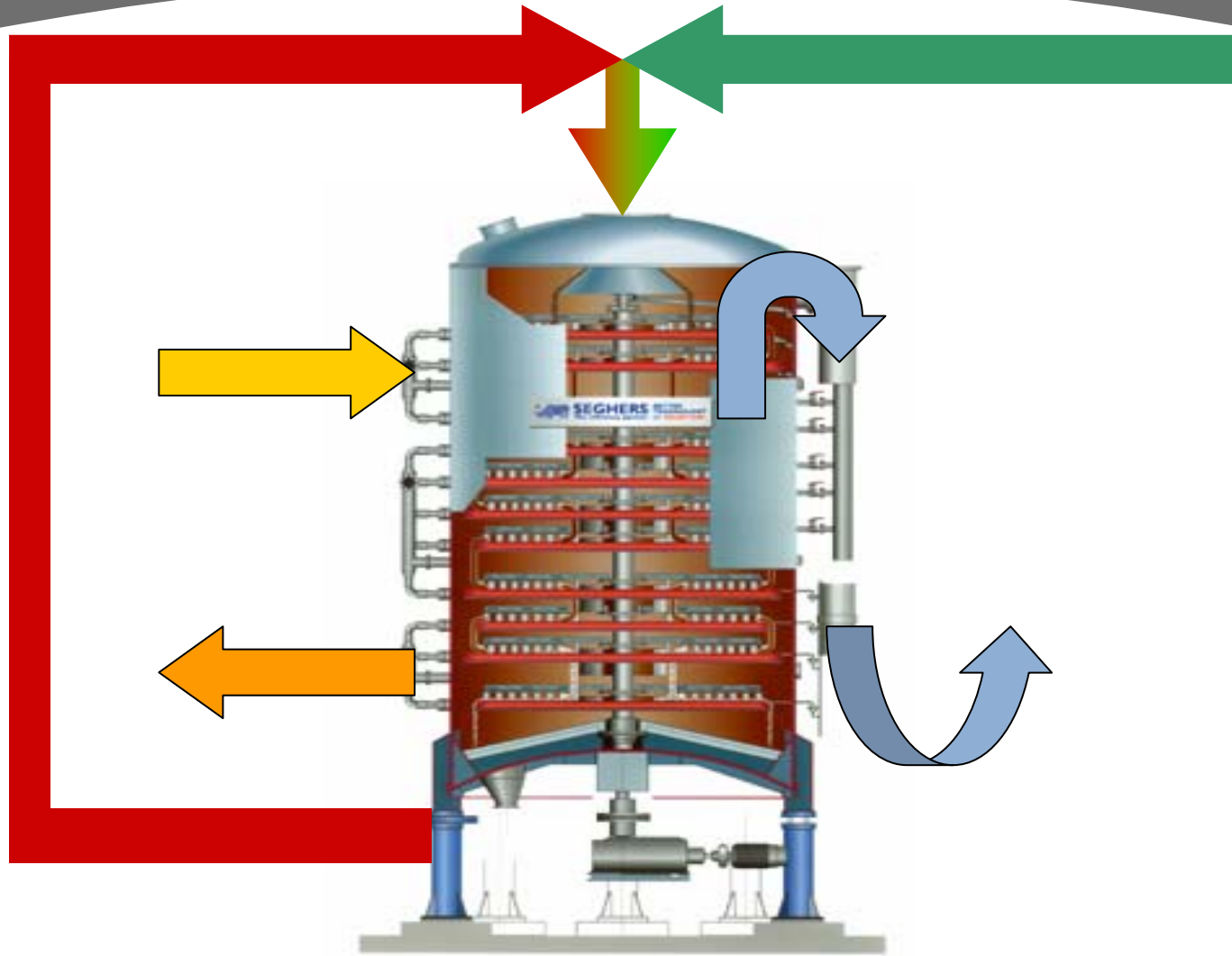
# The Heart of the Process - Pelletizer Unit



# Pelletizer Views



# How it works...

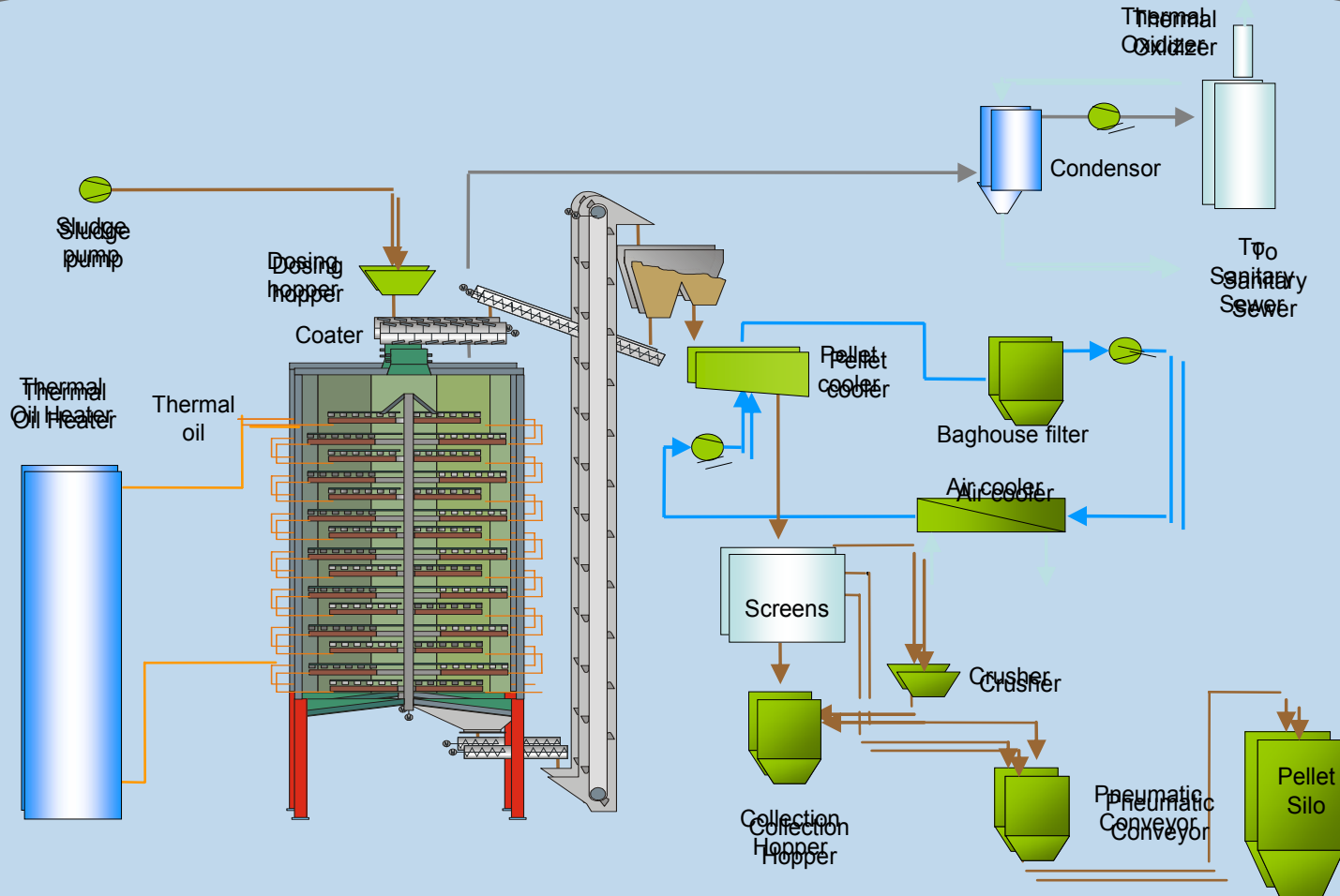


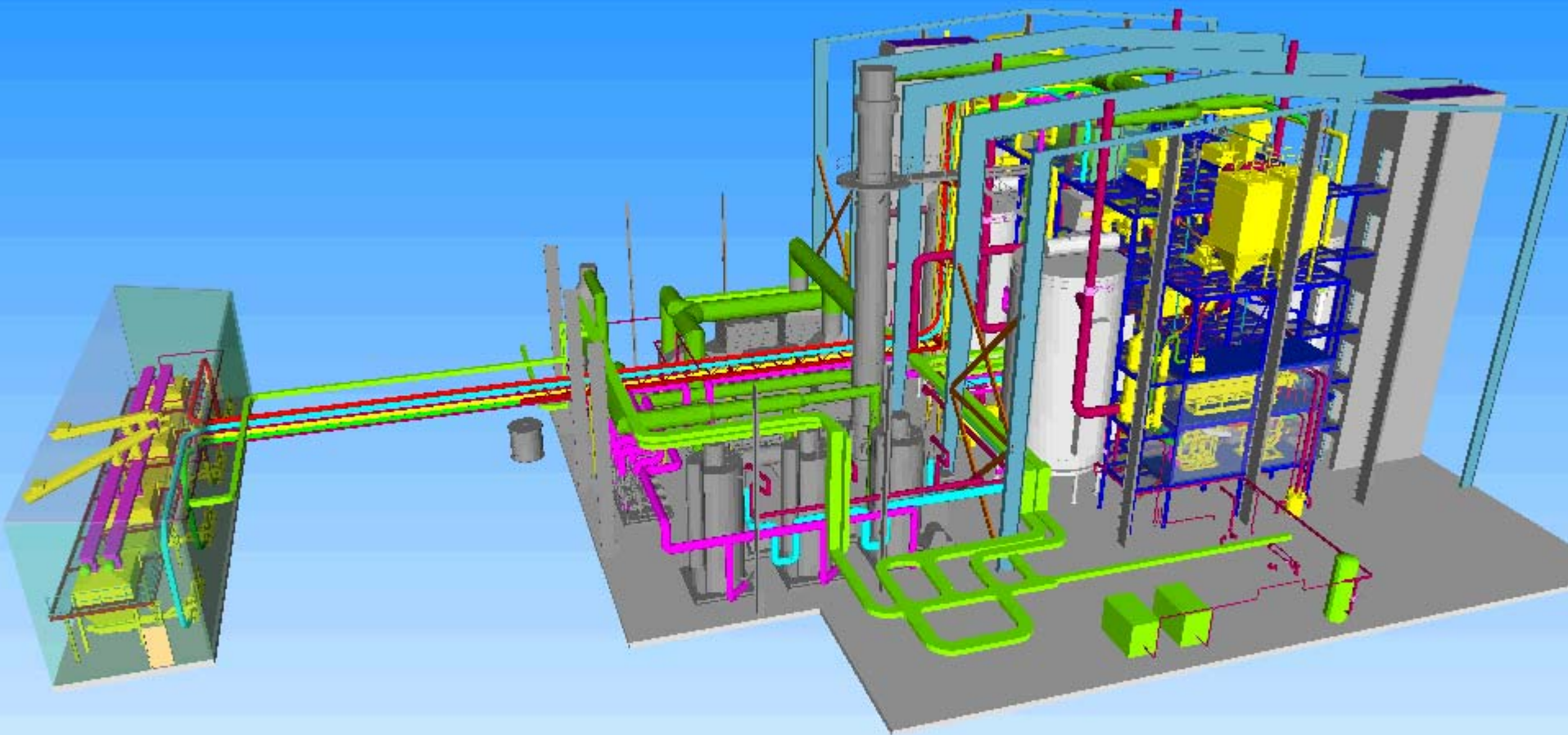


# Major Process Systems

- **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

# How it fits together...





# The Product

- **Hard Pellet**
- **1 – 4 mm diameter**
- **4-4-0 (NPK)**
- **Class A (EQ)  
biosolids**



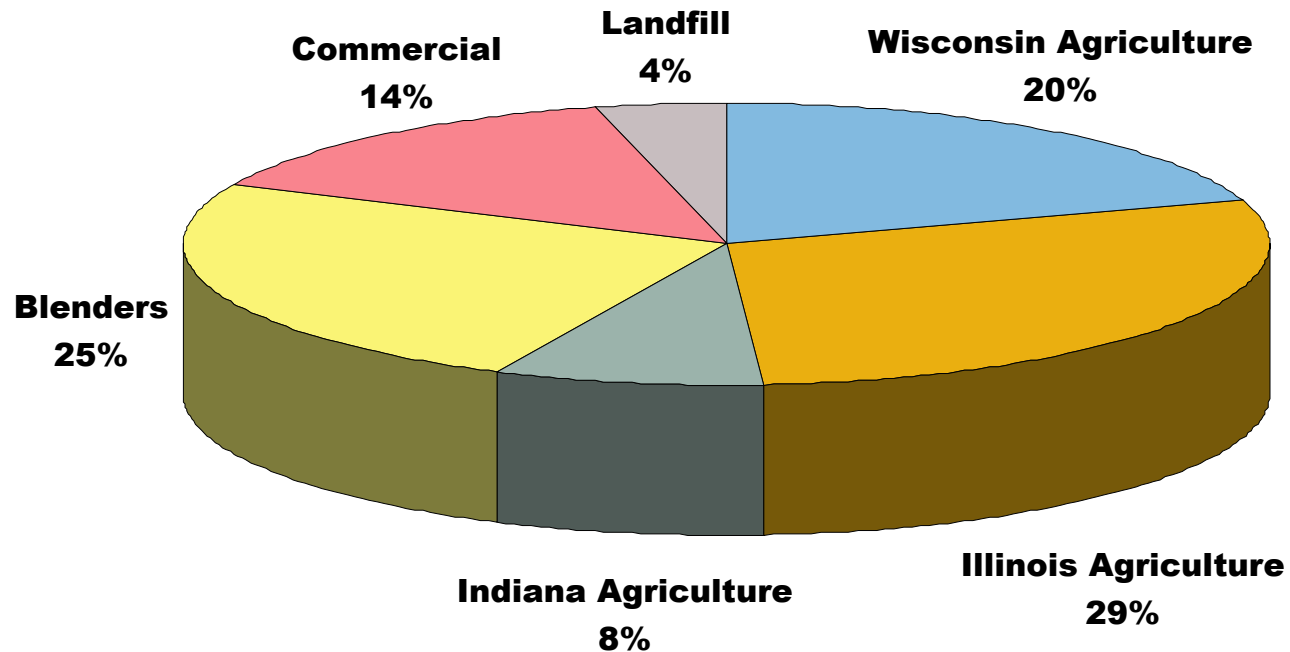
# Marketing & Transportation

- 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



# 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





Thank You



**Biosolids Management, Inc.**