City of Portsmouth's Madbury WTP Sustainable Design Aspects

South Facing Windows and Light Shelves Harvest Sunlight Solar Collectors for Providing Hot Water

> Fiber Siding and Masonry have High Recycled Content

Building Orientation Improves Solar Loading Conditions

Translucent Wall Panels to Harvest Sunlight in Process Areas



Materials

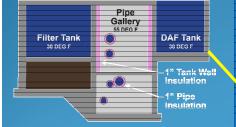


- Locally Obtained Materials -
- Most Materials are from within 500 Miles of Portsmouth
- Recycled Building Materials
 - Concrete, Rebar and Structural
 Steel
 - Iron for Process Piping
- Recycle/Reuse of Construction
 Waste
 - Project Goal: Min. of 50% of Waste
 Diverted From Landfill
 - ~90% Achieved to Date

Energy and Environment



- Process Water Heat Pumps and Heat Exchanger
- Utilize Energy from Source Water for Building HVAC Energy
- VFDs and Energy Efficient Motors
- Enhanced Compartmentalization & Insulation of Building
 - Pipe Gallery Insulation Reduces Required Heating Load
 - Approximately 50% reduction in fuel consumption
- Improved Stormwater Management
 - Porous Pavement at Bellamy Reservoir
 - Stormwater Detention and Treatment
- Zero Liquid Waste from Treatment Plant Process







Madbury will be the 1st LEED certified Water Treatment Plant in New England