APPENDIX D

SAMPLE WASTE MANAGEMENT PLAN

SOLID WASTE RECYCLING AND MANAGEMENT PLAN
(To be Submitted and Approved Prior to Commencement of Work)

Project: Demolition of Existing Athletic Center and Construction of New Athletic Center
Project Phase: Demolition

Owner: St. Paul's School
Street Address: 325 Pleasant Street
City, State, Zip: Concord, NH 03301
Phone: Fax: Email:
Contact: Phone:

General Contractor: Gilbane Building Company
Street Address: 325 Pleasant Street
City, State, Zip: Concord, NH 03301
Phone: 781-737-1500 Fax: 781-737-1550 Email:
Contact: Phone:

Architect: Architectural Resources Cambridge
Street Address: 140 Mount Auburn Street
City, State, Zip: Cambridge, MA 02138
Phone: 617-547-2200 Fax: 617-547-7222 Email:
Contact: Phone:

Date Submitted: July 11, 2003 Prepared By: John Gundling
The Institution Recycling Network
7 South State Street
Concord, NH 03301
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WASTE MANAGEMENT GOALS:
This project will recycle, reuse, or salvage at least 75% of the waste generated on site to earn 2 LEED points. Estimate and Maintain Recycling/Landfill Diversion Rates and Cost Benefit Analysis, Recycling vs. Disposal. (See Appendix)

COMMUNICATION PLAN

- Waste prevention and recycling activities will be discussed at each job site safety meeting with Gilbane Building Company employees and subcontractors. (See Appendix)
- All contractor and subcontractor employees will be notified of this plan and will be expected to comply with the plan
- All contractor and subcontractor foremen will receive a copy of this plan
- All subcontracts for this project clearly specify that adherence by subcontractors with this waste management plan is mandatory
- Any incidence of contamination by subcontractor of materials designated by this plan for source-separated recycling will result in a $750.00 fine (per subcontracts).

RECYCLING AND WASTE MANAGEMENT PROCEDURES

SAL	Salvage
CRUSH-ON	On-site crushing and reuse (asphalt, block, brick, concrete)
CRUSH-OFF	Removed from site for off-site crushing and reuse
SSR	Source-separated recycling
MDR	Mixed debris recycling
DISP	Disposal (recycling alternative not feasible)

SOLID WASTE RECYCLING AND MANAGEMENT PLAN Project: Demolition, St. Paul's School Athletic Center					
Material	Procedure	Market	Mgmt Plan	Estimated Quantities (if available)	
				Quantity	Units
Soils, foundation fill					
Ledge					
Asphalt					
Block	CRUSH-OFF		Source separate, crush off-site and recycle as aggregate	54000	1080 ton
Concrete w/ Rebar	CRUSH-OFF		Lower Level Floor, crush off-site and recycle as aggregate	370 cu yds	555 tons
Concrete w/o Rebar	CRUSH-OFF		Foundation, crush off-site and recycle as aggregate	460 cu yds	690 tons
Windows	N/A				
Doors, Interior	SAL				
Doors, Exterior Steel	SAL				
Backboard Frames, 6	SAL				
Steel I-Beams 36", 4	SAL				
Bar Joists 24"	SAL				
Bar Joists 16"	SAL				
Bar Joists 12"	SAL				
Metal, Ferrous	SAL, MDR				
Metal, Nonferrous	SAL, MDR				
Porcelain fixtures	SAL				
Metal, Wiring	SAL, MDR, SSR		Best method to be determined by owner, contractor, & sub		
Elec Serv.	SAL				
Lockers	SAL, MDR		Best method to be determined by owner, contractor, & sub	500	10 tons
Bleachers, 15 sets	MDR				
Wood (clean)	SSR, MDR		Best method to be determined by owner, contractor, & sub		
Wood (stained, painted)	SSR, MDR		Best method to be determined by owner, contractor, & sub		
Wood (PT)	N/A				
Drywall (painted)	DISP		This material cannot be recycled and must be disposed of		
Drywall (clean)	N/A				
Glass, ¼" plate	SSR, MDR		Best method to be determined by owner, contractor, & sub	350 sq. ft.	.6 tons
Mirrors ¼" plate	SSR, MDR			800 sq. ft.	1.4 tons

SOLID WASTE RECYCLING AND MANAGEMENT PLAN
Project: Demolition, St. Paul's School Athletic Center

Roofing, Shingles	N/A				
Roofing, Membrane	SSR, MDR				
Roofing, Other	N/A				
Tectum Decking	DISP		This material cannot be recycled and must be disposed of		
Plaster over wire	DISP		This material cannot be recycled and must be disposed of		
Trash, Solid Waste	DISP		This material cannot be recycled and must be disposed of		

SOLID WASTE RECYCLING AND MANAGEMENT PLAN PRELIMINARY LANDFILL DIVERSION RATE CALCULATION	
Estimated Tons to be Salvaged, Reused and Recycled	2,500
Estimated Tons to be Disposed	500
Total Tons Generated	3,000
Landfill Diversion Rate (Recycled Tons/Generated Tons = Diversion Rate)	83%

SOLID WASTE RECYCLING AND MANAGEMENT PLAN, APPENDIX A,

COST BENEFIT ANALYSIS, RECYCLING VS DISPOSAL

Project: Demolition, St. Paul's School Athletic Center

Material	Quantity (Tons)	Estimated Tip Fee, Recycling	Estimated Trans. Recycling	Total Estimated Recycling Cost	Estimated Cost Disposal	Estimated Savings
Landclearing Debris						
Timber						
Limbs, Brush						
Soils, foundation fill						
Ledge						
Asphalt						
Block						
Concrete w/ Rebar						
Concrete w/o Rebar						
Windows						
Doors, Interior						
Doors, Exterior Steel						
Backboard Frames, 6						
Steel I-Beams 36", 4						
Bar Joists 24"						
Bar Joists 16"						
Bar Joists 12"						
Metal, Ferrous						
Metal, Nonferrous						
Porcelain fixtures						
Metal, Wiring						
Elec Serv.						
Lockers						
Bleachers, 15 sets						
Wood (clean)						
Wood (stained, painted)						
Wood (PT)						
Drywall (painted)						
Drywall (clean)						
Glass, ¼" plate						
Mirrors ¼" plate						

SOLID WASTE RECYCLING AND MANAGEMENT PLAN APPENDIX A

COST BENEFIT ANALYSIS, RECYCLING VS DISPOSAL

Project: Demolition, St. Paul's School Athletic Center

Material	Quantity (Tons)	Estimated Tip Fee, Recycling	Estimated Trans. Recycling	Total Estimated Recycling Cost	Estimated Cost Disposal	Estimated Savings
Roofing, Shingles						
Roofing, Membrane						
Roofing, Other						
Tectum Decking						
Plaster over wire						
Trash, Solid Waste						

SOLID WASTE RECYCLING AND MANAGEMENT PLAN ESTIMATED RECYCLING vs. DISPOSAL CALCULATION	
Total Estimated Recycling Cost	
Estimated Cost of Disposal	
Total Savings Vs Disposal	
Savings to be derived from Recycling vs. Disposal (%)	

SOLID WASTE RECYCLING AND MANAGEMENT PLAN, APPENDIX B,

RECYCLING MEETINGS AND AGENDA

Project: Demolition, St. Paul's School Athletic Center

APPENDIX
RECYCLING MEETINGS

The Institution Recycling Network was retained by St. Paul's School to develop and oversee the implementation of a Solid Waste Recycling and Management Plan compatible with LEEDS 2.1 recycling objectives. The objective of all parties concerned is to secure the two credits available for recycling 75% or more of the project's waste materials. The IRN was retained by St. Paul's School, after timber harvesting and initial site work, and just prior to the commencement of demolition activities. The following recycling meeting agenda reflects the IRN's involvement after being retained by St. Paul's School, but does not reflect prior discussions and recycling decisions made earlier between Gilbane Buildingt Company, St. Paul's School, the architect and demolition sub-contractor.

1. Pre-Demolition

Gilbane Building Company, IRN, St. Paul's School, and/or Architect will conduct a pre-demolition meeting to review recycling objectives for the demolition phase of the project. Recycling materials will be identified and proposed recycling techniques to be required in the Solid Waste Recycling and Management Plan will be reviewed for each material. Job-site recycling activities and objectives will be reviewed and final end-market determinations will be made. The Solid Waste Recycling and Management Plan will be adjusted to reflect the above determinations. Recycling methodology and handling/storage techniques will be determined

2. On-going Recycling Meetings

Gilbane Building Company and the IRN will conduct Recycling Meetings concurrent with demolition activities to evaluate performance versus objectives of the Solid Waste Recycling and Management Plan.

3. Post-demolition

Gilbane Building Company, IRN, Demolition Contractor, St. Paul's School, and/or Architect will conduct a post-demolition meeting to review Solid Waste Recycling and Management Plan and evaluate demolition contractor's and sub-contractors' compliance with the goals and objectives of the Solid Waste Recycling and Management Plan, to make any necessary adjustments to the Solid Waste Recycling and Waste Management Plan and discuss recycling methodology, handling, storage, end-market, and transportation activities successes and failures for future projects

SOLID WASTE RECYCLING AND MANAGEMENT PLAN, APPENDIX B,

RECYCLING MEETINGS AND AGENDA

Project: Demolition, St. Paul's School Athletic Center

RECYCLING/TRAINING MEETINGS AGENDA

1. Involve Subcontractors

We will take steps to ensure that the subcontractors will participate in the successful implementation of the Solid Waste Recycling and Management Plan:

- Require subcontractors to use the recycling and disposal bins on-site. In doing so, we ill be sure to provide recycling for the variety of wastes the subs generate.
- Alternatively, we will ask the subcontractors to recycle their own waste on their own, but we will require documentation of their efforts.

2. Promotion and Education

Once we have designated a space for recycling and disposal activities, we will communicate our plan to the crew and subcontractors. They will need to know how materials should be separated, where materials should go, and how often the materials will be collected and delivered to the appropriate recycling/disposal facilities. We will educate our team to:

- Include waste handling requirements in all project documents. Make it clear from the beginning that waste prevention and recycling is expected from all crew members and subcontractors.
- Let the crew and subcontractors know how effective they have been by regularly posting the weights of material reused or recycled.
- We will include everyone in the process. We will encourage suggestions for more efficient recycling methods, or additional materials that can be recycled.

3. Preventing Contamination

Our recycling efforts may be in vain, if our recycling loads get mixed or contaminated with garbage. Haulers and recyclers won't take contaminated materials, which could cost us extra in disposal fees. We will prevent recycling contamination:

- Place posters with information describing the recycling program in visible locations
- Provide handouts describing our recycling goals and objectives to all employees and subcontractor team members.
- Clearly label the recycling bins. Post lists of materials that are and are not recyclable.
- Place recycling and trash bins near each other so that trash is not thrown into recycling bins.
- Conduct regular site visits to verify that bins are not contaminated. Give feedback to the contractors and the crew on the results of their efforts
- Provide rewards (ie. tee-shirts) for effective recycling and penalties ($750.00) for contamination.