* NEXT MEETING
TUESDAY, APRIL 14 3:00 to 4:00 ROOM 335

Waste Reduction Coordination for Headquarters Renovation

Meeting Summary
April 1, 1992

Attendees: Glen Taylor, Flor Matias, Joanna Karl, Pat Varley, Michel Gregory, Andy Sloop, Jim Goddard, Debbie Palermini

(Additional distribution: Genya Arnold, Berit Stevenson, Leigh Zimmerman, Steve Kraten, Don Roupe)

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Design & Construction Work: The demolition phase of the project is 50% complete. Design documents for the building structure are to be finalized by the end of this month. Space planning is 90% complete. The reviews with the City of Portland include: conditional use for the parking garage - April 6; review for construction - April 9. The current schedule indicates that glazing would arrive in September, delaying the beginning of interior finish work. Hoffman is working to expedite delivery.

Salvage & Construction Site Recycling: Construction Site Recycling totals to date: 1,658 tons of inerts to St. Johns Landfill, 44 tons of inerts to Porter Yett,9 tons of wood, 105 tons of tin, 10.5 tons of aluminum, 1 ton of other non-ferrous, 11 tons of iron. In addition, 9 tons of carpet were salvaged, and two tons of materials for reuse. The bricks were not reusable in the condition they were removed. Demolition work is slowing, so the material quantity won't increase as rapidly as in the last few months.

Status of Buy Recycled: The materials that are acceptable to the architect will be defined during the next two weeks. At that time, the materials and the areas of application that would best serve the project objective will be evaluated, and application of the 5% price preference will be discussed with regard to selected material.
The concept of reusing salvaged materials from this building or other buildings was discussed. It is possible that some specific items could be reused, however, wide-spread use throughout the building is not likely for such items as bathroom and light fixtures. The items that are being reused, such as the fire sprinkler system, flooring, medallions and aluminum lattice, should be documented and included in a reuse category.

The recycled paint color is lighter than expected. Samples will be available in the next two weeks. It appears that about 400 gallons would be available for the project. Lab testing will begin shortly.

Public Affairs: The two on-site signs have been ordered and will be ready for installation next week. It was suggested that the lettering size be changed to make the "Resourceful Renovation" portion of the sign stand out. A press event will still be targeted for Metro's receipt of the EPA grant.

Status of Recycling System: Hoffman is still including the recycling chute in the project; there are no indications that it will be omitted.

Energy Report: Most of the comments from those who reviewed the Energy Report have been received, Joanna Karl is compiling them. The compiled comments will be submitted to Glen Taylor for formal answers by Glumac. The difference between the FinAnswer measures and actual design considerations were reflected in the review comments. Many concerns have to do with the actual implementation of the design that are not related to the FinAnswer program. Lighting is one area mentioned repeatedly. Glen Taylor, Berit Stevenson, and Joanna Karl will be going to the Energy Resource Center for a lighting demonstration. Next week, the architect will visit Seattle's Lighting Resource Lab. A final evaluation of the items in the FinAnswer program will be completed this week. Design issues will be ongoing.

No new information has been received regarding water issues.

EPA Position: A letter has been received from the EPA announcing that the grant is approved. Work is underway to fill the position.

Next Meeting: April 14, 3:00 p.m. to 4:00 p.m. in room 335.

Action Items:

Pat Varley:

- Define the materials acceptable to the architect; be prepared at the next meeting to discuss the materials, specifications and their possible uses, so that the group can prioritize applications - 4/14/92.
- Define life cycle cost of recycled content materials so that Flor Matias can evaluate maintenance costs - 4/14/92.

Michel Gregory:

- Check spacing for on-site signage 4/3/92.

Joanna Karl:

- Compile comments from FinAnswer report reviews 4/3/92.

Andy Sloop:

- Obtain paint samples - 4/14/92.

Jim Goddard:

- Fill EPA position - 4/14/92.

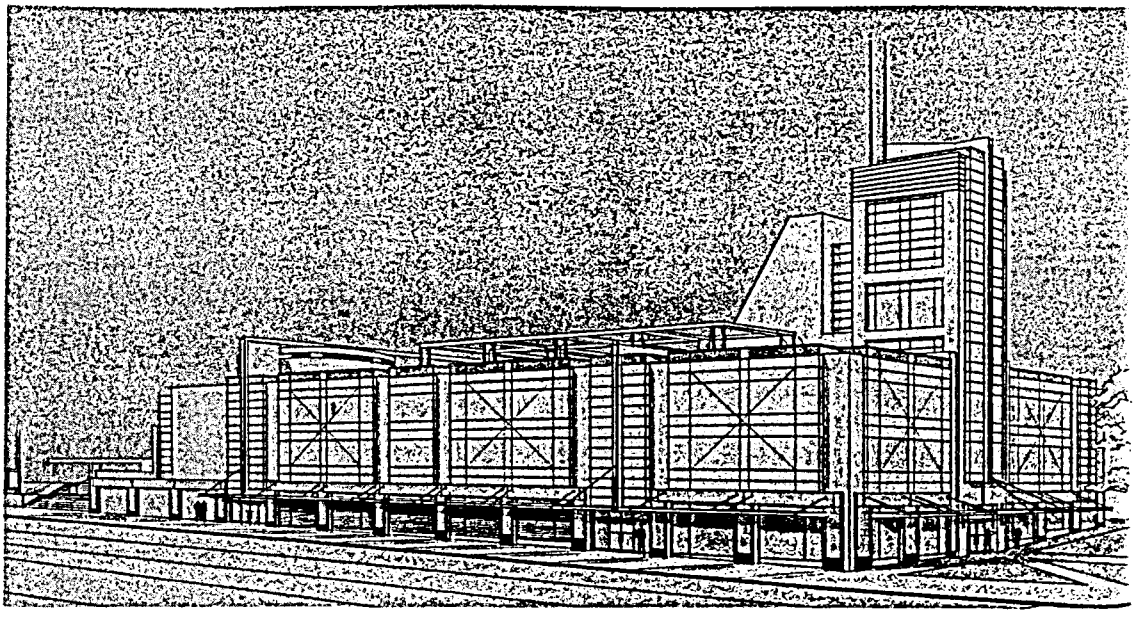
JG:gbc
facility\hqsal401.sum

PORTLAND DEVELOPMENT INC NEWSLETTER

DEVELOPMENT what's

HIGHLIGHTS

spring 92



METRO'S FUTURE HOME BUILDS FROM PAST

A neighborhood landmark since 1929, the Sears Building is taking on a strong new identity as Metro's headquarters.

The $23 million project now in progress will retain architectural features from the past but create a new building to suit Metro's needs. The design team of architects TVA/ Cole and Hoffman Construction emphasize that this is a renovation, not a restoration. Hoffman built the original Sears Building more than sixty years ago.

Extensive use of glass in the building design signifies the concept of openness Metro strives for in its interaction with the people of the region. Glass allows those outside the building to see the workings inside; creates a light and friendly environment for people within; and enhances the exterior design.

The north end of the building is Metro's new "front door." A large plaza will provide a place for people to gather and open their view to the convention center. Wide public stairs from Grand and Irving Streets will welcome them from the street.

The Sears tower, the building's most distinctive feature, will be transformed into a unique space for Metro employees. A two-level staff lounge will open to a rooftop, and the tower's top floor will hold a conference room with incredible views in all directions.

Plentiful parking, shops and services and a carefully designed child care center are features of Metro's new building that will make its employees and tenants happy to call it home.

Metro is turning the construction of its new headquarters into a major recycling project.

Metro chose its new site in order to recycle the venerable Sears building, and project leader Berit Stevenson credits designers and contractors for putting time and thought into a complex waste reduction plan for the renovation.

Elements of the plan include: 1) recycling building materials by reusing or salvaging them; 2) eliminating waste in construction by source separating into wood, brick, metal and other material categories; 3) using recycled products for building materials; 4) documenting the whole process in a manual to be shared with other construction projects dedicated to reducing Oregon landfills.

Congratulations Metro for setting new standards in recycling!

Curt Nichols, ODOE

3/30/92

From:

Joanna Karl
Engineer
Solid Waste Department

Glenn -

These comments are from Curt Nichols of the Oregon Dept. of Energy.

[1] ECM #9 (Exit signs):

He proposes 3 alternative options which would use less energy than the 13 W PL exit signs:

(1) LED-emitting diodes (as used in the remodeled Sears bldg) ⇒ ~5 W/sign
(2) Electro-luminescent ⇒ 0.5 W/sign
(3) Self-luminous ⇒ no energy (or wiring) 0 W/sign

low level radioactive (requires registration w/ federal government and special disposal)

[2] ECM #16 (Solar hot water):

- Solar back-up should be gas (not electric)
- Waste heat could be used for pre-heat
- Low flow faucets/showerheads should be incorporated

[3] Security lighting (outdoor lighting was not included in ECMs - and should have been)

Could use low-pressure sodium both indoors and outdoors [100 W incandescent = ~28 W low pressure sodium, which consists of 18 W + ballast]

- Indoor - The low pressure sodium lamp is kind of yellow-orange in color - Therefore, if an "unofficial" person is in the building after hours (and thus has not turned on additional white lighting) - they are obvious for security to recognize from looking into the building and seeing a person (ie, anyone who is supposed to be there turns the lights on, and anyone who is not supposed to be there shows up in the yellow-orange light)
- All lamps burn out @ the same time

(cont.)

METRO
2000 S.W. First Avenue
Portland, OR 97201-5398
503/221-1646

3/31/92 P.2

From:

Steve Scott, PECI –

Joanna Karl
Engineer
Solid Waste Department

(5) ~~Integ~~ Integrated infra red ultrasonic device (~$80)

- Minimizes false kick-offs
- Can just install in place of switch (making incremental cost = Ø)
- Location of monitoring is important (i.e., where it will be triggered

cc: Jim Goddard

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3/31/92

From:

Joanna Karl
Engineer
Solid Waste Department

Comments from phone conversation with Steve Scott, PECI

(1) Single electronic ballasts w/ dimmer (as opposed to 3-lamp fixtures wired in tandem for 1/3-2/3 switching)

3-lamp fixtures - wired in tandem for switching not desireable:

- People don't use switches
- Cause clicking back & forth
- Large trucks or bank of clouds can cause lights to go on & off.
- New lights too bright, and older lights not bright enough (this is because new lights are bright — and then dim over time. Design is for the average brightness)

Dimming System desireable:

- Energy-efficient
- Cost effective - eliminates switches, ballasts, & wiring
- Automatically dims lights to correct for brightness when new, and increases brightness when lamp is dirty or old.
- Lamp ~~light~~ life is extended
- No hum
- No purple vision stroboscopic effect (1/3 people are effected by this; there's no strobe because @ 20,000 hz rather than 120 hz)

(2) ECM #1,2 (wall insulation, roof insulation)
Should have specs on how its installed - and assurance its installed correctly

(3) ECM #5 (3-lamp T-8 fixtures w/ electronic ballasts)
- Should consider 3-lamp T-8 parabolics (instead of diffuser) ⇒ Reduced glare on computer screens

(4) ECM #6 (occupancy sensors)
- Should also be used in conference rooms, small offices, & lunch rooms (if not already)

Monday 4/6 @ Energy Resource Center, 6-8:30 $10.00
Lighting Controls
(2 Case studies — Daylighting Automatic Lighting Controls)

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2000 S.W. First Avenue
Portland, OR 97201-5398
503/221-1646

2-Curt Nichols-ODOE 3/30/92

From:

Joanna Karl
Engineer
Solid Waste Department

[4] Indoor Lighting

Didn't model 3 lamps with tandem wiring on ballasts with 2-level switching (as suggested by Carson, Bekooy, Gulick, and Kohn).

[5] Wall Insulation (ECM #1)

He concurs (with Mike Porter of City of Portland) that R-19 insulation should be used with 2X6s 24" on center

[6] Roof Insulation (ECM #2)

He said using R-30 in the roof may be a good basis for designing the building because:
- Rates will go higher over time } not factored into the modeling
- Can use a smaller heating system }

[7] Night-time pre-cooler

Should cool with night-time air. (ie, switch on @ 4am to blow in outside air for an hour or two), and may not have to run the air conditioner until the afternoon. Can build into the energy management system.

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2000 S.W. First Avenue
Portland, OR 97201-5398
503/221-1646

cc: Jim Goddard

CITY OF

PORTLAND, OREGON

ENERGY OFFICE

Mike Lindberg, Commissioner
Susan Anderson, Director
Room 1030, The Portland Building
1120 S.W. Fifth Avenue
Portland, Oregon 97204
(503) 796-7222
FAX (503) 796-3388

March 27, 1992

Joanna Karl
METRO
2000 S.W. First Avenue
Portland, Oregon 97201-5398

Dear Joanna:

Thanks for allowing the Energy Office the chance to review the energy efficiency remodel aspects of the old Sears building that will soon be the new home of METRO.

As we spoke over the phone on Thursday, March 26, there are several items that should be addressed that were not included in the preliminary report.

- First of all, will the building have a brick veneer when completed? The report indicates that it will but yet upon casual observation the brick is being removed from the building. Did the brick veneer count as part of the R value for the walls?

- There doesn't appear to be any mention of water saving devices that would save water and energy to heat the water. As of November 1, 1992 all plumbing fixtures sold in Oregon cannot exceed the following requirements: shower heads - maximum of 2.5 GPM, lavatory sink faucets - maximum of 2.0 GPM, urinals - maximum of 1.0 GPM, and water closets - maximum of 1.6 GPM. Maybe this was already part of the study, but it seems like it should be addressed in the report.

- The indicated savings for an evaporative condenser over an air cooled condenser is 27,862 kWh. However, when you compare the numbers provided there is an increase of 10,213 kWhs. This is on page 34. In addition, in this climate you would expect the energy use to be greater

with an evaporative condenser than an air cooled condenser because of the water pump and the fan in the cooling tower. This error should be double checked since the incremental cost is $48,400.

- There is no mention of security lighting in the building. I'm sure there would be and it should be compact fluorescent lighting. There would be some savings if incandescent lighting was the base case.

- Since there are elevators, there should be a mention of using energy efficient motors for the application.

- The walls are recommended to have R-12.5 insulation. The report indicates that to increase the R value to 19 would require 6 inch framing at a cost increase of $1.50 per square foot. I believe that if advanced framing techniques were used, as in Super Good Cents (24 inch centers), the cost of materials would be very close to the 4 inch framing costs and the R-19 would provide better insulating qualities.

Thanks again for the chance to help in the review of the energy efficiency recommendations. If you have any questions please call.

Sincerely,

Michael A. Porter

Michael A. Porter
Program Manager

MAP:sf

cc: Susan Anderson

D019/032792