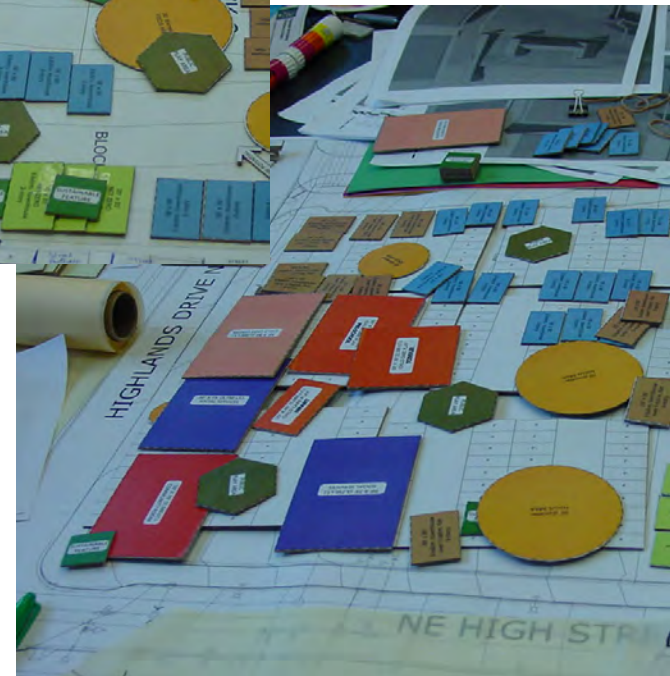


- A Vision from King County and the City of Issaquah.....
- Visioning and Goal Setting Process
 - Site Planning Charrette
 - Eco-Charrette during Feasibility
- Multiple Stakeholders
 - YWCA
 - City of Issaquah
 - King County
- Setting the Stage
 - Keeping goals in site
 - Building Partnerships
 - Creating energy and enthusiasm for the project and goals, investing people in the process

BLOCK 9 : TRANSIT ORIENTED DEVELOPMENT



CONCEPT 1



CONCEPT 2



FINAL CONCEPT

EVOLVED INTO....

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- 2.4 acre site, located in Issaquah Highlands
- 146 units of work-force housing for families, 0-3 bedrooms
- childcare center for 150 children
- YWCA regional offices
- Issaquah Highlands Community Rooms
- an employment and job training center
- Resident community center building
- Community Outreach Services

Family Village at Issaquah

A YWCA Community



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- **Holding on to the VISION!**

- Educate the Owner and project team
- Everyone stays on message
- Keep clear site of the goals
- Clear and confident communication
- Bringing the Contractor on early for preconstruction services
- Perform early shoebox energy modeling which enables the project team to make educated decisions regarding energy and water use/conservation techniques
- Budget Control



ARTIST RENDERING OF MAIN PUBLIC PLAZA WITH HOUSING BEYOND



COMMUNITY BUILDING INTERIOR



3D MODEL COMMUNITY BUILDING EXTERIOR AND PLAZA

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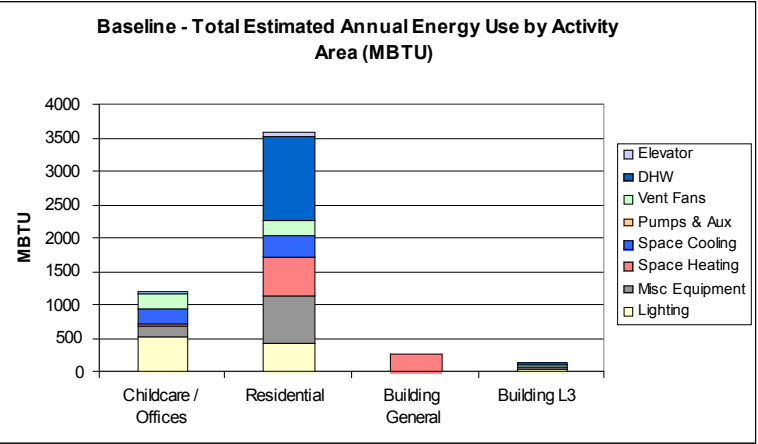
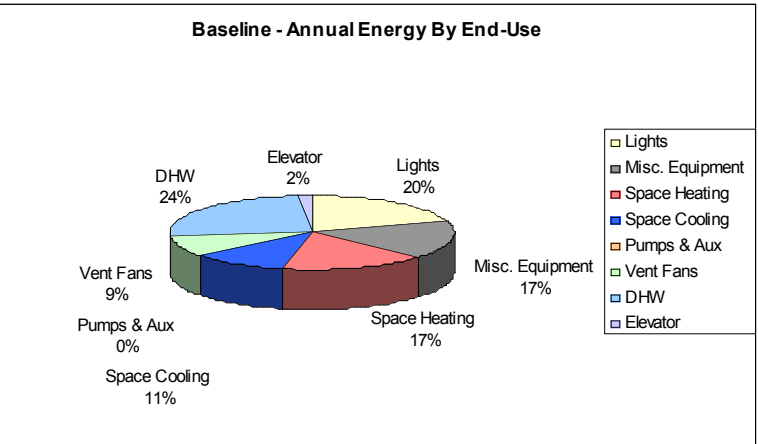
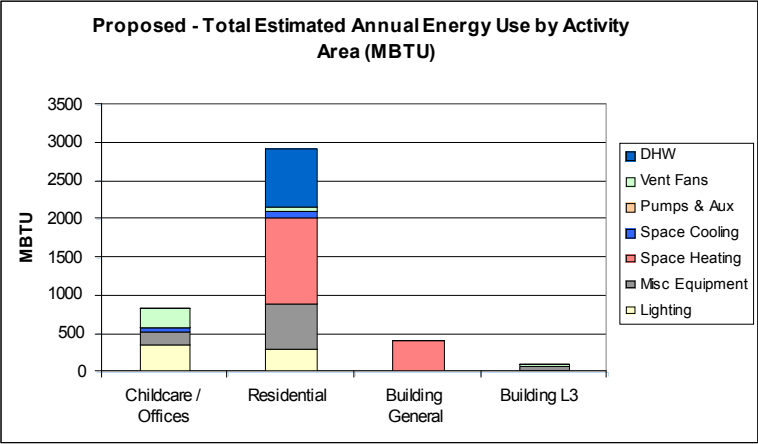
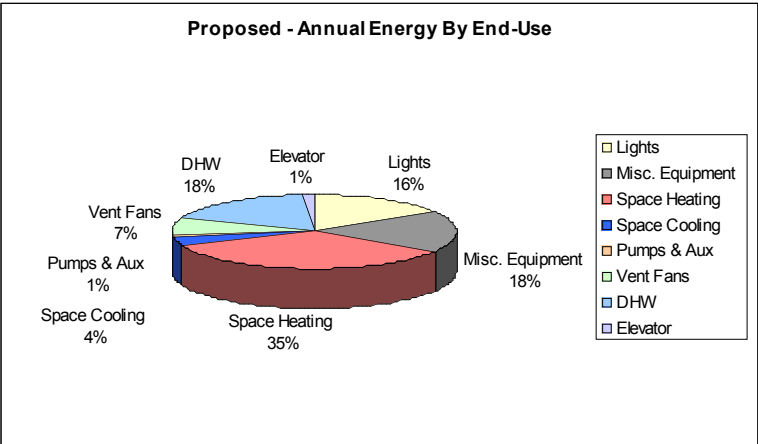
• Outcomes - What did we want to do and how?

- Energy Conservation
- Water Conservation
- Longevity of Building materials
- Tell a story
- Education of residents and community
- Three tiered process to meet sustainability goals

- increase envelope efficiency
- reduce mechanical loads and adjust equipment sizing
- augment with renewable energy

• Metrics

- BuiltGreen 5 Star
- LEED® NC Gold
- Evergreen Sustainable Development Standard



ENERGY MODELING: BASELINE VS PROPOSED. MAKING EDUCATED DECISIONS

ALTERNATIVE 1 VS ECM1

The Alternative 1 building model was modified to include ECM1 - heat recovery with electric coil in place of the electric cove heater in the residential spaces. All other factors remained the same. The energy simulation performed shows that there are potential utility cost savings of 8% when ECM1 is applied.

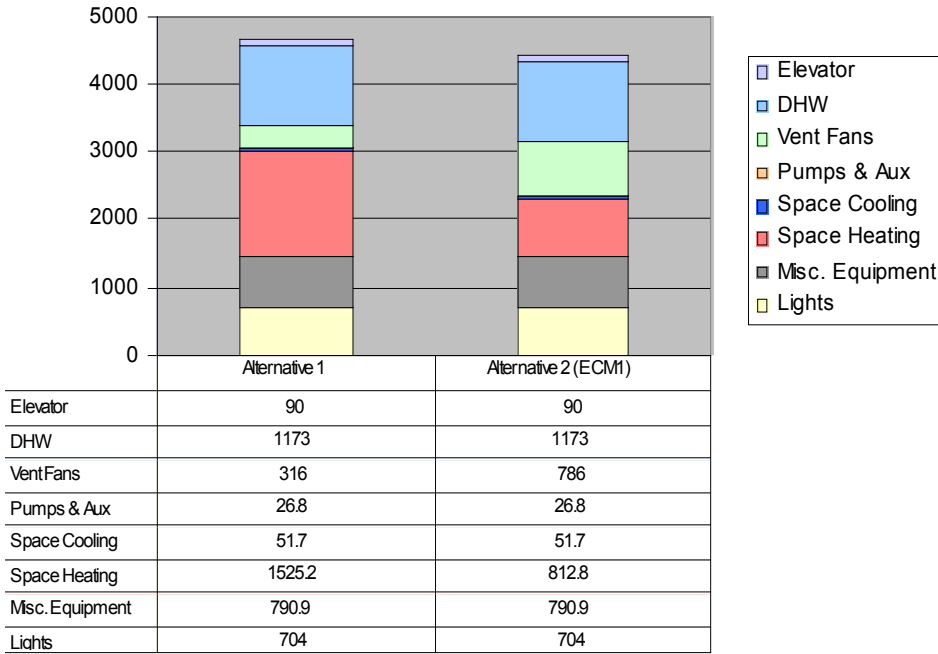
Note that Alternative1 is the proposed case with the cooling set point in non cooled spaces modelled as 100F so as to determine the actual savings due to heat recovery. The Alternative 1 also does not include the savings due to low flow fixtures and improved elevator.

Following table demonstrates these energy savings broken out by utility. As shown in below, a potential utility cost savings of \$8,500 per year (8%) is estimated for the added heat recovery.

	Kwh	Therms	Total \$	Percentage Savings
Alternative 1	910910	15683	105243	
Alternative 2 (ECM1)	840122	15683	96654	8%

The following graphs show the relative energy usage by end-use for Alternative 1 and 2

Total Estimated Annual Energy by end use (MBTU)



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Paying for the VISION!

- Emphasizes the importance of having multiple stakeholder buy in and positive energy
- Federal, State, City and County Support

CITY OF ISSAQUAH:

- DONATED LAND
- WAIVED PERMITTING FEES

KING COUNTY:

- GREENTOOLS
- ENVIRONMENTAL & ENERGY CONSERVATION BLOCK GRANT
- ONGOING TECHNICAL SUPPORT

FEDERAL:

- REICHERT BUDGET ALLOCATION

- Local Utility Grants
 - PUGET SOUND ENERGY GRANT

- Other Incentive Programs

MASTER BUILDER S ASSOCIATION:

- BUILTGREEN PROGRAM

PROJECT FUNDING BY:

- CITY OF ISSAQUAH
- A REGIONAL COALITION OF HOUSING (ARCH),
- KING COUNTY HOUSING FINANCE PROGRAM,
- WASHINGTON STATE COMMUNITY TRADE AND ECONOMIC DEVELOPMENT

SOCIAL SUSTAINABILITY:

- TEACHING - TO ADULTS & KIDS
- EDUCATION PROGRAMS / OUTREACH
- MAKING IT CONVENIENT
- REACHING OUT TO THE BROADER COMMUNITY, INTEGRATION
- MAKING MEANINGFUL COMMUNITY CONNECTIONS

DURABILITY OF SYSTEMS & MATERIALS:

- 50/100 YEAR BUILDING MATERIALS
- RAINSCREEN TECHNOLOGY TO INCREASE BUILDING LONGEVITY, INDOOR AIR QUALITY & ENERGY CONSERVATION
- RECYCLED MATERIALS
- FACILITIES FOR COMPOST AND RECYCLING
- CONSTRUCTION WASTE RECYCLING

ENERGY CONSERVATION:

27% SAVINGS

POTENTIAL FOR ADDITIONAL 10% WITH DOMESTIC HOT WATER PRE-HEAT

- UPGRADE WALL AND CEILING ASSEMBLIES
- PROVIDE CONTINUOUS AIR BARRIER
- UPGRADE WINDOW ASSEMBLIES

ROOF ASSEMBLY: R-51
R-30 RIGID ABOVE SHEATHING
R-21 BATTS IN CAVITY
50 YEAR CLADDING MATERIAL

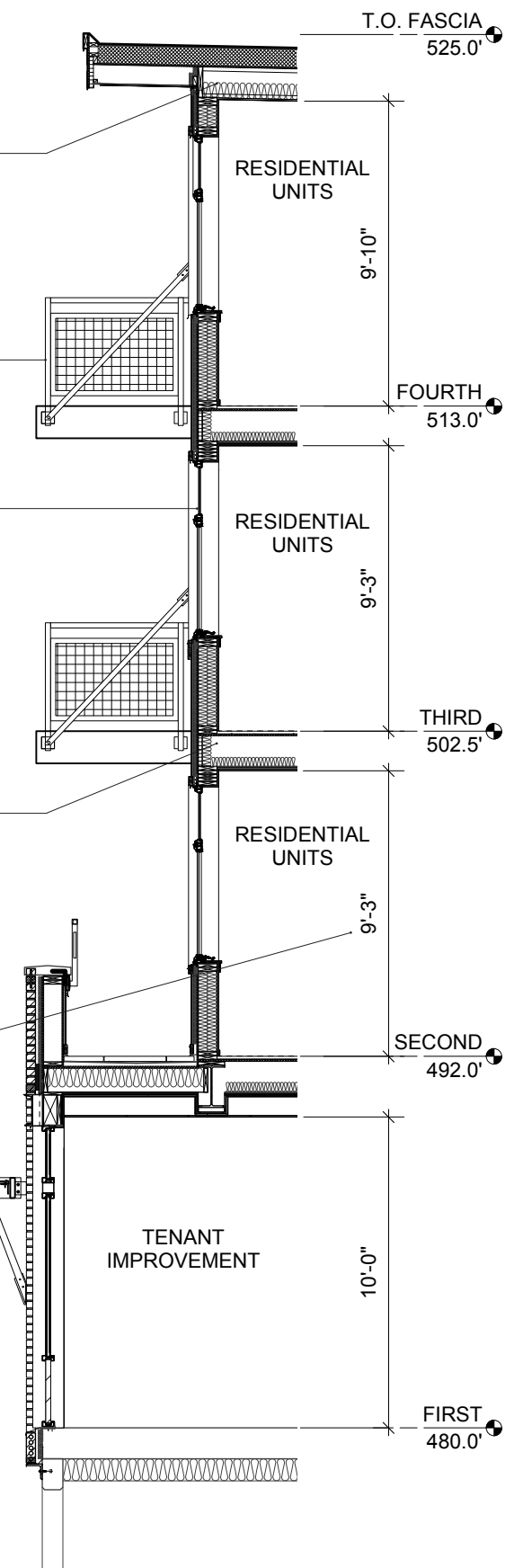
DECKS TO FOSTER
COMMUNITY CONNECTIONS

OPERABLE AWNINGS
TO ALLOW FOR CROSS
VENTILATION

WALL ASSEMBLY: R-35
2X8 S
(2) LAYERS OF R-15 BATT
INSULATION IN CAVITY
1.5" OF MINERAL WOOL
INSULATION ON THE
EXTERIOR
50 YEAR CLADDING

HIGH CEILINGS TO ALLOW
FOR DAYLIGHT TO PENETRATE
DEEP INTO LIVING UNITS AND
OFFICES

CANOPIES FOR
WEATHER PROTECTION
& TO RELATE TO HUMAN
SCALE



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• Take Aways:

- Replicable Systems

Energy efficient wall and roof assemblies

Energy efficient window assemblies

- Keys to making it work

persistence

a lot of planning

budget tracking

alternate systems

early energy modeling allows you to make informed decisions

a committed team

WATER CONSERVATION:

42 % SAVINGS

- HIGH EFFICIENCY TOILETS
- LOW FLOW SHOWER HEADS AND FAUCETS
- NO POTABLE WATER USE FOR IRRIGATION - 29,000 GALLON CISTERN LOCATED IN BELOW GRADE GARAGE

LIGHTING:

- ALL FLOURESCENT AND LED FIXTURES
- AUTO DIMMING AT CLASSROOMS AND OFFICES
- PHOTOCELLS AT ALL ROOMS
- EFFICIENT EXTERIOR LIGHTING - NOT OVER LIT

MECHANICAL SYSTEMS:

- HIGHLY EFFICIENT CONDENSING BOILERS
- CAMPUS HOT WATER - MAXIMIZE EFFICIENCIES
- RADIANT COVE HEATERS
- HEAT PUMPS FOR AC AND HEAT AT COMMERCIAL SPACES

RENEWABLE ENERGY:

- PV READY
- 1 KW OF SOLAR PANELS AT EACH BUILDING (4 TOTAL)
- POTENTIAL DOMESTIC HOT WATER PRE-HEAT, SOLAR PLATE COLLECTORS

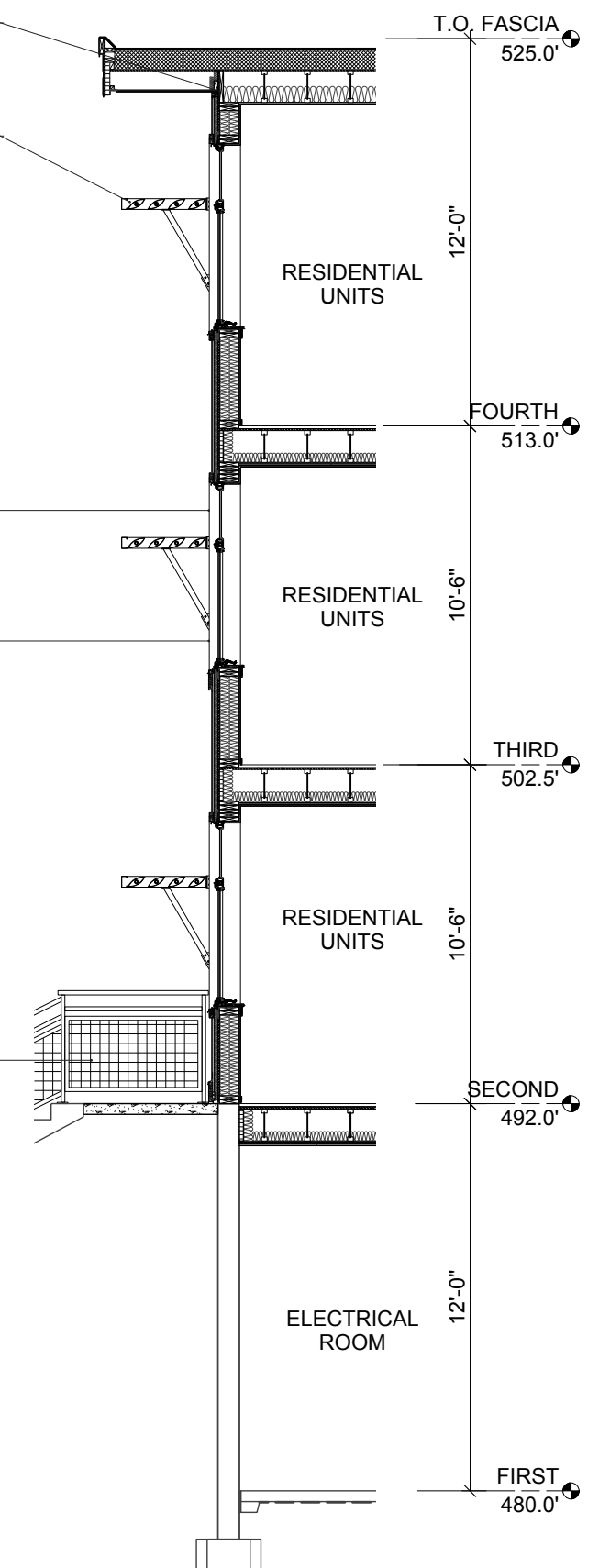
CONTINUOUS AIR BARRIER AT WALLS & ROOF

SUNSHADING TO LIMIT AMOUNT OF SOLAR HEAT GAIN & ALLOW FOR VIEWS

TRANSOM WINDOWS FOR ADDED DAYLIGHT

LOW U-VALUE WINDOWS TO LIMIT SOLAR GAIN (U=.27)

GROUND RELATED UNITS TO FOSTER COMMUNITY BUILDING AND KEEP EYES ON THE STREET



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SCHEDULE:

- Started construction late last year on foundation and grading.
- Bidding building construction on March 17.
- Certificate of Occupancy Anticipated Summer of 2011

DESIGN TEAM:

Owner: YWCA of Seattle, King, Snohomish

Architect: SMR Architects

Landscape: The Berger Partnership

Civil: Springline Design LLC

Structural: Swenson Say Faget

Mechanical: Sider + Byers

Electrical: Travis Fitzmaurice

Sustainability: Stantec Inc.

Contractor: Walsh Construction Co.



AERIAL PHOTO

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