CITY OF HAYWARD
AGENDA REPORT

Meeting Date 5/24/07
Work Session _____

TO: Planning Commission

FROM: Arlynne J. Camire, AICP, Associate Planner

SUBJECT: Green Building and Sustainable Development

RECOMMENDATION:

Staff recommends that the Planning Commission comment on the information presented at the work session and in this report.

DISCUSSION:

Background

In November 2006, the Planning Commission directed staff to research the Solar Cities program that Livermore and Pleasanton are to implement. In addition, the Planning Commission expressed interest in Green Building.

Due to the growing necessity for cities to change policies and procedures that address natural resource consumption, the effects of greenhouse gasses, and the inefficient design of the built environment, staff is planning a series of work sessions for the Commission. Staff anticipates that the Planning Commission would in turn make recommendations for potential new procedures and policies, which staff would forward to the City Council during a work session. Based on the City Council direction, the process may lead to new standards and procedures which would be formally reviewed at hearings with the Planning Commission and City Council.

This first work session will include three presentations: Going Green in Alameda County; What's Happening in Hayward; and Solar Energy. Included in this report is background on the importance of building green, an overview of adopted policies in Alameda County, a summary of Hayward practices, policies and projects and solar programs information.

Why Build Green?

Buildings have impacts on the environment, human health, and the economy. In the United States according to the Environmental Protection Agency, buildings account for: 39 % of total energy use, 12 % of the total water consumption, 68 % of total electricity consumption, and 38 % of the carbon dioxide emissions.

Green building is a philosophy about how to build. It is rooted in the belief that there is a way of building that can greatly reduce damage to the natural environment, and to people's health and comfort resulting from the way we construct and operate conventional buildings. By adopting sustainable development policies, negative impacts can be minimized and economic and environmental performance can be maximized. Green construction methods can be integrated into buildings at any stage, at various costs, from design and construction, to renovation and deconstruction. However, most benefits can be obtained if the an integrated approach is taken from the earliest stages of a building project. The goal is to provide healthy, comfortable living interiors and exteriors while sustaining urban economies and societies by maximizing operational savings through the efficient use of energy, water, and land, and other natural resources while limiting detrimential construction impacts on the natural environment.

Potential benefits of green building can include:

Environmental benefits

- Enhance and protect biodiversity and ecosystems
- Improve air and water quality
- Reduce waste streams
- Conserve and restore natural resources

Economic benefits

- Reduce operating costs
- Create, expand, and shape markets for green product and services
- Improve worker productivity by at least 6 to 15 percent or more
- Optimize life-cycle economic performance

Social benefits

- Enhance occupant comfort
- Enhanced occupant health with a decrease in cancer and asthema
- Heighten aesthetic qualities
- Minimize strain on local infrastructure
- Improve overall quality of life.

Green Policies and Programs of Alameda County

According to a survey of Alameda County completed by Alameda County Waste Management Authority and Alameda County Source Reduction and Recycling Board, together known as StopWaste, all cities have adopted green friendly policies and programs and or have green projects that have been built with in their jurisdictions, including Hayward (Attachment A).

Green building and sustainable development is more than design, construction and operation. It is a comprehensive and holistic approach in considering ways in which communities and developers can respond to environmental, social and economic needs.

What's Happening in Hayward

Design Guidelines

The "Green" guidelines in the City's Guidelines and the Hillside Design Guidelines promote: cluster development, infill development, protection of natural features and resources, protection of the hillsides, site placement of residential development to take advantage of natural climate regulation and light, landscape designed for climate regulation and preservation of resources, pedestrian oriented design, design to encourage the use of transit, bikes and carpooling, and design for safety and surveillance. (Attachment B)

The downtown residential development downtown is an example of pedestrian and transit oriented development that encourages drivers to leave their cars.

Waste Reduction and Recycling Requirements for Construction and Demolition Debris

In 2001, the City Council adopted waste reduction and recycling requirements for construction and demolition debris. The ordinance establishes that applicants for all construction, demolition, and/or renovation projects valued at $75,000 or more recycle 100% of all asphalt and concrete and 50% of all other materials generated from the project. To obtain a building permit, applicants must complete a Debris Recycling Plan describing how it will comply with the Ordinance, and obtain approval of that plan from the City's Solid Waste Manager. The ordinance also requires that applicants complete a Debris Recycling Summary Report by indicating actual quantities recycled and disposed at the conclusion of the project. As a result of the ordinance's implementation, staff estimates that about one-quarter to one-third of the total eligible tonnage of construction and demolition debris is diverted. The ordinance has assisted staff in its efforts to comply with the California Integrated Waste Management Act of 1989 which requires every city and county to divert 50 percent of discarded materials from landfills by December 31, 2000, and each year thereafter. Several contractors have exceeded the provisions of the ordinance and have been recognized by the City Council for their efforts (Attachment C).

Solar Friendly Building Permit Fee Reduction

The Sierra Club commissioned a study completed in September 2006. The Solar Electric Permit Fees in the Greater San Francisco Bay Area recommended a $300-fee as a reasonable ceiling for Solar Panel (photovoltaic systems) installation permits. In October 2006, the City of Hayward reduced the fee to $315 for a rooftop photovoltaic solar building permit application. The fee will be further reduced to $300 by the City Council with the adoption of the proposed revised Fee Schedule. In addition, Planning reviews and approves most of these permits over the counter. Furthermore, the Building Inspectors have been trained to inspect photovoltaic systems.

Homeowner and Developer Education

The City Hall Permit Center and the City Website are underutilized resources for the distribution of information on State and Federal tax incentive programs for solar energy system installation, green building, water and energy saving devices, conversion of the interior built environment, and training programs. California State University Professor Laurie Price and her students have proposed the installation and maintenance of a Customer Information Center in the City Hall Permit Center.

The Permit Center currently offers information on the Alameda County Green Business Program. The program offers a free on-site consultation to examine how a business can reduce waste and pollution and increase operation efficiency and profits.

Setting an Example at the Public Works Yard

In March 2006, the City installed a 276-kilowatt solar electric system on the Barnes Court Warehouse in the Public Works Maintenance Yard that houses the Animal Shelter, Landscape Maintenance Division and Facilities Maintenance Divisions The City anticipates an average annual savings of $51,400 with a projected lifetime savings of $2.2 million. (Attachment D)

Sara Conner Court

This 57-unit affordable housing project was developed by Eden Housing, Inc., in partnership with the City of Hayward. It is the only project in the City of Hayward that has received a GreenPoint rating; 72 points. A minimum of 50 points are required to receive the rating. The GreenPoint rating process is a non-invasive physical examination of building systems, structures, materials and components to assess energy and water efficiency, indoor air quality, resource efficiency of materials and construction methods, and construction quality. The Multifamily GreenPoint Rating System that was established by Build It Green is unique to California (Attachment E).

The infill development is a 4-building complex with one, two and three bedroom units on 1.8 acres. The building integrates green concepts of a healthy environment and energy efficiency in an accessibly livable design with low emitting installation and paints, double pane windows, natural light, Energy Star appliances, high efficiency ventilation equipment, and efficiently designed floor plans that take advantage of space for easy access. Drought resistant landscaping provides privacy, aids in passive cooling of the buildings and is low maintenance. The central courtyard and play area are easily accessible and each ground unit has private outdoor spaces. The development is within a ½-mile walking distance from amenities such as a park, restaurant, shopping and a school and within ¼-mile of public transportation.

California State University Solar Energy Project

Completed in 2004, solar panels were installed on four California State University campus rooftops and are used to generate supplemental power during peak periods.

The project is one of the largest photovoltaic systems in Northern California. CSU has received recognition on a regional and national level for the project; including:

- A $3.4 million rebate from Pacific, Gas and Electric Company, the largest rebate issued to date for a solar power installation;
- The 2004 Business Environmental Achievement Award from the Hayward City Council;
- The 2004 Green Power Leadership Award at the National Green Power Marketing Conference, and;
- A 2005 Exceptional Project Award from the Western Council of Construction Consumers.

Pacific Gas and Electric Company's Self-generation Incentive Program provided the financial incentive, which covers up to half the cost of the clean, on-site electric generating systems. The program allows utility customers installing on-site generation to obtain rebates to help offset the costs associated with either solar, wind, fuel cell, micro turbine or internal combustion engine cogeneration systems.

The university's solar electric system is estimated to generate 1.45 million kilowatt hours of electricity in a year meeting 7.5 percent of the university's annual electricity needs. During peak periods, such as summer months, the system provides 30 percent of the university's energy needs, saving about $200,000 a year in energy costs. The system provides enough electricity to power 1,000 homes during the daytime. In addition, CSU has reduced their dependence on more expensive peak electricity.

Solar Energy Programs

Solar Sebastopol

The City of Sebastopol's program began in 2002 with a solar feasibility study conducted by students from Sonoma State University's Energy Management Design Program. A self-funded advisory group of mostly solar vendors manages the program under the guidance of the City of Sebastopol.

Solar Sebastopol program encourages more solar energy on residential, business and public properties. According to Project Manager Marty Roberts, the first goal of the program was to install 1 megawatt of solar power production by the end of 2006. This goal was accomplished. The new goal is to install as many solar panels as possible within city limits. The City decreased the fee of a permit to $75; the process seems to be streamlined. Program information can easily be found on the City of Sebastopol website home page through the Solar Sebastopol icon link.

Solar Cities Program-Livermore and Pleasanton

The cities of Pleasanton and Livermore have entered into a joint agreement for the design of a Solar Cities Program, which is envisioned to result in a program similar to that of the City of Sebastopol. Livermore and Pleasanton have entered into a MOU to

share costs for the design of the program, which is expected to be approximately $40,000 ($20,000 for each City).

The City of Livermore has an agreement with Spectrum Energy Inc. for the preparation of the design. Spectrum Energy Inc. is an energy services company that specializes in designing and installing energy-efficient measures. The program would provide a community-wide, customer-friendly system that would not only assist a resident or business in making the decision to purchase to assisting with the installation of a solar system, but provide support through the entire process, from conception to installation. The report and program design is to be submitted to the City Councils in the fall. At that time, city staffs would be directed on how to proceed with implementation of the Solar Cities program (Attachment F).

The cities have reduced permit fees (Pleasanton-$200 and Livermore-$280) and have streamlined the permit process. Residences are also encouraged by both cities to attend PG&E solar workshops.

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Attachments:

A Overview of Adopted Policies in Alameda County
B City of Hayward Design Guidelines-Green Guidelines
C Construction and Demolition Debris Waste Reduction and Recycling Requirements
D Case Study: City of Hayward by Powerlight Solar Electric Systems
E Case Study: Sara Conner Court Apartments, Hayward
F City of Livermore City Council Agenda Report dated November, 27, 2006

Overview of Adopted Policies in Alameda County

	Civic Projects		Private Projects		EPP	C&D Ord.
	GB	BFL	GB	BFL		
Alameda County	✓					✓
Albany	✓	✓	✓	✓		✓
Alameda						✓
Berkeley	✓		✓		✓	✓
Castro Valley SD					✓	✓
Dublin	✓		✓		✓	✓
Emeryville	Pending	Pending	MULTI-FAMILY ✓			Pending
Fremont	✓	✓				Considering
Hayward	✓		MULTI-FAMILY ✓			✓
Livermore	✓		Pending		Drafted	✓
Newark	Pending	Pending	Pending	Pending		COA
Oakland	✓		✓	✓	Drafted	✓
Piedmont						✓
Pleasanton	✓		✓			
San Leandro			✓	✓	✓	✓
Union City	✓	✓	✓	✓	Drafted	✓

GB=Green Building

BFL=Bay-Friendly Landscaping

EPP=Environmentally Preferable Purchasing

C&D=Construction and Demolition

ATTACHMENT A

City of Hayward Design Guidelines-Green Guidelines

Site Planning

General Considerations

Use designed to protect and features a unique aspects of the sites such as waterways, significant trees, public open space, views, and/or sense of history.

Cluster development in order to maintain continuing tea of open space, to shape more usable outdoor areas, and to avoid more hazardous areas such as active fault traces.

Landform

Development must reflect the land for them in order to contribute to an attractive pattern for the city and to avoid problems of erosion, flooding, sliding and silt ration.

Solar Access

By law, the design of the subdivision should provide for feasible passive or natural heating or cooling opportunities. In many instances, the psychological benefit of having the sun penetrate into interior spaces is as important as the energy saving benefits.

Concentrate building on South and East facing slopes; avoid building in steep wall canyons due to low solar exposure and extremes in temperature.

Orient streets on an east/west axis to maximize solar access possibilities for where compatible with topography and existing street pattern.

Vary setbacks to provide good solar access where street orientation is not favorable. In planned developments, zero-lot-lines may permit buildings to abut the north property line, thereby providing the greatest possible yard area to the south of each building.

Orient the long access of the building east and west where consistent with other design considerations.

Orient a sufficient amount of roof areas for roof collectors within 22.5° of south.

Locate buildings on lot so that the sun it can reach the south wall and roof of each unit without obstruction.

Site buildings so that their shadows do not cover plazas and sitting areas. Locate buildings on the north side of outdoor use spaces whenever possible, and shape of the building mast to cast a minimum shadow.

Site taller buildings to the north of the shorter ones. Utilize portions of the site with poor solar access for service functions like parking.

Noise Control, Micro-Climates and Air Quality

The site plan can minimize the intrusion of loud noises by utilizing noise buffers, by separating incompatible uses, and by the locating proposed uses in areas where they will be most compatible with surrounding noise levels.

The micro-climate can be modified through careful sitting of structures, land forms and vegetation, improving outdoor living conditions and reducing energy demands for heating and cooling.

Air quality can be maintained and noise reduce by providing for pedestrians, bike and transit transportation, and by judicious sitting and landscaping decisions. More trees should be planted throughout the city for reasons other environment, appearance, energy conservation, air quality, climatic impact and pedestrian comfort.

Buffering noise with planting in conjunction with berms or walls. Vegetation alone is not an effective physical buffer, but visual screening of the noise source reduces perceived sound level.

Utilize orientation to deflect sound from sensitive uses like group open space.

Design new buildings to prevent transmissions of outside noise, to minimize equipment noise, and to minimize noise transmissions between units.

Protect exposed areas from prevailing winds up with evergreen windscreens.

Provide shelter from winter rains at key access points.

Use deciduous landscaping to maximize winter heat gain or south side while minimizing summer heat gain.

Locate areas used for in tents and human activities such as sports fields away from significant air pollution sources and filter pollutants with mounting and landscaping next to emission sources.

Outdoor Use Spaces

The placement, size and proportions of outdoor spaces should relate to their functions and shoe associated indoor spaces to maximize utilization. Outdoor spaces cut off from the buildings they served by driveways and parking are rarely useful as outdoor living spaces except as sports courts.

When outdoor space has clearly defined boundaries any strong relationship to a particular structure or cluster of structures, there can be a sense of proprietorship for the space by the owner or user of the structure, which discourages crime and encourages use and maintenance of the space. Clustering of units within a larger complex to create semi-public outdoor use spaces with amenities such as seating strengthens a sense of community.

Configure buildings so that the adjacent open spaces are visible and easily surveyed. Greater surveillance and safety results from encouraging a variety of uses. Minimize remote, and accessible outdoor spaces.

Locate uses most sensitive to noise away from noise sources; avoid enclosing noise-reducing facilities such as parking lots or swimming pools within it living units.

Consider visual access for police patrol in sitting of parking, buildings and selection of vegetation. Doorways and addresses should be visible from major circulation routes and let at night.

Extend building territories into outdoor use spaces with special landscape treatment such as trellises, paving, low walls or planting edges.

<u>Circulation:</u>

General Considerations

Developments locate along potential urban pathways, bikeways or trails as shown in Hayward General Policy Plan or Hayward Recreation and Park District Master Plan should provide suitable linkages.

Circulation: Auto and Bus Routes

Restrict number of curb cuts to ease traffic and pedestrian flow on arterials and in commercial areas.

Place bus shelters in highly visible locations near entrances to major employment centers, shopping centers and institutions. Provide turnouts at major destinations where appropriate.

Designed by shelters to complement style of the commercial development or residential area.

Pedestrian Ways

Pedestrian ways should be destination oriented, separated from auto traffic, and Taylor to the intended use of the past. The primary circulation route should be the whitest and most direct.

Separate pedestrians from heavy traffic with parked cars and Street trees wherever feasible.

Provide walkway from sidewalk to entrances; and large developments, call out walkways with decorative paving and landscaping.
Design pedestrian pathways for short walking distances to transit stops, parks, shops and other rock of all destinations.

Provide access to creeks or other natural features such as viewpoints of where suitable for public enjoyment.

Orient the pedestrian weighted vistas connecting to destinations.

Developed a sequence of us bases in conjunction with the path. Avoid long stretches of sameness and overly large spaces, and provide points and visual interest such as a fountain or other focal feature where paths cross or special function occurs.

Bikeways

Bicycle you should be encouraged with the provisions of safer bikeways and bicycle storage. Separation of car, bike and pedestrian circulation at the site planning stage of the new development and connections to planned bike network is ideal.

Keep Class 1 bikeway opportunities open along the mainland edge, along water channels eight, B. and D., along at that active fault traces, and along creeksides. Provide bikeways or easements for future development as appropriate.

Consider wider sidewalks were designed for bikeway use on Winton Avenue from Santa Clara to Southland and on sections of Hesperian Blvd.

Design bikeways to connect to transit station bike storage, shopping center bike racks, schools, colleges and parks.

Seek routes which minimize danger from auto traffic, i.e., Class 1 routes or streets with relatively low traffic volumes or few places for cars to back into route.

Allow a minimum width of 3 feet per delaying with 2 feet clear on each side (8 feet for two way), provide any gently curving alignment, an attempt to keep longitudinal slope to 2%. Long grades greater than 5% and side slopes over 2% should be avoided.

Locate bicycle racks and easily observer of all locations on commercial centers and in parks and near schools and office entrances.

Consider provisions of bike lockers or locked fenced bike storage for multi-family residential developments where bike storage is not incorporated in designing of individual units.

Landscape Design

General Considerations

Landscape is versatile. For conservation, landscaping served to stabilize hills, to reduce runoff, and to retain open space character by blending in development. For climate control landscaping can be used to provide needed shade or wind break and to buffer noise, dust and glare. Aesthetically, landscaping can form attractive streetscapes, screen ugliness, add seasonal interest, and frame architecture. Functionally, landscaping defines spaces for outdoor use, circulation in entries. Psychologically, landscaping reduces stress and provides an inviting urban environment.

Retain need of vegetation and use drought-tolerant plants to reduce the demand for irrigation.

Control erosion by planting fast growing plants for quick soil coverage as well as slower-growing, longer- lived plants.

Seek to use berms, setbacks or placement of a less noise sensitive uses as offers rather than sound walls to mitigate noise.

Site Furnishing

Seating
Provide benches at bus stops to encourage employee and customer use of transit.

Setback pedestrian traffic seating a minimum of 24 inches from walkways in order to avoid interrupting adjacent.

Urban Amenities

Tree guards and gates create a desirable urban ambience. Tree guards provide trunk protection to young trees, angry allow water infiltration and oxygen exchange. They should be selected to accommodate tree growth.

Residential

Single-Family Detached

Avoid enclaves which discourage transit, pedestrian and bike travel. Provide for short walking distance to bus stops, schools and shops and collector street suitable for bus service.

Consider zero- lot- line and other nonstandard lots to provide more private open space and solar access on small lots.

Attached Medium Density

Limit percentage of total site. Paved for streets, parking drives, parking courts, or access roads to approximately 25% (not including parking located beneath dwelling units).

Provided pleasurable pedestrian ways oriented towards community facility such as transit stops, as shops or school.

Design open space around any natural features such as mature trees, rock outcroppings and creeks to give character to the landscaping.

Infill Multifamily

Encourage joint development of neighboring properties to minimize driveways to provide for better murder see access into provide better sites for housing and open space for such development will not distract from historic character of neighborhood.

High Density

Maximize continuous street frontages with distinctive pedestrian oriented entries.

Create vistas with building configuration and link to pedestrian network.

Incorporate good solar orientation and used whenever possible; protect from the prevailing winds.

<u>Commercial</u>

Sidewalk Oriented

Development with a pedestrian and transit orientation is preferred on arterial approaching the downtown and in activity centers identified in the General Policies Plan.

The design of buildings and spaces should encourage pedestrian and transit use.

Provide bus shelters that complement commercial design, with appropriate advertising space for stores/centers which provide them. Try to locate bus stops near stores with long hours.

Community Shopping Center

Accommodate public transportation as an integral part of design.

Provide for bicycle access and storage.

Provide pedestrian access to site with special paving differentiating where walkways across roadways.

Neighborhood Shopping Centers

Design walkways connecting neighborhoods sidewalks with the center. Seek to extend Street pattern into the center as walkways to shorten walking distances and to provide vistas into the center.

Consider utilization of space for day care of elders and/or preschoolers if contiguous outdoor use space can be developed, and other local service enterprises.

Remodeling

Consider pedestrian; bike and transit access as well is more efficient parking arrangements.

Industrial

Provisions for transit, pedestrians and bikes need development.

Provide bus shelter, convenient walkway system, bike storage and preferential carpooling parking to reduce traffic impacts.

Avoid frequent curb cuts which would facilitate commercial strip development, hinder traffic flow, and reduce potential landscaping along street.

Downtown

General Considerations

All downtown buildings should be oriented for ease of pedestrian and transit access to allow more intensive use over time; pedestrian amenity and continuity of development are essential.

B Street and Main Core Area

The "core" area of downtown, with "Main Street" storefront character, has the clearest imperative to maintain pedestrian-oriented retail frontage and a classic downtown shopping district appearance.

Open Space Features

Restore natural setting of the creek where feasible, e.g., uncovering the creek west of Foothill Blvd., and landscaping with riparian trees, vines, and boulders to soften concrete channelization.

Beyond the Core Area

Most downtown development has occurred outside the Core Area of the downtown. Space-based like the Core Area, this area should have a strong pedestrian orientation expressed in lighting, landscape, transit shelters, architectural detail and display windows to maintain pedestrian interest. It is also important to make transitions to the area surrounding downtown into a comedy a wider variety of development types gracefully.

ARTICLE 10

CONSTRUCTION AND DEMOLITION DEBRIS WASTE REDUCTION AND RECYCLING REQUIREMENTS

Section	Subject Matter
5-10.01	PURPOSE
5-10.02	DEFINITIONS
5-10.03	THRESHOLDS FOR COVERED PROJECTS
5-10.04	NON-COVERED PROJECTS
5-10.05	COMPLIANCE AS CONDITION OF APPROVAL
5-10.06	SUBMISSION OF DEBRIS RECYCLING STATEMENT
5-10.07	REVIEW OF DEBRIS RECYCLING STATEMENT
5-10.08	SUBMISSION OF A COMPLETED SUMMARY REPORT
5-10.09	WEIGHING OF C&D DEBRIS
5-10.10	DETERMINATION OF COMPLIANCE
5-10.11	CITY'S RIGHTS TO MONITOR AND INSPECT
5-10.12	SUPPORTING DOCUMENTATION
5-10.13	TARGETED MATERIALS
5-10.14	APPEALS
5-10.15	PENALTY

ATTACHMENT C

ARTICLE 10

CONSTRUCTION AND DEMOLITION DEBRIS WASTE REDUCTION AND RECYCLING REQUIREMENTS

Section 5-10.01 PURPOSE. This Article is adopted in order to supplement the provisions of the California Integrated Waste Management Act of 1989 which requires that each local jurisdiction in the state Divert 50% of discarded materials from landfills by December 31, 2000 and aid in compliance with the Alameda County Waste Reduction and Recycling Act of 1990 (Measure D). Since construction and demolition debris has, in past years, constituted as much as 16% of the materials deposited in Alameda County landfills, the City has identified such debris and waste a significant target for reduction and recycling. The intent of this Article is to Divert building materials from landfills, and process and return the materials into the economic mainstream, thereby conserving natural resources and stimulating markets for recycled and salvaged materials.

Section 5-10.02 DEFINITIONS. For the purposes of this Article, the following definitions shall apply:

a. "Applicant" shall mean any individual, firm, limited liability company, association, partnership, the State, any political subdivision and/or agency of the State, any government agency, municipality, county, city, chartered city or county, school district, community college district, industry, business, public or private corporation or any other entity who applies to the City for permits to undertake any construction, demolition or renovation Project within the City that is subject to this Article.

b. "Construction" means the building of any structure or portion thereof, including, but not limited to, improvements to or remodeling or repair of an existing facility or structure.

c. "Construction and Demolition Debris", "C&D Debris" and "Construction Debris" means used or discarded materials removed from the premises during construction or renovation of a structure resulting from construction, remodeling, repair, improvement, or demolition operations on any pavement, street, driveway, house, building, or other structure or improvement regardless of the nature of such structure or improvement.

d. "Conversion Rate" means the rate set forth in the standardized Conversion Rate Table approved by the City pursuant to this Article for use in estimating the volume or weight of materials in a Debris Recycling Statement.

e. "Debris Recycling Statement" means the completed DRS Form approved by the City for the purpose of assuring compliance with this Article submitted by the Applicant for any affected or non-affected Project.

f. "Debris Recycling Statement Compliance Officer" means the Director of Public Works or his/her designee. The Debris Recycling Statement Compliance Officer shall be the individual responsible for implementing this Article.

g. "Demolition" means the destroying, razing, tearing down or wrecking of any pavement, street, driveway, house, building, or other structure or improvement regardless of the nature of such structure or improvement whether in whole or in part, whether interior or exterior.

h. "Divert" means to use material for any purpose other than disposal in a landfill or incineration facility. Methods of Diverting materials from landfills shall include reuse, recycling, and salvage.

i. "Diversion Attainment" means the diversion of 100% of the asphalt, concrete and similar material, and at least 50%, by weight, of the total of all other C&D Debris generated by an affected Project.

j. "Hearing Officer" means the City Manager or designee.

k. "Project" means any activity which requires an application for a building permit, demolition permit, encroachment permit or other similar permit from the City.

l. "Recycling" means the process of collecting, sorting, cleansing, treating, and/or reconstituting of materials that would otherwise become solid waste, and returning them to the economic mainstream in the form of raw material for new, reused or reconstituted products which meet the quality standards necessary to be used in the marketplace.

m. "Renovation" means any change, addition or modification in an existing structure or improvement.

n. "Reuse" means further or repeated use of Construction or Demolition Debris in the same or different form.

o. "Salvage" means the controlled removal of C&D Debris from a permitted building or demolition site for the purposes of recycling, reuse or storage for later recycling or reuse.

p. "Source Separated" means recyclables that have been segregated from solid waste, by or for the generator, on the premises where they were generated, for handling different from that of solid waste.

q. "Summary Report" means the report to be submitted to the Debris Recycling Statement Compliance Officer at the conclusion of any affected Project.

r. "Targeted Materials" means the C&D Debris listed in the Debris Recycling Statement that could potentially be reused, recycled or salvaged.

Section 5-10.03 THRESHOLDS FOR COVERED PROJECTS. The provisions of this Article shall apply to all construction, demolition and/or renovation projects within the City with a permit valuation in excess of $75,000 as determined by the City's Building Official or designee. The total cost established by this section shall be adjusted every five years, beginning in the year 2006 to reflect an increase or decrease in the cost of construction due to inflation or deflation.

Section 5-10.04 NON-COVERED PROJECTS. Applicants for Projects that do not meet the threshold requirements set forth in Section 5-10.03 shall be encouraged to meet Diversion Attainment described herein.

Section 5-10.05 COMPLIANCE AS CONDITION OF APPROVAL. Compliance with the provisions of this Article shall be included as a condition of approval on all building and/or demolition permits issued for Projects that meet or exceed the thresholds set forth in this Article.

Section 5-10.06 SUBMISSION OF DEBRIS RECYCLING STATEMENT. Applicants for building or demolition permits involving Projects covered by this Article shall complete and submit a Debris Recycling Statement (DRS) on a form approved by the City. Such DRS form shall be provided to the Applicant by the City as part of the permit application package. The completed DRS form shall include and indicate all of the following:

a. the estimated volume or weight of the C&D Debris, by type of material generated;

b. the estimated volume or weight of materials that can feasibly be Diverted via reuse or recycling;

c. the vendor or facility that the Applicant proposes to use to collect and/or receive the Diverted material;

d. the estimated volume or weight of materials that will be deposited in a landfill.

For the purposes of this section, the Applicant shall use standardized Conversion Rates, approved by the City, to estimate the volume and weight of materials identified in the DRS.

Section 5-10.07 REVIEW OF DEBRIS RECYCLING STATEMENT.

a. Timeframe for Review: The Debris Recycling Statement Compliance Officer will review the DRS and advise the Applicant within five days of receipt of the DRS of his/her decision regarding approval or non-approval.

b. Approval of Debris Recycling Statement: Notwithstanding any other provision of this Code, no building, demolition or similar permit shall be issued unless and until the Debris Recycling Statement Compliance Officer has approved the DRS for the Project. Approval shall not be required, however, where a determination has been made by the City that emergency demolition is necessary to protect public health or safety. A DRS shall only be approved if the Debris Recycling Statement

Compliance Officer determines that the following conditions have been met:

(1) The DRS provides all of the information required by this Article; and

(2) The DRS indicates that 100% of the asphalt, concrete and other similar material, and at least 50%, by weight, of all other C&D Debris generated by the Project will be Diverted; or

(3) The DRS indicates that 100% of the asphalt, concrete and similar materials will be Diverted, and demonstrates good cause as to why at least fifty percent

(50%) by weight of the remainder of the C&D Debris generated by the Project will not be Diverted.

If the Debris Recycling Statement Compliance Officer determines that the DRS has met condition (1) and either condition (2) or (3) set forth above, the DRS shall be marked "Approved". A copy of the approved DRS shall be returned to the Applicant and the Building Division shall be notified that the DRS has been approved.

c. Non-Approval of Debris Recycling Statement: If the Debris Recycling Statement Compliance Officer determines that condition (1), or either (2) or (3) has not been met, he or she shall either return the DRS to the Applicant requesting full documentation of the reasons that the requirements set forth herein cannot be met, or return the DRS to the Applicant marked "Denied". If the DRS is returned marked "Denied", it shall be accompanied by a statement of reasons for the denial. Once the Building Division is notified that a DRS has been denied, it shall not issue the permit for the project for which the DRS has been submitted until it has been notified that a DRS has been approved.

Section 5-10.08 SUBMISSION OF A COMPLETED SUMMARY REPORT. At the conclusion of every Project subject to this Article, and prior to issuance of a temporary or final certificate of occupancy by the City, the Applicant shall submit to the Debris Recycling Statement Compliance Officer a Summary Report that contains all of the following documentation:

a. The actual volume or weight of C&D Debris that was Diverted and was not Diverted by type of material, and the Diversion method used by Applicant; and

b. A copy of the previously approved DRS for the Project; and

c. The vendor or facility that the Applicant utilized to collect and receive the Diverted material; and

d. A description of any barriers that were encountered.

Section 5-10.09 WEIGHING OF C&D DEBRIS. Applicants shall make every reasonable effort to assure that all C&D Debris Diverted and/or deposited in a landfill is measured and recorded using the most accurate method of measurement available. To the extent possible, all C&D Debris shall be weighed by measurement on scales. Such scales shall be in compliance with all regulatory requirements for accuracy and maintenance. A volumetric measurement shall be used for all C&D Debris for which weighing is not practical due to small size or other considerations. Volumetric measurements shall be converted to weight by using the standardized Conversion Rates approved by the City for this purpose.

Section 5-10.10 DETERMINATION OF COMPLIANCE. The Debris Recycling Statement Compliance Officer shall review the completed Summary Report submitted pursuant to Section 5-10.08 to determine whether the Applicant has Diverted 100% of the asphalt, concrete and similar material, and at least 50%, by weight, of the total of all other C&D Debris generated by the Project. Such determination shall be based upon this Article and the implementing guidelines adopted by the City as follows:

a. The Applicant shall be found to have achieved a "Diversion Attainment" if (1) 100% of the asphalt, concrete and similar material generated by the Project has been

Diverted and appropriate documentation as required by this Article has been provided to the City; and (2) at least 50%, by weight, of the remainder of the C&D Debris generated by the Project has been Diverted and appropriate documentation as required by this Article has been provided to the City.

b. When the Applicant has not achieved Diversion Attainment for a Project, the Debris Recycling Statement Compliance Officer shall determine if such Applicant has made a good faith effort to comply with the requirements of this Article. In making this determination, consideration may be given to information submitted by the Applicant, the availability of markets for the C&D Debris that was not Diverted, the size and nature of the Project, the documented efforts of Applicant to Divert C&D Debris and the barriers encountered. If the Applicant is determined to have made a good faith effort to comply with the C&D Diversion and documentation provisions herein above set forth, further compliance with this Article shall be excused.

c. An Applicant shall be in a "Non-Attainment" status if it is determined that (1) 100% of the asphalt, concrete and similar material generated by the Project was not Diverted; (2) that 50% of the remainder of the C&D Debris was not Diverted; and (3) that a good faith effort was not made, or if the Applicant fails to submit the documentation required by this Article.

Section 5-10.11 CITY'S RIGHTS TO MONITOR AND INSPECT. The City shall have the right to inspect all Projects subject to this Article to determine levels of actual Diversion activities and validate the information contained in the DRS and Summary Report. Upon request by the City, Applicant shall provide documentation, papers and records relating to the disposal of C&D Debris for an affected Project.

Section 5-10.12 SUPPORTING DOCUMENTATION. Applicants shall retain receipts and weight tags for the quantities of materials reused, salvaged, recycled and deposited in a landfill as indicated in the Summary Report for a period of one year following the final inspection and issuance of a temporary or final certificate of occupancy. Applicant shall make such records available to the City for inspection and copying upon request.

Section 5-10.13 TARGETED MATERIALS. In furtherance of the goals established by this Article, the Director of Public Works may, from time to time, change the C&D Debris materials targeted for Diversion based upon local markets and conditions.

Section 5-10.14 APPEALS. An Applicant may appeal a decision of the Debris Recycling Statement Compliance Officer by initiating the following procedure:

a. Within ten calendar days after the date of a written decision, an appeal in writing must be filed with the Debris Recycling Statement Compliance Officer. The appeal shall be on a form prescribed by the Debris Recycling Statement Compliance Officer and shall state specifically, and in detail, the error or action which is being appealed.

b. Within ten working days of receipt of the appeal, the City Manager shall appoint a hearing officer. The Hearing Officer shall schedule a time and date, provide the Applicant a minimum of ten days written notice and conduct a hearing on the appeal.

c. In deciding the appeal, the Hearing Officer shall consider the evidence provided by the Applicant, the Debris Recycling Statement Compliance Officer, and any other information he/she feels relevant to the disputed issue. In rendering a decision, the

Hearing Officer shall consider and give considerable weight to purpose and intent of this Article.

d. Within 14 working days of the completion of the hearing, the Hearing Officer shall render a written decision either affirming, modifying or reversing the decision of the Debris Recycling Statement Compliance Officer. The decision of the Hearing Officer shall be final.

Section 5-10.15 PENALTY. Violations of any of the provisions of this Article shall be infractions subject to the provisions of Section 1-3.00 e. of this Code.

CITY OF HAYWARD
CALIFORNIA

POWERLIGHT®
SOLAR ELECTRIC SYSTEMS

Background

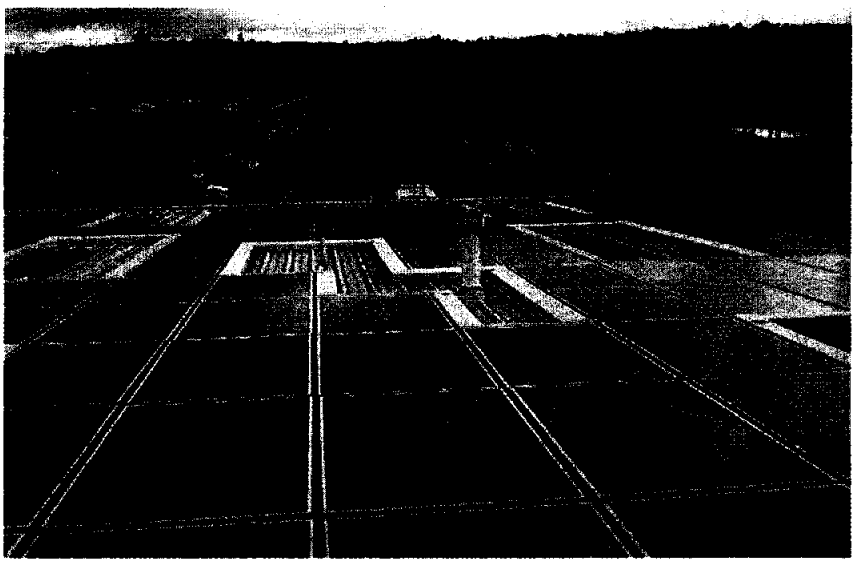
Hayward is known as the "Heart of the Bay," not only for its central location but also for its accepting and caring environment. Hayward continually balances the needs of their growing diverse population with the preservation of open space, natural resources and economic development. Hayward's efforts with solar power exemplify how local municipalities and counties are setting new standards for responsible energy management.

Challenge

Hayward's mission is to understand and balance their citizens' needs, desires and resources to achieve the highest possible quality of life for the overall community. The City was interested in deploying reliable renewable resources, and chose to install a solar electric system to realize both environmental and economic benefits for Hayward.

"The use of solar power makes good sense for the City of Hayward. It provides us with the latest technology for clean energy production and reduces our future operating costs while enabling us to realize greater energy independence. We're pleased to be making a significant positive contribution to the quality of our region's environment."

Roberta Cooper
Mayor
City of Hayward



Solution

After evaluating multiple renewable energy alternatives, the City of Hayward chose to install on-site solar electric generation to meet their electricity needs in a clean, sustainable manner.

The City installed a 276 kilowatt solar electric system at their Barnes Court Warehouse, where the Hayward Animal Services and Shelter, Landscape Maintenance Division and Facility Maintenance Divisions are located. This installation makes use of an unused asset—an existing rooftop in Hayward. Covering a combined area of 60,000 square feet, Hayward's solar generation project is capable of generating enough electricity during the daytime to power over 275 homes.

By generating solar power, Hayward is effectively reducing its purchases of expensive peak electricity and doing its part to address California's ongoing energy challenges. The grid-connected systems reduces the City's electrical load, especially during peak demand times when the utility grid is the most strained and electricity is most expensive. In addition to generating solar electricity, the solar panels insulate the building, reducing the cost of heating and air conditioning while extending the life of the roof. Hayward anticipates average savings of $51,400 annually in avoided electricity purchases, with lifetime savings projected net savings of $2.2 million.

Benefits

The City of Hayward views its solar generation system as a way of reducing demand for energy from the utility grid, lowering operating costs and improving air quality for its citizens.

Silent, unobtrusive and virtually maintenance free, Hayward's solar electric system spares the environment from tons of harmful emissions, such as nitrogen oxides, sulfur dioxide and carbon dioxide, which are major contributors to smog, acid rain and global warming. Over the next 30 years, the solar-generated electricity will reduce emissions of carbon dioxide by over 2,000 tons. These emission reductions are equivalent to planting 600 acres of trees, removing 440 cars or not driving 5.5 million miles on California's roadways.

ATTACHMENT D

CITY OF HAYWARD
CALIFORNIA

Specifications

City of Hayward, California

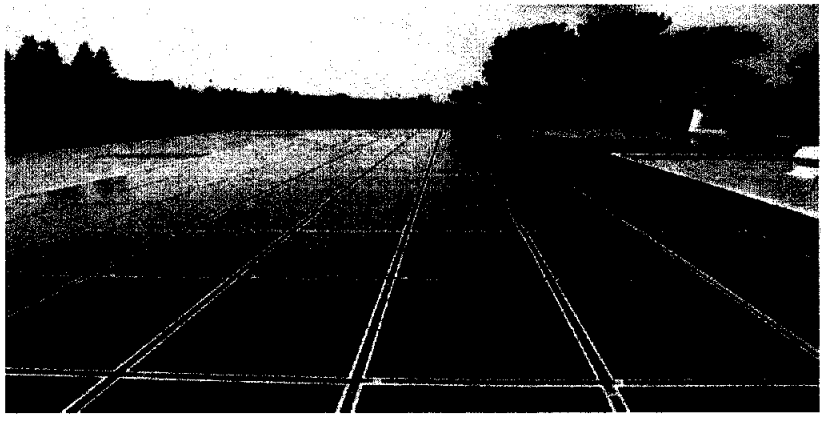
Barnes Court Warehouse
Animal Animal Services & Shelter
Landscape Maintenance Division
Facilities Maintenance Division

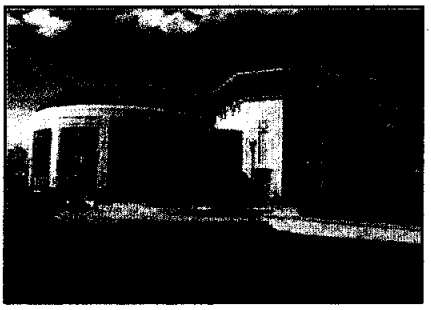
Location: 16 Barnes Court, Hayward, CA 94544
Date Completed: March 2006
System Peak Capacity: 276 kW
PV Surface Area: 60,000 square feet
Solar Electric Tiles: 1,380

Photovoltaic System Configuration
Hayward's photovoltaic (PV) array, installed atop the Barnes Court Warehouse is made up of 1,380 solar panels, which are designed to provide both power for the facility and added insulation and protection for the roof. The PowerLight tiles feature high-efficiency solar modules. Each module has a maximum rated output of 200 watts.

Photovoltaic System Description:
The solar electric system installed on the roof of Barnes Court Warehouse uses PowerLight's PowerGuard® technology, a lightweight building-integrated photovoltaic (BIPV) roofing assembly that is installed over an existing roof membrane. The photovoltaic modules use solar cells made of solid-state semiconductors to convert sunlight into direct current (DC) electricity with no moving parts. The DC output from the PV modules is then converted by inverters into usable alternating current (AC) electricity, that is then fed into the building's electrical distribution system.

PowerLight's PowerGuard tiles fit together with interlocking tongue-and-groove side surfaces that enable them to resist wind uplifts without penetrations. In addition to generating electricity, PowerLight's PowerGuard solar roof system provides thermal insulation and protects the roof from harsh UV rays and thermal degradation. These benefits result in decreased heating and cooling energy costs and extended roof life.





About PowerLight

PowerLight Corporation is the nation's leading designer, manufacturer and installer of grid-connected solar electric systems and energy efficiency services. Incorporated in 1995, PowerLight's distributed generation products produce reliable, affordable clean power for businesses and government agencies worldwide. Inc. Magazine has ranked PowerLight Corporation among the top 500 fastest growing privately held companies for the past five years. Today, PowerLight has worldwide offices and a full line of commercial solar electric products.

PowerLight's Mission

PowerLight is committed to making clean power a mainstream and affordable source of the world's energy supply. Our solar products enable companies to reduce operating costs by transforming clean, abundant solar energy into electricity.

POWERLIGHT®
SOLAR ELECTRIC SYSTEMS

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SARA CONNER COURT APARTMENTS

Setting a Green & Bay-Friendly Example

Sara Conner Court Apartments is a new 57-unit community of affordable rental homes. The project revitalizes a brownfield site in Hayward, California, previously occupied by a beverage processing plant, gas station and dry cleaner. Developed in partnership with the City of Hayward, this urban infill development is named in honor of the late Sara Conner, a community volunteer and longtime board member of the nonprofit affordable housing developer, Eden Housing. One of Eden's goals for Sara Conner Court Apartments was to build an exemplary project that would inspire local development of quality homes for people with low incomes. The project team put considerable effort into creating a community that is not only safe, attractive and affordable, but also environmentally friendly and healthy.

LOCATION
Hayward, California

PARCEL SIZE/DENSITY
1.8 acres / 30 dwelling units per acre

BUILDING TYPE
2- and 3-story townhouse-style units above a concrete podium parking structure, and 3-story wood-frame apartments

TOTAL SQ. FT.
53,941 sq. ft. (net) units; 1,761 sq. ft. community area with community room, kitchen, computer lab, laundry room and management offices.

TARGET POPULATION
Families with low incomes

NUMBER OF UNITS
57 one-, two- and three-bedroom rental units

COMPLETION DATE
August 2006

OWNER/DEVELOPER
Eden Housing, Inc., Hayward, CA

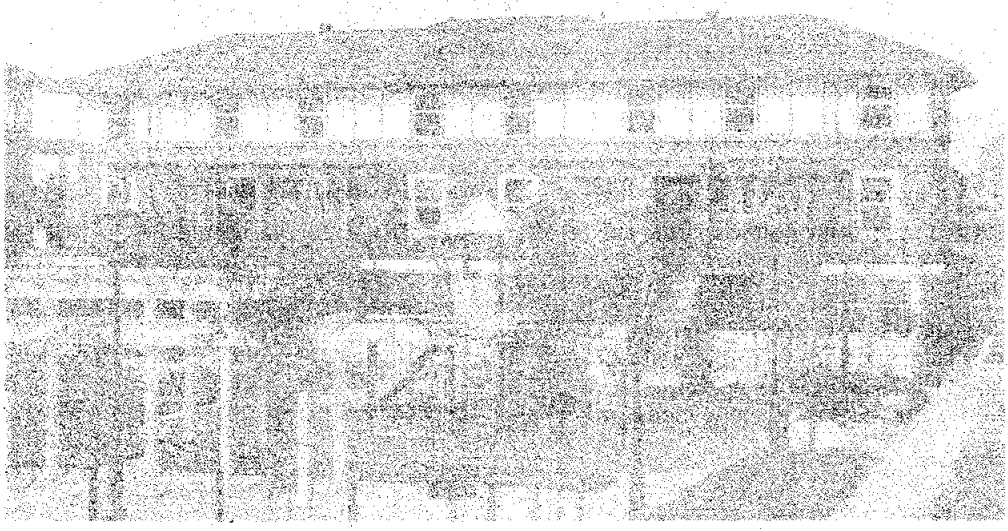
ARCHITECT
Pyatok Architects, Oakland, CA

GENERAL CONTRACTOR
Segue Construction,
Point Richmond, CA

LANDSCAPE ARCHITECT
Rich Seyfarth, Berkeley, CA

LANDSCAPE CONSTRUCTION
Land Gro, San Jose, CA

CONTACT FOR MORE INFO
Katie Lamont
Eden Housing, Inc.
409 Jackson Street
Hayward, CA 94544
TEL 510-582-1460 ext. 146
EMAIL klamont@edenhousing.org



ATTACHMENT E

■ Green Building Features ■

Sara Conner Court doesn't have glamorous green features like solar electric systems or vegetated roofs. Instead, the team improved the project's environmental performance while maintaining its affordability by focusing on fundamental strategies such as solar orientation, daylighting, natural ventilation and durability.

LIVABLE COMMUNITIES

The four buildings are arranged around an 8,500-square-foot central courtyard with areas for playing, relaxing, barbecuing and picnicking. Five other smaller courtyards provide an additional 3,350 square feet of community space. The largest building has 30 two- and three-story townhouse-style units above a parking structure. Despite its size, the building doesn't feel out of scale thanks to bays and indentations that give the impression of six smaller buildings. The other three buildings are wood frame, stucco-clad structures with handicap-accessible flats on the ground floor and two-story townhouse-style apartments above.

The buildings and parking areas were kept compact to allow plenty of space for a courtyard, play area and landscaping. Other community amenities include a small grass lawn, attractively landscaped walkways, a community room and kitchen, computer lab and central laundry facility. Each apartment has its own patio or deck.

The community is served by public transit and is located within walking distance of local elementary and middle schools, grocery stores, a low-cost medical clinic and other neighborhood services.

Inside Tip: Weigh community, livability, density and open space benefits from the outset of the development process. Compact housing developments can be good for the community and the environment because they typically use land and public infrastructure more efficiently than sprawling developments. But on urban lots it's not easy to create higher density housing that also allows adequate space for parking, outdoor recreation and landscaping. For Sara Conner Court Apartments, Eden chose to build many of the homes above a podium parking structure. Although the parking structure costs considerably more than surface parking, it preserves valued open space and contributes to a more livable community.

LOWER ENERGY USE & GREENHOUSE GAS EMISSIONS

The project was designed to be at least 15% more energy efficient than required by California's Title 24–2001 building energy standards. The apartments have no air conditioning; rather, they were designed for good natural ventilation, with operable windows at the front and back of each unit to provide cross breezes. The courtyard and breezeways ensure that each unit gets plenty of daylight and fresh air. The parking structure is open so that car exhaust is flushed out with fresh air rather than with energy-consuming exhaust fans.

The apartments' efficient gas-fueled hydronic heating systems allow the water heater to do double duty, providing hot water to the faucets as well as heating the apartment. Each apartment has its own gas meter, which costs more to install than a central meter but provides an incentive for the

GREEN at a GLANCE

Here are key green aspects of Sara Conner Court Apartments:

PLANNING & DESIGN

- Urban infill; brownfield remediation
- Proximity to public transit, schools and neighborhood services
- Ample open space, natural ventilation and daylighting
- Community spaces include courtyard, play area, community room, computer lab

SITEWORK

- 50% of jobsite waste reduced, reused or recycled
- Indoor air quality and hazardous waste plans followed during construction

STRUCTURE

- Drainage plane under siding to shed moisture
- Durable siding and 50-year roof
- Raised heel trusses

SYSTEMS

- High efficiency exterior and exit sign lighting
- ENERGY STAR® appliances in units
- No air conditioning
- Water-efficient toilets, faucets and showerheads
- Range hoods vented to the outside
- Sealed ducts for energy efficiency
- Central laundry facility with ENERGY STAR® clothes washers and gas-fueled dryers

FINISHES & FURNISHINGS

- Low-emissions carpet
- Exposed edges of cabinet boxes fully sealed to prevent formaldehyde outgassing
- Natural linoleum flooring
- Low VOC interior paints, adhesives and sealants
- Exterior wood trellises are weather-resistant cedar instead of pressure treated lumber

residents to keep their energy use—and related greenhouse gas emissions—in check. All heating ducts were fully sealed to improve the efficiency of the heating system and protect indoor air quality.

Inside Tip: Look for multiple benefits and stay ahead of the regulatory curve. Eden was committed to exceeding the requirements of California's building energy code, known as Title 24, by at least 15%. During the design process, however, the team realized that the larger of the four buildings was coming in somewhat below that energy performance benchmark. They analyzed extra measures that would improve the design's energy performance while still being affordable. Increasing the insulation in the floor/roof assembly above the parking structure was one option, but the team opted instead for tighter sealing of the heating ducts. This saves energy and provides an added benefit of better indoor air quality. Also, even though the project was developed under Title 24–2001, Eden expected that the 2005 code update would require tighter duct sealing. They decided to stay ahead of the regulatory curve by choosing tighter duct sealing for this project.

The courtyard and the breezeways ensure that each unit gets plenty of daylight and fresh air.

HEALTHY MATERIALS AND PRACTICES

Carpets in living rooms and bedrooms bear the Carpet and Rug Institute's Green Label, an indication of lower chemical emissions. In addition, the carpets were installed with adhesives that have low levels of volatile organic compounds (VOCs). Exposed composite-wood materials in the kitchen cabinet boxes are fully sealed with a low VOC sealant to prevent the offgassing of formaldehyde. The entryway, kitchen and dining area flooring is natural linoleum instead of vinyl. The kitchen range hood's exhaust fans vent to the outside, and bathroom exhaust fans are on timers tied in to the light switch so that they stay on long enough to adequately vent the space.

Inside Tip: When installing linoleum, be sure the ambient temperature and moisture conditions fall within the manufacturer's recommended range. Natural linoleum is a high quality, eco-friendly product, but it is more complicated to install than vinyl sheet or tile. The installation went smoothly on this project, but on a previous project Eden had encountered installation problems related to the jobsite's moisture and temperature conditions. When installing linoleum, if ambient temperature or moisture conditions are outside the manufacturer's recommended range, it may be necessary to bring in mechanical heat or ventilation. Developers whose schedules require installing linoleum in winter months should consider including the cost of mechanical heat or ventilation in the project budget.

■ Bay-Friendly Lanscaping Practices ■

The project team, with guidance from StopWaste.Org's Bay-Friendly Landscaping program, designed an outdoor setting that's beautiful and environmentally sound. Here are some of the steps they took:

NURTURE THE SOIL

Healthy topsoil is alive with billions of microorganisms that play a vital role in protecting soil from erosion, feeding plants and reducing pollution. Unfortunately, conventional building practices often treat soil as if it were a lifeless medium—compacting it with construction equipment or removing it from the site altogether. By the time the landscapers arrive on the job, the topsoil may be totally gone or lifeless and hard as rock, and not surprisingly, what is then planted fails to thrive or dies.

Teresa Eade, senior program manager with Bay-Friendly Landscaping, applauds the Sara Conner Court team for their soil protection efforts. They removed topsoil before construction began and stockpiled it away from construction activities. Later the topsoil was respread in the site's planting areas, amended with compost and organic soil amendments to supplement missing nutrients, and the planting beds were aerated to a depth of 12 inches. "You can really tell the soil is healthy by how healthy the plants are," Eade says.

Inside Tip: Amend the soil with compost. In Northern California, the standard material used to add organic matter to the soil is nitrolized sawdust, a byproduct of forest-products industries. Nitrolized sawdust can be unpredictable in the soil because it is not biologically stable, and in the short-term it negatively affects beneficial soil organisms. Compost, on the other hand, is stable in the soil and adds billions of beneficial soil organisms. Also, using compost closes the recycling loop by reusing organic matter that might otherwise have been landfilled. When buying compost, choose products that have been certified by a third party for quality. The U.S. Composting Council has a Seal of Testing Assurance (STA) program that provides third-party certification. The compost used at Sara Conner Court was an STA-certified compost from BFI Organics.

CONSERVE WATER AND PROTECT WATER QUALITY

The site is now beautifully landscaped with plants suited to the Bay Area's Mediterranean climate, characterized by a six-month dry season and cool rainy winters. Selected plants include trees such as pineapple guava, shrubs such as barberry, Oregon grape, quince and rosemary, and perennials such as fleabane, sedge and lavender.

A key element of the landscaping plan is hydrozoning, which simply means situating plants with similar water needs together so that they're watered by the same valve on the irrigation system. Turf demands a lot of water, so it's particularly important to zone any lawn areas separately from drought-tolerant plants. At Sara Conner Court, the turf is limited to a small lawn in front of the development and another next to the play area, and the turf is irrigated separately with a high efficiency irrigation system.

GREEN at a GLANCE

BAY-FRIENDLY LANDSCAPING

- Topsoil removed and stored during construction
- Soil tested and improved with organic amendments, STA-certified compost and recycled mulch
- No synthetic fertilizers used
- Shade trees moderate building temperature and reduce heat island effect
- Stormwater directed toward lawns, planting beds and bioswales to reduce flow of rainwater to storm drains
- Hydrozoning reduces water use
- Diverse plant palette of California natives and other drought-tolerant plants
- No species planted that are listed by Cal-IPC as invasive in SF Bay Area
- Turf minimized; grass clippings are grasscycled
- Grass-porous pavement in courtyard area minimizes impervious surfaces and provides fire lane
- Nursery pots returned to vendor for reuse
- All plant debris during construction and ongoing maintenance separated for recycling into compost
- Recycled content playground surface manufactured from old tires

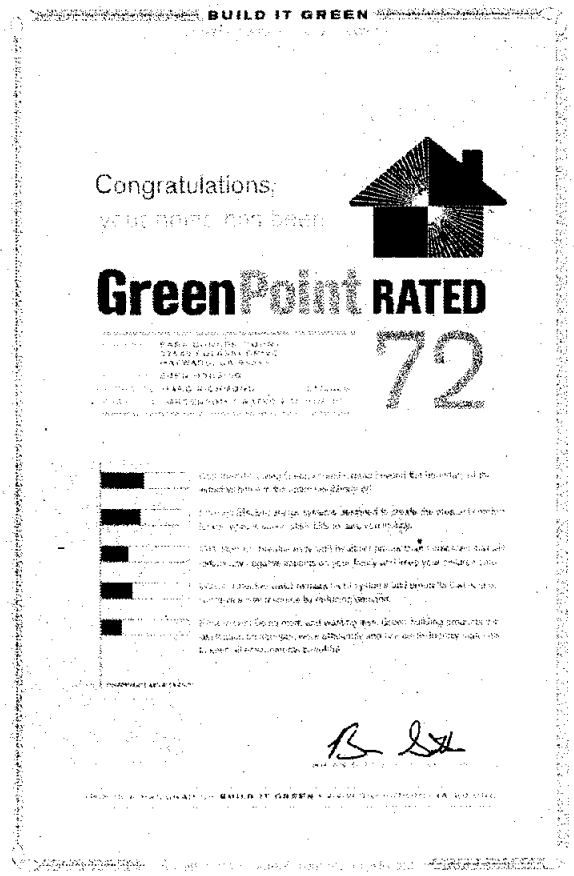
All rainwater that runs off the parking areas and the buildings' roofs drains to the lawns, planting areas or bioswales. This allows the runoff to percolate into the soil, where organisms can break down contaminants such as motor oil into harmless components. It also recharges the groundwater, reduces the volume of water and can delay the flow of rainwater into the storm drain until after peak flows, which minimizes erosion of local creeks.

Inside Tip: Nix the sidewalk lawn strips. Avoid putting in lawn strips next to sidewalks. Turf needs be watered regularly but it is difficult to mow, fertilize or water narrow strips efficiently; much of the irrigation water will be wasted as overspray or runoff, damaging sidewalks and roads. At Sara Conner Court, attractive groundcover and other non-invasive, low-water plants line the sidewalks.

CREATE WILDLIFE HABITAT

On a visit in November 2006, five months after the landscaping was installed, Eade noticed abandoned hummingbird nests in the new trees. "That means the hummingbirds would have nested as soon as the trees were planted," she says. "And we saw a hummingbird still feeding on a Mexican sage. We also saw some beneficial insects attacking an aphid infestation."

Inside Tip: Plan for diversity. A diverse palette of plants creates a beautiful environment for people, attracts birds and means that the plants won't be as prone to pest problems, which in turn means that pesticide use can be minimized. If the plants are also drought tolerant and not invasive, water is also conserved and waste is prevented.


BUILD IT GREEN

Congratulations,

GreenPoint RATED

72

SARA CONNER COURT APARTMENTS

■ Financing ■

SITE ACQUISITION COSTS

Land	$1,900,000
Demolition	$117,000
Off-site improvements	$582,000
Acquisition financing and title costs	$47,000
Subtotal	$2,600,000

DEVELOPMENT COSTS

Soft costs	$3,700,000
Hard costs (remediation & construction)	$12,700,000
Furnishings	$65,000
Developer fee	$1,400,000

TOTAL BUDGET $20,500,000
(dollars are rounded)

FUNDING SOURCES

City of Hayward	$4,500,000
Redevelopment Agency of the City of Hayward	$1,750,000
Construction and permanent loans through Silicon Valley Bank	$2,900,000
Enterprise Social Investment Corp. equity generated by the sale of low income housing tax credits	$11,500,000
StopWaste.Org grant	$55,000
Enterprise Foundation's Green Communities grant program	$50,000
Home Depot Foundation Grant	$25,000

AVERAGE COST/SQ. FT. $368

AVERAGE COST/UNIT $359,650

AFFORDABILITY TARGETS

30% of median income	6 units
40% of median income	6 units
50% of median income	28 units
60% of median income	16 units
Onsite property manager	1 unit

GREEN BUILDING
in Alameda County
www.BuildGreenNow.org

LIVERMORE
CALIFORNIA

CITY COUNCIL AGENDA REPORT

TO: Honorable Mayor and City Council

FROM: Dan McIntyre, Public Works Director

SUBJECT: Resolution Authorizing Execution of an Agreement with Spectrum Energy Inc. for the Design of a Community-wide Solar Development Customer Assistance Program for $40,000 and authorizing a Memorandum of Understanding between the City of Livermore and the City of Pleasanton to share costs for the Design of a Community-wide Solar Development Customer Assistance Program for the amount of $20,000 for each City

RECOMMENDED ACTION

Staff recommends the City Council adopt a resolution to authorize:

1. An agreement with Spectrum Energy Inc. for the design of a Community-wide Solar Development Customer Assistance Program in the amount of $40,000

2. A Memorandum of Understanding with the City of Pleasanton to share the cost in the amount of $20,000 for the design of a Community-wide Solar Development Customer Assistance Program

SUMMARY

At the September 26, 2005 Council meeting, Council directed staff to solicit qualified candidates for the design of a community-wide customer friendly photo voltaic purchasing program. A Request for Qualifications process was conducted and an agreement was negotiated with the most qualified candidate, Spectrum Energy Inc. The City of Pleasanton has agreed to partner with the City of Livermore in the design of a community-wide program. The attached Memorandum of Understanding with the City of Pleasanton allows the City to be reimbursed for costs associated with the City of Pleasanton's share of the design of a solar customer assistance program to be completed by Spectrum Energy Inc.

ATTACHMENT F

MEETING DATE:	AGENDA ITEM:
11-27-06	

DISCUSSION

At the September 26, 2005 Council meeting, Council directed staff to negotiate an agreement with a consultant to design a community-wide customer friendly solar purchasing program to facilitate the economical purchase and installation of photo-voltaic panels. The program would benefit residents and businesses in Livermore. In early 2006, other local municipalities (the cities of Dublin, Pleasanton, and San Ramon) were invited to partner with Livermore in the design of the program in order to realize economies of scale. The City of Pleasanton has agreed to join with the City of Livermore in the design of a community-wide program. The Pleasanton City Council approved a Memorandum of Understanding with Livermore on October 17, 2006.

Staff conducted a Request for Qualifications process to select the most qualified candidate for the development of a community-wide customer friendly photo-voltaic purchasing program. Spectrum Energy Inc. was found to be the most qualified candidate.

Staff negotiated an agreement with Spectrum Energy Inc. with City of Pleasanton staff input. The agreement includes designing a customized community-wide customer friendly solar development customer assistance program for both the City of Livermore and the City of Pleasanton. Some of the work to be performed by Spectrum Energy Inc. includes the following.

- Information gathering
- Consensus from local stakeholders
- Developing a specific plan for various market segments
- Identifying local resources and local needs
- Proposing an implementation phase
- Focusing on existing and new residential, existing and new commercial, and City-owned facilities
- Conducting community meetings
- Analyzing data and input from stakeholders
- Prepare a final report for submittal to both cities
- Evaluating costs for implementing the program

Once the design of the program is approved, the costs to implement the program would be known and staff would return to Council for further direction. Staff has kept the members of the Environment and Energy Committee informed regarding the development of a Community-wide Solar Development Customer Assistance Program, and the Committee will be asked to provide input on the final design proposed by Spectrum Energy, Inc. prior to returning to Council for direction.