

## Prewett Park Community Facilities Project

### Sustainable Design Strategies

#### Sustainable Site

- Erosion and Sediment Control: Erosion control measures will be in place during the duration of the construction process. Bioswales also control water runoff from impervious paved and roof areas throughout the life of the project.
- Site Selection: The new facility incorporates site features into the design such as an exterior amphitheater, shelter from the sun and rain with large overhanging roofs, and natural areas for outdoor activities.
- Storm Water Management: The project introduces a series of bioswales and reuses existing drainage swales created by the natural topography to mitigate any negative impacts on the City's existing sanitary sewer and storm drainage systems.
- Community Connectivity: The new facility is located on a partially developed site within ½ mile of a residential zone with pedestrian access between the building and other basic community services. The new facility supports the Prewett Park redevelopment plan's goals to enhance community connectivity and quality of life considerations.
- Alternative Transportation: Reduce pollution and land development impacts from automobile use by locating the facility with ¼ mile of a public bus line usable by building occupants. A new bus stop is located steps from the front entrance of the new facility. The facility provides secure bicycle racks within 200 yards of the main entrance for building users.
- Site Development: The project will limit site disturbance during construction conserving existing natural areas and restoring damaged areas to provide habitat and promote biodiversity for the life of the project. The project maximizes open space by providing a high ratio of open space to development footprint.
- Storm Water Design: The project implements a storm water management plan that prevents the post-development peak discharge rate and quantity from exceeding the pre-development peak discharge rate and quantity. Bioswales increase on-site infiltration, eliminate sources of contaminants, and removes pollutants from storm water runoff.
- Roof Heat Island Effect: The facility uses roof materials with high albedo surfaces that minimize impact on microclimate and wildlife habitat.
- Light pollution reduction: The new facility exterior lighting strategies significantly reduces light pollution. Only lighting the areas as required for safety and comfort enhance the natural night sky.
- The City of Antioch has allocated 24.5 acres on adjacent park land to provide a protected habitat for burrowing owls.

## Water Efficiency

- Water efficient landscaping: The facility uses native plant species or draught tolerant species combined with a highly-efficient irrigation system with climate-bases controllers in an effort to reduce potable water consumption used for irrigation.
- Innovative Wastewater Technologies: The facility uses water-conserving fixtures in an Effort to reduce the generation of wastewater and potable water demand, while bioswales increase the local aquifer recharge.
- Water –use Reduction: Water-conserving fixtures maximize water efficiency and reduce the burden on municipal water supply and wastewater systems.

## Energy & Atmosphere

- Fundamental commissioning of the building energy systems: Commissioning will occur at the end of substantial completion to verify that the building's energy systems perform according to the basis of design and construction documents.
- Minimum energy performance: The facility is designed to perform better than CA Title24 energy requirements.
- Fundamental Refrigerant Management: The facility uses no CFC-based refrigerants for HVAC&R systems in an effort to reduce ozone depletion.
- On-site renewable energy and Green power: The City of Antioch is looking into using on-site non-polluting renewable energy sources such as photovoltaic panels in order to reduce environmental impacts of this project and the adjacent water park facility – Solar project potential: \$50,000
- The project qualifies for the Savings Design program presented by the Pacific Gas and Electric Company.

## Materials & Resources

- Storage and collection of recyclables: A convenient accessible recycling area is provided in the facility that serves the entire building and is dedicated to the collection of materials for recycling.
- Construction waste management: The City of Antioch will require the contractor to recycle and/or salvage non-hazardous construction debris and implement a construction waste management plan.
- Recycled Content: Many of the products and materials selected for the project contain recycled content reducing impacts of extraction and processing of virgin materials. See the Materials and Finishes list below for more detail.

- Regional materials: The project will increase the awareness of the demand for building materials and products that are extracted and manufactured within the region.
- Rapidly renewable materials: The facility will incorporate bamboo cabinetry at the main reception desk. Bamboo is a rapidly renewable building material that will be on prominent display at the front of the facility increasing the awareness of rapidly renewable materials in building construction.
- Certified Wood: During construction the contractor will be required to use wood-based materials which are certified in accordance with the Forest Stewardship Council's principles and criteria for wood building components.

### Indoor Environmental Quality

- The project will conform to all indoor air quality performance requirements.
- Daylight: Since the building is designed to take advantage of the natural daylight at the site all occupants are afforded natural light by means of windows and/or skylights. Most occupant spaces are positioned in the buildings to take advantage of the natural views of the site.
- Controllability of systems: The facility will provide a high level of lighting system control by individual occupants or specific groups to suit individual task needs and preferences. The facility will provide a high level of thermal comfort system control by individual occupants or specific groups to promote productivity and comfort.
- Thermal comfort: The facility is designed to support the desired quality and occupant satisfaction with building performance. The building envelope and systems are designed with the capability to deliver performance to the comfort criteria under expected use conditions.

### Materials and Finishes

- Concrete
  1. Fly Ash – minimum 25% per batch
- Steel
  1. Concrete Reinforcing Steel – post-consumer and one-half pre-consumer recycled content makes up not less than 60% of the total steel used for reinforcing.
  2. Masonry Reinforcing Steel – post-consumer and one-half pre-consumer recycled content makes up not less than 60% of the total steel used for reinforcing.
  3. Structural Steel – post-consumer and one-half pre-consumer recycled content makes up not less than 25% of the total steel used.
  4. Metal Framing: post-consumer and one-half pre-consumer recycled content makes up not less than 25% of the total steel used.
- Building Insulation
  1. Thermal and Acoustic Batt Insulation – 20-25% pre-consumer and post-consumer recycled content.
- Roofing

1. Metal Roof Energy Performance – roof panels with initial solar reflectance.
2. Built-up Roof Energy Performance – roof system with initial solar reflectance.
- Finishes
  1. Gypsum Board: The paper used to face gypsum board is 100% recycled content.
  2. Architectural Woodwork at the Reception Desk: Bamboo plywood made with adhesive containing no urea formaldehyde. Bamboo is a rapidly renewable resource.
  3. All wood-based products in the project will be certified by the Forest Stewardship Council.
  4. Decorative Polymer Material: Specially formulated translucent, non-toxic, copolyester resin sheets made with 40% post-industrial recycled resin.
  5. Cement Plaster: Base and Finish plaster coats contain 20% post-consumer and 50% pre-consumer recycled content.
  6. Solid Surface Material: Solid surfaces countertops made with not less than 50% pre-consumer recycled glass content.
  7. Floor and Wall Tile: Tiles made with not less than 45% pre-consumer recycled content.
  8. Acoustic Panel Ceiling: Ultima ceiling panels made with not less than 70% recycled content. Clean Room VL ceiling panels made with not less than 35% recycled content. Techstyle ceiling panels made with not less than 10% post-industrial recycled content.
  9. Carpet Tile: Carpet tile backing contains a minimum of 10% post-consumer recycled content.
  10. Toilet Compartments: Compartments made with not less than 30% recycled content.