

City of Brisbane

Agenda Report

To: City Council via City Manager
From: Administrative Services Director
Subject: Sustainability Document for the Baylands
Date: August 27, 2012

Purpose:

Ensure the development of the Baylands is carried out in a fashion which is on the leading edge of sustainability while at the same time financially viable given the constraints of the economy.

Recommendation:

Review comments presented by the Planning and Parks and Recreation Commissions and the Open Space and Ecology Committee and provide direction to the City's Sustainability Committee.

Background:

On January 5, 2009 the City Council created a Sustainability Committee. The Committee consists of three members: one from the City Council, one from Open Space and Ecology Committee, and one from the Planning Commission.

The committee was established to review the Sustainability Analysis in the draft EIR and make comments/recommendations to their respective bodies. In August of 2010 the City Council's Open Space Liaison subcommittee met and determined it would be appropriate for Parks and Recreation to be appointed to the committee. In September 2010 the City Council requested the Parks and Recreation Commission appoint a member to the Sustainability Committee so it had representation from all of the Commissions and Committees that will review the Draft Environmental Impact Report for the Baylands. On December 10, 2011 The City Council appointed Council Member Miller to continue his service on the Committee.

After reviewing various sustainability programs including One Planet Living the Committee chose to use the guidelines of One Planet as a base. One Planet Living guidelines was presented to the Community during the Brisbane University. It was used by Coddington Enterprises at Sonoma Mountain Village and received world wide recognition during the Olympics as this was the first Sustainable Olympics using the One Planet Principles as their guideline.

The Committee met numerous times with Geoff Syphers (a consultant who has worked on One Planet projects including Sonoma Mountain Village) to develop the document which is being presented tonight.

After the Committee completed its draft it requested feedback from City staff and incorporated their ideas into the document. Only after it was a coherent draft which met the goals and needs of the Committee was it provided to the developer.

On May 7th City Council requested feedback from the Planning Commission, Parks and Recreation Commission, and the Open Space and Ecology Committee. All three groups have met and discussed the draft. Their comments are attached.

Discussion:

The next step in the process is to have the Sustainability Committee begin creating measurable goals for the project. After measurable goals are created an action plan needs to be developed to measure progress towards those goals.

The finished sustainability document will then assist the developer of the Baylands in determining the best method for building their development to achieve the goals set forth in the document. Some of the goals may be incorporated as part of mitigation measures required by the EIR, others may be placed in a Development and Disposition Agreement between between the developer and the City.

Fiscal Impact:

There is no fiscal impact at this time. Depending on the final outcome of this process there may be an overall fiscal impact when the project is completed. However, defining that impact at this time is difficult. There will be positive financial impacts from having a sustainable development, although, given the current method of measuring economics, there may be some negative impacts based on the additional upfront costs of some of the requirements.

Measure of Success

The Baylands, upon completion, is considered to a world class development as it relates to sustainability principles.

Attachments:

Sustainability Goals for the Baylands draft for discussion – April 2012
Comments from Planning Commission, Parks and Recreation Commission, Open Space and Ecology Committee



Stuart Schillinger
Administrative Services Director



Clay Holstine
City Manager

SUSTAINABILITY GOALS FOR THE BAYLANDS DRAFT FOR DISCUSSION

APRIL 2012

The citizens of Brisbane have widely expressed the importance of environmental responsibility and its application to the Baylands project. In response, the City Council formed a Baylands Sustainability Committee to provide this guiding document, which is organized around the ten One Planet Living principles developed by BioRegional. In parallel with this effort, the project is also under review as part of the Environmental Impact Report (EIR), and this plan will be updated to reflect information coming out of that process when it is available.

The purpose of a Sustainability Action Plan is to create the DNA for achieving sustainable results. It is aspirational and is not a contract for specific results, however it will inform the negotiation of binding criteria between the City and the Developer in a Development Agreement. This document will continually evolve over the course of the Baylands project to reflect new information, new funding mechanisms, new policies and technologies, and improvements to the project design, and thus it is termed a “living document.”

With this draft, the City invites input from the public and the developer to make this plan effective and to create the strategies that will be used to achieve the sustainability goals articulated here.

The Sustainability Committee holds this vision for the project:

The Baylands presents an opportunity to create a development that heals the land, provides prosperity that is fair and equitable, strengthens our relationship with nature, and enhances Brisbane’s commitment to Community values. The core pillars of sustainability—environment, economics and social equity—will be woven into every building, park and transportation mode, creating a balanced approach to development that will be safe, engaging, and within the means of the Earth’s resources.

BACKGROUND

To achieve our sustainability goals, the Sustainability Committee investigated the use of four different sustainable development programs¹²³⁴ and chose to use the framework of the One Planet Communities program and adapt it to this particular project. The framework is a set of ten principles designed around achieving a one-planet ecological footprint, and includes the social and economic aspects of sustainability as essential elements to achieving and sustaining the environmental outcomes. BioRegional's One Planet Community projects have received worldwide acclaim for their ingenuity in design, thoughtfulness towards local issues, and understanding the importance of harmony between development and nature – they recently teamed up with the city of London to create the first "One Planet Olympics."

1. **Zero Carbon Buildings** -- Making buildings more energy efficient and delivering all energy with renewable technologies.
2. **Zero Waste** -- Reducing waste, reusing where possible, and ultimately sending zero waste to landfills.
3. **Sustainable Transportation** -- Using low carbon modes of transport to reduce emissions and reducing the need to travel with good planning.
4. **Local and Sustainable Materials** -- Using sustainable healthy products, with low embodied energy, sourced locally, made from renewable or waste resources.
5. **Local and Sustainable Food** -- Choosing low impact, local, seasonal and organic diets and reducing food waste.
6. **Sustainable Water** -- Using water more efficiently in buildings and in the products we buy, and addressing local flooding, wetland and stormwater pollution.
7. **Open Space and Habitat** -- Protecting and restoring biodiversity and natural habitats through appropriate land use and integration into the built environment.
8. **Culture and Heritage** -- Reviving local identity and wisdom; supporting and participating in the arts.
9. **Economic Vitality with Equity and Ecology** -- Creating ecologically-based economies that support equity and inclusive communities.
10. **Health, Safety and Happiness** -- Encouraging active, safe, meaningful lives to promote good health and well-being.

The use of the ecological footprint is significant because it departs from green building programs by measuring real impacts. A new building that is 50% more energy efficient than allowed by code may be recognized as extremely green, but if it runs on fossil fuels then it still increases global emissions and harms the climate. Real impacts matter, and the ecological footprint is a good tool for evaluating them.

1 The U.S. Green Building Council's Leadership in Energy and Environmental Design for Neighborhood Developments (LEED-ND)

2 The International Living Future Institute's Living Building Challenge

3 BioRegional's One Planet Communities program

4 The International EcoCity Framework and Standards

The ecological footprint, developed by the Global Footprint Network, measures how much land and water area a human population requires to produce the resources it consumes and to absorb its carbon dioxide emissions. The tool has been in use since 1990, and we now know that it takes the Earth one year and six months to regenerate what we use in a year.

For this effort, the ecological footprint is used as the underlying metric for physical sustainability within the One Planet Communities program. The goal is to set criteria that will ensure the Baylands is truly sustainable, and that if everyone in the world modeled themselves after what these principles propose for the Baylands, the Earth would have a one-planet ecological footprint.

With this draft Sustainability Action Plan, the Sustainability Committee shares its research into the local Context of the project and provides a Summary Approach to achieving sustainability. We now, all of us, have the task of creating two more sections for each principle: the Key Performance Indicators and the Detailed Plan.

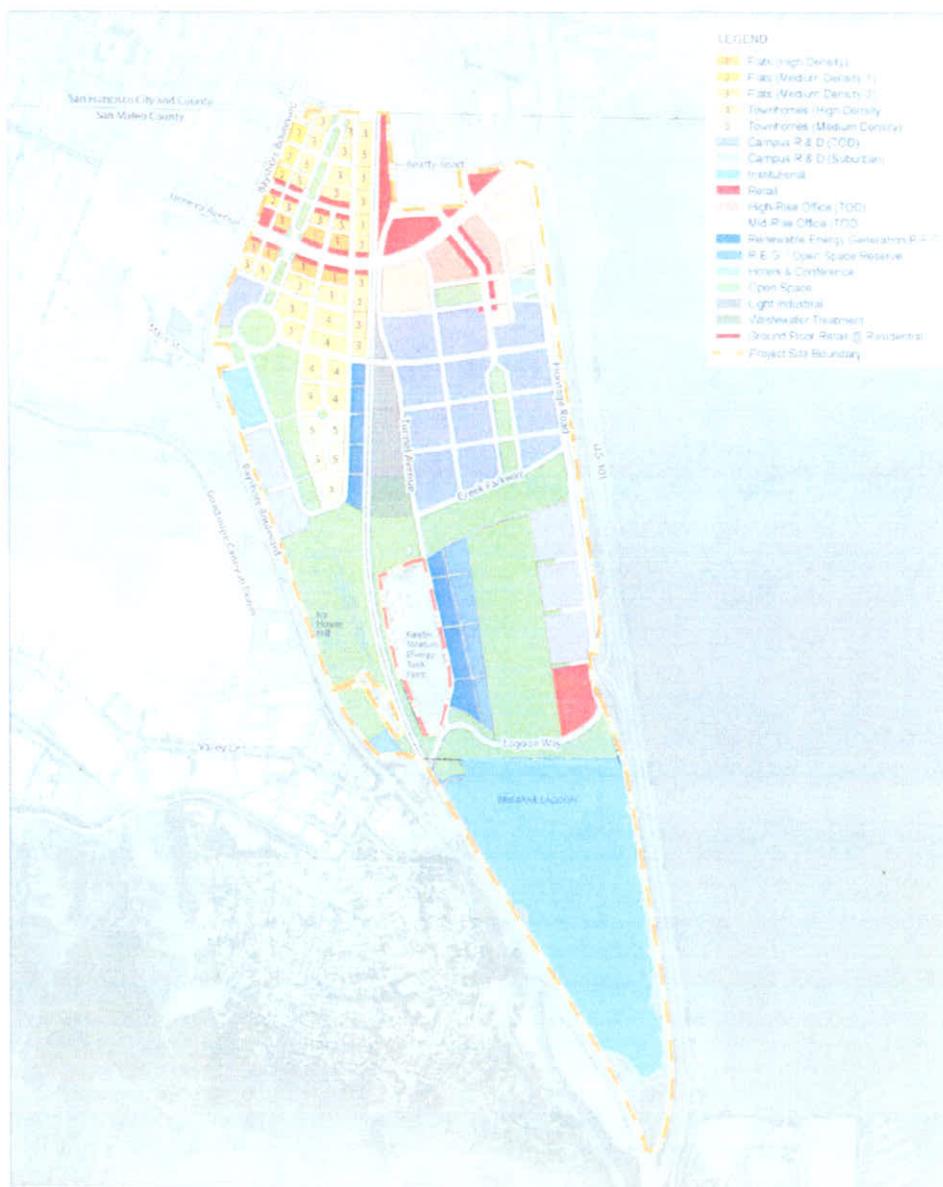
Key Performance Indicators are the metrics by which we will track the Baylands' progress toward sustainability. Good indicators are simple, easy to use and communicate with, and strongly linked to the sustainability goal. They are not intended to measure all impacts, but rather to "indicate" progress on the most important aspects, and many projects use just one or two for each principle.

The **Detailed Plan** is the set of actions and policies which will be taken to achieve the sustainability goals, and is the only part of the Sustainability Action Plan that evolves over time as we learn, as policy changes, as new technologies are developed and applied.

DEVELOPER-SPONSORED PROJECT SUMMARY

Total Site Area	684 acres	Comm. and Indust.	6.9 million sq. ft.
Public Use/Open Space	206 acres	Residential	4,434 units
Lagoon	111 acres		

The total square footage proposed in the UPC Specific Plan is 12,096,300 of which 5,150,400 is housing. These figures are from Chapter 4 on Land Use, page 29. The link to the Plan is on the City website.



SOURCE: WILBUR SMITH & TODD LLC (2011)

Embarcadero Baylands - 2006069

Figure 4
Proposed Land Uses
Developer-Sponsored Project

COMMUNITY ALTERNATIVE PROJECT SUMMARY

Total Site Area	684 acres	Comm. and Indust.	8.3 million sq. ft.
Public Use/Open Space	330 acres	Residential	0 units
Lagoon	111 acres		

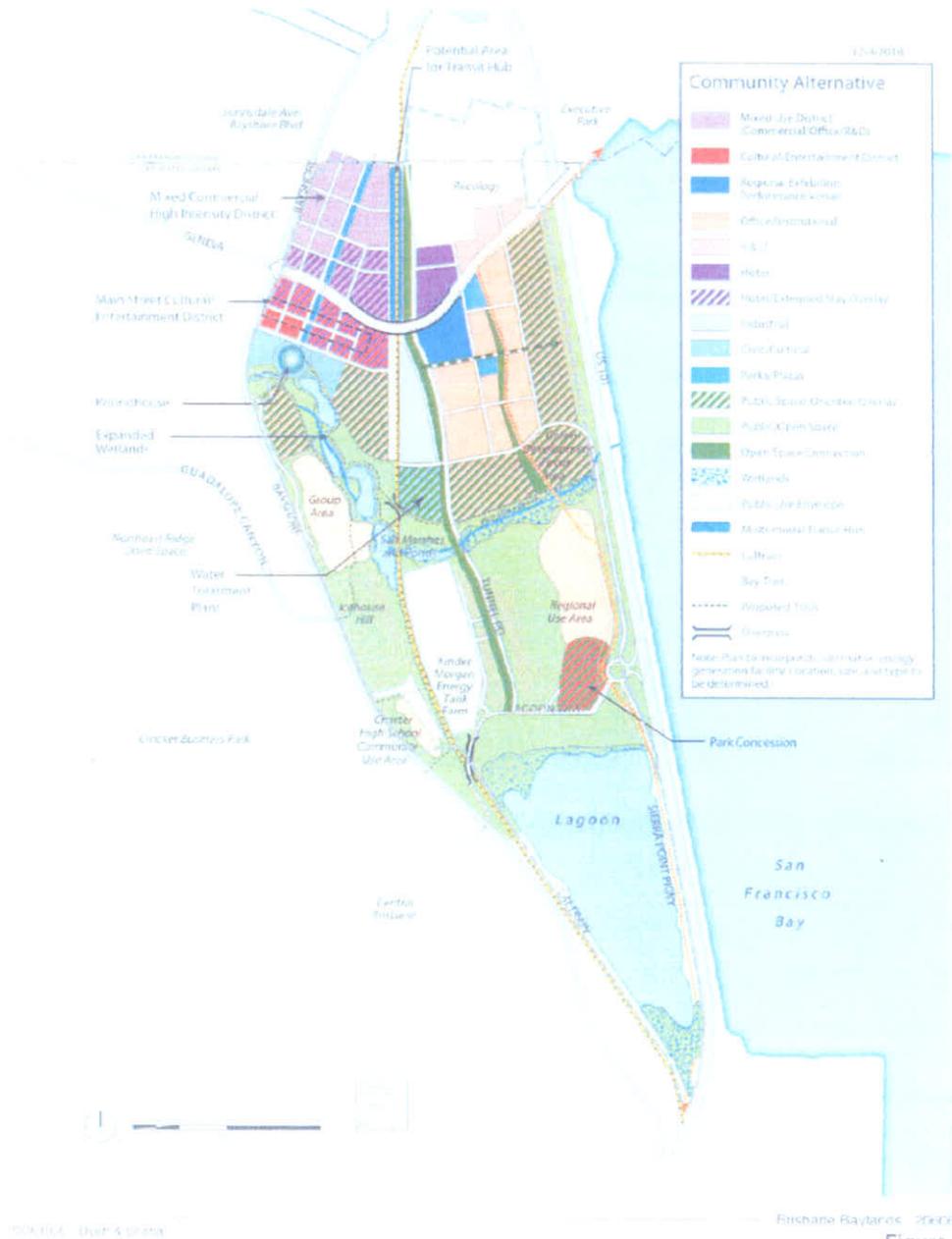
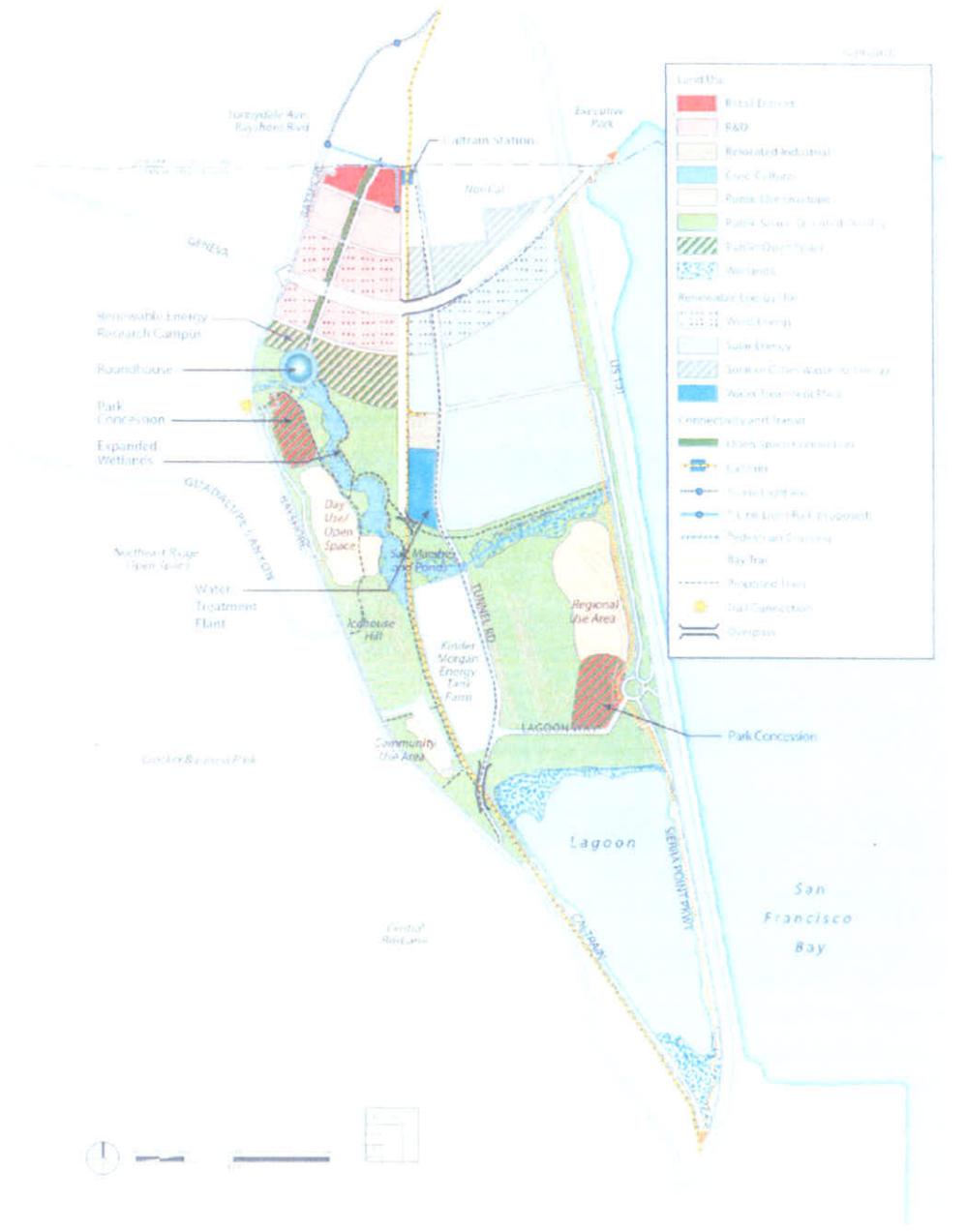


Figure 6
Proposed Land Uses
Community Preferred Plan

RENEWABLE ENERGY ALTERNATIVE PROJECT SUMMARY

Total Site Area	684 acres	Comm. and Indust.	1.0 million sq. ft.
Public Use/Open Space	330 acres	Residential	0 units
Lagoon	111 acres	Alternative Energy	170 acres



SOURCE: Uiter & Deha

Ernst & Young 200906

Figure 14
CEQA Alternative - Renewable Energy Land Use

1. ZERO CARBON BUILDINGS

Our vision for the Baylands is that all buildings will be energy efficient and will run completely from locally generated renewable energy.

COMMON INTERNATIONAL TARGETS

All buildings are designed to be energy efficient to country-specific best practice standards, including passive and active elements, and will be served by 100% renewable energy.

Renewable energy will be generated on site with solar, wind, geothermal and biomass. If needed, off-site local renewable energy capacity will be used.

Financial reserves will be established to fund future maintenance and replacements of all renewable energy systems so that they are a permanent asset.

CONTEXT

Assembly Bill 32, California's comprehensive climate change legislation, requires the State to reduce greenhouse gas emissions (GHG) to 1990 levels by 2020 - a reduction of about 25%, and then to reach 80% below 1990 levels by 2050. If all the world's countries were to achieve these objectives, it is estimated that global temperatures would increase about 2°C for the 21st century, avoiding the effects of the 6°C rise predicted for our present course. This magnitude of climate change is predicted to cause major increases in the frequency and severity of extreme weather, significant loss of food capacity on land and in the oceans, and substantial sea level rise. In addition, for California, it is predicted to result in many more fires and increasing water insecurity.

Currently in the United States about 45% of GHG emissions are associated with constructing and operating buildings. Consequently, reducing the carbon footprint of buildings makes a major contribution toward the reduction of GHG emissions and therefore the extent of climate change.

Each person in California is responsible for 17.7 tons of CO₂ emissions each year, with a significant fraction of that footprint affected by

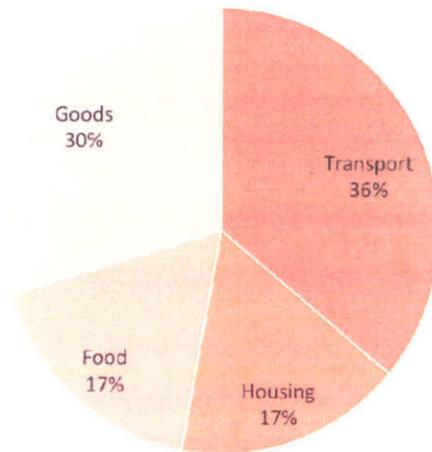


FIGURE 1. 2010 CALIFORNIA AVERAGE INDIVIDUAL GHG EMISSIONS OF 17.7 TONS/YR (SOURCE: CARB)

how we plan, construct and operate our neighborhoods. Transportation and housing make up the majority of our California carbon footprint—two categories directly impacted by development. How and where we shop and eat is strongly influenced by development patterns as well.

New development has a special obligation to go beyond the AB32 goals because it is less expensive to avoid emissions through constructing efficient, renewably powered buildings than it is to reduce emissions through retrofitting existing buildings.

The State of California’s mandatory green building code, CAL Green, contains two optional tiers for performance above the minimum standard. The current Tier 2 requirement is that buildings use 30% less energy than allowed by code. The energy code is expected to get significantly more stringent with the adoption of the 2012 update.

The State of California’s energy code, Title 24 Part 6, requires that all buildings be constructed “Net Zero Energy” beginning in 2020 for homes and 2030 for nonresidential buildings. In addition, a number of “Energy Plus” or “Energy Positive” buildings are being tested around the world, including some larger commercial projects, such as in Freiburg, Germany. An advanced energy plan will be studied in the EIR and in a National Renewable Energy Laboratory study to determine feasibility and compatibility with overall sustainability objectives.



FIGURE 2. FOUR AND FIVE-STORY BUILDINGS CAN NOW PRODUCE MORE ENERGY THAN THEY USE

There are many examples of innovative local power systems that reach beyond traditional solar and wind. Hummingbird Energy and Arizona State University have signed a Letter of Intent to build a 2.4 MW urban biomass facility on the ASU campus at Tempe—the first of its kind in North America. The City of San Antonio converts their human waste into energy, while San Francisco converts its dog waste into alternative energy by ingesting the dog feces into a methane digester.

Although the U.S. Treasury Grant for renewables expired at the end of 2011, significant incentives for renewable power are still available in California, and the cost of solar power continues to drop rapidly with increasing competition from Chinese producers and advances in technology.

SUMMARY APPROACH

Building design in the Baylands will emphasize passive reductions in energy loads first. Daylighting will be used throughout, as well as strategies to reduce heating and cooling loads like proper orientation, insulation, and glazing selection. In some buildings, passive ventilation may be used.

After minimizing loads through passive design, deep energy efficiency will be used to reduce loads further. Buildings in the Baylands will be designed to meet California's CAL Green Tier 2 prevailing requirements for energy efficiency. In addition, an on-going operations and maintenance program will be implemented to monitor building energy performance in line with best practices in retrocommissioning.

Finally, all energy for space conditioning, ventilation, water heating, lighting and plug loads will be generated on site from solar on buildings, from an on-site solar farm, and possibly from wind, geothermal and biomass. The project will be designed to produce its entire annual energy needs, meaning that it will likely produce more than it uses in the summer, feeding power to the nearby community. Loads separate from these categories, such as industrial process loads, will also be met with on-site renewable energy sources if they are electric. For industrial loads using natural gas, a plan will be created to convert to a renewable fuel over time.

As proposed by the OS&E Committee in their Guidelines for the Baylands, Brisbane is committed to achieving energy neutrality for the entire development. Furthermore, the Committee recommended in its February 2011 Update to its Scoping Comments: "Consideration should be given to whether the Baylands has the potential to generate renewable energy beyond the project's needs, so that the Brisbane community could reduce its reliance on energy generated by fossil fuels." A thorough analysis of best practices for generating alternative energy will be evaluated to determine appropriate types and locations. Converting waste into energy should be studied.

In collaboration with Principle 6 Sustainable Water, opportunities should be explored to capture wastewater heat or otherwise convert waste from the sewage system into an alternative energy source.

2. ZERO WASTE

Our vision for the Baylands is of a future where resources are used efficiently, and ultimately zero waste is sent to a landfill. The "byproducts of consumption" should be the materials of tomorrow's uses.

COMMON INTERNATIONAL TARGETS

The less waste that is generated in the first place, the less there is to deal with. Best practice standards in waste minimization during construction should be employed, and a clear set of time-specific targets should be established in order to achieve an ultimate zero waste outcome. The project must demonstrate a rapid, verified progress toward the zero waste target, especially given current rapid advances in the introduction of waste processing globally.

At least 70% of baseline waste by weight generated within the development should be reclaimed, composted or recycled, and no more than 2% should be sent to a landfill.

CONTEXT

Through AB 939 California has mandated an ultimate goal of zero waste to landfills. Diversion rate targets were included in this legislation, and all cities have to report their progress toward these targets.

Brisbane's solid waste is collected by South San Francisco Scavenger Company. The City has curbside pick-up for recyclables and greenwaste, but does not currently have food waste collection. The current franchise agreement for the City of Brisbane waste hauling expires in 2013. San Francisco's waste management provider, Recology, has their recycling operation located in the Baylands. Plans are being implemented to expand this

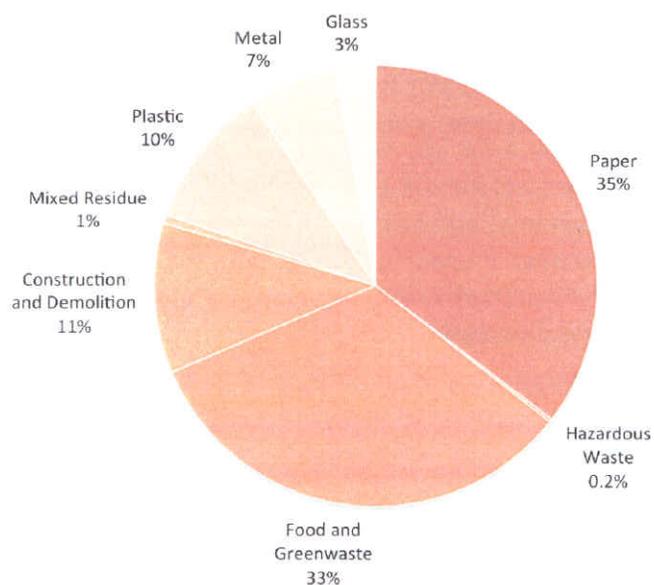


FIGURE 3. 2010 CALIFORNIA AVERAGE NONRESIDENTIAL WASTE STREAM (SOURCE: CALRECYCLE)

operation at the Baylands in order to achieve San Francisco's "Zero Waste" mandate.

In cooperation with its Scavenger Company, Brisbane has been meeting its targets through collection of recyclables, though residents have been doing better than businesses. Brisbane has a Construction and Demolition Debris Ordinance that mandates recycling targets for materials generated from construction and demolition projects. The building department provides information on how to meet these targets and where to take materials for recycling.

Many cities throughout the Bay Area are instituting laws that prohibit the use of packaging material that is not easily biodegradable or reusable, and requiring merchants to deliver their products in containers that are less harmful to the environment. The City of Brisbane is participating in the County's single use bag ban.

Conversion technologies in California have typically involved the use of incineration, which have strongly been opposed because of the air quality concerns. By a vote of its citizens, Brisbane denied a waste incineration plant project in the Baylands in the early 1980s. Recent advances in gasification and plasma pyrolysis could provide a clean way to reduce the volume of solid waste from the Baylands while generating energy.

SUMMARY APPROACH

Achieving Zero Waste will require strong and committed action in policy, infrastructure, and individual action. Provision must be made to manage waste materials brought onto the site from outside. Through education and recruitment of appropriate businesses, we will encourage zero-waste practices and the sale of recycled content and easily-recycled or composted products on site. Provision for handling, storing, and processing materials will be closely coordinated with the local agencies responsible for such work to improve diversion rates.

Since California already has strong legislative commitments to move toward zero waste, the challenge is to get cooperation from waste-makers, especially businesses. San Francisco, Palo Alto, and Alameda County have strong zero waste programs, which will be studied to create the detailed Baylands Zero Waste Plan.

With San Francisco adopting an ambitious "Zero Waste" mandate, it has looked to its current waste management provider to implement its waste diversion goals. The Baylands should look to San Francisco for opportunities to partner in advanced waste reduction practices, from simple ideas like adding food waste collection and a local toxics drop-off center, to more sophisticated ideas like vacuum tubes to connect buildings directly with a collection facility, reducing truck traffic.

Public and private sector, as well as individual commitment, creativity and action will be needed to develop and maintain sustainable programs to reduce, reuse and recycle all materials generated on site. An ongoing educational focus to create a culture of efficiency and understanding of the life cycle of products should be the mantra for engagement in the Baylands.

Sustainability Goals for the Baylands Draft April 2012

The project developers and occupants will work with the City of Brisbane to support standards and policies that create a more environmentally responsible approach to packaging and containers used in the supply chain and by consumers.

3. SUSTAINABLE TRANSPORTATION

Our Baylands vision is one where the need to travel has been reduced, public transportation is easily accessible, and low and zero carbon modes of transport are provided. Brisbane creates a green transport plan that results in carbon emission reductions that are consistent with the targets of the State of California and Brisbane's energy strategy.

COMMON INTERNATIONAL TARGETS

The ecological footprint arising from transport has to be consistent with the overall target of achieving a one-planet footprint from all impacts. BioRegional considers transport targets on a case-by-case basis. Projects need to demonstrate low and improving rates of carbon emissions from transport within as well as into and out of the project area.

CONTEXT

The site is located between the two major regional employment centers of San Francisco and Silicon Valley. It sits just to the west of Highway 101 and the CalTrain commuter rail line bisects the property today.

San Mateo has an auto-dominated transportation system, but there are many potential options for improving transit and ridership in the area. The county currently has infrequent bus service, limited car share programs and only limited success with existing rideshare commuting. However, it also has basic passenger rail service, well-used park-and-ride lots in several locations including at Old County Road in Brisbane, and paratransit services for the elderly and disabled.

A free shuttle service linking Brisbane with the Balboa Park BART station in San Francisco provides a transportation alternative for citizens working along the BART corridor and in Brisbane, and San Francisco's Muni Third Street rail line terminates near the north end of the Baylands project at Geneva Avenue. The City offers a free shuttle service from central Brisbane to the CalTrain station. A study is underway to determine the best location for the Bayshore CalTrain station, and it could conceivably serve as a transit hub with San Francisco Muni buses running east/west on the extension of Geneva Avenue and SamTrans buses running north/south. San Francisco is also considering the extension of its Third Street light rail line to this same transit hub. However, these plans are very expensive, and CalTrain itself is in financial difficulty.

California has a law (SB 375) that encourages development around transit hubs. As part of the implementation of this law, regional transportation funding agencies will prioritize projects that have approved transit hubs.

In 2008, California voters passed Proposition 1A to link the major cities of California by high-speed rail. The Baylands has been considered as a possible site for a railyard for the high-speed rail line. However, the legislature is now debating the feasibility of the project and it is unlikely such a project would be built in the near future.

Bicycle routes are available, but are limited. There are no existing community bicycle programs such as exist in New York and Washington DC.

Brisbane does not have a gas station.

Brisbane's Baylands area is part of a regional Priority Development Area (PDA) that also encompasses the Schlage Lock housing development site in San Francisco, Executive Park, Candlestick and Hunter's Point. Schlage Lock and the Baylands are projects of the same company, Universal Paragon Corporation.

SUMMARY APPROACH

A comprehensive transportation study will be completed during the course of the EIR study. While we have identified some preliminary approaches in this Sustainability Action Plan, we fully expect to modify and improve our approach to transportation as a result of this comprehensive study. At a minimum, we will look for ways to set appropriate targets for vehicle miles travelled, greenhouse gas emissions, and level of service for traffic.

We will reduce emissions from transportation first by reducing the *need* to move long distances and also by reducing the need for fossil fuel based modes. We will create an easy pedestrian and bicycle lifestyle, where the location of jobs, restaurants, retail, services and recreation are in close proximity to each other. If housing is allowed, it will be incorporated into this web of mutual efficiency.

For public transportation to be a significant part of the Baylands, it needs to be easily accessible from all parts of the development and tied together by a variety of transportation modes.

The multi-modal station is the heart of the development. To fully utilize the potential of the multi-modal station, a minimum of a ¼ mile radius of combined uses must surround the station. This may require relocating the station to a point south of its currently planned site, and integrated into the Geneva Avenue extension—a prospect that is currently being studied.

It will be important to establish strong lines of communication with the various transportation authorities such as SamTrans, CalTrain, Muni and the various private companies. We will assert our desire that all public transportation be electric driven with renewable sources or use low- or zero-carbon alternative forms of fuel.

We will work with San Francisco to connect transit systems that further the city's program goals of sustainability for this project.

The Project will provide infrastructure to support a low-carbon transportation system with alternative fuel filling stations, electric car charging, plug-in hybrid carshare programs, minimal parking areas, shared parking between uses and a successful rideshare program.

An elaborate bicycle and walking path system will be incorporated throughout the Baylands, providing opportunities for exercise, passive and commuter bicycle use. Class 1 and Class 2 bicycle paths will be constructed.

We will support the creation of a bicycle sharing system that will provide free bicycles for anyone in the Baylands. To reduce theft and vandalism, we will incorporate programs that have been initiated in other parts of the country as well as in Europe and Asia. The program will be subsidized through business programs and advertising.

The current free shuttle route connecting Brisbane with the Balboa Park BART station will be expanded to include the Baylands.

A free shuttle system such as the Emery-Go-Round in Emeryville will be explored.

4. LOCAL AND SUSTAINABLE MATERIALS

Our Baylands vision is one where all goods and materials used for construction and property management are made from renewable, reclaimed, or recycled resources with low embodied energy and, wherever possible, sourced locally. As new technologies and methods present themselves, every effort will be made to implement these new products and practices.

COMMON INTERNATIONAL TARGETS

Via the common process guidelines at the One Planet Communities website, country-specific targets should be determined to increase and optimize the use of local, reclaimed, renewable, recycled, healthy and low environmental impact materials for construction and property management.

CONTEXT

National protocols for sustainable materials are rapidly developing. Examples include wood from FSC-certified forests, products that are free of formaldehyde and volatile organic compounds, products made without the use of toxic chemicals, materials that are produced with low amounts of energy, especially fossil fuel based energy, etc. Attention is increasingly being dedicated to making buildings and products more easily recyclable at the end of their useful lifetime.

Brisbane was one of the first cities in California to adopt a green building ordinance.

Though mostly undeveloped, the Baylands does have a few existing building sites—one is occupied by Sierra Point Lumber, which has expressed interest in relocating to another area of the Baylands, while San Francisco's waste management company, Recology, conducts their recycling operation in the Baylands, but has plans to expand their program with buildings that will be LEED Platinum.

A large portion of the Baylands is currently being used for recycling concrete, aggregate, soil and rocks.

With the rapid growth in popularity of LEED, a national protocol on sustainable materials is emerging. The focus is two-fold: look towards using materials that are reclaimed, locally sourced, locally manufactured, containing wood from FSC-certified forests, and containing recycled content, while discouraging the use of materials that are harmful to the environment and human health.

While the LEED standard is excellent it has some notable gaps which are widely recognized. Specifically, it does not recognize the benefit of avoiding the use of materials (e.g., finished concrete flooring rather than carpet), it does not give credit for avoiding materials that require toxic cleaning compounds, it does not restrict materials to those which are known to have little or no toxicity (e.g., per the REACH protocols), it does not restrict the use of materials which have toxic production byproducts (e.g., dioxin from PVC manufacturing), it does not give credit for the use of materials which are fully recyclable at end-of-life or for materials with product take-back programs.

The Alameda County-based Stopwaste.Org has established standard jobsite waste recycling practices and guidelines (e.g., CSI 01505) and is an excellent regional resource for information about waste reduction.

SUMMARY APPROACH

Use LEED Platinum standards for the project baseline material practices and add other criteria as they become practical.

Since the Baylands will be built-out over the course of several decades, a process will be established that ensures the increasing use of local and sustainable materials as the opportunities become available. As much fabrication as possible should be done on site, and using materials already available on site (e.g., clay, concrete, asphalt, mulch, topsoil, trees, etc.).

Work with a sustainable materials consultant to identify buildings and developments throughout the world that have created innovative structures with the use of sustainable materials. Use this information to form the basis of a comprehensive approach to materials, and establish protocols for sustainable materials in construction and property management. In addition, establish guidelines for sustainable materials in consumer goods and packaging, in the home and workplace to help educate people who work at the Baylands or who visit there.

Use Life Cycle Assessment (LCA) for selecting materials and making process decisions in the construction and maintenance of buildings and infrastructure. LCA involves calculating the environmental costs of any construction or production process from its beginning in raw material extraction to its completion in the disposal of building or product components. For recycled materials such as simple metals, the analysis looks at the costs from extraction through production, use and the eventual recycling and remanufacturing of new materials. The ultimate objective is to bring the construction, production, product and building management cycles within the biological capacity of the earth.

5. LOCAL AND SUSTAINABLE FOOD

Our Baylands vision is one where healthy diets are promoted through local, seasonal, and organic produce, and that all food should be minimally processed and packaged.

COMMON INTERNATIONAL TARGETS

Healthy diets should be promoted and minimum targets achieved for supply of organic or low environmental impact food and local sourcing.

Sustainable agriculture involves food production methods that provide safe working conditions, do not degrade the environment, are humane to animals, support farming communities, and produce healthy food.

One Planet Communities throughout the world will develop strategies to enable and encourage people to adopt a One Planet diet, through education and agreements with onsite retailers and caterers.

Onsite facilities, including retail and catering facilities, will strive to minimize packaging in line with zero waste targets, and minimize consumption of processed foods which have a large ecological footprint. Food waste from all residents, tenants, businesses, restaurants and shops will be minimized.

Food growing will be integrated onsite where appropriate. Strategies will be put in place to enable food growing on site. Local food mapping will be undertaken and partnerships will be developed with local producers to establish regular supplies and to work with them to further reduce their impacts.

Purchasing systems will be established to ensure food provided does not contribute to deforestation, over-fishing or pollution and minimizes other negative impacts.

CONTEXT

We have existing national organic standards and a more stringent set of California organic standards. For products coming from areas with poor working conditions, such as coffee, tea, sugar, chocolate, vanilla and fresh fruit, the Fair Trade Certified™ program is an effective labeling system for promoting good practices in the international food industry and is widely used in local stores.

A number of organic farms exist in San Mateo County and the surrounding region. Consequently, seasonal organic produce should be readily available. Over the past twenty years,

farmers' markets featuring local foods have become widespread and popular in California, and the desire to eat local food is steadily increasing.

No "food miles" standards have been established in California, but there are restaurants advertising that none of their ingredients come from more than 100 miles away. Google (headquartered in Santa Clara County) has Cafe 150 that claims its food ingredients come from within 150 miles.

The U.S. Department of Agriculture estimates that food production and distribution use 15% of all energy in the United States and contributes an equal share of air pollution and greenhouse gases. However, the emissions impact of food is complex and involves much more than transportation. Figure 4 shows how the greenhouse gas emissions related to food breakdown, making it clear that other objectives like reducing the use of petroleum fertilizers and reducing food waste in grocery stores and restaurants are also very important.

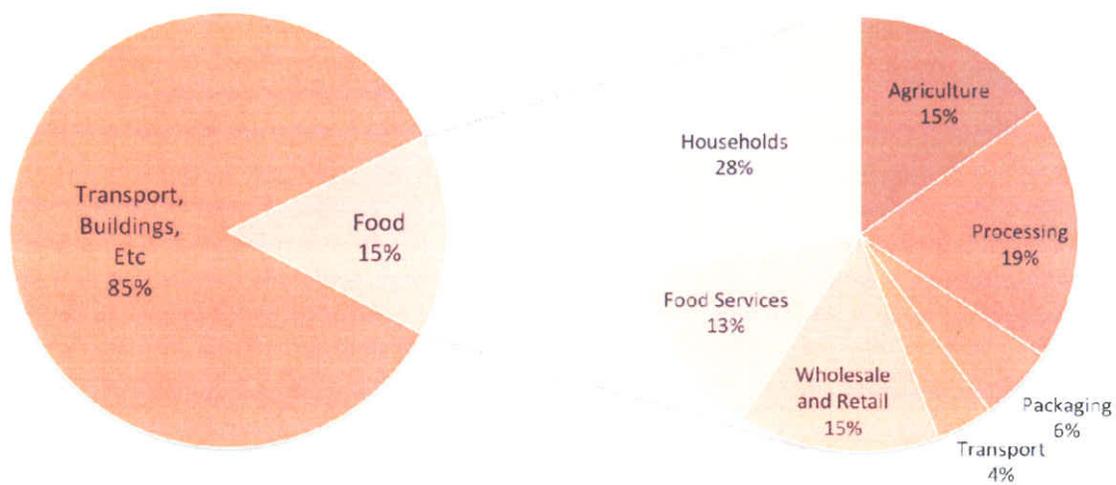


FIGURE 4. BREAKDOWN OF ENERGY AND EMISSIONS IN THE U.S. FOOD INDUSTRY⁵

Local counties are home to dozens of organizations, farms and programs dedicated to healthy local and organic food. Within a 200 mile radius, one will find some of the highest quality food sources in the world: seafood from the Pacific Ocean, grasslands supporting cereals, dairies and beef, fertile soil supporting fruits and vegetables and much more.

There are also national and State standards for healthy diets that many restaurants highlight in their menus. California is a leader in this movement.

Portions of the Baylands are not suitable to in-ground gardening or farming because of soil contamination, but engineered raised gardens can be studied and perhaps found feasible.

⁵ Patrick Canning, et al, "Energy Use in the U.S. Food System," USDA Research Report Number 94, March 2010.

SUMMARY APPROACH

Brisbane will set standards and incentives for local, sustainable and affordable food in the restaurants and food markets that will be established in the Baylands. When a viable commercial level is reached, a farmers' market featuring locally grown foods will be established.

Promote healthy diets high in local seasonal, organic and low-environmental impact foods.

A significant proportion of food should be locally sourced from low environmental impact farming with reduced packaging from a radius of 50-100 miles from the center of the site. Given the importance of food to ecological footprints, stretching targets are essential to achieving a one-planet footprint.

Key Performance Indicators should be set for certified organic and Fair Trade food.

Several techniques will be considered to increase consumption of locally-produced and low-impact food including fruit trees on site on both public and private land, a year-round farmer's market, and strong incentives in lease agreements for grocers and restaurants to source local, organic, fair trade and low-impact foods.

Brisbane already has a community garden for residents. Another could be established in the Baylands, taking great care to use techniques that protect against introducing soil contaminants into foods (e.g., raised beds with imported soil). The feasibility of an urban farm on Ice House Hill should be investigated and pursued. Ice House Hill and the adjacent "corral" provide an opportunity to create a highly productive and diversified urban farm. Not only could this area provide a great source of produce, honey and eggs to the community, it could help reestablish our agricultural roots with the land. An effort will be made to consult with local farmers who specialize in high yield, low impact farming, including the best methods for minimizing irrigation water. The farm may be established in partnership with a local school or a community-supported agriculture (CSA) farmer.

Work with San Mateo County's Health System to conduct community workshops on healthy eating practices, and establish healthy guidelines for restaurants.

Create public events and outreach, such as a possible annual "Sustainable Food Fair" to promote local and healthy food.

Restaurants and stores will be required to use re-usable or compostable containers for to-go food.

6. SUSTAINABLE WATER

Our Baylands vision is that we manage water using best practice standards in water conservation, water efficiency, recycling and surface water management with an integrated system that achieves self-sufficiency, while enhancing wetlands with no damage to the surrounding water environment.

COMMON INTERNATIONAL TARGETS

Water efficiency and recycling must be promoted in line with country-specific best practice.

All facilities must provide access to safe potable water. Projects in areas of flood risk and sea-level rise should have an acceptable 100-year flood risk strategy.

CONTEXT

The Baylands is adjacent to the San Francisco Bay and most of it was historically part of the Bay. These low-lying areas are subject to flooding and damage from future sea-level rise. The proximity with the Bay is also of importance when considering the impacts of runoff from a site containing contaminated soil.

Brisbane receives its water and wastewater treatment services from the San Francisco Public Utilities Commission. There is currently no water allocated from the SFPUC for the Baylands project.

Water efficiency and recycling are top priorities. Because of the scarcity of fresh water, the recycling of wastewater and storm water is essential. The most effective means of achieving these targets is with an integrated system built-in to a new development. Wetlands can be incorporated into the waste and stormwater processing system. Lands that are adjacent to the sea or in bodies of water connected to the sea must not on the one hand send pollutants into the sea nor on the other hand fail to take precautions against the rise in sea levels anticipated from global climate change.

Water security in drought years is an issue throughout the Western U.S. Some arid areas of the county, such as Orange County in Southern California, treat wastewater using a reverse osmosis process, which produces drinking water. The standards to purify this water exceed all U.S. standards.

Organizations such as the Greywater Alliance are leading the effort to educate Bay Area local agencies and the public about the reuse of greywater as an integral part of water conservation.

Legislative efforts are underway to expand the allowed use of greywater to single family homes and businesses, making safety controls achievable as in Arizona or New Mexico.

The cost of water has risen dramatically over the past decade in the State of California, and for the citizens of Brisbane. This increase is not just the result of increased demand, but also from the costs related to maintaining the infrastructure. In the Bay Area, sewage lines and treatment plants must be constructed to a size required to treat the inflow and infiltration of rainwater—often more than 50% of the peak winter flow.

The Visitacion-Guadalupe Valley Watershed moves water from San Bruno Mountain, McLaren Ridge and Bayview Hill to the San Francisco Bay. There are several watercourses that pass through the Baylands. Organizations such as the California Native Plant Society, the Watershed Project, and San Mateo County Parks have been instrumental in restoring waterways on San Bruno Mountain, around the lagoon, on site and in the PG&E marsh.

The California EPA and the State of California have strong wetland and bay protection standards under the National Pollution Discharge and Emissions Standards or NPDES. While the site has known soil contamination, the state and federal standards offer a standard for this aspect of environmental protection.

The collection of rainwater is a practice encouraged by the City of Brisbane, though it is only allowed under federal law in certain narrow instances.

SUMMARY APPROACH

The integrated water system planned for the Baylands should aim toward eventually reducing the need for imported fresh water to near zero. We will create a Water Balance investigating the optimal ways to use the four sources of water: rainwater, greywater, reclaimed water and municipal drinking water. It might be useful to investigate local sources of water such as springs and rainwater in combination with a recharge plan, but no extraction should endanger local groundwater or water flows required for the local habitat.

In our effort to use water in a more efficient manner and to establish greater local control over sewer treatment rates, we will investigate the construction of a local sewage treatment plant on site at the Baylands that would serve all of Brisbane. Whether sewage is treated on site or elsewhere, reclaimed water will be used for all non-food irrigation, commercial toilet flushing and other non-potable uses. Landscaping will follow the Bay Friendly Landscape Guidelines to promote water conservation, soil health and other environmental outcomes.

Water conservation will be integrated into all uses throughout the Baylands. An aggressive strategy for informing the public about water conservation will be implemented.

The restoration and expansion of Visitacion Creek will complement the existing wetlands of the Lagoon and will provide greater habitat for Bay species. Close collaboration with local

organizations, which have missions to restore wetlands around San Bruno Mountain, will be a major part of the ecological strategy for the site.

Enhance stormwater quality and reduce impacts through the extensive use of surface flows in swales, by requiring vehicle washing areas drain to the sewer and prohibiting the use of synthetic man-made pesticides and herbicides, by creating large cohesive areas of open space for recharge, and by selecting native plants and grasses for flow areas.

Building water fixtures will beat the 1992 Energy Policy Act flow and flush rate requirements by a minimum of 50% when modeled using the method in the Leadership in Energy and Environmental Design's program for Building Design and Construction, also known as LEED BD+C.

Design and build water and sewer utilities to a seismic standard above current code.

Build to avoid major flood risk by keeping the lowest finished floor at least 1 foot above the 100-yr floodplain.

7. OPEN SPACE AND HABITAT

Our Baylands vision includes provisions for significant open space and open areas that enhance biological connectedness and habitat preservation.

COMMON INTERNATIONAL TARGETS

The development will make a net positive contribution to local native biodiversity and natural habitats. Any imperiled species must be identified and monitored as part of a local conservation plan. A site-specific action plan to maintain, enhance or revive valuable aspects of biodiversity and nature stocks must be prepared.

At least one opportunity must be identified to regenerate degraded local natural resource stocks (wetlands, lagoon, etc.) and a plan implemented. At least two programs should be showcased, one for biodiversity and one for natural resource stocks.

CONTEXT

The citizens of Brisbane have a strong reputation for being environmental stewards of the land around them. They've worked hard over the years to restrict development on San Bruno Mountain, and have invested funds to acquire open space, remove invasive plant species and enhance endangered butterfly habitat.

Brisbane was influential in creating the first Habitat Conversation Plan (HCP) in the country.

Brisbane's General Plan states that a minimum of 25% of the Baylands will be dedicated as open space/open area. The City submitted an "Alternative Plan" to UPC's specific plan to be analyzed in the EIR process, in which almost 50% of the land would be dedicated to open space/open area. The lagoon will not be counted toward any open space calculations.

Two of the project alternatives studied in the Environmental Impact Report ("Community Preferred," and "Renewable Energy") include a community formulated open space/open area, wetlands and riparian park.

Though surrounded by urban sprawl from neighboring cities, Brisbane still has a rural-like quality. Horses still graze on the slopes of Ice House Hill.

The Baylands is home to a variety of small and medium-sized animal species. Occasional sightings of coyote and jackrabbits occur on and around the site. The annual Audubon Christmas bird count records an amazing amount of land and water bird species in the San

Bruno Mountain, Baylands and Lagoon area, as the wetlands of the San Francisco Bay are on a major migratory bird pathway.

SUMMARY APPROACH

Brisbane's relationship with the natural environment is deeply rooted in respect, and it provides a strong sense of identity and pride for the City. One only needs to walk the neighborhoods and commercial areas to realize Brisbane's wonderful balance between development and nature. It is this balance that will be one of Brisbane's greatest gifts to the Baylands development.

Just as in other parts of Brisbane, recreational open space/open area should be easily accessible to anyone in the Baylands. A comprehensive trail system will connect with natural habitats and create a stronger bond between existing Brisbane and the Baylands.

There will be a diversity of trees and shrubs on the site with open spaces/areas planted with native species. The project will create restored wetland areas and research the potential for setting up a Restoration Zone with the State Fish and Wildlife Department. Butterfly and bee habitat will be fully integrated into the landscaping. A large number of native plants will be used throughout the project. Create a riparian zone to connect the existing wetland areas with each other, and use multiple means of connecting San Bruno Mountain to the Baylands.

Establishing a larger natural pathway to connect open space on San Bruno Mountain with open space/open area in the Baylands could provide an opportunity to better manage the natural habitat of the overall area for animal movement and the control of invasive plants. The Baylands will financially support the development of an expanded natural pathway and regional habitat management and restoration.

One of the biggest challenges to achieving open space connectivity is the commuter railway line that divides the site into Eastern and Western sections. Creating "green" bridges to allow trail users and wildlife to safely cross the tracks will be implemented.

The local eco-system could be enhanced with the use of bio-swales to slow down stormwater runoff and treat it for pollutants while creating habitat for local plant and animal species. Controlling light pollution is another important objective as it has deleterious effects on both humans and animals.

The final project plan will incorporate major elements from the publicly preferred alternative, called "Community Preferred" in the Draft Environmental Impact Report, including a community formulated plan for open space/open area, wetlands and riparian park. This plan elaborates on the City's adopted Open Space Plan.

Brisbane has a strong record of purchasing property to be dedicated as open space. Continued efforts should be made to create funding mechanisms to purchase property on the slopes of San Bruno Mountain to increase protected habitat area.

Conduct a study on Ice House Hill to determine the significance of butterfly habitat for the endangered Mission Blue and Callippe Silverspot butterflies. If significant habitat exists, explore the possibilities of expanding the San Bruno Mountain HCP to portions of the Baylands.

Collaborate with members of the community and environmental groups that are already working to improve local habitat preservation. Seek out native plant nurseries, and enhance the capabilities of the Mission Blue Nursery to provide greater biodiversity for local seed stock.

8. CULTURE AND HERITAGE

Our Baylands vision is one where a culture of sustainability, small-town community values, respect for local history and a sense of place is nurtured.

COMMON INTERNATIONAL TARGETS

A site-specific action plan to maintain, enhance or revive valuable aspects of local culture and heritage (everything from local buildings to natural history) must be produced. At least two areas should be showcased.

CONTEXT

Brisbane prides itself for being an environmentally aware community. Because of the leadership of Brisbane, most of San Bruno Mountain is preserved as permanent open space. The citizens of Brisbane manifest a high degree of civic pride and community identity. They strongly support open space, education and the arts.

The Baylands were water and marshland up until 1900, after which the chief uses became a railyard and landfill for San Francisco. The first filling took place very early in the 1900's, with a straight berm carrying two rail lines between Visitacion Point (now called Ice House Hill) and the southern entrance to "Tunnel 4" which went underground near Candlestick Point. Tailings from the tunnel and the cut through Visitacion Point provided material for the fill. The rail line opened in the fall of 1908, making a higher speed rail connection between San Jose and San Francisco, saving five miles and twenty minutes from the original route, which was to the west of San Bruno Mountain. To the west of the line, a railyard and shops were built and in operation by 1917. There, Southern Pacific employees performed maintenance and heavy industrial rebuilding of engines, passenger and freight cars, as well as sorting incoming and outgoing railcars. It was one of the busiest terminals in the Southern Pacific Railroad system, employing as many as 4,000 skilled workers consisting of machinists, welders, carpenters, pipe fitters, engineers and brakemen. Reuse of materials was typical practice for the railroad.

Starting in 1906, the open water east of the rail yard site was filled with debris and garbage from San Francisco, much of it from the 1906 earthquake. Fill was dumped directly into the bay and onto bay mud. Early pictures from 1930's show the landfill starting in the north with semicircular railroad tracks to facilitate dumping. Later photos in the 1950's show the same pattern, and the Bayshore Freeway (Highway 101) opened along the eastern edge of the landfill.

The waste disposal site caused much anger and discontent from the citizens of Brisbane, and many protests were conducted to have it closed. Landfill operations ended in the 1960's and the

railyard was abandoned in 1982. Both uses left the land contaminated. Since its closure, the landfill area has been surcharged with presumably clean soil from several debris recycling operations on site.

SUMMARY APPROACH

One of the most important components of a complex and sustainable culture is that it is a living culture. The present actively connects the past to the future. Some legacies of the past will be showcased and built upon in the nucleus of culture in the Baylands.

The Roundhouse, with its historic brick structure linking the present to the Baylands' railyard past, could highlight a railroad museum, a farmers' market, public art, exhibitions, or an education and entertainment center. The Roundhouse could be the social hub of the Baylands.

Another area to showcase is the City's relationship with the landfill. It will be an informative journey to explore the history, the confrontations, and the healing of the land. Since the Baylands was previously part of the Bay, the history of the early indifference to the consequences of filling the Bay to the present awareness of its ecological importance should be taught.

The Baylands should be designed to emphasize the connection between San Bruno Mountain and San Francisco Bay, utilizing the natural watershed as well as a connecting trail network. Informative signs throughout the trail network can help people understand the transformation of the land beneath their feet.

Though small town Brisbane cannot be duplicated in the Baylands, the Community's values will be woven throughout the development.

9. ECONOMIC VITALITY WITH EQUITY AND ECOLOGY

Our Baylands vision is one where a thriving, diverse and resilient locally oriented economy supports equity in employment, green business products and practices, socially responsible business behavior, and ecologically based measures of performance.

COMMON INTERNATIONAL TARGETS

One Planet Communities are expected to create a social environment where business, nature, and daily life are in harmony with each other. The three dimensions of sustainability - ecological economics, social equity, and the environment - are woven into every decision regarding the infrastructure, types of approved uses, building sites, and open space/areas. Sustainable economics replaces short-term market valuations that often support destructive behavior. The welfare of disadvantaged people, whether on site or elsewhere should not only be improved, but also should have a vested interest in the sustainability goals set forth by the City of Brisbane.

Targets must be set to boost the local economy, notably in disadvantaged areas, and equity and fair trade standards must be identified. At least two case studies should be showcased.

CONTEXT

The San Francisco Bay Area is recognized throughout the world as a beacon of creativity and innovation, with an abundance of businesses that offer jobs with good pay and benefits. Many of them have also been recognized in the areas of ethnic diversity, gender equality, and giving back to their communities. The region also boasts of the largest number of public benefit corporations in the world.

Located between San Francisco and the northern portion of Silicon Valley, the Baylands is well positioned to accommodate a variety of businesses, especially those that take their green responsibilities seriously. Since the Baylands is mostly an undeveloped site, it offers a once-in-a-lifetime opportunity for planning and implementing state-of-the-art sustainable infrastructure.

With respect to fair trade practices, the region is a leader. Cities such as Berkeley and San Francisco have become “fair trade cities,” bringing local awareness to securing justice and equity for producers, artisans, farmers and workers in developing countries.

Though the area thrives in creating economic opportunity, there are many individuals who do not possess the skills necessary to be hired for these jobs. Our society has many individuals who work jobs that do not require a college education, but their labor is still valuable to the community.

Like so many places in and around the San Francisco Bay Area, San Mateo County has high housing costs that are unaffordable to many working class people. Combined with a high percentage of single-family homes in the existing housing stock, there is a shortage of affordable housing.

There will be tremendous pressure by the State to make Brisbane implement housing as an approved use in the Baylands because of the transit/housing focus in recently approved State legislation (SB 375 - Sustainable Communities). Funding assistance for infrastructure projects will be tied to transit oriented mixed-use development.

Brisbane's General Plan prohibits housing in the Baylands. Many residents believe that housing in the contaminated Baylands would not be safe. Other residents argue that there will be ample housing in the new developments planned across the border in San Francisco for those working in the Baylands who wish to live nearby. However, it is not clear how much of that housing will be affordable, especially with the recent demise of redevelopment agencies and their support for affordable housing.

SUMMARY APPROACH

The Baylands project is expected to bring thousands of jobs to Brisbane, and will be a showcase of a sustainable economy. The infrastructure planning and construction will incorporate sustainability principles across the board, so that economic vitality with equity and ecology becomes the way business is done. To do this, an ecological perspective must inform the planning, construction, operation, and evaluation of the development over its lifetime.

At the heart of our approach is an acknowledgement of the tension between short-term and long-term decision-making. For-profit organizations often focus on meeting short-term financial targets rather than long-term economic development. The public interest perspective focuses on the long-term effects of making irreversible impacts to land, air quality, the Bay and our community's health and well-being. While both ways of thinking co-exist, the concerns of sustainability require that we introduce long-term decision-making into the for-profit process.

A tool for helping make decisions with long-term benefits is called "Life Cycle Cost Analysis (LCCA)," and is widely recognized by the State of California. A truly energy efficient building that is powered by renewables is not only much less costly to operate over its lifetime, a substantial benefit for its occupant, but it also emits few if any greenhouse gases, a major benefit for society. Less pollution and less contribution to climate change are certainly major public benefits.

The Baylands will design the business areas to best support local, small, and public benefit companies. These companies will be given priority in leasing and purchase.

The question of whether housing will be allowed as part of the Baylands development has important impacts on sustainability and the approach to creating an economic plan. The Baylands is currently zoned for commercial and industrial uses in the City's General Plan, and

citizens have expressed strong concerns about changing the zoning to allow housing because of soil contamination and a distrust that remediation would render the site safe for people living there.

Because the developer has requested a General Plan change to allow housing, this issue is being studied in the Draft Environmental Impact Report. It will explore the sufficiency of the proposed remediation and also the potential benefits of including housing, such as reducing traffic and helping create a strong Baylands community.

If housing is allowed, it may be appropriate to emphasize alternative forms of housing for the Baylands that address the needs of seniors, students, artists, and those wanting to live in “community-based” live-work environments. By looking at housing from the view of what is needed, and then structuring it in a way that is affordable, community focused, safe, and sustainable, it may be possible to provide living opportunities that are compatible with existing residents in Brisbane. However, the residents of Brisbane will make that determination.

Development works best when the needs of individuals and corporations are compatible with each other. The maintaining of a sustainable sense of place is the responsibility of all, and thus financial mechanisms need to be created so that social benefits such as art, health, nature, legal and spiritual, thrive in perpetuity for all Brisbane citizens and workers.

By creating this type of economic paradigm, we’ll create greater awareness of the earth’s resources, the working and social conditions of people, the life cycle of the products we use, and the connectivity that truly binds us all together. Opportunities for a diverse, creative and robust development, supported by residents, workers and businesses can only be achieved through the empowerment of all.

The more locally owned small businesses located on the site, the better. A program should be established that attracts businesses that understand the value and benefits of green practices and being a part of a truly sustainable development.

We believe that a sustainable project that is properly designed costs no more to build than a conventional, unsustainable project, and that it is significantly less costly to operate over time.

Social equity can also be measured by quantitative ecological measures, such as living incomes and adequate health insurance. Employers should be encouraged to provide fair wages and benefits. Employers who have bad records in these respects should be discouraged from locating in Brisbane. Employment spaces should be safe and work enhancing. Green certification with existing third-party programs should be the objective of all businesses in the Baylands.

The Baylands should be a model of sustainability. That can only happen if an ecological perspective informs the planning, construction, operation, and evaluation of the development over its lifetime. Conventional economics and financing should not be allowed to undermine the attainment of long-term sustainable development.

Much can be learned about fair trade resolutions from San Francisco and Berkeley, as well as from organizations such as "Fair Trade Towns USA."

10. HEALTH, SAFETY AND HAPPINESS

Our Baylands vision is to create a future where it is easy, attractive and affordable for people to lead happy, safe and healthy lives within a fair share of the earth's resources.

COMMON INTERNATIONAL TARGETS

A plan for promoting health, safety and happiness for all who engage the Baylands must be created, building on emerging findings from happiness research. Satisfaction levels and concerns must be regularly monitored and evaluated. The feasibility of adopting UN standards for health, security and environmental quality should be explored. At least two examples of strategies to promote health and happiness must be showcased.

CONTEXT

The Baylands is a brownfield site, comprised of a former Southern Pacific Railyard and San Francisco's municipal landfill. During the past couple of decades, extensive remediation efforts have taken place to reduce the exposure levels of the contamination that is found throughout the site.

The concern over contamination exposure is one of the main reasons why the citizens of Brisbane have stated in their General Plan to prohibit housing as a use in the Baylands. In 2006, the Brisbane Baylands Community Advisory Group (BBCAG) was formed, so that citizens could engage the agencies that will ultimately be responsible for approving a mitigation plan for dealing with the contamination found at the site. The agencies assigned to the site are the Department of Toxic Substances Control and the Regional Water Quality Control Board.

In an effort to provide an independent analysis of the contamination found at the site, the BBCAG enlisted the help of Dr. Fred Lee. Dr. Lee gave a Baylands remediation presentation to the Community in 2010, and also provided a report that gave an assessment of the *"adequacy of past studies of the pollutants in soil, water, and gaseous releases, to adequately define the presence and public health/environmental quality implications of potentially hazardous chemicals in each of the major areas of the UPC Brisbane Baylands area..."*

Without proper understanding of the contamination that exists at the site, and an adequate plan to remediate and monitor this contamination, Health, Safety and Happiness cannot be achieved with a clear conscience. The need for an experienced, citizen respected, independent remediation firm to act as peer review for the City is critical to the success of this development.

The Baylands has the potential to provide opportunities for people to be engaged and empowered, whether they are an employee, consumer, student, or if allowed, resident.

San Mateo County and Brisbane are known for their high quality lifestyles, yet with the high cost of housing and transportation, many residents have less time for leisure activities. The Baylands creates an opportunity to enjoy leisure every day with a walk to nearby restaurants, cafés, services, entertainment, as well as recreational opportunities and open space.

The United States spends more money on healthcare than any country in the world, but the high cost of coverage has left many Americans uninsured, which has resulted in thousands of unnecessary deaths. Many of these deaths were caused by not having access to basic medical advice and observation, where preventive measures could have been implemented before terminal medical conditions took hold. Local universities such as San Francisco State University, have a Student Health Service that provides basic care for acute and chronic problems, promotes health awareness, educates students about preventive care, disease management and therapeutic choices, and helps students develop the skills to manage their own health.

SUMMARY APPROACH

Dr. G. Fred Lee's report will be used to better understand regulator's recommendations for testing, remediation, and monitoring the contamination that exists at the Baylands. An independent peer review will assist the City in understanding the mitigation findings that will be presented by the agencies.

Community meetings will be used to get input on what works and what doesn't work and what the larger community would like to see happen at the Baylands. We will use *play* and *fun* to generate ideas and seek to keep a light heartedness when evaluating our success.

The San Mateo County Health System could play a major role in helping the Community to adopt health standards to the uses it feels should be implemented at the Baylands. The possibilities of providing basic healthcare for Brisbane residents and workers that is supported by an increase in sales tax or other funding mechanism, such as the one provided by San Francisco State University for its students, should be explored.

The Baylands development should enhance the standard of living that currently exists in Brisbane. The Baylands should be a destination, a source of pride and engagement for the Community, rather than just a location on the outskirts of town.

A pedestrian friendly design will encourage walking, with the majority of buildings located within ½ mile of the Multi-Modal Station.

The natural beauty of the area will be enhanced by complementary architecture, community gardens and comfortable public spaces for community activities.

The Baylands should bring out the best a society has to offer by providing a variety of job skill opportunities with living wages, ample opportunities for recreation and leisure within the open space and open areas, ensure that the health and safety for all who engage it is never compromised, and if allowed, provide affordable and community oriented housing.

Comments on the Sustainability Goals for the Baylands Draft by the Planning Commission

The Planning Commission met on July 12th to review the Sustainability Goals for the Baylands Draft. The Commission expressed a consensus that the overall document was good and included many aspirational goals. The Commission is looking forward to reviewing the document again after it includes both the measures tools and the action plan. They expressed a concern that a number of the aspirational goals may not be measurable given the current methods we have obtaining information. The Commission is also expressed comments wondering how these goals will ultimately be implemented in the project especially if there are multiple builders on the site.

Comments on the Sustainability Goals for the Baylands Draft by the Parks and Recreation Commission

GENERAL COMMENTS

- On the process of forwarding this concept & realizing results in the Baylands more work needs to be done. How much of the desired goal can be achieved will change, some by what is possible, and some by what can be agreed upon between the citizens, the city, the developer and the future tenants of the Baylands. It also means weighing Brisbane goals against regional or worldwide goals. We need to realize if our achievements here are detrimental somewhere else. With technology ever-changing (and perhaps human habits changing) it is not possible to know the sustainable practices of the future.
- Choosing the One Planet Communities Program as the guidelines gives us a clear framework to work within.

SPECIFIC COMMENTS

- Zero Carbon Buildings
 - A central theme of the document, that development must meet or exceed the cutting edge of green construction, is an important reflection of the interests of our community, as well as the region. Of note is page 8 under Context: "Assembly bill 32...". This paragraph articulates both the urgency, and the imperative that the Baylands development is at the forefront of sustainability.
- Zero Waste
 - Can we ensure enough recycling and compost containers are at the park and rec sites (fields and trails)
- Sustainable Transportation
 - Like emphasis on bike routes and trails
 - Idea of shuttle to take people to points of interest in Baylands
- Local and Sustainable Food
 - Community garden is good idea
- Open Space and Habitat
 - - -
 -
 -
 -
 -

- Butterfly garden – natural habitat park
- Culture and Heritage
 - Use the roundhouse for a museum and community center type building; put in an outdoor stage that can be used for concerts and/or plays
 - Create an indoor Performing arts Center
 - Have art exhibits using the artist in residence from the SF scavenger
 - Combine with open space – butterfly garden / natural habitat park
 - Section 8 on Culture and Heritage (page 28) is thin. The paragraphs on context do give a valuable short history of the Baylands. And Paragraph 2 under Summary Approach page 29 “The Roundhouse...” articulates one excellent vision for the Baylands. The roundhouse is a valuable historical landmark and we might expand upon its possible restoration and the valuable role it can play in preserving the history of the area. There is no mention of the Arts in this section or any other section of the document.
 - examine the potential of a 1% for public art in new development in the near future
- Economic Vitality with Equity and Ecology
 - Page 32, 6th paragraph: “We believe that sustainable project that is properly designed costs no more to build than a conventional, unsustainable project, and that it is significantly less costly to operate over time.” This is a false statement. Cutting edge technologies are inherently more expensive. Utilizing materials that are local (reducing the carbon footprint of their transportation) are also more likely to be expensive. The Bay Bridge is using steel from China with an estimated cost savings of \$400,000,000.00. But it adds the carbon footprint of transportation, as well as incurs the liability of the lower anti-pollution standards of Chinese manufacturing practices.
 - The second part of the argument is true. And over time the increased cost of construction by the strictest environmental standards is more than recovered. But the real value of proper environmental development is in the effort to reduce greenhouse gases, and to reverse the damage already done to our fragile environment. And this should be the argument for demanding the highest standards in developing the Baylands.
 -
- Health, Safety and Happiness
 - More use of outside space for sports and leisure will help with increased health and happiness

- Recreational users
 - Fields
 - Soccer
 - Baseball (regulation size)
 - YMCA type gym with indoor basketball, volleyball, and pool
 - Hiking trails for exercise
 - Bike paths separate from roadways designated part of the Bay Trail
- Other Comments
 - There is an underlying conflict or dissonance between our community's resistance to housing in the Baylands and many of the document's aspirations and examples that imply housing. For example:

Page 9. Figure 2. Shows a buildings & street activity which suggest housing on the upper floors, similar to developments in Emeryville and San Jose's Santana Row.

Page 14. Last paragraph "*California has a law....*" This law is designed to encourage housing near public transportation. "*Each of California's MPOs then prepare a "sustainable communities strategy (SCS)" that demonstrates how the region will meet its greenhouse gas reduction target through integrated land use, housing and transportation planning.*" Source: <http://www.arb.ca.gov/cc/sb375/sb375.htm>

Page 15. Summary Approach, 2nd paragraph " We will create....restaurants, retail, services & recreation are" Restaurants, etc. are dependent on community to support them. Without a residential community surrounding them they must become a driver destination in order to survive.

Page 15. Next paragraph. "...a minimum of a ¼ mile radius of combined uses..." Combined uses implies housing

Page 19. 5th paragraph "Food waste from all residents, tenants, businesses, restaurants and shops..."

Page 21. 6th paragraph: Regarding community gardens "Another could be established in the Baylands"

Page 32. 6th paragraph: " the more locally owned small businesses located on the site, the better". Small locally owned businesses thrive on local community support.

Page 35. 1st paragraph “ The Baylands creates an opportunity to enjoy Leisure every day with a walk to nearby restaurants, cafes, services, entertainment, as well as”

- There are also sections than recognize our community’s resistance to housing, and they are best exemplified by:

Page 31 paragraph 2 “There will be tremendous pressure by the state to make Brisbane implement housing as an approved use of the Baylands because of the transit/housing focus recently approved State legislation....”

Page 31 paragraph 3 “Brisbane’s General Pan prohibits housing in the Baylands”

- Not enough information yet to know which is best for the environment. Arguments against it are not without serious merits. But page 31 paragraph 2 in which the language “there will be tremendous pressure” implies that the State is in the wrong and we must resist it. Do we think this is a bad environmental policy overall? If so, why? Or is this just a bad policy when it has implications for us?

Open Space and Ecology Committee
Comments on Draft Sustainability Goals for the Baylands
August 2012

The Open Space and Ecology Committee supports the aspiration of the Sustainability Goals for the Baylands and the majority of the text of the document. However, there are a few overarching and outstanding concerns that are discussed below, followed by specific recommendations proposed in the attached redlined version.

Contamination

The Sustainability document lacks sufficient discussion of the Baylands as a contaminated toxic brownfield. It does not address the limits of state and federal regulations, or the challenge of ensuring monitoring to assess and minimize the harmful effects of contamination on life in and around the bay. While Dr. Lee's report to the BBCAG is referenced in the document, his conclusions and recommendations are not reflected. In particular, Dr. Lee notes that current regulatory and monitoring programs consider only a fraction of the potentially hazardous chemical that may be present on the site. He further asserts that among the small number of chemicals that are regulated, limits on concentrations are lax and can result in damage to human health, safety, and the environment. Dr. Lee also observes that stormwater runoff monitoring at the site is insufficient, including monitoring of the lagoon. Underscored throughout Dr. Lee's report is the need for independent third-party oversight, review and monitoring in perpetuity to protect public health and environmental quality.

Sea level rise as a result of global warming will compound the difficulty of containing contaminants. Extreme weather events that will accompany climate change increase the likelihood that contamination will not be contained, and sea level rise may increase the probability of liquefaction that could release large amounts of contaminants. These problems are not adequately addressed in the Sustainability Goals document. Overall, the Committee feels that the approach of capping the contaminants is inadequate, and that issues of public health and safety have not been given the attention they deserve.

Isolation and Transportation

The idea of applying sustainability metrics in the relatively small area of the Baylands is problematic, since sustainability is inextricably linked to context and connection with the Bay Area and beyond. The Committee believes that the document portrays the Baylands project as an island, isolated from the regional economy, and the production and flow of goods and services of the larger region. More attention should be focused on how the Baylands can contribute to making the region as a whole more sustainable.

The lack of adequate public transportation is a significant challenge. It isolates Brisbane residents from the Baylands and surrounding cities. A variety of clean, interconnected, and convenient transportation systems should be made widely accessible and affordable. There can not be a meaningful “sustainable” project that lacks connectivity and integration with the wider community and region.

SUSTAINABILITY GOALS FOR THE BAYLANDS DRAFT FOR DISCUSSION

APRIL 2012

The citizens of Brisbane have widely expressed the importance of environmental responsibility and its application to the [Brisbane](#) Baylands project. In response, the City Council formed a Baylands Sustainability Committee to provide this guiding document, which is organized around the ten One Planet Living principles developed by BioRegional. In parallel with this effort, the project is also under review as part of the Environmental Impact Report (EIR), and this plan will be updated to reflect information coming out of that process when it is available.

The purpose of a Sustainability Action Plan is to create the [DNA blueprint](#) for achieving sustainable results. It is aspirational and is not a contract for specific results, however it will inform the negotiation of binding criteria between the City and the Developer in a Development Agreement. This document will continually evolve over the course of the Baylands project to reflect new information, new funding mechanisms, new policies and technologies, and improvements to the project design, and thus it is termed a “living document.”

With this draft, the City invites input from the public and the developer to make this plan effective and to create the strategies that will be used to achieve the sustainability goals articulated here.

The Sustainability Committee holds this vision for the project:

The Baylands presents an opportunity to create a development that [begins to heal](#) the land, [contribute to](#) ~~provides~~ prosperity that is fair and equitable, strengthen our relationship with nature, and enhance Brisbane’s commitment to Community values. The core pillars of sustainability—environment, economics and social equity—will be woven into every building, park and transportation mode, creating a balanced approach to development that will be safe, engaging, and within the means of the Earth’s resources.

BACKGROUND

To achieve our sustainability goals, the Sustainability Committee investigated the use of four different sustainable development programs¹²³⁴ and chose to use the framework of the One Planet Communities program and adapt it to this particular project. The framework is a set of ten principles designed around achieving a one-planet ecological footprint, and includes the social and economic aspects of sustainability as essential elements to achieving and sustaining the environmental outcomes. BioRegional's One Planet Community projects have received worldwide acclaim for their ingenuity in design, thoughtfulness towards local issues, and understanding the importance of harmony between development and nature – they recently teamed up with the city of London to create the first "One Planet Olympics."

1. **Zero Carbon Buildings** -- Making buildings more energy efficient and delivering all energy with renewable technologies.
2. **Zero Waste** -- Reducing waste, reusing where possible, and ultimately sending zero waste to landfills.
3. **Sustainable Transportation** -- Using low carbon modes of transport to reduce emissions and reducing the need to travel with good planning.
4. **Local and Sustainable Materials** -- Using sustainable healthy products, with low embodied energy, sourced locally, made from renewable or waste resources.
5. **Local and Sustainable Food** -- Choosing low impact, local, seasonal and organic diets and reducing food waste.
6. **Sustainable Water** -- Using water more efficiently in buildings and in the products we buy, and addressing local flooding, wetland and stormwater pollution.
7. **Open Space and Habitat** -- Protecting and restoring biodiversity and natural habitats through appropriate land use and integration into the built environment.
8. **Culture and Heritage** -- Reviving local identity and wisdom; supporting and participating in the arts.
9. **Economic Vitality with Equity and Ecology** -- Creating ecologically-based economies that support equity and inclusive communities.
10. **Health, Safety and Happiness** -- Encouraging active, safe, meaningful lives to promote good health and well-being.

The use of the ecological footprint is significant because it departs from green building programs by measuring real impacts. A new building that is 50% more energy efficient than allowed by code may be recognized as extremely green, but if it runs on fossil fuels then it still increases global emissions and harms the climate. Real impacts matter, and the ecological footprint is a good tool for evaluating them.

1 The U.S. Green Building Council's Leadership in Energy and Environmental Design for Neighborhood Developments (LEED-ND)

2 The International Living Future Institute's Living Building Challenge

3 BioRegional's One Planet Communities program

4 The International EcoCity Framework and Standards

The ecological footprint, developed by the Global Footprint Network, measures how much land and water area a human population requires to produce the resources it consumes and to absorb its carbon dioxide emissions. The tool has been in use since 1990, ~~and we now know that it takes the Earth one year and six months to regenerate what we use in a year.~~ [If everyone lived the lifestyle of the average American, we would need about five planet Earths to support us, according to the Global Footprint Network.](#)

For this effort, the ecological footprint is used as the underlying metric for physical sustainability within the One Planet Communities program. The goal is to set criteria that will ensure the Baylands is truly sustainable, and that if everyone in the world modeled themselves after what these principles propose for the Baylands, the Earth would have a one-planet ecological footprint.

With this draft Sustainability Action Plan, the Sustainability Committee shares its research into the local Context of the project and provides a Summary Approach to achieving sustainability. We now, all of us, have the task of creating two more sections for each principle: the Key Performance Indicators and the Detailed Plan.

Key Performance Indicators are the metrics by which we will track the Baylands' progress toward sustainability. Good indicators are simple, easy to use and communicate with, and strongly linked to the sustainability goal. They are not intended to measure all impacts, but rather to "indicate" progress on the most important aspects, and many projects use just one or two for each principle.

The **Detailed Plan** is the set of actions and policies which will be taken to achieve the sustainability goals, and is the only part of the Sustainability Action Plan that evolves over time as we learn, as policy changes, as new technologies are developed and applied.

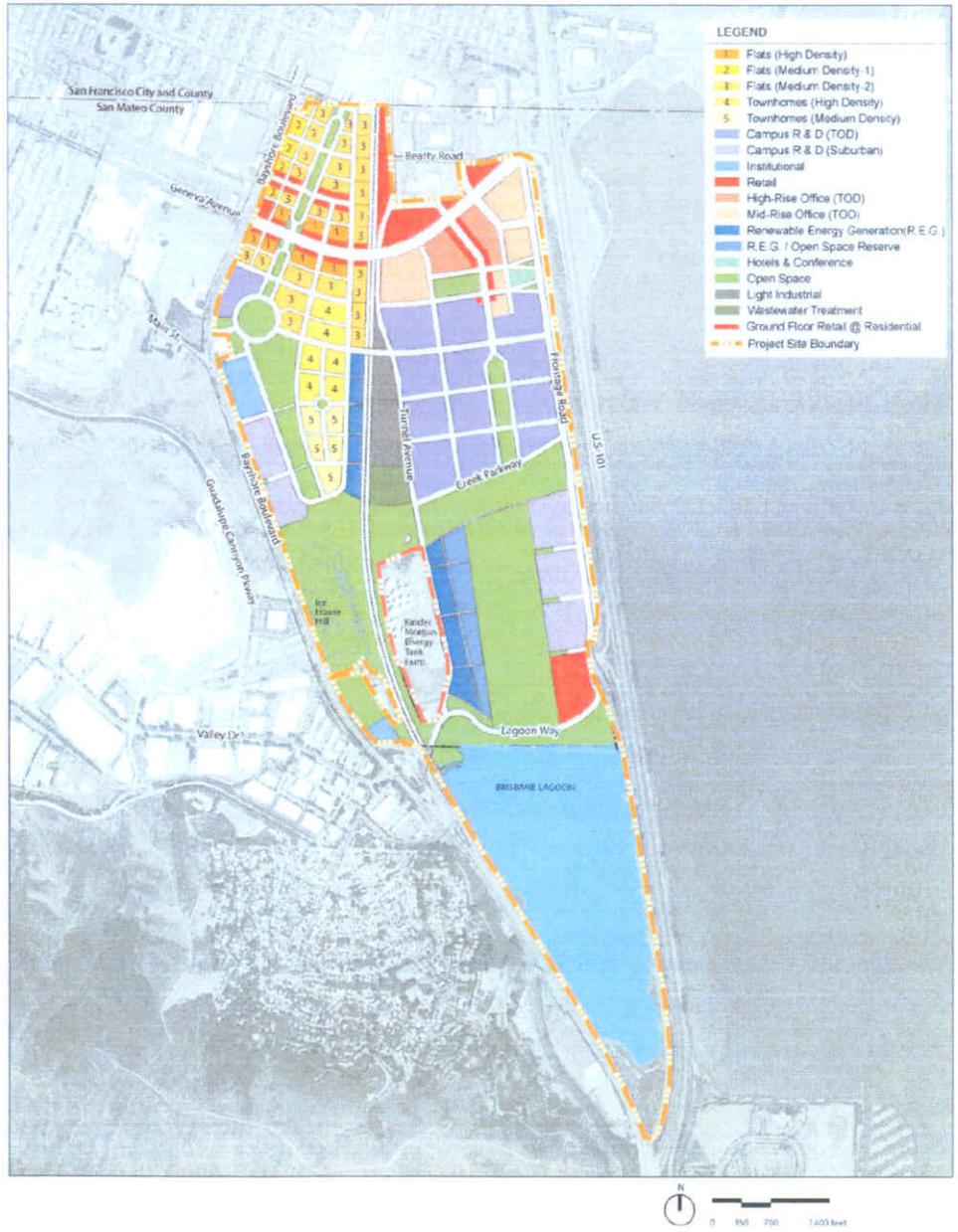
[The One Planet Living Sustainability Action Plan could apply to any of the proposed plans for the Baylands, and is not tied to the Developer-Sponsored Project, the Community Alternative Project, or the Renewable Energy Alternative Project. Further, the sustainability plan should apply not only to the operational stage of the completed project, but to the construction phase as well. Issues of energy, waste, water, health and safety must be taken into consideration throughout the life cycle of the Baylands development.](#)

OSEC Specific Comment Version

DEVELOPER-SPONSORED Project Summary

Total Site Area	684 acres	Comm. and Indust.	6.9 million sq. ft.
Public Use/Open Space	206 acres	Residential	4,434 units
Lagoon	111 acres		

The total square footage proposed in the UPC Specific Plan is 12,096,300 of which 5,150,400 is housing. These figures are from Chapter 4 on Land Use, page 29. The link to the Plan is on the City website.



SOURCE: Wallace Roberts & Todd, LLC, 2010

Brisbane Baylands, 206069

Figure 4
Proposed Land Uses
Developer-Sponsored Project

COMMUNITY ALTERNATIVE PROJECT SUMMARY

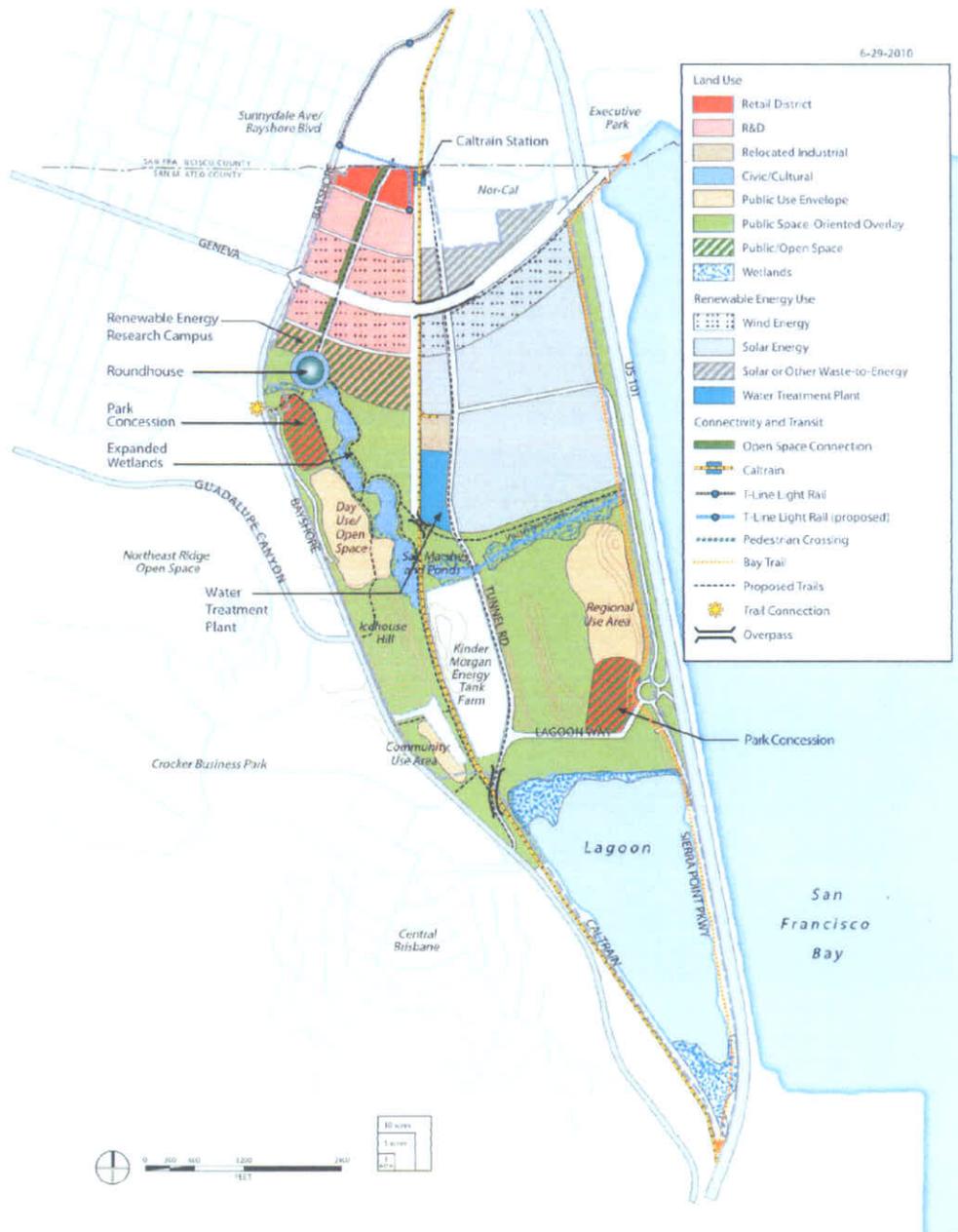
Total Site Area	684 acres	Comm. and Indust.	8.3 million sq. ft.
Public Use/Open Space	330 acres	Residential	0 units
Lagoon	111 acres		



Figure 6
Proposed Land Uses
Community Preferred Plan

RENEWABLE ENERGY ALTERNATIVE PROJECT SUMMARY

Total Site Area	684 acres	Comm. and Indust.	1.0 million sq. ft.
Public Use/Open Space	330 acres	Residential	0 units
Lagoon	111 acres	Alternative Energy	170 acres



SOURCE: Dyett & Bhatta

Brisbane Baylands 206069

Figure 14

CEQA Alternative - Renewable Energy Land Use

1. ZERO CARBON BUILDINGS

Our vision for the Baylands is that all buildings will be energy efficient and will run completely from locally generated renewable energy.

COMMON INTERNATIONAL TARGETS

All buildings are designed to be energy efficient to country-specific best practice standards, including passive and active elements, and will be served by 100% renewable energy.

Renewable energy will be generated on site with solar, wind, geothermal and biomass. If needed, off-site local renewable energy capacity will be used. [The site should produce enough clean energy to be not only energy-neutral but energy-positive.](#)

Financial reserves will be established to fund future maintenance and replacements of all renewable energy systems so that they are a permanent asset.

CONTEXT

Assembly Bill 32, California's comprehensive climate change legislation, requires the State to reduce greenhouse gas emissions (GHG) to 1990 levels by 2020 - a reduction of about 25%, and then to reach 80% below 1990 levels by 2050. If all the world's countries were to achieve these objectives, it is estimated that global temperatures would increase about 2°C for the 21st century, avoiding the effects of the 6°C rise predicted for our present course. This magnitude of climate change is predicted to cause major increases in the frequency and severity of extreme weather, significant loss of food capacity on land and in the oceans, and substantial sea level rise. In addition, for California, it is predicted to result in many more fires and increasing water insecurity.

Currently in the United States about 45% of GHG emissions are associated with constructing and operating buildings. Consequently, reducing the carbon footprint of buildings makes a major contribution toward the reduction of GHG emissions and therefore the extent of climate change.

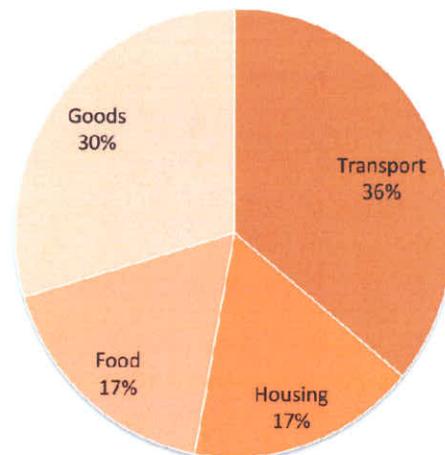


FIGURE 1. 2010 CALIFORNIA AVERAGE INDIVIDUAL GHG EMISSIONS OF 17.7 TONS/YR (SOURCE: CARB)

[Each Average CO₂ emissions per person per year](#) in California is ~~responsible for~~ 17.7 tons ~~of CO₂ emissions each year~~, with a significant

fraction of that footprint affected by how we plan, construct and operate our neighborhoods. Transportation and housing make up the majority of our California carbon footprint—two categories directly impacted by development. How and where we shop and eat is strongly influenced by development patterns as well.

New development has a special obligation to go beyond the AB32 goals because it is less expensive to avoid emissions through constructing efficient, renewably powered buildings than it is to reduce emissions through retrofitting existing buildings.

The State of California’s mandatory green building code, CAL Green, contains two optional tiers for performance above the minimum standard. The current Tier 2 requirement is that buildings use 30% less energy than allowed by code. The energy code is expected to get significantly more stringent with the adoption of the 2012 update.

The State of California’s energy code, Title 24 Part 6, requires that all buildings be constructed “Net Zero Energy” beginning in 2020 for homes and 2030 for nonresidential buildings. In addition, a number of “Energy Plus” or “Energy Positive” buildings are being tested around the world, including some larger commercial projects, such as in Freiburg, Germany. An advanced energy plan will be studied in the EIR and in a National Renewable Energy Laboratory study to determine feasibility and compatibility with overall sustainability objectives.



FIGURE 2. FOUR AND FIVE-STORY BUILDINGS CAN NOW PRODUCE MORE ENERGY THAN THEY USE

There are many examples of innovative local power systems that reach beyond traditional solar and wind. Hummingbird Energy and Arizona State University have signed a Letter of Intent to build a 2.4 MW urban biomass facility on the ASU campus at Tempe—the first of its kind in North America. The City of San Antonio converts their human waste into energy, while San Francisco converts its dog waste into alternative energy by ingesting the dog feces into a methane digester.

Although the U.S. Treasury Grant for renewables expired at the end of 2011, significant incentives for renewable power are still available in California, and the cost of solar power continues to drop rapidly with increasing competition from Chinese producers and advances in technology.

SUMMARY APPROACH

Building design in the Baylands will emphasize passive reductions in energy loads first. Daylighting will be used throughout, as well as strategies to reduce heating and cooling loads like proper orientation, insulation, and glazing selection. In some buildings, [air filtration systems](#) and passive ventilation ~~may~~[should](#) be used.

After minimizing loads through passive design, ~~deep~~ [rigorous](#) energy efficiency [measures](#) will be used to reduce loads further. Buildings in the Baylands will be designed to meet California's CAL Green Tier 2 prevailing requirements for energy efficiency. In addition, an on-going operations and maintenance program will be implemented to monitor building energy performance in line with best practices in retrocommissioning.

Finally, all energy for space conditioning, ventilation, water heating, lighting and plug loads will be generated on site from solar on buildings, from an on-site solar farm, and possibly from wind, ~~geothermal~~ [heat exchange technologies](#), and biomass. The project will be designed to produce its entire annual energy needs, meaning that it will likely produce more than it uses in the summer, feeding power to the nearby community. Loads separate from these categories, such as industrial process loads, will also be met with on-site renewable energy sources if they are electric. For industrial loads using natural gas, a plan will be created to convert to a renewable fuel over time.

As proposed by the OS&E Committee in their Guidelines for the Baylands, Brisbane is committed to achieving energy neutrality for the entire development. Furthermore, the Committee recommended in its February 2011 Update to its Scoping Comments: "Consideration should be given to whether the Baylands has the potential to generate renewable energy beyond the project's needs, so that the Brisbane community could reduce its reliance on energy generated by fossil fuels." A thorough analysis of best practices for generating alternative energy will be evaluated to determine appropriate types and locations. Converting waste into energy should be studied.

In collaboration with Principle 6 Sustainable Water, opportunities should be explored to capture wastewater heat or otherwise convert waste from the sewage system into an alternative energy source.

2. ZERO WASTE

Our vision for the Baylands is of a future where resources are used efficiently, and ultimately zero waste is sent to a landfill. The "byproducts of consumption" should be the materials of tomorrow's uses.

COMMON INTERNATIONAL TARGETS

The less waste that is generated in the first place, the less there is to deal with. Best practice standards in waste minimization during construction should be employed, and a clear set of time-specific targets should be established in order to achieve an ultimate zero waste outcome. The project must demonstrate a rapid, verified progress toward the zero waste target, especially given current rapid advances in the introduction of waste processing globally.

At least 70% of baseline waste by weight generated within the development should be reclaimed, composted or recycled, and no more than 2% should be sent to a landfill.

CONTEXT

Through AB 939 California has mandated an ultimate goal of zero waste to landfills. Diversion rate targets were included in this legislation, and all cities have to report their progress toward these targets.

Brisbane's solid waste is collected by South San Francisco Scavenger Company. The City has curbside pick-up for [some](#) recyclables and greenwaste, but does not currently have food waste collection. The current franchise agreement for the City of Brisbane waste hauling expires in 2013. San Francisco's waste management provider, Recology, has their recycling operation located in the Baylands. Plans are being implemented to expand this operation at the Baylands in

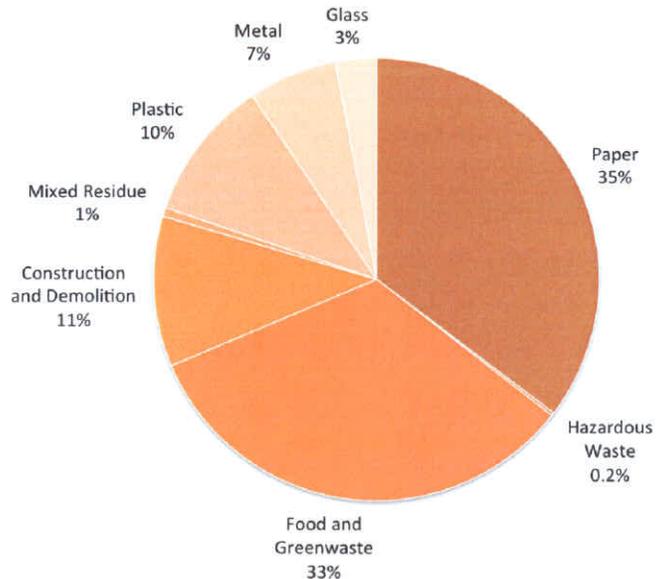


FIGURE 3. 2010 CALIFORNIA AVERAGE NONRESIDENTIAL WASTE STREAM (SOURCE: CALRECYCLE)

order to achieve San Francisco's "Zero Waste" mandate. [The Open Space and Ecology Committee supports expanding the Recology facilities.](#)

In cooperation with its Scavenger Company, Brisbane has been meeting its targets through collection of recyclables, though residents have been doing better than businesses. Brisbane has a Construction and Demolition Debris Ordinance that mandates recycling targets for materials generated from construction and demolition projects. The building department provides information on how to meet these targets and where to take materials for recycling.

Many cities throughout the Bay Area are instituting laws that prohibit the use of packaging material that is not easily biodegradable or reusable, and requiring merchants to deliver their products in containers that are less harmful to the environment. The City of Brisbane is participating in the County's [planning process to adopt a](#) single use bag ban.

Conversion technologies in California have typically involved the use of incineration, which have ~~strongly~~ been [and continue to be strongly](#) opposed because of the air quality concerns. By a vote of its citizens, Brisbane denied a waste incineration plant project in the Baylands in the early 1980s. Recent advances in gasification and plasma pyrolysis could provide a clean way to reduce the volume of solid waste from the Baylands while generating energy.

SUMMARY APPROACH

Achieving Zero Waste will require strong and committed action in policy, infrastructure, and individual action. Provision must be made to manage waste materials brought onto the site from outside. Through education and recruitment of appropriate businesses, we will encourage zero-waste practices and the sale of recycled content and easily-recycled or composted products on site. Provision for handling, storing, and processing materials will be closely coordinated with the local agencies responsible for such work to improve diversion rates.

Since California already has strong legislative commitments to move toward zero waste, the challenge is to get cooperation from waste-makers, especially businesses. San Francisco, Palo Alto, and Alameda County have strong zero waste programs, which will be studied to create the detailed Baylands Zero Waste Plan.

With San Francisco adopting an ambitious "Zero Waste" mandate, it has looked to its current waste management provider to implement its waste diversion goals. The Baylands should look to San Francisco for opportunities to partner in advanced waste reduction practices, from simple ideas like adding food waste collection and a local toxics drop-off center, to more sophisticated ideas like vacuum tubes to connect buildings directly with a collection facility, reducing truck traffic.

Public and private sector, as well as individual commitment, creativity and action will be needed to develop and maintain sustainable programs to reduce, reuse and recycle all materials generated on site. An ongoing educational focus to create a culture of efficiency and understanding of the life cycle of products should be the mantra for engagement in the Baylands.

OSEC Specific Comment Version

The project developers and occupants will work with the City of Brisbane to support standards and policies that create a more environmentally responsible approach to packaging and containers used in the supply chain and by consumers.

3. SUSTAINABLE TRANSPORTATION

Our Baylands vision is one where the need to travel has been reduced, public transportation is easily accessible, and low and zero carbon modes of transport are provided. Brisbane creates a green transport plan that results in carbon emission reductions that are consistent with the targets of the State of California and Brisbane's energy strategy.

COMMON INTERNATIONAL TARGETS

The ecological footprint arising from transport has to be consistent with the overall target of achieving a one-planet footprint from all impacts. BioRegional considers transport targets on a case-by-case basis. Projects need to demonstrate low and improving rates of carbon emissions from transport within as well as into and out of the project area.

CONTEXT

The site is located between the two major regional employment centers of San Francisco and Silicon Valley. It sits just to the west of Highway 101 and the CalTrain commuter rail line bisects the property today.

San Mateo has an auto-dominated transportation system, but there are many potential options for improving transit and ridership in the area. The county currently has infrequent bus service, limited car share programs and only limited success with existing rideshare commuting. However, it also has basic passenger rail service, well-used park-and-ride lots in several locations including at Old County Road in Brisbane, and paratransit services for the elderly and disabled.

A free shuttle service linking Brisbane with the Balboa Park BART station in San Francisco provides a transportation alternative for citizens working along the BART corridor and in Brisbane, and San Francisco's Muni Third Street rail line terminates near the north end of the Baylands project at Geneva Avenue. The City offers a free shuttle service from central Brisbane to the CalTrain station. A study is underway to determine the best location for the Bayshore CalTrain station, and it could conceivably serve as a transit hub with San Francisco Muni buses running east/west on the extension of Geneva Avenue and SamTrans buses running north/south. San Francisco is also considering the extension of its Third Street light rail line to this same transit hub. However, these plans are very expensive, and CalTrain itself is in financial difficulty.

California has a law (SB 375) that encourages development around transit hubs. As part of the implementation of this law, regional transportation funding agencies will prioritize projects that have approved transit hubs.

In 2008, California voters passed Proposition 1A to link the major cities of California by high-speed rail. The Baylands has been considered as a possible site for a railyard for the high-speed

rail line. However, the legislature is now debating the feasibility of the project and it is unlikely such a project would be built in the near future.

Bicycle routes are available, but are limited. There are no existing community bicycle programs such as exist in New York and Washington DC.

Brisbane does not have a gas station.

Brisbane's Baylands area is part of a regional Priority Development Area (PDA) that also encompasses the Schlage Lock housing development site in San Francisco, Executive Park, Candlestick and Hunter's Point. Schlage Lock and the Baylands are projects of the same company, Universal Paragon Corporation.

SUMMARY APPROACH

A comprehensive transportation study will be completed during the course of the EIR study. While we have identified some preliminary approaches in this Sustainability Action Plan, we fully expect to modify and improve our approach to transportation as a result of this comprehensive study. At a minimum, we will look for ways to set appropriate targets for vehicle miles travelled, greenhouse gas emissions, and level of service for traffic.

We will reduce emissions from transportation first by reducing the *need* to move long distances and also by reducing the need for fossil fuel based modes. We will create an easy pedestrian and bicycle lifestyle, where the location of jobs, restaurants, retail, services and recreation are in close proximity to each other. If housing is allowed, it will be incorporated into this web of mutual efficiency.

For public transportation to be a significant part of the Baylands, it needs to be easily accessible from all parts of the development and tied together by a variety of transportation modes. [Non-polluting, interconnected, and convenient transportation systems should be accessible and affordable in order to integrate the Baylands with the rest of Brisbane and surrounding cities.](#)

The multi-modal station is the heart of the development. To fully utilize the potential of the multi-modal station, a minimum of a ¼ mile radius of combined uses must surround the station. This may require relocating the station to a point south of its currently planned site, and integrated into the Geneva Avenue extension—a prospect that is currently being studied.

It will be important to establish strong lines of communication with the various transportation authorities such as SamTrans, CalTrain, Muni and the various private companies. We will assert our desire that all public transportation be electric driven with renewable sources or use low- or zero-carbon alternative forms of fuel.

We will work with San Francisco to connect transit systems that further the city's program goals of sustainability for this project.

OSEC Specific Comment Version

The Project will provide infrastructure to support a low-carbon transportation system with alternative fuel filling stations, electric car charging, plug-in hybrid carshare programs, minimal parking areas, shared parking between uses and a successful rideshare program.

An elaborate bicycle and walking path system will be incorporated throughout the Baylands, providing opportunities for exercise, passive and commuter bicycle use. Class 1 and Class 2 bicycle paths will be constructed.

We will support the creation of a bicycle sharing system that will provide free bicycles for anyone in the Baylands. To reduce theft and vandalism, we will incorporate programs that have been initiated in other parts of the country as well as in Europe and Asia. The program will be subsidized through business programs and advertising.

The current free shuttle route connecting Brisbane with the Balboa Park BART station will be expanded to include the Baylands.

A free shuttle system such as the Emery-Go-Round in Emeryville will be explored.

4. LOCAL AND SUSTAINABLE MATERIALS

Our Baylands vision is one where all goods and materials used for construction and property management are made from renewable, reclaimed, or recycled resources with low embodied energy and, wherever possible, sourced locally. As new technologies and methods present themselves, every effort will be made to implement these new products and practices.

COMMON INTERNATIONAL TARGETS

Via the common process guidelines at the One Planet Communities website, country-specific targets should be determined to increase and optimize the use of local, reclaimed, renewable, recycled, [durable](#), healthy and low environmental impact materials for construction and property management.

CONTEXT

National protocols for sustainable materials are rapidly developing. Examples include wood from FSC-certified forests, products that are free of formaldehyde and volatile organic compounds, products made without the use of toxic chemicals, materials that are produced with low amounts of energy, especially fossil fuel based energy, etc. Attention is increasingly being dedicated to making buildings and products more easily recyclable at the end of their useful lifetime.

Brisbane was one of the first cities in California to adopt a green building ordinance.

Though mostly undeveloped, the Baylands does have a few existing building sites—one is occupied by Sierra Point Lumber, which has expressed interest in relocating to another area of the Baylands, while San Francisco's waste management company, Recology, conducts their recycling operation in the Baylands, but has plans to expand their program with buildings that will be LEED Platinum.

A large portion of the Baylands is currently being used for recycling concrete, aggregate, soil and rocks.

With the rapid growth in popularity of LEED, a national protocol on sustainable materials is emerging. The focus is two-fold: look towards using materials that are reclaimed, locally sourced, locally manufactured, containing wood from FSC-certified forests, and containing recycled content, while discouraging the use of materials that are harmful to the environment and human health.

While the LEED standard is excellent it has some notable gaps which are widely recognized. Specifically, it does not recognize the benefit of avoiding the use of materials (e.g., finished

concrete flooring rather than carpet), it does not give credit for avoiding materials that require toxic cleaning compounds, it does not restrict materials to those which are known to have little or no toxicity (e.g., per the REACH protocols), it does not restrict the use of materials which have toxic production byproducts (e.g., dioxin from PVC manufacturing), it does not give credit for the use of materials which are fully recyclable at end-of-life or for materials with product take-back programs.

The Alameda County-based Stopwaste.Org has established standard jobsite waste recycling practices and guidelines (e.g., CSI 01505) and is an excellent regional resource for information about waste reduction.

SUMMARY APPROACH

Use LEED Platinum standards for the project baseline material practices and add other criteria as they become practical.

Since the Baylands will be built-out over the course of several decades, a process will be established that ensures the increasing use of local and sustainable materials as the opportunities become available. As much fabrication as possible should be done on site, and using materials already available on site (e.g., clay, concrete, asphalt, mulch, topsoil, trees, etc.), [to the extent this can be done safely.](#)

Work with a sustainable materials consultant to identify buildings and developments throughout the world that have created innovative structures with the use of sustainable materials. Use this information to form the basis of a comprehensive approach to materials, and establish protocols for sustainable materials in construction and property management. In addition, establish guidelines for sustainable materials in consumer goods and packaging, in the home and workplace to help educate people who work at the Baylands or who visit there.

Use Life Cycle Assessment (LCA) for selecting materials and making process decisions in the construction and maintenance of buildings and infrastructure. LCA involves calculating the environmental costs of any construction or production process from its beginning in raw material extraction to its completion in the disposal of building or product components. For recycled materials such as simple metals, the analysis looks at the costs from extraction through production, use and the eventual recycling and remanufacturing of new materials. The ultimate objective is to bring the construction, production, product and building management cycles within the biological capacity of the earth. [While LCA is a useful approach, it does not fully account for all of the environmental costs associated with a product or process.](#)

5. LOCAL AND SUSTAINABLE FOOD

Our Baylands vision is one where healthy diets are promoted through local, seasonal, and organic produce, and that all food should be minimally processed and packaged.

COMMON INTERNATIONAL TARGETS

Healthy diets should be promoted and minimum targets achieved for supply of organic or low environmental impact food and local sourcing.

Sustainable agriculture involves food production methods that provide safe working conditions, do not degrade the environment, are humane to animals, support farming communities, and produce healthy food.

One Planet Communities throughout the world will develop strategies to enable and encourage people to adopt a One Planet diet, through education and agreements with onsite retailers and caterers.

Onsite facilities, including retail and catering facilities, will strive to minimize packaging in line with zero waste targets, and minimize consumption of processed foods which have a large ecological footprint. Food waste from all residents, tenants, businesses, restaurants and shops will be minimized.

Food growing will be integrated onsite where appropriate. Strategies will be put in place to enable food growing on site. Local food mapping will be undertaken and partnerships will be developed with local producers to establish regular supplies and to work with them to further reduce their impacts.

Purchasing systems will be established to ensure food provided does not contribute to deforestation, over-fishing or pollution and minimizes other negative impacts.

CONTEXT

We have existing national organic standards and a more stringent set of California organic standards. For products coming from areas with poor working conditions, such as coffee, tea, sugar, chocolate, vanilla and fresh fruit, the Fair Trade Certified™ program is an effective labeling system for promoting good practices in the international food industry and is widely used in local stores.

A number of organic farms exist in San Mateo County and the surrounding region. Consequently, seasonal organic produce should be readily available. Over the past twenty years,

farmers' markets featuring local foods have become widespread and popular in California, and the desire to eat local food is steadily increasing.

No "food miles" standards have been established in California, but there are restaurants advertising that none of their ingredients come from more than 100 miles away. Google (headquartered in Santa Clara County) has Cafe 150 that claims its food ingredients come from within 150 miles.

The U.S. Department of Agriculture estimates that food production and distribution use 15% of all energy in the United States and contributes an equal share of air pollution and greenhouse gases. However, the emissions impact of food is complex and involves much more than transportation. Figure 4 shows how the greenhouse gas emissions related to food breakdown, making it clear that other objectives like reducing the use of petroleum fertilizers and reducing food waste in grocery stores and restaurants are also very important.

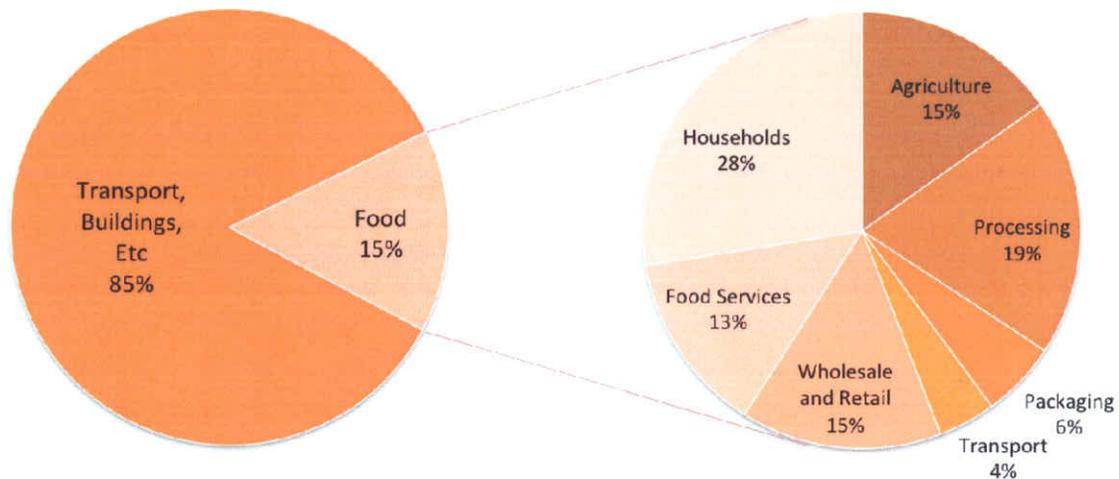


FIGURE 4. BREAKDOWN OF ENERGY AND EMISSIONS IN THE U.S. FOOD INDUSTRY⁵

Local counties are home to dozens of organizations, farms and programs dedicated to healthy local and organic food. Within a 200 mile radius, one will find some of the highest quality food sources in the world: seafood from the Pacific Ocean, grasslands supporting cereals, dairies and beef, fertile soil supporting fruits and vegetables and much more.

There are also national and State standards for healthy diets that many restaurants highlight in their menus. California is a leader in this movement.

Portions of the Baylands are not suitable to in-ground gardening or farming because of soil contamination, but engineered raised gardens can be studied and perhaps found feasible.

⁵ Patrick Canning, et al, "Energy Use in the U.S. Food System," USDA Research Report Number 94, March 2010.

SUMMARY APPROACH

Brisbane will set standards and incentives for local, sustainable and affordable food in the restaurants and food markets that will be established in the Baylands. When a viable commercial level is reached, a farmers' market featuring locally grown foods will be established.

Promote healthy diets high in local seasonal, organic and low-environmental impact foods.

A significant proportion of food should be locally sourced from low environmental impact farming with reduced packaging from a radius of 50-100 miles from the center of the site. Given the importance of food to ecological footprints, stretching targets are essential to achieving a one-planet footprint.

Key Performance Indicators should be set for certified organic and Fair Trade food.

Several techniques will be considered to increase consumption of locally-produced and low-impact food including fruit trees on site on both public and private land, a year-round farmer's market, and strong incentives in lease agreements for grocers and restaurants to source local, organic, fair trade and low-impact foods.

Brisbane already has a community garden for residents. Another could be established in the Baylands, taking great care to use techniques that protect against introducing soil contaminants into foods (e.g., raised beds with imported soil). The feasibility of an urban farm on Ice House Hill should be investigated and pursued.* Ice House Hill and the adjacent "corral" provide an opportunity to create a highly productive and diversified urban farm. Not only could this area provide a great source of produce, honey and eggs to the community, it could help reestablish our agricultural roots with the land. An effort will be made to consult with local farmers who specialize in high yield, low impact farming, including the best methods for minimizing irrigation water. The farm may be established in partnership with a local school or a community-supported agriculture (CSA) farmer.

[Research the potential for aquaponics, a sustainable food production system that combines traditional aquaculture \(raising aquatic animals such as fish in tanks\) with hydroponics \(cultivating plants in water\) in a symbiotic environment.](#)

Work with San Mateo County's Health System to conduct community workshops on healthy eating practices, and establish healthy guidelines for restaurants.

Create public events and outreach, such as a possible annual "Sustainable Food Fair" to promote local and healthy food.

Restaurants and stores will be required to use re-usable or compostable containers for to-go food. [Portion size should be reduced to limit food and container waste.](#)

[* A study of Ice House Hill should be conducted to determine whether it provides significant butterfly habitat. Habitat should be taken into consideration when evaluating the area's potential use for urban farming.](#)

6. SUSTAINABLE WATER

Our Baylands vision is that we manage water using best practice standards in water conservation, water efficiency, recycling and surface water management with an integrated system that achieves self-sufficiency, while enhancing wetlands with no damage to the surrounding water environment.

COMMON INTERNATIONAL TARGETS

Water efficiency and recycling must be promoted in line with country-specific best practice.

All facilities must provide access to safe potable water. Projects in areas of flood risk and sea-level rise should have an acceptable 100-year flood risk strategy.

CONTEXT

The Baylands is adjacent to the San Francisco Bay and most of it was historically part of the Bay. These low-lying areas are subject to flooding and damage from future sea-level rise. The proximity with the Bay is also of importance when considering the impacts of runoff from a site containing contaminated soil.

Brisbane receives its water and wastewater treatment services from the San Francisco Public Utilities Commission. There is currently no water allocated from the SFPUC for the Baylands project.

Water efficiency and recycling are top priorities. Because of the scarcity of fresh water, the recycling of wastewater and storm water is essential. The most effective means of achieving these targets is with an integrated system built-in to a new development. Wetlands can be incorporated into the waste and stormwater processing system. Lands that are adjacent to the sea or in bodies of water connected to the sea must not on the one hand send pollutants into the sea nor on the other hand fail to take precautions against the rise in sea levels anticipated from global climate change.

Water security in drought years is an issue throughout the Western U.S. Some arid areas of the county, such as Orange County in Southern California, treat wastewater using a reverse osmosis process, which produces drinking water. The standards to purify this water exceed all U.S. standards.

Organizations such as the Greywater Alliance are leading the effort to educate Bay Area local agencies and the public about the reuse of greywater as an integral part of water conservation. Legislative efforts are underway to expand the allowed use of greywater to single family homes and businesses, making safety controls achievable as in Arizona or New Mexico.

The cost of water has risen dramatically over the past decade in the State of California, and for the citizens of Brisbane. This increase is not just the result of increased demand, but also from the costs related to maintaining the infrastructure. In the Bay Area, sewage lines and treatment plants must be constructed to a size required to treat the inflow and infiltration of rainwater—often more than 50% of the peak winter flow.

The Visitacion-Guadalupe Valley Watershed moves water from San Bruno Mountain, McLaren Ridge and Bayview Hill to the San Francisco Bay. There are several watercourses that pass through the Baylands. Organizations such as the California Native Plant Society, the Watershed Project, and San Mateo County Parks have been instrumental in restoring waterways on San Bruno Mountain, around the lagoon, on site and in the PG&E marsh.

The California EPA and the State of California have strong wetland and bay protection standards under the National Pollution Discharge and Emissions Standards or NPDES. While the site has known soil contamination, the state and federal standards offer a standard for this aspect of environmental protection.

The collection of rainwater is a practice encouraged by the City of Brisbane, though it is only allowed under federal law in certain narrow instances.

SUMMARY APPROACH

The integrated water system planned for the Baylands should aim toward eventually reducing the need for imported fresh water to near zero. We will create a Water Balance investigating the optimal ways to use the four sources of water: rainwater, greywater, reclaimed water and municipal drinking water. It might be useful to investigate local sources of water such as springs and rainwater in combination with a recharge plan, but no extraction should endanger local groundwater or water flows required for the local habitat.

In our effort to use water in a more efficient manner and to establish greater local control over sewer treatment rates, we will investigate the construction of a local sewage treatment plant on site at the Baylands that would serve all of Brisbane. Whether sewage is treated on site or elsewhere, reclaimed water will be used for all non-food irrigation, commercial toilet flushing and other non-potable uses. Landscaping will follow the Bay Friendly Landscape Guidelines to promote water conservation, soil health and other environmental outcomes.

Water conservation will be integrated into all uses throughout the Baylands. An aggressive strategy for informing the public about water conservation will be implemented.

The restoration and expansion of Visitacion Creek will complement the existing wetlands of the Lagoon and will provide greater habitat for Bay species. Close collaboration with local organizations, which have missions to restore wetlands around San Bruno Mountain, will be a major part of the ecological strategy for the site.

Enhance stormwater quality and reduce impacts through the extensive use of surface flows in swales, by requiring vehicle washing areas drain to the sewer and prohibiting the use of

OSEC Specific Comment Version

synthetic man-made pesticides and herbicides, by creating large cohesive areas of open space for recharge, and by selecting native plants and grasses for flow areas.

Building water fixtures will beat the 1992 Energy Policy Act flow and flush rate requirements by a minimum of 50% when modeled using the method in the Leadership in Energy and Environmental Design's program for Building Design and Construction, also known as LEED BD+C.

Design and build water and sewer utilities to a seismic standard above current code.

Build to avoid major flood risk by keeping the lowest finished floor at least 1 foot above the 100-yr floodplain. [Consider that sea-level rise may render the historic 100-year floodplain obsolete.](#)

7. OPEN SPACE AND HABITAT

Our Baylands vision includes provisions for significant open space and open areas that enhance biological connectedness and habitat preservation.

COMMON INTERNATIONAL TARGETS

The development will make a net positive contribution to local native biodiversity and natural habitats. Any imperiled species must be identified and monitored as part of a local conservation plan. A site-specific action plan to maintain, enhance or revive valuable aspects of biodiversity and nature stocks must be prepared.

At least one opportunity must be identified to regenerate degraded local natural resource stocks (wetlands, lagoon, etc.) and a plan implemented. At least two programs should be showcased, one for biodiversity and one for natural resource stocks.

CONTEXT

The citizens of Brisbane have a strong reputation for being environmental stewards of the land around them. They've worked hard over the years to restrict development on San Bruno Mountain, and have invested funds to acquire open space, remove invasive plant species and enhance endangered butterfly habitat.

Brisbane was influential in creating the first Habitat Conversation Plan (HCP) in the country.

Brisbane's General Plan states that a minimum of 25% of the Baylands will be dedicated as open space/open area. The City submitted an "Alternative Plan" to UPC's specific plan to be analyzed in the EIR process, in which almost 50% of the land would be dedicated to open space/open area. The lagoon will not be counted toward any open space calculations.

Two of the project alternatives studied in the Environmental Impact Report ("Community Preferred," and "Renewable Energy") include a community formulated open space/open area, wetlands and riparian park.

Though surrounded by urban sprawl from neighboring cities, Brisbane still has a rural-like quality. Horses still graze on the slopes of Ice House Hill.

The Baylands is home to a variety of small and medium-sized animal species, [and includes important frog habitat](#). Occasional sightings of coyote and jackrabbits occur on and around the site. The annual Audubon Christmas bird count records an amazing amount of land and water bird species in the San Bruno Mountain, Baylands and Lagoon area, as the wetlands of the San Francisco Bay are on a major migratory bird pathway.

SUMMARY APPROACH

Brisbane's relationship with the natural environment is deeply rooted in respect, and it provides a strong sense of identity and pride for the City. One only needs to walk the neighborhoods and commercial areas to realize Brisbane's wonderful balance between development and nature. It is this balance that will be one of Brisbane's greatest gifts to the Baylands development.

Just as in other parts of Brisbane, recreational open space/open area should be easily accessible to anyone in the Baylands. A comprehensive trail system will connect with natural habitats and create a stronger bond between existing Brisbane and the Baylands.

There will be a diversity of trees and shrubs on the site with open spaces/areas planted with native species. The project will create restored wetland areas and research the potential for setting up a Restoration Zone with the State Fish and Wildlife Department. Butterfly and bee habitat will be fully integrated into the landscaping. A large number of native plants will be used throughout the project. Create a riparian zone to connect the existing wetland areas with each other, and use multiple means of connecting San Bruno Mountain to the Baylands.

[The Brisbane Baylands project provides a unique opportunity to employ constructed wetlands to replicate the function of natural wetlands and filter pollutants. Constructed wetlands and bioremediation would not only serve to treat wastewater and minimize additional contamination, but could markedly improve the quality of the land and water in the lagoon and bay.](#)

Establishing a larger natural pathway to connect open space on San Bruno Mountain with open space/open area in the Baylands could provide an opportunity to better manage the natural habitat of the overall area for animal movement and the control of invasive plants. The Baylands will financially support the development of an expanded natural pathway and regional habitat management and restoration.

One of the biggest challenges to achieving open space connectivity is the commuter railway line that divides the site into Eastern and Western sections. Creating “green” bridges [and tunnels](#) to allow trail users and wildlife to safely cross the tracks will be implemented.

The local eco-system could be enhanced with the use of bio-swales to slow down stormwater runoff and treat it for pollutants while creating habitat for local plant and animal species. Controlling light pollution is another important objective as it has deleterious effects on both humans and animals.

The final project plan will incorporate major elements from the [renewable energy alternative, as well as the](#) publicly preferred alternative, called “Community Preferred” in the Draft Environmental Impact Report, including a community formulated plan for open space/open area, wetlands and riparian park. This plan elaborates on the City’s adopted Open Space Plan.

Brisbane has a strong record of purchasing property to be dedicated as open space. Continued efforts should be made to create funding mechanisms to purchase property on the slopes of San Bruno Mountain to increase protected habitat area.

OSEC Specific Comment Version

Conduct a study on Ice House Hill to determine the significance of butterfly habitat for the endangered Mission Blue and Callippe Silverspot butterflies.* If significant habitat exists, explore the possibilities of expanding the San Bruno Mountain HCP to portions of the Baylands.

Collaborate with members of the community and environmental groups that are already working to improve local habitat preservation. Seek out native plant nurseries, and enhance the capabilities of the Mission Blue Nursery to provide greater biodiversity for local seed stock.

* When evaluating Ice House Hill for protected butterfly habitat, consideration should also be given to the area's potential for food production.

8. CULTURE AND HERITAGE

Our Baylands vision is one where a culture of sustainability, small-town community values, respect for local history and a sense of place is nurtured.

COMMON INTERNATIONAL TARGETS

A site-specific action plan to maintain, enhance or revive valuable aspects of local culture and heritage (everything from local buildings to natural history) must be produced. At least two areas should be showcased.

CONTEXT

Brisbane prides itself for being an environmentally aware community. Because of the [community](#) leadership of Brisbane, most of San Bruno Mountain is preserved as permanent open space. The citizens of Brisbane manifest a high degree of civic pride and community identity. They strongly support open space, education and the arts.

[The history of the Ohlone people is integral to Brisbane's geography, culture, and heritage. Shell mounds remain as relics of the first inhabitants who used the plant life of the mountain and bay for food, fiber, and medicine.](#)

The Baylands were water and marshland up until 1900, after which the chief uses became a railyard and landfill for San Francisco. The first filling took place very early in the 1900's, with a straight berm carrying two rail lines between Visitacion Point (now called Ice House Hill) and the southern entrance to "Tunnel 4" which went underground near Candlestick Point. Tailings from the tunnel and the cut through Visitacion Point provided material for the fill. The rail line opened in the fall of 1908, making a higher speed rail connection between San Jose and San Francisco, saving five miles and twenty minutes from the original route, which was to the west of San Bruno Mountain. To the west of the line, a railyard and shops were built and in operation by 1917. There, Southern Pacific employees performed maintenance and heavy industrial rebuilding of engines, passenger and freight cars, as well as sorting incoming and outgoing railcars. It was one of the busiest terminals in the Southern Pacific Railroad system, employing as many as 4,000 skilled workers consisting of machinists, welders, carpenters, pipe fitters, engineers and brakemen. Reuse of materials was typical practice for the railroad.

Starting in 1906, the open water east of the rail yard site was filled with debris and garbage from San Francisco, much of it from the 1906 earthquake. Fill was dumped directly into the bay and onto bay mud. Early pictures from 1930's show the landfill starting in the north with semicircular railroad tracks to facilitate dumping. Later photos in the 1950's show the same pattern, and the Bayshore Freeway (Highway 101) opened along the eastern edge of the landfill.

The waste disposal site caused much anger and discontent from the citizens of Brisbane, and many protests were conducted to have it closed. Landfill operations ended in the 1960's and the railyard was abandoned in 1982. Both uses left the land contaminated. Since its closure, the landfill area has been surcharged with presumably clean soil from several debris recycling operations on site.

SUMMARY APPROACH

One of the most important components of a complex and sustainable culture is that it is a living culture. The present actively connects the past to the future. Some legacies of the past will be showcased and built upon in the nucleus of culture in the Baylands.

The Roundhouse, with its historic brick structure linking the present to the Baylands' railyard past, could highlight a railroad museum, a farmers' market, public art, exhibitions, or an education and entertainment center. The Roundhouse could be the social hub of the Baylands.

Another area to showcase is the City's relationship with the landfill. It will be an informative journey to explore the history, the confrontations, and the healing of the land. Since the Baylands was previously part of the Bay, the history of the early indifference to the consequences of filling the Bay to the present awareness of its ecological importance should be taught.

The Baylands should be designed to emphasize the connection between San Bruno Mountain and San Francisco Bay, utilizing the natural watershed as well as a connecting trail network. Informative signs throughout the trail network can help people understand the transformation of the land beneath their feet.

Though small town Brisbane cannot be duplicated in the Baylands, the Community's values will be woven throughout the development.

9. ECONOMIC VITALITY WITH EQUITY AND ECOLOGY

Our Baylands vision is one where a thriving, diverse and resilient locally oriented economy supports equity in employment, green business products and practices, socially responsible business behavior, and ecologically based measures of performance.

COMMON INTERNATIONAL TARGETS

One Planet Communities are expected to create a social environment where business, nature, and daily life are in harmony with each other. The three dimensions of sustainability - ecological economics, social equity, and the environment - are woven into every decision regarding the infrastructure, types of approved uses, building sites, and open space/areas. Sustainable economics replaces short-term market valuations that often support destructive behavior. The welfare of disadvantaged people, whether on site or elsewhere should not only be improved, but also should have a vested interest in the sustainability goals set forth by the City of Brisbane.

Targets must be set to boost the local economy, notably in disadvantaged areas, and equity and fair trade standards must be identified. At least two case studies should be showcased.

CONTEXT

The San Francisco Bay Area is recognized throughout the world as a beacon of creativity and innovation, with an abundance of businesses that offer jobs with good pay and benefits. Many of them have also been recognized in the areas of ethnic diversity, gender equality, and giving back to their communities. The region also boasts of the largest number of public benefit corporations in the world.

Located between San Francisco and the northern portion of Silicon Valley, the Baylands is well positioned to accommodate a variety of businesses, especially those that take their green responsibilities seriously. Since the Baylands is mostly an undeveloped site, it offers a once-in-a-lifetime opportunity for planning and implementing state-of-the-art sustainable infrastructure.

With respect to fair trade practices, the region is a leader. Cities such as Berkeley and San Francisco have become “fair trade cities,” bringing local awareness to securing justice and equity for producers, artisans, farmers and workers in developing countries.

Though the area thrives in creating economic opportunity, there are many individuals who do not possess the skills necessary to be hired for these jobs. Our society has many individuals who work jobs that do not require a college education, but their labor is still valuable to the community.

Like so many places in and around the San Francisco Bay Area, San Mateo County has high housing costs that are unaffordable to many working class people. Combined with a high percentage of single-family homes in the existing housing stock, there is a shortage of affordable housing.

There will be tremendous pressure by the State to make Brisbane implement housing as an approved use in the Baylands because of the transit/housing focus in recently approved State legislation (SB 375 - Sustainable Communities). Funding assistance for infrastructure projects will be tied to transit oriented mixed-use development.

Brisbane's General Plan prohibits housing in the Baylands. Many residents believe that housing in the contaminated Baylands would not be safe. [The Open Space and Ecology Committee is extremely concerned about the toxicity of the site, and the threat posed to workers and potentially to residents who would be unjustly exposed to serious health risks.](#) Other residents argue that there will be ample housing in the new developments planned across the border in San Francisco for those working in the Baylands who wish to live nearby. However, it is not clear how much of that housing will be affordable, especially with the recent demise of redevelopment agencies and their support for affordable housing.

SUMMARY APPROACH

The Baylands project is expected to bring thousands of jobs to Brisbane, and will be a showcase of a sustainable economy [that provides socially and environmentally useful goods and services.](#) The infrastructure planning and construction will incorporate sustainability principles across the board, so that economic vitality with equity and ecology becomes the way business is done. To do this, an ecological perspective must inform the planning, construction, operation, and evaluation of the development over its lifetime.

At the heart of our approach is an acknowledgement of the tension between short-term and long-term decision-making. For-profit organizations often focus on meeting short-term financial targets rather than long-term economic development. The public interest perspective focuses on the long-term effects of making irreversible impacts to land, air quality, the Bay and our community's health and well-being. While both ways of thinking co-exist, the concerns of sustainability require that we introduce long-term decision-making into the for-profit process.

A tool for helping make decisions with long-term benefits is called "Life Cycle Cost Analysis (LCCA)," and is widely recognized by the State of California. A truly energy efficient building that is powered by renewables is not only much less costly to operate over its lifetime, a substantial benefit for its occupant, but it also emits few if any greenhouse gases, a major benefit for society. Less pollution and less contribution to climate change are certainly major public benefits.

The Baylands will design the business areas to best support local, small, and public benefit companies. These companies will be given priority in leasing and purchase.

The question of whether housing will be allowed as part of the Baylands development has important impacts on sustainability and the approach to creating an economic plan. The Baylands is currently zoned for commercial and industrial uses in the City's General Plan, and citizens have expressed strong concerns about changing the zoning to allow housing because of soil contamination and a distrust that remediation would render the site safe for people living there.

Because the developer has requested a General Plan change to allow housing, this issue is being studied in the Draft Environmental Impact Report. It will explore the sufficiency of the proposed remediation and also the potential benefits of including housing, such as reducing traffic and helping create a strong Baylands community. OSEC notes that there is no consensus on what constitutes "sufficient" remediation, as government standards and regulations are woefully inadequate. The site is unsuitable for housing as it is highly contaminated and will require complex, expensive, and ongoing monitoring and maintenance.

If housing is allowed, it may be appropriate to emphasize alternative forms of housing for the Baylands that address the needs of seniors, students, artists, and those wanting to live in "community-based" live-work environments. By looking at housing from the view of what is needed, and then structuring it in a way that is affordable, community focused, safe, and sustainable, it may be possible to provide living opportunities that are compatible with existing residents in Brisbane. However, the residents of Brisbane will make that determination.

Development works best when the needs of individuals and corporations are compatible with each other. The maintaining of a sustainable sense of place is the responsibility of all, and thus financial mechanisms need to be created so that social benefits such as art, health, nature, legal and spiritual, thrive in perpetuity for all Brisbane citizens and workers.

By creating this type of economic paradigm, we'll create greater awareness of the earth's resources, the working and social conditions of people, the life cycle of the products we use, and the connectivity that truly binds us all together. Opportunities for a diverse, creative and robust development, supported by residents, workers and businesses can only be achieved through the empowerment of all.

The more locally owned small businesses located on the site, the better. A program should be established that attracts businesses that understand the value and benefits of green practices and being a part of a truly sustainable development.

We believe that a sustainable project that is properly designed costs no more to build than a conventional, unsustainable project, and that it is significantly less costly to operate over time.

Social equity can also be measured by quantitative ecological measures, such as living incomes and adequate health insurance. Employers should be encouraged to provide fair wages and benefits. Employers who have bad records in these respects should be discouraged from locating in Brisbane. Employment spaces should be safe and work enhancing. Green certification with existing third-party programs should be the objective of all businesses in the Baylands.

OSEC Specific Comment Version

The Baylands should be a model of sustainability. That can only happen if an ecological perspective informs the planning, construction, operation, and evaluation of the development over its lifetime. Conventional economics and financing should not be allowed to undermine the attainment of long-term sustainable development.

Much can be learned about fair trade resolutions from San Francisco and Berkeley, as well as from organizations such as "Fair Trade Towns USA."

10. HEALTH, SAFETY AND HAPPINESS

Our Baylands vision is to create a future where it is easy, attractive and affordable for people to lead happy, safe and healthy lives within a fair share of the earth's resources.

COMMON INTERNATIONAL TARGETS

A plan for promoting health, safety and happiness for all who engage the Baylands must be created, building on emerging findings from happiness research. Satisfaction levels and concerns must be regularly monitored and evaluated. The feasibility of adopting UN standards for health, security and environmental quality should be explored. At least two examples of strategies to promote health and happiness must be showcased.

CONTEXT

The Baylands is a brownfield site, comprised of a former Southern Pacific Railyard and San Francisco's municipal landfill. During the past couple of decades, extensive remediation efforts have taken place to reduce the exposure levels of the contamination that is found throughout the site.

[The Open Space and Ecology Committee recommends that the Baylands be showcased as a demonstration site for bioremediation, the process of harnessing micro-organisms to metabolize and remove some pollutants in contaminated soil or groundwater. A study should be conducted to evaluate the potential for bioremediation in the Baylands. The project offers the opportunity to employ constructed wetlands to treat wastewater, to improve the quality of water in the bay and lagoon, and to begin to redress the historical damage that has been done to the site.](#)

The concern over contamination exposure is one of the main reasons why the citizens of Brisbane have stated in their General Plan to prohibit housing as a use in the Baylands. In 2006, the Brisbane Baylands Community Advisory Group (BBCAG) was formed, so that citizens could engage the agencies that will ultimately be responsible for approving a mitigation plan for dealing with the contamination found at the site. The agencies assigned to the site are the Department of Toxic Substances Control and the Regional Water Quality Control Board.

In an effort to provide an independent analysis of the contamination found at the site, the BBCAG enlisted the help of Dr. Fred Lee. Dr. Lee gave a Baylands remediation presentation to the Community in 2010, and also provided a report that gave an assessment of the *"adequacy of past studies of the pollutants in soil, water, and gaseous releases, to adequately define the presence and public health/environmental quality implications of potentially hazardous chemicals in each of the major areas of the UPC Brisbane Baylands area..."*

Without proper understanding of the contamination that exists at the site, and an adequate plan to remediate and monitor this contamination, Health, Safety and Happiness cannot be achieved with a clear conscience. The need for an experienced, citizen respected, independent remediation firm to act as peer review for the City is critical to the success of this development.

The Baylands has the potential to provide opportunities for people to be engaged and empowered, whether they are an employee, consumer, student, or if allowed, resident.

San Mateo County and Brisbane are known for their high quality lifestyles, yet with the high cost of housing and transportation, many residents have less time for leisure activities. The Baylands creates an opportunity to enjoy leisure every day with a walk to nearby restaurants, cafés, services, entertainment, as well as recreational opportunities and open space.

The United States spends more money on health care than any country in the world, but the high cost of coverage has left many Americans uninsured, which has resulted in thousands of unnecessary deaths. Many of these deaths were caused by not having access to basic medical advice and observation, where preventive measures could have been implemented before terminal medical conditions took hold. Local universities such as San Francisco State University, have a Student Health Service that provides basic care for acute and chronic problems, promotes health awareness, educates students about preventive care, disease management and therapeutic choices, and helps students develop the skills to manage their own health.

SUMMARY APPROACH

Dr. G. Fred Lee's report will be used to better understand regulator's recommendations for testing, remediation, and monitoring the contamination that exists at the Baylands. An independent peer review will assist the City in understanding the mitigation findings that will be presented by the agencies.

Community meetings will be used to get input on what works and what doesn't work and what the larger community would like to see happen at the Baylands. We will use *play* and *fun* to generate ideas and seek to keep a light heartedness when evaluating our success.

The San Mateo County Health System could play a major role in helping the Community to adopt health standards to the uses it feels should be implemented at the Baylands. The possibilities of providing basic healthcare for Brisbane residents and workers that is supported by an increase in sales tax or other funding mechanism, such as the one provided by San Francisco State University for its students, should be explored.

The Baylands development should enhance the standard of living that currently exists in Brisbane. The Baylands should be a destination, a source of pride and engagement for the Community, rather than just a location on the outskirts of town.

A pedestrian friendly design will encourage walking, with the majority of buildings located within ½ mile of the Multi-Modal Station.

OSEC Specific Comment Version

The natural beauty of the area will be enhanced by complementary architecture, community gardens and comfortable public spaces for community activities.

The Baylands should bring out the best a society has to offer by providing a variety of job skill opportunities with living wages, ample opportunities for recreation and leisure within the open space and open areas, ensure that the health and safety for all who engage it is never compromised, and if allowed, provide affordable and community oriented housing.