

COASTAL CONSERVANCY

Staff Recommendation  
October 3, 2013

**LIVING LAB CONSTRUCTION**

Project No. 10-007-02  
Project Manager: Christopher Kroll

**RECOMMENDED ACTION:** Authorization to disburse up to \$750,000 to the Ocean Discovery Institute for costs related to completion of final design and construction of the Living Lab environmental education center in the City of San Diego.

**LOCATION:** City Heights, San Diego, San Diego County

**PROGRAM CATEGORY:** Coastal and Marine Resources

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**EXHIBITS**

- Exhibit 1: [Project Location and Site Map](#)
  - Exhibit 2: [City Heights Schoolshed](#)
  - Exhibit 3: [Living Lab Photos](#)
  - Exhibit 4: [Conceptual Drawings](#)
  - Exhibit 5: [Aerial View of Site](#)
  - Exhibit 6: [Project Letters](#)
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**RESOLUTION AND FINDINGS:**

Staff recommends that the State Coastal Conservancy adopt the following resolution pursuant to Section 31220 of the Public Resources Code:

“The State Coastal Conservancy hereby authorizes disbursement of an amount not to exceed seven hundred and fifty thousand dollars (\$750,000) to the Ocean Discovery Institute for costs related to final design and construction of the Living Lab, an environmental education center.

Prior to disbursement of Conservancy funds, Ocean Discovery Institute shall submit for the review and written approval of the Conservancy’s Executive Officer:

1. A detailed work program, including budget and schedule.
  2. The names and qualifications of any contractors to be employed on the project.
  3. A sign plan to acknowledge Conservancy funding for the project.
  4. A monitoring and evaluation component for the project.
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5. Evidence that all required permits have been secured.”

Staff further recommends that the Conservancy adopt the following findings:

“Based on the accompanying staff report and attached exhibits, the State Coastal Conservancy hereby finds that:

1. The proposed authorization is consistent with Chapter 5.5 of Division 21 of the Public Resources Code, regarding the protection of coastal and marine resources.
2. The proposed project is consistent with the current Conservancy Project Selection Criteria and Guidelines.
3. Ocean Discovery Institute is a nonprofit organization existing under section 501(c)(3) of the Internal Revenue Service, and whose purposes are consistent with Division 21 of the Public Resources Code.”

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**PROJECT SUMMARY:**

Staff is recommending that the Conservancy authorize a grant of up to \$750,000 to the Ocean Discovery Institute (“Ocean Discovery”) towards completion of final design and construction of the Living Lab. The Living Lab will be an 11,737 square foot environmental science educational center with 35,000 square feet of outdoor educational area (watershed plaza, roof garden, vegetable garden, courtyard, watershed play area) in the City Heights neighborhood of San Diego (Exhibit 1). The lab will be the headquarters for Ocean Discovery’s ongoing education, scientific research, and environmental stewardship programs.

Ocean Discovery Institute was created 14 years ago with the vision of using San Diego’s natural environments as a means to engage young people from underserved communities and inspire them to become tomorrow’s scientific and environmental leaders. Ocean Discovery has focused its programs on the City Heights neighborhood, north east of downtown San Diego (Exhibit 1). Ocean Discovery oversees a series of initiatives that incorporate education, scientific research, and environmental stewardship to achieve its goal of preparing young people from the local community to pursue careers in science. Currently these initiatives reach more than 6,000 low-income students and community members each year. All of Ocean Discovery’s programming is provided tuition-free. By 2016 Ocean Discovery expects to expand its programs to reach more than 20,000 youth per year by working with all 13 public schools in City Heights and by significantly expanding its programming for neighborhood families. The Living Lab is central to Ocean Discovery’s plan to reach that goal.

Ocean Discovery runs a number of tuition-free programs to engage youth in science. The Ocean Science Explorers program is a school-based educational initiative for students and teachers from the third through sixth grades. All curricula are grade level specific and aligned with national and California state science standards. Over the course of two months, students participate in hands-on science education activities, a field exploration of an outdoor laboratory, and a locally-based environmental service project. Evaluations of Ocean Science Explorers show that students increase their scores on state standardized science tests by an average of 12%.

The Ocean Leaders program is a series of interconnected after-school and summer programs and support services for middle school, high school, and college-age youth. This initiative offers a

pathway for underrepresented students to progress from secondary school through college to science and conservation careers. Evaluations of Ocean Leaders have shown that participants demonstrate a 3.12 science GPA as compared to a 2.07 science GPA among their peers. Participants are also far more likely to attend four-year universities, 80% as compared with less than 30% of students from the same high schools, and once at universities, 73% are majoring in science and conservation fields.

Finally, Ocean Discovery has engaged more than 15,400 community volunteers in hands-on environmental stewardship projects. Four canyons, located within City Heights, provide open space in this park-poor inner city neighborhood and also act as educational tools to introduce science and environmental stewardship to the area's children in their own community. The programs develop awareness of the canyons' natural setting and connection to the larger watershed and the ocean. Environmental restoration projects help improve the habitat values of the canyons and increase the open space area available to the community through the development of new trails through the canyons. These projects are helping transform the canyons from dangerous places to be avoided or ignored to highly valued and used natural places at the center of the community.

The Living Lab will allow Ocean Discovery to expand its programs to serve a much larger population of youth from the City Heights neighborhood of San Diego and the greater public (Exhibit 2). The Living Lab has been designed as a regional center and is intended to host over 20,000 students and other visitors each year in ocean science education, scientific research, and environmental stewardship. In addition, the Living Lab will be open to the public and is expected to attract visitors from across the region (Exhibit 3). The project is designed to achieve a Leadership in Energy and Environmental Design (LEED) Platinum certification and will strive to meet the Green Building Council's Living Building Challenge, a green building certification program that requires the most advanced measure of sustainability in the built environment possible today. The project will showcase sustainability and how it can be replicated in homes and work places. Consistent with the goal of improving the habitat values of the City Heights canyons, Ocean Discovery intends to restore native plant communities on the project site itself. In addition, Ocean Discovery has entered into a license agreement with the City of San Diego allowing Ocean Discovery to facilitate programs and restoration in Manzanita Canyon, the canyon adjacent to the Living Lab site.

The design of the Living Lab captures the four basic elements of a watershed (biosphere, lithosphere, hydrosphere, and atmosphere) to guide the form and function of the building and landscaping (Exhibit 4). The project represents a metaphorical model of the watershed that is intended to develop a sense of place and connectivity to the ocean and the region in visitors. The lab will include self-guided, interactive experiences, state-of-the-art laboratories, and community spaces for classes, gatherings, and special events.

The recommended authorization would provide funds to Ocean Discovery towards completion of final design and construction of the Living Lab project. To date, \$3,537,150 has been contributed which has gone to support early development of the Living Lab project from conception through the permitting phase. The remaining project budget is just over \$10,500,000 to complete design, construction, and to furnish the facility with technology and science equipment. The Living Lab will be open to the public in January of 2016.

**Site Description:** The project site is located adjacent to Manzanita Canyon in the City Heights neighborhood of the City of San Diego (Exhibits 4 and 5). City Heights is located in the Chollas Creek subwatershed of the Pueblo San Diego watershed which drains to San Diego Bay. It is one of the more densely populated areas of the City of San Diego with a population of nearly 80,000. It is also one of the most diverse neighborhoods in the city with over 30 languages spoken. The community is predominantly low-income (38% of the population is living below the poverty line) and more than 99% of neighborhood children are eligible for federal free lunch programs.

Manzanita Canyon is a 30-acre degraded urban canyon that is plagued by illegal dumping, invasive non-native vegetation, storm water pollution, erosion, and fires. A portion of the canyon has been designated by the City as open space and is included in the Multiple Species Conservation Program (“MSCP”). The MSCP is a program of the County of San Diego to maintain and enhance biological diversity in the region and protect endangered, threatened, and key sensitive species and their habitats. The canyon supports coastal sage scrub and riparian habitat.

The project site is located on two residential lots across the street from an elementary school and nine other public schools are located within a mile of the property.

**Project History:** Ocean Discovery Institute staff, board members and students developed a vision plan for the Living Lab in 2007. Since that time, Ocean Discovery has located a project site, purchased the property, investigated existing models for the facility, hosted 30 community forums to discuss the project and get input from the neighborhood, developed conceptual and schematic designs, and initiated a capital campaign to raise funds for construction of the Living Lab. Ocean Discovery has secured significant funding from the San Diego Unified School District for construction of the facility.

As discussed above, Ocean Discovery has been running its programs in San Diego for more than a decade. In 2002, the Conservancy provided a \$33,000 grant to support Ocean Discovery’s environmental education programs. In 2010, the Conservancy approved a \$250,000 grant to Ocean Discovery for final design, engineering, and pre-construction planning related to the construction of the Living Lab.

## PROJECT FINANCING

<b>Coastal Conservancy</b>	\$750,000
San Diego Unified School District	\$8,000,000
California Department of Parks and Recreation	\$1,300,000
Private Donations	<u>\$497,731</u>
<b>Project Total</b>	<b>\$10,547,731</b>

The expected source for the Conservancy funds for this project is an appropriation to the Conservancy from the Safe Drinking Water, Water Quality and Supply, Flood Control, River and Coastal Protection Bond Act of 2006 (Proposition 84). Proposition 84 authorizes the use of bond funds for projects that promote access to and enjoyment of coastal resources (Public Resources

Code Section 75060). As discussed in the project summary, the Conservancy's grant would fund construction-related costs for a marine environmental education center that will improve the regional community's understanding and enjoyment of natural coastal resources. Thus, consistent with the purposes of this funding source, the proposed project would be funded by the Conservancy pursuant to Division 21 of the Public Resources Code and would promote access to and enjoyment of the coastal resources of the state.

This funding source may be used for the protection of San Diego Bay and adjacent watersheds (Section 75060(f)). Public Resources Code Section 75072.6 states that the term "San Diego Bay and adjacent watersheds" includes "the coastal and bay watersheds within San Diego County." The Pueblo San Diego watershed drains to San Diego Bay.

#### **CONSISTENCY WITH CONSERVANCY'S ENABLING LEGISLATION:**

The proposed project will be undertaken pursuant to Chapter 5.5 of Division 21 of the Public Resources Code (Sections 31220) relating to the protection of coastal and marine resources. This project is consistent with Public Resources Code Section 31220(b)(9), which allows the Conservancy to provide grants for the construction or expansion of nature centers or research facilities that emphasize conservation education or research activities focusing on the marine portion of the coastal zone or the land and ocean interface. Ocean Discovery Institute is a 501(c)(3) nonprofit organization that is developing the Living Lab as a regional center to educate visitors about the nature of urban watersheds and their interface with the coastal and marine environment. The educational curriculum of the center will focus on ocean science education, scientific research, and environmental stewardship. Finally, as required by subsection (c) of Section 31220, as a condition of grant funding, Ocean Discovery Institute will be required to develop a monitoring and evaluation component for the project. This monitoring and evaluation component will be incorporated into the work program required by the grant agreement. Subsection (c) also requires compliance with various water-related plans, where those plans are relevant and available. See the "Consistency with Local Watershed Management Plan/ State Water Quality Control Plan" section, below, for that discussion.

#### **CONSISTENCY WITH CONSERVANCY'S 2013 STRATEGIC PLAN GOAL(S) & OBJECTIVE(S):**

Consistent with **Goal 9, Objective 9B** of the Conservancy's 2013-2018 Strategic Plan, the proposed project will support the design and installation of interpretive and educational displays and exhibits related to coastal, watershed and ocean-resource education.

Consistent with **Goal 9, Objective 9C** of the Conservancy's 2013-2018 Strategic Plan, the proposed project will support the construction of a regional environmental education center that will educate the public about environmental issues affecting the coast and inland watersheds.

#### **CONSISTENCY WITH CONSERVANCY'S PROJECT SELECTION CRITERIA & GUIDELINES:**

The proposed project is consistent with the Conservancy's Project Selection Criteria and Guidelines, last updated on November 10, 2011, in the following respects:

### **Required Criteria**

1. **Promotion of the Conservancy’s statutory programs and purposes:** See the “Consistency with Conservancy’s Enabling Legislation” section above.
2. **Consistency with purposes of the funding source:** See the “Project Financing” section above.
3. **Support of the public:** The proposed project is strongly supported by the local community surrounding the project site, community groups, and elected officials. Individual donors have already committed almost \$500,000 to the construction phase of the project. Project letters are included in Exhibit 6.
4. **Location:** The proposed project is located in the Chollas Creek watershed, a subwatershed of the Pueblo San Diego watershed. The Pueblo San Diego watershed is a coastal watershed partly within and partly outside the coastal zone. The Living Lab, though not located in the coastal zone, will provide environmental education and scientific research that will benefit coastal and ocean resources and focus on the land and ocean interface.
5. **Need:** Ocean Discovery has secured funding from several sources for the construction of the Living Lab but is still short of the total funds needed to complete construction. Approval of the funding request would fill that funding gap.
6. **Greater-than-local interest:** The Living Lab has been designed as a regional center and is intended to host over 20,000 students and members of the general public in ocean science education, scientific research, and environmental stewardship. Visitors and program participants will come from local underserved communities and from the larger region.
7. **Sea level rise vulnerability:** The proposed project will be located at the top of a canyon three miles inland of San Diego Bay in an area not considered vulnerable to future sea level rise.

### **Additional Criteria**

8. **Leverage:** See the “Project Financing” section above. Conservancy funding would leverage both private and government funding already secured for the project.
9. **Innovation:** The design concept of the Living Lab uses the four basic elements of a watershed (biosphere, lithosphere, hydrosphere, and atmosphere) to guide the form and function of the building. The building will represent a metaphorical model of the watershed intended to develop in visitors a sense of place and connectivity to the ocean and the region. The design is intended to meet the Green Building Council’s Living Building Challenge 2.0 certification and will demonstrate how sustainable design can be replicated in homes and work places.
10. **Readiness:** Ocean Discovery has secured almost all the needed funding to construct the Living Lab and is ready to begin the final design process, site preparation and construction of the facility.
11. **Cooperation:** Both public and private sector entities and individuals continue to contribute financially to the project and both public and private sector individuals have donated their time to serve on the Capital Campaign Planning Committee or the Design and Construction Committee.

12. **Vulnerability from climate change impacts other than sea level rise:** The project site may be vulnerable to climate change impacts including the heat island effect, increased fire risk, and habitat loss. The project will reduce these risks by creating and restoring native habitat on the project site. Increased areas of native habitat can decrease heat and fire risk and improve biodiversity.
13. **Minimization of greenhouse gas emissions:** The project will incorporate project design elements, construction techniques, and maintenance practices to reduce greenhouse gas emissions. For example, the Living Lab will utilize natural daylight and ventilation, solar panels, green roofs, greywater treatment systems, rainwater collection systems, and composting. In addition, the project will strive to use local materials and labor during construction. The project will minimize car trips to the site as it is located within a densely populated community, within walking distance of 12 public schools and accessible by public transportation.

#### **CONSISTENCY WITH LOCAL WATERSHED MANAGEMENT PLAN/ STATE WATER QUALITY CONTROL PLAN:**

Projects undertaken pursuant to Chapter 5.5 of the Public Resources Code (Section 31220) must be consistent with the following, if available and relevant: Integrated Watershed Management Programs; local watershed management plans, and water quality control plans adopted by the state and regional water boards. The San Diego Water Quality Control Board's Basin Plan was completed in 1994 and includes designated beneficial uses for specific inland surface waters, including Chollas Creek. Beneficial uses are one of the bases of water quality protection under the Basin Plan as water quality objectives are established in response to the designation of beneficial uses. Two of the designated beneficial uses for Chollas Creek are 1) warm freshwater habitat (preservation or enhancement of aquatic habitats, vegetation, fish or wildlife) and 2) wildlife habitat (preservation and enhancement of terrestrial habitats, vegetation, wildlife or wildlife water and food sources). The proposed project is consistent with the goals of the Basin Plan to enhance aquatic and terrestrial habitats by planning for the removal of non-native vegetation from the project site and revegetating the area with appropriate native plant species. In addition, the facility will be designed and constructed to minimize impacts to Manzanita Canyon by capturing all runoff on-site.

The Chollas Creek Enhancement Program was adopted by the City of San Diego on April 30, 2002 and has the following design/development guidelines that are applicable to this project:

##### Interpretive Centers

Interpretive Centers should be constructed intermittently along the creek...

##### Educational Resources

In order to foster a relationship between Chollas Creek and surrounding schools, a number of educational resources should be constructed along the creek. These should be planned in conjunction with school sites located near the creek.

### Educational Facilities

The creation of hands-on learning opportunities is something which is widely needed along the creek corridor. Facilities such as science laboratories and water quality monitoring stations, would allow teachers to bring their students to the creek for firsthand educational experiences.

### Vegetate Upland Areas to Complement Creek Habitat

Upland vegetation areas outside the creek bed should be designed to supplement creek bed vegetation and present an enhanced park-like entry into the creek bed...

### Maintain Natural Drainage Patterns

Natural drainage should be maintained by: preserving slopes and soil elevation to maintain natural runoff patterns; maintaining soil composition that allows natural water filtration; and carefully assessing appropriate ground cover and new soil import to assure that the natural runoff and drainage patterns are not changed.

### Maintain and Enhance Water Quality

Maintain and enhance the creek's filtering function, if at all possible, by maintaining natural soils. If grading is necessary, replace with new soils and ground cover that will maintain and enhance the water quality. Sandy soils, porous soils, and plant materials that provide cleansing action should be used to restore disturbed areas.

### Control Erosion

Prior to any grading or changes in topography, an analysis should be made of erosion-related issues through an evaluation of new soils or surfaces applied, projected water velocity, vegetation impacts on the slowing down of water, and siltation conditions. Water deceleration structures and erosion control structures may need to be considered where high erosion levels are identified

The proposed project will be an environmental education center consistent with the guidelines regarding interpretive centers, educational resources and educational facilities. The proposed project will remove non-native vegetation and plant appropriate native vegetation on the project site consistent with the upland areas guideline. In addition, the design of the Living Lab will incorporate best management practices to ensure that natural drainage patterns and water quality are maintained (and enhanced, if possible) and no erosion problems are created as a result of the project.

## **COMPLIANCE WITH CEQA:**

On April 8, 2013, the City of San Diego, as the lead agency under the California Environmental Quality Act (CEQA), determined that the project is categorically exempt from the provisions of CEQA under 14 Cal. Code of Regulations Section 15332, the exemption for infill development. To qualify for this exemption, a project must: (a) be consistent with general plan and zoning rules; (b) occur within city limits on a project site of no more than five acres substantially surrounded by urban uses; (c) be on a site with no habitat value for endangered, rare, or

threatened species; (d) not result in any significant effects relating to traffic, noise, air quality, or water quality; and (e) be on a site adequately served by utilities and public services.

The urban infill exemption applies to this project because the project would occur within the City of San Diego and it is consistent with all applicable zoning and general plans. The project site is less than five acres and is surrounded by urban uses, and the site is adequately served by utilities and public services. The project site does not contain any habitat for endangered, rare or threatened species. Finally, the project will not result in any significant impacts to traffic, noise, air quality, or water quality. City and Conservancy staff based this conclusion regarding lack of significant impact on several technical reports prepared by Ocean Discovery at the request of the City. The technical reports cover issues including biology, air quality, noise, greenhouse gas emissions, archaeology and historical resources.

Upon approval of the project, staff will file a Notice of Exemption.