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# NEWPORT BEACH

## PB&R Commission Staff Report

Item **VI-A**  
December 4, 2018

**TO:** Parks, Beaches & Recreation Commission

**PREPARED BY:** Public Works Department  
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**TITLE:** Big Canyon Nature Park Improvement – Phase 2A Concept Plan Review

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### **RECOMMENDATION:**

Staff recommends that the PB&R Commission review and comment on the Concept Plan, and recommend advancing the Project to City Council.

### **DISCUSSION:**

The proposed project will restore and improve nine acres in the center of the Big Canyon Nature Park (shown by the dashed yellow line in attached Figure 1). The proposed project includes: (1) creek improvements, (2) replacement of invasive trees and vegetation with native trees and plants, (3) measures to deal with a pervasive infestation of the Polyphagous Shothole Borer (PSHB), and (4) public access improvements and informational signage.

#### **Proposed Creek Improvements**

For eroded areas adjacent to the stream channel, the project will implement measures to stabilize the streambed and stream banks. Some reaches of the creek will be regraded to create positive continuous flow where water is currently ponding. Stream banks higher than two feet will be contoured back at a gentle slope to intercept the existing valley floor not more than 30 feet either side of the channel. Improved connectivity between the channel and floodplain will provide improved habitat for benthic communities and species that use these communities as a food source. Excavated material will be reused elsewhere on site as fill.

#### **Proposed Replacement of Invasive Trees and Plants**

Figure 2 shows the proposed revegetation plan that creates a mosaic of woody and herbaceous riparian vegetation along the creek corridor, alkaline wet and drought tolerant meadow communities adjacent to the riparian corridor, and coastal sage scrub transitional habitat at higher elevations. The plant palates for these habitats will be resilient to the high salinity soils that dominant the project area.

The proposed project will remove 6.3 acres of invasive Brazilian Pepper trees and replant with native trees and shrubs. The native trees to be planted willows, sycamores and cottonwoods. Approximately 150 to 200 Brazilian Pepper trees will be removed. The Brazilian Pepper is specifically listed as a *Problem Tree* in City Council Policy G-1. A photo of the pepper tree mono-culture forest in Big Canyon is attached in Figure 3.

Adjacent to the invasive pepper trees groves, there are areas with a mix of native and invasive trees and plants. In these areas, invasive plants will be selectively removed and those areas revegetated with native coastal plants.

The restored area will have one hundred percent coverage by native plants. Note that the restoration will eliminate the heavy Brazilian Peppertree canopy that is now an attractive nuisance sheltering nighttime activities, campfires and building of makeshift shelters.

#### Measures to Deal with the Polyphagous Shothole Borer

Many willows in this area of the Nature Park have been hit very hard by an invasive beetle call the Polyphagous Shothole Borer (PSHB). Beetle enter the tree by boring a ¼-inch hole which show up as dark circular blotches on the trunk. See Figure 4. Impacted willows will be pruned or removed as appropriate.

To improve resiliency of the replanted native riparian vegetation, woody plant species less susceptible to PSHB and herbaceous plantings will be used. Soil amendments will be also used to improve native plant resiliency to PSHB. In consultation with the PSHB experts at the Eskalen Lab at the University of California, Riverside, other measures to prevent the spread of PSHB may be incorporated into the final design.

#### Existing Perimeter Trails, Public Viewing Area and Signage

Existing perimeter trails along the western, northern and eastern sides of Phase 2A area will be maintained. No new trails are planned as part of this project. After the restoration is completed, fencing could be installed, as needed, to inhibit creation of informal trails through sensitive habitats of the restored area.

Informational signage regarding the restored habitat will be installed. Some limited regulatory signage would be installed. To provide for enhanced educational opportunities, an elevated viewing area is proposed at the intersection of the eastern and northern perimeter trails where an open dirt area exists.

#### **BACKGROUND:**

Big Canyon Nature Park is the only natural, undeveloped portion of the Big Canyon watershed and the only significant remaining natural canyon on the east side of Newport Bay. The upper 45-acre parcel of the Nature Park, located just West of Jamboree Road, is owned by the City of Newport Beach. The lower 15-acre portion of the Nature Park is owned the California Department of Fish and Wildlife and is a part of the Upper Newport Bay State Ecological Reserve.

This lower reach of the Big Canyon watershed has been significantly altered over the decades. As early as the 1950's, the lower reach of Big Canyon had been negatively impacted by the construction of salt evaporation ponds, historical placement of dredge and fill material, farming, and other anthropogenic activities. Stockpiling of dredge fill during the 1950's and 1960's within Big Canyon Creek raised the elevations within the canyon and re-channelized the creek to the north.

In 2002, the City identified the mouth of Big Canyon as an “environmental study area” (ESA) within the General Plan due to its unique biological resources. In 2005, the City authorized the acceptance of certain scenic easements, a resource preservation easement, and fee ownership of reserves and open space lands within this watershed. The City revised the Natural Resources Element of the General Plan to provide direction regarding the conservation, development, and utilization of natural resources within its sphere of influence.

In 2008, high concentrations of selenium were found in Big Canyon Creek as well as within the Big Canyon freshwater lake adjacent to Back Bay Drive. Under the direction of the Santa Ana Regional Water Quality Control Board, a selenium-mitigation work plan for the canyon was developed in 2011. Under the plan, selenium mitigation in the Nature Park would proceed in phases. While each project phase addresses water compliance issues associated with selenium, each phase has a different mix of challenges as indicated in Table 1 and Figure 5 (Double checkmarks in Table indicate the more important issues.)

**Table 1: Challenges for Each Project Phase in the Big Canyon Nature Park**

	Water Quality Compliance	Restoration	Safety/Security	Mosquitos	PSHB Control	Streambed Erosion
Phase 1	√√	√			√√	√
<b>Phase 2A</b>	√	√	√√		√√	√
Phases 2B & 2C	√√	√		√√		√

In 2013, the Irvine Ranch Conservancy accepted interim management of natural and recreational resources in Big Canyon Nature Park and in 2014, began working with the City and its partners on a concept plan, called the Big Canyon Nature Park Resource and Recreation Management Plan (RRMP). The RRMP provides a framework to guide future efforts to improve natural resources and recreational resources (Figure 6) in the Nature Park. The RRMP was completed in November 2016. The RRMP can be found at <https://www.newportbeachca.gov/trending/projects-issues/other-important-issues/big-canyon-creek-restoration>.

In July 2017, the Phase 1 Big Canyon Water Quality Improvement and Restoration Project was completed. The six-acre project adjacent to Jamboree Road diverts high selenium concentration groundwater to the sanitary sewer and captures all stormwater flow from Jamboree Road in a bio-infiltration basin sized for a 100-year storm. The site was replanted with native vegetation and trails were added or improved per recommendations of the RRMP.

In fall 2017, the Newport Bay Conservancy (NBC) applied for and was awarded a \$640,000 grant from the Ocean Protection Council (OPC) to prepare construction documents for the restoration of the Phase 2A area of the Nature Park. The OPC grant also provided NBC funds to perform a feasibility study for Phases 2B and 2C that includes the selenium-impacted freshwater lake. The City subsequently issued a licensing agreement to NBC to enter onto City property to perform studies required for the Phase 2A project design and Phases 2B and 2C feasibility study.

NBC has also applied for Phase 2A construction funding with the California Department of Water Resources (\$1.2 million). Should NBC be successful with this grant application, it is anticipated that construction could commence in fall 2019 and complete within six months. After project completion, long-term maintenance of the new vegetation will be performed by a City assigned maintenance contractor.

The feasibility study for Phases 2B and 2C is expected to be completed in 2019 and will include City PB&R Commission review. NBC would then seek additional grant funding to prepare the necessary construction documents as well as the actual construction. It is hopeful that all funding can be secured and that construction of Phases 2B and 2C could commence as early as fall 2021.

**NOTICING:**

The agenda item has been noticed according to the Brown Act (72 hours in advance of the meeting at which the City Council considers the item).

Attachments:

Figure 1: Phase 2A Location

Figure 2: Phase 2A Restoration Plan

Figure 3: Big Canyon Pepper Tree Forest

Figure 4: Example of Arroyo Willow Attacked by PSHB in Big Canyon

Figure 5: Project Challenges in the Phases 2A, 2B and 2C Areas

Figure 6: Recreational Enhancements Proposed in the Big Canyon RRMP