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STAFF REPORT: REGULAR CALENDAR

Application No.:	**5-16-0059**
Applicant:	**City of Newport Beach**
Agent:	ESA, David Pohl
Location:	1855 Jamboree Road, Newport Beach (County of Orange)
Project Description:	6-acre Habitat Restoration and Water Quality Improvement Project for stabilization of Big Canyon creek banks, and restoration of the floodplain to include removal of non-native vegetation, grading of 15,000 cubic yards of soil to remove excess selenium, construction of a dry-weather diversion structure, expansion of the existing culvert, construction of a concrete lined stilling basin and rip rap, a water quality treatment bio-retention cell, creation of a 0.25 acre wetland, a dosing station, public access trail and signage, maintenance road improvements and turn-around, significant habitat restoration and enhancement.
Staff Recommendation:	Approval with conditions.

SUMMARY OF STAFF RECOMMENDATION

The project is within the 60-acre Big Canyon Creek Nature Park primarily located between Jamboree Road to the east and Back Bay Drive to the west, bounded by residential communities to the North and South along the creek bluffs, approximately 1 mile north of Coast Highway. The creek flows west into the Upper Newport Bay State Ecological Reserve within the City of Newport Beach (**Exhibit 1**). The area is located between the first public road and the sea (Bay) and is designated open space in the City's certified Land Use Plan.

The project area is a 6 acre site immediately adjacent to Jamboree Road and currently contains 4 acres of riparian habitat as well as 1.53 acres of coastal sage scrub alliances, 0.10 acre of alkali

marsh, freshwater wetlands, and non-native grasses and invasive vegetation. An existing culvert under Jamboree Road provides a hydrological connection between the area to the east of Jamboree, which is currently developed with a golf course, to the west where the creek floodplain exists. There are several existing sanitary sewer lines and 2 maintenance roads within the project area, as well as public trails. Big Canyon provides habitat for sensitive plant and animal species including California boxthorn as noted in the project area, Coastal California gnatcatcher and Least Bell's Vireo. Within the riparian habitat, there are a significant number of invasive trees including Brazilian Peppertree and Myoporum, as well as a dense understory of invasive plants such as English Ivy and pampas grass.

The Big Canyon Creek Restoration Project proposes to re-establish a functioning complex of wetland and upland habitats. The project will address existing environmental problems in Big Canyon, including uncontrolled erosion and sedimentation, dominant presence of non-native invasive plant species, an excess of selenium in the soil that is leaching contaminating the water, restoration of native habitats and enhance public access. Selenium can affect fish and wildlife reproduction. After a significant study, the City of Newport Beach ascertained that the source of the excess selenium is a natural source within the underlying Miocene Monterey soil Formation, which is a natural land faction that forms much of the white bluffs of the creek banks and extends along the entire watershed. The changes to the canyon hydrology due to urbanization have likely contributed to the mobilization of selenium by disturbing the underlying formation. While selenium is an essential micronutrient for normal animal nutrition, small concentrations above those required may produce toxic effects which range from physical malformations during embryonic development to sterility and death. Since selenium in aquatic ecosystems is readily taken up by aquatic organisms, concentrations can easily reach levels toxic to fish and other wildlife. In order to protect the sensitive habitat of the wetlands and floodplain, the excess selenium must be addressed. The improvement to the water quality of the creek and wetlands is part of the holistic restoration of the wetlands and habitat because clean water is a crucial part of a functioning wetland and riparian ecosystem.

The City of Newport Beach proposes to implement a Habitat Restoration and Water Quality Improvement Project to include restoration of the floodplain, stabilization of the Big Canyon Creek streambank, removal of non-natives and habitat restoration in two phases. Phase 1 includes: construction of a dry weather flow diversion structure on the east side of Jamboree road (outside of the coastal zone), expansion of the existing culvert under Jamboree Road, and on the west side of Jamboree road construction of a concrete lined stilling basin and rip rap, a water quality treatment bio-retention cell and a 0.25 acre new wetland habitat area, construction of a dosing station and maintenance road, turn-around, and expansion of the existing gravel maintenance road access and curb cut, create public trail connections and access points to existing trails and install signage. Phase 1 includes all water quality improvements, as well as the restoration and creation of wetland habitat and riparian habitat enhancement, and the creation of new Coastal Sage Scrub habitat. Phase 2 of the project is subject to future funding and would include additional restoration of the riparian habitat and additional enhancement.

Overall, the project will result in improved water quality and habitat for Big Canyon through the removal of selenium, treatment of road runoff, removal of 1.85 acres of invasive species and the creation, restoration and enhancement of riparian habitat, and the restoration of upland habitat (coastal sage scrub). Watershed improvements include the removal of toxins, flood flow attenuation,

and habitat improvement for Big Canyon. The applicant expects to start construction in the fall, outside of the nesting season, to avoid losing grant funds.

Special Condition 8 requires the applicant adhere to construction BMPs to be found consistent with Sections 30230 and 30231 of the Coastal Act regarding the protection of water quality to promote the biological productivity of coastal waters and to protect human health.

The habitat restoration and the wetland and creek water restoration will be a significant improvement in the quality of the creek and water flows into the bay and the ocean. Because the project has been designed to be the least environmentally damaging alternative, and has the primary goal of restoration of the floodplain and quality of water, the project has little to no adverse environmental effects. The Commission finds that the proposed development, as conditioned, conforms with Sections 30233 of the Coastal Act and is an allowed use within wetlands, is the least environmentally damaging alternative, and provides more than sufficient mitigation for the adverse environmental impacts.

Special Condition 1 requires final revised construction and site plans. **Special Condition 2** requires the applicant submit a final Operations and Maintenance Plan describing all proposed maintenance activities. The project will enhance the fish and wildlife habitat of the creek and the bay as a result of the restoration of the floodplain, so it is an allowed use under Coastal Act Section 30236.

Special Condition 3 requires that the applicant provide a revised restoration and monitoring plan to ensure that the quality of the restoration project will be monitored to ensure that the biological productivity of the site is improved in as-built conditions. **Special Condition 4** requires the applicant submit a revised staging plan to protect the existing habitat from degradation during staging and construction.

The riparian and coastal sage scrub habitat has the potential to provide nesting and foraging resources for sensitive species including the Least Bell's Vireo, the coastal California gnatcatcher, raptors and other species. In order to protect the sensitive species in the project area, **Special Conditions 6 and 7** require the applicant provide for a biological monitor during construction to protect sensitive species and to abide by a construction schedule to avoid impacting habitat during nesting season. As conditioned, the project is consistent with the resource protection policies of Section 30240 of the Coastal Act.

Special Condition 5 requires the applicant ensure public access to the trail network or provide an alternative route during construction and submit a final signage plan to maximize public access and recreation. The proposed project is consistent with sections 30210 for maximum recreational opportunities and signage and 30212 as the trail network will provide access to the Bay and coastal waters.

Special Condition 9 requires submittal of an archeological monitoring plan to ensure that any prehistoric or archaeological or paleontological cultural resources that may be present on the site and could be impacted by the proposed development receive proper protections in order for the

project to be found consistent with Section 30244 of the Coastal Act. Lastly, **Special Condition 10** requires the applicant provide other resource agency approvals.

Approval of the project will not prejudice the ability of the local government to certify an LCP and the project as conditioned is the least environmentally damaging alternative consistent with CEQA. Staff recommends **APPROVAL** of the project, only as conditioned.

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I. MOTION AND RESOLUTION

Motion: *I move that the Commission **approve** Coastal Development Permit No.* 5-16-0059 *pursuant to the staff recommendation.*

Staff recommends a **YES** vote. Passage of this motion will result in approval of the permit as conditioned and adoption of the following resolution and findings. The motion passes only by affirmative vote of a majority of the Commissioners present.

Resolution:
The Commission hereby approves a Coastal Development Permit for the proposed development and adopts the findings set forth below on grounds that the development as conditioned will be in conformity with the policies of Chapter 3 of the Coastal Act and will not prejudice the ability of the local government having jurisdiction over the area to prepare a Local Coastal Program conforming to the provisions of Chapter 3. Approval of the permit complies with the California Environmental Quality Act because either 1) feasible mitigation measures and/or alternatives have been incorporated to substantially lessen any significant adverse effects of the development on the environment, or 2) there are no further feasible mitigation measures or alternatives that will substantially lessen any significant adverse impacts of the development on the environment.

II. STANDARD CONDITIONS

This permit is granted subject to the following standard conditions:

1. **Notice of Receipt and Acknowledgment**. The permit is not valid and development shall not commence until a copy of the permit, signed by the permittee or authorized agent, acknowledging receipt of the permit and acceptance of the terms and conditions, is returned to the Commission office.

2. **Expiration**. If development has not commenced, the permit will expire two years from the date on which the Commission voted on the application. Development shall be pursued in a diligent manner and completed in a reasonable period of time. Application for extension of the permit must be made prior to the expiration date.

3. **Interpretation**. Any questions of intent or interpretation of any condition will be resolved by the Executive Director or the Commission.

4. **Assignment**. The permit may be assigned to any qualified person, provided assignee files with the Commission an affidavit accepting all terms and conditions of the permit.

5. **Terms and Conditions Run with the Land**. These terms and conditions shall be perpetual, and it is the intention of the Commission and the permittee to bind all future owners and possessors of the subject property to the terms and conditions.

III. SPECIAL CONDITIONS

This permit is granted subject to the following special conditions:

1. Final Revised Plans

A. PRIOR TO ISSUANCE OF THE COASTAL DEVELOPMENT PERMIT, the applicant shall submit, for the review and written approval of the Executive Director, two full-size sets of the following revised final plans, modified as required below.

1. A grading plan that substantially conforms with the plans submitted to the Commission on January 25, 2016 that includes grading elevations and quantities and depicts the limits of disturbance;
2. A site plan that substantially conforms with the plans submitted to the Commission on January 25, 2016 revised to show all infrastructure, interpretive amenities, trail signage, and any other appurtenances which conform with the requirements of the special conditions of this permit;
4.

B. All revised plans shall be prepared and certified by a licensed professional or professionals as applicable (e.g., biologist, geotechnical engineer), based on current information and professional standards, and shall be certified to ensure that they are consistent with the Commission's approval and with the recommendations of any required technical reports.

C. The permittee shall undertake development in conformance with the approved final plans unless the Commission amends this permit or the Executive Director determines that no amendment is legally required for any proposed minor deviations.

2. Final Operations and Maintenance Plan

A. PRIOR TO ISSUANCE OF THE COASTAL DEVELOPMENT PERMIT, the applicant shall submit, for the review and written approval of the Executive Director, two copies of a plan for the post-construction operations and maintenance of the project and management of the habitat. The plan shall be prepared by a qualified professional restoration biologist and an engineer.

1. The plan shall demonstrate that the operation and maintenance of the water quality improvements shall not result in habitat impacts.
2. The plan shall include, at a minimum, the following components: proposed routine maintenance activities to all project elements (i.e., diversion and culvert structures, subdrain systems, basins and wetlands, rip-rap, creek channel, trails, interpretive areas) site inspections, repair, frequency of sediment removal at sediment basin, retrieval and restacking of rip rap at various aprons. Some maintenance activities may require subsequent Coastal Act authorization, as identified by the Executive Director.

B. The permittee shall undertake development in conformance with the approved final plans unless the Commission amends this permit or the Executive Director determines that no amendment is legally required for any proposed minor deviations.

3. Final Habitat Restoration and Monitoring Plan

PRIOR TO THE ISSUANCE OF THE COASTAL DEVELOPMENT PERMIT, the applicant shall submit to the Executive Director for review and written approval, a final detailed restoration and monitoring plan for all impacts to sensitive biological resources. Said plan shall be in substantial conformance with the Revegetation and Habitat Monitoring Plan prepared by ESA and dated April 2016 and shall be prepared by a qualified restoration ecologist and include, at a minimum, the following:

1. A baseline assessment, including photographs, of the current physical and ecological condition of the proposed restoration site, including, as appropriate, a wetland delineation conducted according to the definitions in the Coastal Act and the Commission's Regulations, a description and map showing the area and distribution of vegetation types, and a map showing the distribution and abundance of sensitive species. Existing vegetation, wetlands, and sensitive species shall be depicted on a map that includes the footprint of the proposed restoration.

2. A description of the goals of the restoration plan, including, as appropriate, topography, hydrology, vegetation types, sensitive species, and wildlife usage.

3. A description of planned site preparation and invasive plant removal;

4. A restoration plan including the planting palette (seed mix and container plants), planting design, source of plant material, plant installation, erosion control, irrigation, and remediation. The planting palette shall be made up exclusively of native plants that are appropriate to the habitat and region and that are grown from seeds or vegetative materials obtained from local natural habitats so as to protect the genetic makeup of natural populations. Horticultural varieties shall not be used.

5. A plan for documenting and reporting the physical and biological "as built" condition of the mitigation site within 30 days of completion of the initial restoration activities. This is a simple report describing the field implementation of the approved restoration program in narrative and photographs, and reporting any problems in the implementation and their resolution. The "as built" assessment and report shall be completed by a qualified biologist, who is independent of the installation contractor.

6. A plan for interim monitoring and maintenance, including:
    a. A schedule
    b. Interim performance standards
    c. A description of field activities
    d. The monitoring period (Not less than 5 years).
    e. Provision for submission of annual reports of monitoring results to the Executive Director for the duration of the required monitoring period, beginning the first year after submission of the "as-built" report. Each report shall be cumulative and shall summarize all previous results. Each report shall document the condition of the restoration with photographs taken from the same fixed points in the same directions. Each report shall also include a "Performance Evaluation" section where information and results from the monitoring program are used to evaluate the status of the restoration project in relation to the interim performance standards and final success criteria.

7. Final Success Criteria for each habitat type, including, as appropriate:
   a. species diversity
   b. total ground cover of vegetation
   c. vegetative cover of dominant species and definition of dominants (e.g., Army Corps of Engineers "50/20" rule, enumeration, species with greater than a threshold of abundance, etc.)
   d. wildlife usage
   e. hydrology
   f. presence and abundance of sensitive species or other individual "target" species

8. The method by which "success" will be judged, including:
   a. Type of comparison. Possibilities include comparing a census of the restoration site to a fixed standard derived from literature or observations of natural habitats, comparing a census of the restoration site to a sample from a reference site, comparing a sample from the restoration site to a fixed standard, or comparing a sample from the restoration site to a sample from a reference site.

   b. Identification and description, including photographs, of any reference sites that will be used.

   c. Test of similarity. This could simply be determining whether the result of a census was above a predetermined threshold. Generally, it will entail a one- or two-sample t-test.

   d. The field sampling design to be employed, including a description of the randomized placement of sampling units and the planned sample size.

   e. Detailed field methods.

   f. Specification of the maximum allowable difference between the restoration value and the reference value for each success criterion

   g. Where a statistical test will be employed, a statistical power analysis to document that the planned sample size will provide adequate statistical power to detect the maximum allowable difference. Generally, sampling should be conducted with sufficient replication to provide 90% power with alpha=0.10 to detect the maximum allowable difference. This analysis will require an estimate of the sample variance based on the literature or a preliminary sample of a reference site. Power analysis software is available commercially and on the world wide web (e.g., http://www.stat.uiowa.edu/~rlenth/Power/index.html).

   h. A statement that final monitoring for success will occur after at least 3 years with no remediation or maintenance activities other than weeding.

9. Provision for submission of a final monitoring report to the Executive Director at the end of the final monitoring period. The final report must be prepared by a qualified restoration ecologist. The report must evaluate whether the restoration site conforms to the goals and success criteria set forth in the approved final restoration program.

10. Provision for possible further action. If the final report indicates that the restoration project has been unsuccessful, in part or in whole, based on the approved success criteria, the applicant shall submit within 90 days a revised or supplemental restoration program to compensate for those portions of the original program which did not meet the approved success criteria. The revised restoration program shall be processed as an amendment to this coastal development permit unless the Executive Director determines that no permit amendment is legally required.

The permittee shall undertake mitigation and monitoring in accordance with the approved final, revised upland mitigation plan. Any proposed changes to the approved final, revised plans shall be reported to the Executive Director. No changes to the plans shall occur without a Coastal Commission approved amendment to this coastal development permit unless the Executive Director determines that no amendment is legally required.

4. Construction Staging Plan

A. PRIOR TO ISSUANCE OF THE COASTAL DEVELOPMENT PERMIT, the applicant shall submit a plan for the review and approval of the Executive Director which indicates that the construction staging area(s) will avoid impacts to public access to the bay and avoid impacts to sensitive habitat areas.

1. The construction staging plan shall be for Phase I and Phase II and shall demonstrate:
   a. Construction equipment shall not be stored outside the staging area
   b. Habitat (vegetated) areas shall not be used for staging or storage of equipment
   c. The staging area for construction of the project shall not obstruct access to Upper Newport Bay Ecological Reserve

2. The plan shall include, at a minimum, the following components:

   A site plan that depicts:
   (1) limits of the staging area(s)
   (2) construction corridor(s)
   (3) construction site
   (4) location of construction fencing and temporary job trailers

B. The permittee shall undertake development in accordance with the approved final plans. Any proposed changes to the approved final plans shall be reported to the Executive Director. No changes to the approved final plans shall occur without a Commission amendment to this coastal development permit unless the Executive Director determines that no amendment is legally required.

5. Public Access Signage

By acceptance of this permit, the applicant agrees that:
The applicant shall implement the proposed project in phases which allow for maximum public access while at the same time ensuring safe public use, minimize road closures to maximum extent practicable, and provide alternative public routes to the shores of Upper Newport Bay.

During any construction which requires the obstruction of a road or trail used for public access, the applicant shall provide temporary signage, placed in conspicuous locations, which identify alternative public access routes.

PRIOR TO THE ISUANCE OF THE COASTAL DEVELOPMENT PERMIT, the applicant shall submit for review and approval by the Executive Director, a signage plan for the proposed interpretative and directional trail signs. Plans shall identify all signs and any other project elements that will be used to educate, facilitate, manage and provide public access to and along the trail. Signs shall be sited and designed so as to provide clear information without impacting public views and site character. Signs are not permitted in areas of ESHA or wetlands and should be located as close to the trail as possible.

6. Biological Monitor

By acceptance of this permit, the applicant agrees that:

An appropriately trained biologist shall monitor the proposed development for disturbance to sensitive species or habitat area. At minimum, monitoring shall occur once a week during any week in which construction occurs. Daily monitoring shall occur during development which could significantly impact biological resources such as dredging or construction that could result in disturbances to the Raptors or sensitive species in the area. Based on field observations, the biologist shall advise the applicant regarding methods to minimize or avoid significant impacts, which could occur upon sensitive species or habitat areas. The applicant shall not undertake any activity, which would disturb habitat area unless specifically authorized and mitigated under this coastal development permit or unless an amendment to this coastal development permit for such disturbance has been obtained from the Coastal Commission.

7. Construction Timing

By acceptance of this permit, the applicant agrees that:

1. If construction activities, including but not limited to grading, construction, restoration activities, or other disturbance are to occur between February 1 and September 15, a pre-construction nesting bird survey shall be conducted to determine the presence of active nests within 500 feet of the construction activities. The nesting bird surveys shall be completed no more than 72 hours prior to any construction activities. All ground-disturbance activities within 500 feet of raptor nests or other active nests or as specified below shall be halted until that nesting effort is finished.
2. The monitor shall review and verify compliance with these nesting boundaries and shall verify when the nests have been naturally vacated for the season, with no human interference. Work may resume when no other active nests are found. Upon completion of the survey and any follow-up construction avoidance management, a report shall be prepared and submitted to the Executive Director.
3. Appropriate noise-abatement measures (e.g., sound walls) shall be implemented to ensure that noise levels are less than 60 A-weighted decibels (dBA) at the active nest of a listed species, as determined by the biological monitor. This shall be verified by weekly noise monitoring at an equivalent location conducted by a qualified Acoustical Engineer during the breeding

season (February 1 to September 15) or as otherwise determined by a qualified biological monitor based on nesting activity.

The applicant further agrees that:

Construction during Breeding and Non-Breeding Seasons for Sensitive Species

4. Activities involving disturbance or removal of riparian vegetation shall be prohibited during the least Bell's vireo breeding season (March 15 to September 15).
5. Vegetation impacts shall be monitored by a qualified Biologist. The Biological Monitor shall delineate (by the use of orange snow fencing or lath and ropes/flagging) all areas adjacent to the impact area that contain habitat suitable for sensitive bird occupation (i.e., California gnatcatcher, Belding savannah sparrow, light-footed clapper rail) and raptors.
6. Prior to and during any disturbance of suitable gnatcatcher habitats outside the gnatcatcher breeding season, the biologist shall locate any individual gnatcatchers on-site and direct clearing to begin in an area a minimum of 300 feet away from the birds. No site disturbance shall occur until the individual birds have naturally vacated the area without human interference. It shall be the responsibility of the permittee to assure that gnatcatchers shall not be directly injured or killed by impacts to Coastal Sage Scrub or other Scrub communities.
7. Prior to initiating vegetation impacts or project construction, the biological monitor shall meet on-site with the construction manager or other individual(s) with oversight and management responsibility for the day- to-day activities on the construction site to discuss implementation of the relevant avoidance and minimization mitigation measures for gnatcatchers. The biologist shall meet as needed with the construction manager (e.g., when new crews are employed) to discuss implementation of these measures.

The permittee shall undertake development in accordance with the approved final plans. Any proposed changes to the approved final plans shall be reported to the Executive Director. No changes to the approved revised final plans shall occur without a Commission amendment to this coastal development permit unless the Executive Director determines that no amendment is legally required.

8. Construction and Pollution Prevention Plan

PRIOR TO THE COMMENCEMENT OF CONSTRUCTION the applicant shall submit, for the review and written approval of the Executive Director, a final Construction and Pollution Prevention Plan prepared and certified by a qualified licensed professional. The final Plan shall demonstrate that all construction, including, but not limited to, clearing, grading, staging, storage of equipment and materials, or other activities that involve ground disturbance; building, reconstructing, or demolishing a structure; and creation or replacement of impervious surfaces, complies with the following requirements:

A. **Minimize Erosion and Sediment Discharge.** During construction, erosion and the discharge of sediment off-site or to coastal waters shall be minimized through the use of appropriate Best Management Practices (BMPs), including:

1. Land disturbance during construction (e.g., clearing, grading, and cut-and-fill) shall be minimized, and grading activities shall be phased, to avoid increased erosion and sedimentation.
2. Erosion control BMPs (such as mulch, soil binders, geotextile blankets or mats, or temporary seeding) shall be installed as needed to prevent soil from being transported by water or wind. Temporary BMPs shall be implemented to stabilize soil on graded or disturbed areas as soon as feasible during construction, where there is a potential for soil erosion to lead to discharge of sediment off-site or to coastal waters.
3. Sediment control BMPs (such as silt fences, fiber rolls, sediment basins, inlet protection, sand bag barriers, or straw bale barriers) shall be installed as needed to trap and remove eroded sediment from runoff, to prevent sedimentation of coastal waters.
4. Tracking control BMPs (such as a stabilized construction entrance/exit, and street sweeping) shall be installed or implemented as needed to prevent tracking sediment off-site by vehicles leaving the construction area.
5. Runoff control BMPs (such as a concrete washout facility, dewatering tank, or dedicated vehicle wash area) that will be implemented during construction to retain, infiltrate, or treat stormwater and non-stormwater runoff.

B. **Minimize Discharge of Construction Pollutants.** The discharge of other pollutants resulting from construction activities (such as chemicals, paints, vehicle fluids, petroleum products, asphalt and cement compounds, debris, and trash) into runoff or coastal waters shall be minimized through the use of appropriate BMPs, including:

1. Materials management and waste management BMPs (such as stockpile management, spill prevention, and good housekeeping practices) shall be installed or implemented as needed to minimize pollutant discharge and polluted runoff resulting from staging, storage, and disposal of construction chemicals and materials. BMPs shall include, at a minimum:
    i. Covering stockpiled construction materials, soil, and other excavated materials to prevent contact with rain, and protecting all stockpiles from stormwater runoff using temporary perimeter barriers.
    ii. Cleaning up all leaks, drips, and spills immediately; having a written plan for the clean-up of spills and leaks; and maintaining an inventory of products and chemicals used on site.
    iii. Proper disposal of all wastes; providing trash receptacles on site; and covering open trash receptacles during wet weather.
    iv. Prompt removal of all construction debris from the wetland area.
    v. Detaining, infiltrating, or treating runoff, if needed, prior to conveyance off-site during construction.
2. Fueling and maintenance of construction equipment and vehicles shall be conducted off site if feasible. Any fueling and maintenance of mobile equipment conducted on site shall take place at a designated area located at least 50 feet from coastal waters, drainage courses, and storm drain inlets, if feasible (unless those inlets are blocked to protect against fuel spills). The fueling and maintenance area shall be designed to fully contain any spills of fuel, oil, or other contaminants. Equipment that cannot be feasibly relocated to a designated fueling and maintenance area (such as cranes) may be fueled and maintained in other areas of the site, provided that procedures are implemented to fully

contain any potential spills.

C. **Minimize Other Impacts of Construction Activities.** Other impacts of construction activities shall be minimized through the use of appropriate BMPs, including:

1. The damage or removal of non-invasive vegetation (including trees, native vegetation, and root structures) during construction shall be minimized, to achieve water quality benefits such as transpiration, vegetative interception, pollutant uptake, shading of waterways, and erosion control.
2. Soil compaction due to construction activities shall be minimized, to retain the natural stormwater infiltration capacity of the soil.
3. The use of temporary erosion and sediment control products (such as fiber rolls, erosion control blankets, mulch control netting, and silt fences) that incorporate plastic netting (such as polypropylene, nylon, polyethylene, polyester, or other synthetic fibers) shall be avoided, to minimize wildlife entanglement and plastic debris pollution.

D. **Construction In, Over, or Adjacent to Coastal Waters and Habitat.** Construction taking place adjacent to coastal waters and habitat shall protect the coastal waters and habitat by implementing additional BMPs, including:

1. No construction equipment or materials (including debris) shall be allowed at any time outside of the project area.
2. All work shall take place during daylight hours, and lighting of the wetlands is prohibited.
3. Tarps or other devices shall be used to capture debris, dust, oil, grease, rust, dirt, fine particles, and spills to protect the quality of coastal waters.
4. All erosion and sediment controls shall be in place prior to the commencement of construction, as well as at the end of each workday. At a minimum, if grading is taking place, sediment control BMPs shall be installed at the perimeter of the construction site to prevent construction-related sediment and debris from entering the waterways, natural drainage swales, and the storm drain system.

E. **Manage Construction-Phase BMPs.** Appropriate protocols shall be implemented to manage all construction-phase BMPs (including installation and removal, ongoing operation, inspection, maintenance, and training), to protect coastal water quality.

F. **Construction Site Map and Narrative Description.** The Construction and Pollution Prevention Plan shall include a construction site map and a narrative description addressing, at a minimum, the following required components:

1. A map delineating the construction site, construction phasing boundaries, and the location of all temporary construction-phase BMPs (such as silt fences, inlet protection, and sediment basins).
2. A description of the BMPs that will be implemented to minimize land disturbance activities, minimize the project footprint, minimize soil compaction, and minimize damage or removal of non-invasive vegetation. Include a construction phasing schedule, if applicable to the project, with a description and timeline of significant land disturbance activities.
3. A description of the BMPs that will be implemented to minimize erosion and sedimentation, control runoff and minimize the discharge of other pollutants resulting

from construction activities. Include calculations that demonstrate proper sizing of BMPs.

4. A description and schedule for the management of all construction-phase BMPs (including installation and removal, ongoing operation, inspection, maintenance, and training). Identify any temporary BMPs that will be converted to permanent post-development BMPs.

9. Cultural Resource Treatment and Monitoring Plan

A. PRIOR TO ISSUANCE OF THE COASTAL DEVELOPMENT PERMIT, the applicant shall submit for the review and approval of the Executive Director an archeological/cultural resources monitoring plan prepared by a qualified professional, which shall incorporate the following measures and procedures:

1. The monitoring plan shall ensure that any prehistoric archaeological or paleontological or Native American cultural resources that are present on the site and could be impacted by the approved development will be identified so that a plan for their protection can be developed. To this end, the cultural resources monitoring plan shall require that archaeological and Native American monitors be present during all grading operations and subsurface construction activity that has the potential to impact cultural resources.

   There shall be at least one pre-grading conference with the project manager and grading contractor at the project site in order to discuss the potential for the discovery of archaeological/cultural or paleontological resources.

2. Archaeological monitor(s) qualified by the California Office of Historic Preservation (OHP) standards, Native American monitor(s) with documented ancestral ties to the area appointed consistent with the standards of the Native American Heritage Commission (NAHC), and the Native American most likely descendent (MLD) when State Law mandates identification of a MLD, shall monitor all project grading and subsurface construction activity (such as trenching for utilities) that has the potential to impact cultural resources, as required in the approved cultural resources monitoring plan required above.

3. The permittee shall provide sufficient archeological and Native American monitors to assure that all project grading and subsurface construction activities that has any potential to uncover or otherwise disturb cultural deposits is monitored at all times;

4. If any archaeological or paleontological, i.e. cultural deposits, are discovered, including but not limited to skeletal remains and grave-related artifacts, artifacts of traditional cultural, religious or spiritual sites, or any other artifacts, all construction shall cease within at least 50 feet of the discovery, and the permittee shall carry out significance testing of said deposits in accordance with the attached "Cultural Resources Significance Testing Plan Procedures" (Appendix 1). The permittee shall report all significance testing results and analysis to the Executive Director for a determination

of whether the deposits are significant.

5. If the Executive Director determines that the discovery is significant, the permittee shall seek an amendment from the Commission to determine how to respond to the discovery and to protect both those and any further cultural deposits that are encountered. Development within at least 50 feet of the discovery shall not recommence until an amendment is approved, and then only in compliance with the provisions of such amendment.

10. Other Agency Approvals

PRIOR TO ISSUANCE OF THE COASTAL DEVELOPMENT PERMIT, the applicant shall provide to the Executive Director a copy of each permits issued by the California Department of Fish and Wildlife, Regional Water Quality Control Board, US Army Corps of Engineers, the US Fish and Wildlife Service, and the State Lands Commission (hereinafter "other resource agencies"), or a letter of permission, or evidence that no permit or permission is required. The applicant shall inform the Executive Director of any changes to the project required by the other resource agencies. Such changes shall not be incorporated into the project until the applicant obtains a Commission amendment to this coastal development permit, unless the Executive Director determines that no amendment is legally required.

IV. FINDINGS AND DECLARATIONS:

The Commission hereby finds and declares:

A. PROJECT LOCATION AND DESCRIPTION

The project is within the 60-acre Big Canyon Creek Nature Park primarily located between Jamboree Road to the east and Back Bay Drive to the west, bounded by residential communities to the North and South along the creek bluffs, approximately 1 mile north of Coast Highway. The creek flows west into the Upper Newport Bay State Ecological Reserve within the City of Newport Beach (**Exhibit 1**). The area is located between the first public road and the Bay and is designated open space in the City's certified Land Use Plan. The site is a natural canyon with a perennial stream with steep canyon slopes and a narrow floodplain. Slopes of the canyon range in elevation from 20-75 feet above mean sea level (MSL) and the canyon creek elevation ranges from below MSL to 25 feet above MSL. The Big Canyon Creek flows from the east to the west through the Nature Park draining into the Bay. The canyon represents the only natural, undeveloped portion of the Big Canyon Creek watershed and is the only significant remaining natural canyon on the east side of Newport Bay. The Big Canyon Creek Watershed is approximately 2 square miles and drains directly into Upper Newport Bay.

The project site is located on land owned by the City of Newport Beach. The project site is contained to lands that are not tidelands. The project area is a 6 acre site immediately adjacent to Jamboree Road (**Exhibit 2**). An existing culvert under Jamboree Road provides a hydrological connection between the area to the east of Jamboree (the portion of the project that is outside the coastal zone) which is currently developed with a golf course, to the west where the creek floodplain exists. Ornamental vegetation is present near the residential areas. There are several existing sanitary sewer lines and 2 maintenance roads within the project area, as well as public trails. Big

Canyon provides habitat for sensitive plant and animal species including California boxthorn as noted in the project area, Coastal California Gnatcatcher and Least Bell's Vireo, as well as other non-threated species.

The 6 are project site contains freshwater wetlands that surround the creek. The wetlands and the creek bed contain sensitive plant communities, a majority of which is Southern Riparian Forest (specially mapped as disturbed Arroyo Willow Thicket), and a smaller area of Alkali Meadow (mapped as Alkali Heath Marsh Alliance and Cattail Marsh Alliance). The Coastal Sage Scrub habitat- Diegan Coastal Sage Scrub (specifically mapped as Lemonade Berry Alliance, Coyote Bush-California Sagebrush association, and California Sagebrush alliance) is present adjacent to Jamboree Road and along the banks of the creek. The project area currently contains 4 acres of riparian habitat, as well as 1.53 acres of coastal sage scrub alliances, and 0.10 acre of alkali marsh.

The project area also contains large areas of invasive plants mapped as Pepper Tree and Myoporum Groves within the riparian habitat, and non-native grasses with upland mustard and disturbed areas scattered throughout the site. Within the riparian vegetation, there are scattered invasive palm trees and a dense understory of invasive plants such as English Ivy and pampas grass.

The Big Canyon Creek Restoration Project proposes to re-establish a functioning complex of wetland and upland habitats. The project will address existing environmental problems in Big Canyon, including uncontrolled erosion and sedimentation, dominant presence of non-native invasive plant species, an excess of selenium in the soil that is leaching contaminating the water, restoration of native habitats and enhance public access. The proposed project is a voluntary restoration project driven by the City with grant funding; it is not mitigation to offset impacts from other development.

Selenium can affect fish and wildlife reproduction. After a significant study, the City of Newport Beach ascertained that the source of the excess selenium is a natural source within the underlying Miocene Monterey soil Formation, which is a natural land faction that forms much of the white bluffs of the creek banks and extends along the entire watershed. The changes to the canyon hydrology due to urbanization have likely contributed to the mobilization of selenium by disturbing the underlying formation. In order to protect the sensitive habitat, the excess selenium must be addressed.

As previously described, Big Canyon provides habitat for numerous plant and wildlife species. Several federally listed plant and avian species associated with wetland and marsh habitats have been observed or have a high potential to occur within the Project Area. Many of the habitats and plant communities are fragmented, discontinuous, and threatened by invasive plants such as Brazilian peppertree and myoporum.

The City of Newport Beach proposes to create a 6-acre Habitat Restoration and Water Quality Improvement Project to include restoration of the floodplain, stabilization of the Big Canyon creek streambank, removal of non-natives and habitat restoration in two phases. Phase 1 includes: construction of a dry weather flow diversion structure on the east side of Jamboree road (outside of the coastal zone), expansion of the existing culvert under Jamboree Road, and on the west side of Jamboree road construction of a concrete lined stilling basin and rip rap, a water quality treatment

bio-retention cell and a 0.25 acre new wetland habitat area, construction of a dosing station and maintenance road, turn-around, and expansion of the existing gravel maintenance road access and curb cut, create public trail connections and access points to existing trails and install signage (**Exhibit 3)**. Permanent impacts equal 0.79 acres to wetland riparian habitat and 0.01 acre to Coastal Sage Scrub for infrastructure improvements. South of the natural flow-line of the creek, the floodplain will be graded down by 6 feet to allow periodic for floodplain inundation and to remove high selenium sediment and provide for soil amendments. Approximately 15,000 cubic yards of grading are required to remove excess selenium to improve water quality downstream, removing 1.75 acres of wetland riparian habitat. Phase 1 includes all infrastructure improvements, the restoration of 1.57 acres of wetland habitat and proposed mitigation creating 0.25 new wetland habitat and 0.65 acre riparian wetland enhancement and non-native removal, and creating 0.55 acres of new Coastal Sage Scrub habitat within areas that are disturbed and areas with non-native grasses.

Phase 2 of the project would include: restoration of the remaining 0.46 acre wetland riparian habitat and additional enhancement of 0.39 acres and additional Coastal Sage Scrub creation. Construction staging will take place on the 0.25 acre area containing non-native grasses, and at the completion of construction, will be converted into a newly created wetland habitat. Phase 2 will occur only as funding becomes available, but is proposed as part of this application and would be permitted under this CDP.

Groundwater in this area occurs at 5–7 feet below the existing ground surface. The 1.75 acre area of the floodplain will be graded to lower the current ground elevations to an elevation of approximately 39 feet mean sea level to access this permanent water source. A reduction of the elevation will bring the ground level closer to the groundwater table, thereby allowing for establishment of riparian vegetation that will be planted following grading and soil preparation activities. Once the excavation within the active floodplain has been conducted, soil amendments will be added and the soil will be disked.

The project includes measures to treat storm flows and dry weather flows (run off) that will result in improved water quality for habitat and wildlife in Big Canyon. The stormwater treatment system will consist of a primary stormwater treatment structure and a bioretention cell. The purpose of the stormwater treatment system is to reduce transportation-related constituent concentrations currently discharged to Big Canyon Creek during storm events and to attenuate stormwater peak-flow discharge rates from the contributing Jamboree Road drainage area. The transportation-related pollutants are currently conveyed to the receiving waters in Big Canyon Creek from a variety of sources, including vehicles, road maintenance, maintenance facility runoff, and landscaping maintenance.

The hydrology of the project will direct storm water from the underground culvert into the creek and into the stilling basin, which will temporarily hold the flow to reduce the velocity and turbulence of the water. From there, the water will be directed by the rip rap and vegetated soil lifts to the existing creek flow. Clean water run-off from the golf course area would be captured by the dry weather flow diversion structure and conveyed through a pipe, along with water from the proposed Storm Sewer to capture discharges from Jamboree Road, into the bioretention cell for treatment. Treated water from the bioretention cell will be conveyed into the new 0.25 acre wetland habitat. The new wetland habitat will also accept clean water storm water. The wetland habitat is open to the existing creek drainage path. A clean water bypass will be constructed directing water straight from the golf course

area through a bioswale directly into the creek. The project includes a high-flow bypass allowing water to flow directly into the creek to avoid flooding during strong storm events and an emergency spillway from the bioretention cell into the creek.

The bioretention cell is proposed to be an underground, modified constructed wetland that will be designed specifically to treat the suite of transportation-related pollutants found in urban watersheds. The bioretention cell from top to bottom will consist of layers of soil, sand, and gravel, underlain by an impermeable liner. The soil layer will be approximately 2 to 3 feet thick and will be underlain by a 6-inch sand filter bed located between the bioretention soil and drainage gravel layer situated in the bottom of the bioretention cell. The bioretention cell will be constructed to treat stormwater flows that discharge from the primary stormwater treatment structure. The surface area of the bioretention cell will be approximately 0.47 acre in size and will contain riparian vegetation. Coastal Sage Scrub vegetation will be planted around the perimeter, on the berm, of the bioretention cell. The bioretention cell will treat approximately 0.75 inch of stormwater in a 24-hour period. The bioretention cell will attenuate and reduce the peak discharge rate to Big Canyon Creek during storm events.

Stormwater will flow via gravity from the primary stormwater treatment structure to the bio cells. Pollutants will be removed from stormwater as it flows down through the treatment media. Treated water will flow from the bottom of the bioretention cell through a series of PVC pipes into a newly created wetland habitat area located to the south of the bioretention cell. The wetland habitat area will be graded to allow for infiltration to groundwater and for surface flow return to Big Canyon Creek. The new wetland habitat will be vegetated with riparian and wetland species.

Temporary impacts include the floodplain grading and restoration, construction of the vegetated soil lifts and willow brush matts, and exotic removal activities. Due to the extensive invasive species presence in both the understory and overstory vegetation, the majority of impacts are considered beneficial in that they will result in improved riparian health.

The construction related temporary impacts include the staging area adjacent to the existing access road on the southwestern portion of the project site and the staging area adjacent to Jamboree road, currently containing non-native grasses and disturbed areas. Upon completion of construction, the staging area will become the new 0.25 acre wetland habitat and the staging along Jamboree road will become a permanent public trail. Areas over existing utilities will be seeded with Coastal Sage Scrub, and the area will be regularly maintained.

Other project elements include constructing a utility access road extension off of Jamboree road and a 12 x 16 foot area would contain a 7,800 gallon water storage tank and a pump station for a dosing station in order to control odor for the existing sanitary sewer lines in the area. The dosing station would be surrounded by a 10 foot high chain link fence.

The utility access road would serve as a 15 foot wide public trail with access from Jamboree Road. The trail would connect to a proposed 3.5 foot wide trail north of the stilling basin and follow the creek bank, eventually connecting to an existing trail network within the creek bed leading to Back Bay Drive and the bay (**Exhibit 4**).

Overall, the project will result in improved water quality and habitat for the Upper Big Canyon through the removal of selenium, treatment of road runoff, removal of 1.85 acres of invasive species and the creation, restoration and enhancement of riparian habitat, and the restoration of upland habitat (coastal sage scrub). Watershed improvements include the transformation of toxins, flood flow attenuation, and habitat improvement for Upper Big Canyon. The applicant expects to start construction in the fall, outside of the nesting season, to avoid losing grant funds.

Permit History

CDP P-80-7346 and Appeal No. 332-80 (Orange County Sanitation District)

On November 10, 1980, the South Coast Regional Commission granted to the Orange County Sanitation District No. 5 Coastal Development Permit P-80-7346 for the abandonment of an existing sewage pump station and force main. The 3 MGD 14-18 inch force main was proposed to be replaced by a 9 MGD 18-24 inch gravity main running from the Pacific Coast Highway trunk at Dunes Park, up Back Bay Drive, and through the south side of Big Canyon to Jamboree Road in Newport Beach, California. The permit was subject to 20 special conditions including construction related requirements, inspection by Fish and Game, habitat restoration, and construction timing.

Coastal Development Permit P-80-7346 was appealed to the State Coastal Commission on Appeal No. 332-80. The project was approved on appeal on February 18, 1981, subject to additional conditions regarding restoration, habitat preservation through an offer of dedication, and conformance with the special conditions imposed by the Regional Commission. Due to the high resource values along the sewer alignment, a condition of approval required a 7-acre freshwater marsh restoration within Big Canyon to mitigate construction negative impacts to the light-footed clapper rail, the species most affected by the project's construction. The CDP required an irrevocable offer to dedicate the area as an open space and conservation easement for permanent protection of the habitat values of the Big Canyon area. This offer to dedicate will expire in 2017.

CDP 5-00-144 (Orange County Sanitation District)

In August 2000, the Coastal Commission approved Coastal Development Permit 5-00-144 for the rehabilitation and replacement of approximately 9,500 linear feet of sewer line, plus installation of a manhole, and reconstruction of existing storm drain inlets along Back Bay Drive along the centerline of the existing paved roadway between the bayside and inland habitats. The replacement of existing storm drain inlets and the pipe connecting the drain inlet to the discharge points was also within the paved roadway. The project was sited and designed to prevent impacts upon adjacent sensitive habitats by avoiding encroachment into sensitive habitat area and avoiding removal of native vegetation adjacent to Back Bay Drive.

CDP Application 5-09-113 (City of Newport Beach)

In 2009, the City of Newport Beach applied for a permit to address the erosion and water contamination of Big Canyon with a far greater project footprint. The project included the whole canyon, a 70 acre project site with impacts to 20 acres of habitat. The project consisted of 107,400 cu. yds. of sediment dredged from 6.46 acres and 63,100 cu. yds. of fill over 5.32 acres to realign Back Bay Drive and restoration 3.6 acres of historic tidal wetlands at the mouth of Big Canyon

Creek; construction of four new culverts under the realigned Back Bay Drive; 40,635 cu. yds. of material dredged from 4.29 acres and 12,515 cu. yds. of fill over 0.72 acre to re-grade Big Canyon Creek into a new 140' wide and 9'-16' deep channel; existing freshwater marsh modification requiring 47,310 cu. yds. of material dredged from 4.35 acres and 34,650 cu. yds. of fill over 2.29 acres; invasive plant species removal and planting of natives; relocation of 35 space public parking lot and restroom facilities; construction of an 1,100 sq. ft. amphitheater in new interpretive area, trails, new entrance from Jamboree Road to existing maintenance road and road erosion protection work.

The application was withdrawn before the Commission hearing so the applicant could continue to study the source of the excess selenium and design a project to address the issue with less habitat impacts.

B. MARINE AND LAND RESOURCES

Section 30230 of the Coastal Act states:

Marine resources shall be maintained, enhanced, and where feasible, restored. Special protection shall be given to areas and species of special biological or economic significance. Uses of the marine environment shall be carried out in a manner that will sustain the biological productivity of coastal waters and that will maintain healthy populations of all species of marine organisms adequate for long-term commercial, recreational, scientific, and educational purposes.

Section 30231 of the Coastal Act states:

The biological productivity and the quality of coastal waters, streams, wetlands, estuaries, and lakes appropriate to maintain optimum populations of marine organisms and for the protection of human health shall be maintained and, where feasible, restored through, among other means, minimizing adverse effects of waste water discharges and entrainment, controlling runoff, preventing depletion of ground water supplies and substantial interference with surface water flow, encouraging waste water reclamation, maintaining natural vegetation buffer areas that protect riparian habitats, and minimizing alteration of natural streams.

Section 30233 of the Coastal Act states in part:

> *(a) The diking, filling, or dredging of open coastal waters, wetlands, estuaries, and lakes shall be permitted in accordance with other applicable provisions of this division, where there is no feasible less environmentally damaging alternative, and where feasible mitigation measures have been provided to minimize adverse environmental effects, and shall be limited to the following:*
>
> > *(6) Restoration purposes.*

Section 30236 of the Coastal Act states:

Channelizations, dams, or other substantial alterations of rivers and streams shall incorporate the best mitigation measures feasible, and be limited to:

(1) necessary water supply projects,

(2) flood control projects where no other method for protecting existing structures in the floodplain is feasible and where such protection is necessary for public safety or to protect existing development; or

(3) developments where the primary function is the improvement of fish and wildlife habitat.

Section 30240 of the Coastal Act states:

(a) Environmentally sensitive habitat areas shall be protected against any significant disruption of habitat values, and only uses dependent on those resources shall be allowed within those areas.
(b) Development in areas adjacent to environmentally sensitive habitat areas and parks and recreation areas shall be sited and designed to prevent impacts which would significantly degrade those areas, and shall be compatible with the continuance of those habitat and recreation areas.

Although Chapter 3 of the Coastal Act is the standard of review for this project, the Commission notes there are policies equivalent to Section 30230, 30231, 30233, 30236 and 30240 of the Coastal Act in the Newport Beach Coastal Land Use Plan (LUP). Furthermore, the following LUP policies, among others, frame the issues of concern for the Big Canyon Environmental Study area (ESA)[1] as well as measures to address those issues. The LUP states (emphasis added):

*Potential impacts to the natural habitats in this study area (*Big Canyon) *include erosion, creek water quality runoff, sedimentation, increased human activity, noise, invasive species, and uncontrolled public access.*

The goals of the restoration project will address several of the impacts noted in the LUP, listed above and restore the quality of the Big Canyon Creek ESA.

Policy 4.1.3-1: Utilize the following mitigation measures to reduce the potential for adverse impact to ESA natural habitats from sources including, but not limited to, those identified in Table 4.1.1:

B. Where pedestrian access is permitted, avoid adverse impacts to sensitive areas from pedestrian traffic through the use of well defined footpaths, boardwalks, protective fencing, signage and similar methods.

C. Prohibit the planting of non-native plant species and require the removal of non-natives in conjunction with landscaping or revegation projects in natural habitat areas.

[1] The Land Use Plan defines Environmental Study Area as "…Relatively large, undeveloped areas containing natural habitats and may be capable of supporting sensitive biological resources."

D. Strictly control encroachments into natural habitats to prevent impacts that would significantly degrade the habitat.

H. Participate in implementation of Total Maximum Daily Loads (TMLDs).

I. Participate in programs to control sedimentation into and within Upper Newport Bay.

J. Use docent programs to actively manage and enforce CDFG regulations in marine protected areas regarding the taking of intertidal and subtidal plants and animals and to minimize incidental trampling.

M. Implement TMDLs into Newport Bay and local watersheds to minimize water quality problems along the coastline.

N. Prohibit invasive species and require removal in new development.

O. Implement and enforce TMDLs in watershed and Upper Newport Bay to improve water quality in Newport Harbor.

The proposed trail locations avoid impacts to sensitive areas and are limited to the creek banks. The trails will provide a clearly defined path of travel for public access and recreation without disturbing the sensitive resources. The project is consistent with policy C, above, that requires the removal of non-natives during any revegetation project.

The project is consistent with policies above referring to TMDLs in that the project addresses the excess selenium within the creek. In order to improve water quality and the marine environment of the bay and the creek, TMDLs are established by the EPA in order to set limits on any contaminants that can be present in bodies of water in order to protect human health and wildlife health using the water sources. Since the 1970s moderate selenium concentrations have been recorded near the mouth of the creek. Selenium can affect fish and wildlife reproduction. In 2002, the EPA established the TMDLs for toxic pollutants, including selenium, for Newport Bay.

After a significant study, the City of Newport Beach ascertained that the source of the excess selenium is a natural source within the underlying Miocene Monterey soil Formation, which is a natural land faction that forms much of the white bluffs of the creek banks and extends along the entire watershed. The marine formation has many elements that can be hazardous to aquatic life, health, and the environment when in excess of the TMDLs. The changes to the canyon hydrology due to urbanization have likely contributed to the mobilization of selenium by disturbing the underlying formation. Prior to urbanization, the Big Canyon Creek likely functioned as an ephemeral stream and only had water in it during the wet season. Surface waters are now present in the creek year round because of the impermeability of the surrounding developed areas, which support a variety of beneficial uses including a freshwater pond in the creek bed, marsh and riparian habitats, however in order to protect the habitats, the excess selenium must be addressed. The LUP includes policies to ensure that the water quality of the creeks and bay are protected and the project as proposed implements these policies.

Marine Resources

Big Canyon Creek is currently in a mostly natural, un-channelized condition within the Project Area. The creek drains approximately two square miles of urban developed land. The reservoir, irrigation water, and surface runoff provide a perennial supply of water to Big Canyon Creek and adjacent wetland areas. Big Canyon Creek drains into Upper Newport Bay through two culverts under Back Bay Road and into a salt marsh system on the western side of the road. Tidal activity occurs only within the salt marsh areas and currently has little or no influence on the freshwater systems to the east of Back Bay Road.

The natural function of Big Canyon includes accommodating storm events and flooding; during large floods, such as a 100-year flood, the entire canyon floor would be inundated. This natural flooding process provides the necessary soil moisture for plant growth. However, the channel banks and inverts are subject to erosion and sedimentation during flood events which may cause damages to roadways, an existing boardwalk bridge, and other infrastructure. Erosion and sedimentation also negatively impact habitat quality in the canyon and ultimately of Upper Newport Bay.

An element of the Big Canyon Nature Park restoration project is to improve the creek flow and minimize areas of scour and sedimentation. The project includes a new culvert extension of the existing culvert at Jamboree Road that discharges flows from the watershed into the open creek. To prevent scour and erosion at this point, a stilling basin, rip rap and vegetated soil lifts are proposed to transition flows from the culvert into the creek at the most upstream point.

Overall, the project will result in improved water quality and habitat for the Big Canyon through the removal of selenium, treatment of road runoff, and floodplain restoration. Watershed improvements include the transformation of toxins, flood flow attenuation, and habitat improvement for Big Canyon. Section 30230 of the Coastal Act states that marine resources shall be enhanced and restored and Section 30231 requires controlling runoff, preventing substantial interference with surface water flow and alteration of streams, and maintaining vegetation buffers around riparian habitats. The project as proposed meets the requirements of these sections and the goals of the project are consistent with the Coastal Act.

Upper Newport Bay is listed as an impaired water body under section 303(d) of the Clean Water Act. According to this classification, the following contaminants occur in both Upper and Lower Newport Bay: pesticides and metals, nutrients, pathogens, and sediments/siltation. The Project intends to help meet these TMDLs by addressing the polluted runoff in the creek before contaminated water reach Upper Newport Bay. The proposed Project includes an integrated system of water quality improvement components, erosion and sedimentation control and use of natural habitats, and addresses not only excess selenium, but will also prevent other pollutants from reaching the Bay contributing to overall improved water quality and an improved marine environment.

The proposed development includes measures to address discharge of polluted run-off from the surrounding urban areas into coastal waters. As construction activities may generate debris or sediment that could enter the wetlands, creek or Newport Bay, **Special Condition 8** requires the applicant adhere to construction BMPs. The development, as proposed and as conditioned, incorporates design features to minimize the effect of construction activities on the marine environment. The Commission finds that the proposed development, as conditioned, conforms with

Sections 30230 and 30231 of the Coastal Act regarding the protection of water quality to promote the biological productivity of coastal waters and to protect human health.

Filling of Wetlands

The biological report submitted by the applicant indicates that Big Canyon contains 4.95 acres of jurisdictional wetlands, including riparian and marsh habitat. A total of 4.95 acres of wetlands and riparian and marsh habitat were surveyed, however, approximately 4 acres are within the project area. Of that, 0.57 acre of wetlands will be impacted by the bioretention cell. However, the bioretention cell itself will contain 0.47 acre of restored wetland habitat and a new 0.25 acre wetland habitat area will be created adjacent to the bioretention cell within a disturbed area of non-native grasses. Additionally, 0.33 acre of enhancement of wetland habitat is proposed.

A total of 1.75 acre of wetland habitat will be impacted by other restoration activities associated with the removal of selenium and the repair of the creekbed and floodplain. However, 2.08 acres of wetland and riparian habitat will be restored. Overall, the restoration project will have a net increase of wetland habitat and existing wetland habitat will be enhanced through removal of non-native plants.

In order to be consistent with Section 30233, a project that involves filling or dredging in a wetland must meet the three-prong test. The use must be one of the uses specifically allowed, it must be the least environmentally damaging alternative, and it must provide adequate mitigation to offset any impacts created by the project. The project does meet the list of limited approvable projects for fill of wetlands under section 30233, (6) Restoration and has been designed to be the least environmentally damaging alternative.

1) Allowable Use

Section 30233 of the Coastal Act states that the filling of wetlands is only permitted for specific uses, including restoration purposes. The project is a restoration project in that it will remove selenium contaminated soils that are degrading the habitat and restore the functional hydrology of the creek by limiting bank erosion (discussed under 'sedimentation' below). The project will also protect and improve the quality of the water flowing through the creek and into the bay and the Pacific Ocean. Finally, the projectis considered a restoration of the riparian and wetland habitat in the creek bed by removal of non-native vegetation that occupies a large portion of the creek bed and is a restoration of upland areas from disturbed and non-native grasses to coastal sage scrub.

The proposed use, restoration, is included in the uses listed above, No. 1-7 of section 30233. Thus, the proposed project is an allowable use. Therefore, the proposed development is consistent with Section 30233 of the Coastal Act with regard to uses allowed within wetlands.

2) Alternatives

Section 30233 requires the permitted project to be the least environmentally damaging alternative. The applicant provided two alternative projects that consisted of additional permanent impacts to wetlands than the proposal. The alternatives analysis submitted by the applicant demonstrates that the proposed project has been designed to avoid permanent impacts to wetlands to the maximum extent feasible and is the least environmentally damaging alternative. Therefore, the proposed development is consistent with Section 30233 of the Coastal Act with regard to alternatives.

3) Mitigation

Section 30233 of the Coastal Act requires that wetland projects include mitigation measures to minimize adverse environmental effects. Adverse environmental effects are being minimized by the proposed net increase in wetland habitat and enhancement of existing wetland habitat. Overall the wetland restoration and the fresh water quality improvement will be beneficial to the quality of the habitat.

The Commission finds that the proposed development, as conditioned, conforms with Section 30233 of the Coastal Act and is an allowed use within wetlands, is the least environmentally damaging alternative, and provides more than sufficient mitigation for any adverse environmental impacts.

Sedimentation

Hydrology studies indicate the existing creek shows moderate sedimentation potential in the upstream portion of the Canyon. Water polluted with sediment can prevent animals from seeing food in the water. Sediment laden water can also prevent natural vegetation from growing in that water. Sediment in stream beds can also disrupt the natural food chain by destroying the habitat where the smallest stream organisms live. Therefore, a stilling basin is proposed at the outlet of the Jamboree Road culvert to trap sediments as the flows move through. The basin will reduce turbidity of the water and serve as a debris/sediment management area which will significantly reduce the sedimentation levels within the lower creek thereby protecting their habitat value. The basin will be routinely maintained by the City to remove settled solids, which will also help attenuate levels of selenium in the Canyon, thereby achieving greater water quality. **Special Condition 2** requires the applicant submit a final Operations and Maintenance Plan describing all proposed maintenance activities.

Alteration of the Creek

The Project intends to improve creek stability and prevent major erosion hazards during future flood events that would undermine the proposed habitat restoration project. Due to the environmental sensitivity of the site, no major engineering work is proposed to armor the creek and canyon. Section 30236 of the Coastal Act limits substantial alterations to creeks. The proposed project would maintain the same drainage paths and patterns as currently exist. The surface flow rates entering the creek are also not expected to change with the implementation of the project.

Section 30236 of the Coastal Act requires mitigation for projects that substantially alter streams and are limited to water supply projects, flood control projects, or improvement of fish and wildlife habitat. This project will not substantially alter the creek flow, will maintain the flow within the current creek bed and does not involve damming or channelizing the creek. The project is not a water supply project, nor a flood control project. The project will enhance the fish and wildlife habitat of the creek and the bay as a result of the restoration of the floodplain, so it is an allowed alteration of the creek under section 30236 but the impacts ultimately do not require mitigation because the restoration project is not a substantial alteration of the creek. Therefore, the Commission finds that the proposed development, as conditioned, conforms with Sections 30236 of the Coastal Act

Wetlands will be restored and enhanced through improving drainage and planting native wetland and riparian species, therefore, the project results in overall additional wetland habitat/habitat conversion from less biological productive area to a higher biological productive wetland and riparian habitat. The goal of the proposed development is habitat restoration. Fill of coastal waters for habitat restoration is a permitted use under Coastal Act Section 30233.

As the proposed development is for habitat restoration, therefore, no additional mitigation measures are necessary. The proposed tidal marsh restoration would serve to enhance and restore marine resources. The biological productivity and the quality of coastal waters, tidal marsh, Big Canyon Creek, and wetlands would be enhanced and restored. Restoration of the riparian habitats will improve habitat and water quality for wildlife species and restore migratory corridors within the Project Area.

Land Resources within the Restoration Project Area

The riparian habitat surrounding wetlands and the majority of the CSS in the project area are Environmentally Sensitive Habitat Areas (ESHA) and are protected under the Coastal Act (section 30240) and the LUP (see policies above). The LUP states that all riparian habitat and CSS within the study areas are ESHA unless there is site-specific evidence to the contrary (LUP Section 4.1.3, page 4-15). Section 4.1.1 of the LUP specifically identifies these habitats as ESHA: *Scrub habitats, including southern coastal bluff scrub, maritime succulent scrub, and Diegan coastal sage scrub* and *Riparian habitats, including southern willow scrub, southern coast live oak riparian forest, southern cottonwood willow riparian forest, southern arroyo willow forest, southern black willow forest, and southern sycamore alder riparian woodland.*

The biological report titled Big Canyon Habitat Restoration and Water Quality Improvement Project, dated January 2016, identifies the riparian habitat as Southern Riparian Forest, which is a rare plant community, identified as G3 S3 per the California Department of Fish and Wildlife's (CDFW) California Natural Diversity Database (CNDDB)[2]. As such, the Commission Staff Ecologist has confirmed that the riparian habitat on site does rise to the level of ESHA. The wetlands on the site, in and around the riparian habitat, are protected under the Coastal Act (Section 30233) and the LUP and are discussed above.

The restoration project area contains approximately 4 acres of riparian habitat, discussed further below, and 0.01 acres of alkali marsh wetland that are considered ESHA and wetland, respectively. The alkali marsh will not be impacted by the project. Approximately 1.5 acres of coastal sage scrub (CSS) is within the project site, most of which is considered ESHA by the LUP, with the exception of the planted area that includes a spattering of native shrubs and native weedy species including

[2] The Biogeographic Branch of the California Department of Fish and Wildlife (CDFW) maintains the California Natural Diversity Database (CNDDB) which is a state depository of lists of rare natural communities and rare plant and animal species generated by an array of regional, state, national and international sources that are vetted, maintained and continually updated. In making ESHA determinations, Commission staff generally review a subset of these lists including the list of natural communities identified as rare by CDFW, the State and Federal government lists of rare, threatened or endangered plant and animals species, the natural communities and plant and animal species listed by NatureServe as State or Global-ranked 1, 2, or 3, the plant and animal species listed as California Species of Special Concern, and plant species listed by the California Native Plant Society as 1B or 2.

lemonade berry and telegraph weed adjacent and parallel to Jamboree Road. This area does not comprise a natural community, does not rise to the level of ESHA, and was likely planted after the area was disturbed by the construction of Jamboree Road.

The restoration project would result in impacts to riparian habitat: 0.57 acre would be impacted by the construction of the bioretention cell and 0.22 acre of riparian habitat would be removed and replaced with a berm surrounding the bioretention cell. This area will be restored to CSS. As explained in the findings on 'filling of wetlands' above, the bioretention cell itself will contain 0.47 acre of restored wetland habitat, which will include 0.47 acre of restored riparian vegetation and an additional 0.19 acre of enhancement of riparian habitat is proposed. Overall, the acreage of restored and enhanced riparian habitat is a net increase over the 0.57 acre impact.

A total of 1.75 acres of riparian habitat will be impacted by grading associated with removal of selenium and restoration of the floodplain, which contains riparian vegetation and stands of non-native vegetation. This area will be restored with 2.08 acres of riparian vegetation and an additional 1.07 acres will be enhanced by non-native vegetation removal. The acreage of restored and enhanced riparian vegetation exceeds the acreage impacted by removal of the selenium polluted area.

The restoration project would permanently impact 0.01 acre (436 sq. ft.) of lemonade berry for development of the culvert extension, public trail and maintenance road, and improvements related to the construction of the bioretention cell. A small portion of the 436 sq. ft. impact to lemonade berry would be to habitat identified as ESHA per the LUP and biological report (California Sagebrush alliance) for the development of the 3.5 foot wide trail extension to the existing Big Canyon trail network. This nature-study oriented trail would be considered resource dependent. The restoration project would include 1.85 acres (0.55 would be done in Phase 1) of new and restored CSS across the non-native and disturbed areas of the site. The created CSS far exceeds the acreage impacted.

The riparian habitat and a portion of the CSS on site is considered ESHA under the Coastal Act and in the LUP. Section 30240 protects ESHA from significant disruptions of habitat values and permits only uses dependent on resources within areas of ESHA. The restoration of the floodplain, containing riparian ESHA and the construction of a trail in an area containing CSS ESHA, are both considered uses that are dependent on the resource (habitat restoration and nature study). While the proposed restoration project will have temporary impacts to riparian habitat, and some permanent impacts to both the riparian and CSS habitat, the proposal is a habitat restoration project that will contribute to the increased productivity of the habitat. Without the proposed project the water supporting the habitat areas would continue to have excess selenium that degrades the organisms, plant and animal life. Furthermore, without their removal the riparian vegetation would progressively be degraded by the highly invasive pepper trees, palms, and myoporum.

Three things can happen to dissolved selenium when it enters an ecosystem; it can be absorbed or ingested by organisms, it can bind to or join with particulate matter, or it can remain in solution. Over time, most of the free selenium is either taken up by organisms or bound to particulate matter. Biological processing and sedimentation result in most of the selenium accumulating in the top layer of sediment and detritus. However, because aquatic ecosystems are dynamic, the deposited

selenium can by cycled back into organisms, bioaccumulate, and remain at elevated levels for years until the source of selenium is eliminated.

While selenium is an essential micronutrient for normal animal nutrition, small concentrations above those required may produce toxic effects which range from physical malformations during embryonic development to sterility and death. Since selenium in aquatic ecosystems is readily taken up by aquatic organisms, concentrations can easily reach levels toxic to fish and other wildlife[3].

The improvement to the water quality of the creek and wetlands is part of the holistic restoration of the wetlands and habitat because clean water is a crucial part of a functioning wetland and riparian ecosystem. The impacts of the bioretention cell on the riparian habitat are self-mitigating and constitute a part of the restoration of the riparian habitat system.

Resource dependent development, such as habitat restoration and nature study, is allowed in ESHA under the Coastal Act. The proposed project does not pose a significant disruption to the habitat values (the project increases habitat values) and is compatible with the continuance of the ESHA. The project enhances the quality of the existing habitat by including major riparian and wetland creation/restoration.

Special Condition 3 requires that the applicant provide a final restoration plan for review and approval of the Executive Director to ensure that the quality of the restoration project will be monitored and to ensure that the biological productivity of the site is improved in as-built conditions. **Special Condition 4** requires the applicant submit a revised staging plan to protect the existing habitat from degradation during staging and construction. The riparian and CSS habitat has the potential to provide nesting and foraging resources for sensitive species including the Least Bell's Vireo, the California Gnatcatcher, raptors and other species. In order to protect the sensitive species in the project area, **Special Conditions 5 and 6** require the applicant provide for a biological monitor during construction to protect sensitive species and to abide by a construction schedule to avoid impacting habitat during nesting season. As conditioned, the Commission finds that the project is consistent with the resource protection policies of Section 30240 of the Coastal Act.

C. PUBLIC ACCESS AND RECREATION

Section 30210 of the Coastal Act states:

> *In carrying out the requirement of Section 4 of Article X of the California Constitution, maximum access, which shall be conspicuously posted, and recreational opportunities shall be provided for all the people consistent with public safety needs and the need to protect public rights, rights of private property owners, and natural resource areas from overuse.*

Section 30212 of the Coastal Act states, in relevant part:

[3] Lemly, A.D. & G.J. Smith. 1987 Aquatic cycling of selenium: Implications for fish and wildlife. U.S. Fish and Willife. Leafl. 12. 10 pp.

(a) Public access from the nearest public roadway to the shoreline and along the coast shall be provided in new development projects

The proposed project includes development of a new public trail access from Jamboree Road and connections to existing public trails within the canyon. The proposal includes signage for the public trails as well as interpretative signage. The components of the plan were identified to meet public and interpretive education needs to the greatest extent possible while not impacting restoration goals or practical considerations (e.g., access to existing sewer line for necessary maintenance). **Special Condition 5** requires the applicant ensure public access to the trail network or provide an alternative route during construction and provide a signage plan all for educational, interpretative and directional signs proposed. The proposed project is consistent with sections 30210 for maximum recreational opportunities and signage and 30212 as the trail network will provide access to the Bay and coastal waters. As conditioned, the project is consistent with the Coastal Act.

D. CULTURAL AND ARCHEOLOGICAL RESOURCES

Section 30244 of the Coastal Act states:

Where development would adversely impact archaeological or paleontological resources as identified by the State Historic Preservation Officer, reasonable mitigation measures shall be required.

Policies of the LUP state:

4.5.1-1: Require new development to protect and preserve paleontological and archaeological resources from destruction, and avoid and minimize impacts to such resources. If avoidance of the resource is not feasible, require an in-stiu or site-capping preservation plan or a recovery plan for mitigating the effect of the development.

4.5.1-2: Require a qualitied paleontologist/archeologist to monitor all grading and/or excavation where there is a potential to affect cultural or paleontological resources. If grading operations or excavations uncover paleontological/archaeological resources, require the paleontologist/archeologist monitor to suspend all development activity to avoid destruction of resources until a determination can be made as to the significance of the resources. If resources are determined to be significant, require submittal of a mitigation plan. Mitigation measures considered may range from in-situ preservation to recovery and/or relocation. Mitigation plans shall include a good faith effort to avoid impacts to cultural resources through methods such as, but not limited to, project redesign, in situ preservation/capping, and placing cultural resource areas in open space.

4.5.1-3: Notify cultural organizations, including Native American organizations, of proposed developments that have the potential to adversely impact cultural resources. Allow qualified representatives of such groups to monitor grading and/or excavation of development sites.

4.5.1-5: Where there is a potential to affect cultural or paleontological resources, require the submittal of an archeological/cultural resources monitoring plan that identifies monitoring methods and describes the procedures for selecting archeological and Native American monitors and procedures that will be followed if additional or unexpected archeological/cultural resources are

encountered during development of the site. Procedures may include, but are not limited to, provisions for cessation of all grading and construction activities in the area of the discovery that has any potential to uncover or otherwise disturb cultural deposits in the area of the discovery and all construction that may foreclose mitigation options to allow for significance testing, additional investigation and mitigation.

Surveys conducted in connection with the project's EIR did not identify any archaeological or paleontological resources on the site. However, the applicant proposes to have an archaeological monitor present during excavation to inspect the materials. Consistent with the policies of the LUP that require an archeological and cultural resources monitoring plan be submitted, **Special Condition 9** requires submittal of an archeological monitoring plan to ensure that any prehistoric, archaeological or paleontological cultural resources that may be present on the site and could be impacted by the proposed development receive proper protections, preferably avoidance. The plan shall include provisions for both Professional Archeologists and Native American monitors be present during soil disturbance. Additionally, the condition requires that the Native American groups with ties to the area are noticed about the project and are included in the review process before monitoring begins. Cultural history can aid in cultural resource location and identification on a project site and can assist in the preliminary resource investigations prior to site preparation. At a minimum, Native American groups should be notified of impending development through the CEQA process, but in order to maximize protection of archeological and cultural resources, these groups should be invited to participate in preliminary investigations and project review and/or design. Additionally, reports and results of investigations should be shared with these groups for feedback, commentary, and peer-review. As conditioned for a monitoring plan and protection of the archeological resources, the project is consistent with Section 30244 of the Coastal Act.

E. LOCAL COASTAL PROGRAM (LCP)

Coastal Act section 30604(a) states that, prior to certification of a local coastal program ("LCP"), a coastal development permit can only be issued upon a finding that the proposed development is in conformity with Chapter 3 of the Act and that the permitted development will not prejudice the ability of the local government to prepare an LCP that is in conformity with Chapter 3. The Coastal Land Use Plan (CLUP) for the City of Newport Beach was effectively certified on May 19, 1982. The certified CLUP was updated on October 2005 and in October 2009. As conditioned, the proposed development is consistent with Chapter 3 of the Coastal Act and with the certified CLUP for the area. Approval of the project, as conditioned, will not prejudice the ability of the local government to prepare an LCP that is in conformity with the provisions of Chapter 3 of the Coastal Act.

F. CALIFORNIA ENVIRONMENTAL QUALITY ACT (CEQA)

Section 13096 Title 14 of the California Code of Regulations requires Commission approval of a coastal development permit application to be supported by a finding showing the application, as conditioned by any conditions of approval, to be consistent with any applicable requirements of the California Environmental Quality Act (CEQA). Section 21080.5(d)(2)(A) of CEQA prohibits a proposed development from being approved if there are feasible alternatives or feasible mitigation measures available which would substantially lessen any significant adverse effect which the activity may have on the environment.

The City of Newport Beach, the lead agency, performed an Initial Study in February 2016, pursuant to CEQA. The City concluded that a mitigated negative declaration was appropriate for the proposed project. The Initial Study and mitigated negative declaration indicates that the project would have construction activities that could impact nesting birds, vegetation communities such as riparian and wetland habitat and could temporarily disrupt wildlife movement, as well as impacts to prehistoric resources if found on the site. Additionally, the project would also result in temporary vibration and construction noise which could contribute to potential cumulative impacts. The City adopted mitigation measures to reduce the effects of the project below any level of significance. Conditions of approval of this permit also address the impacts to habitat and wildlife and prehistoric resources and, as conditioned, the project is consistent with the Coastal Act.

As a responsible agency under CEQA, the Commission has determined that the proposed project, as conditioned, is consistent with the enhancement of marine productivity and water quality policies, the public access and recreational opportunities policies, and the protection of the archeological, and biological resources policies of the Coastal Act. As conditioned, there are no feasible alternatives or feasible mitigation measures available which would substantially lessen any significant adverse impact which the activity may have on the environment. Therefore, the Commission finds that the proposed project can be found consistent with the requirements of the Coastal Act to conform to CEQA.

APPENDIX 1

CULTURAL RESOURCES SIGNIFICANCE TESTING PLAN PROCEDURES

A. An applicant seeking to recommence construction following discovery of cultural deposits shall submit a Significance Testing Plan for the review and approval of the Executive Director. The Significance Testing Plan shall identify the testing measures that will be undertaken to determine whether the cultural deposits are significant. The Significance Testing Plan shall be prepared by the project archaeologist(s), in consultation with the Native American monitor(s), and the Most Likely Descendent (MLD) when State Law mandates identification of a MLD. The Executive Director shall make a determination regarding the adequacy of the Significance Testing Plan within 10 working days of receipt. If the Executive Director does not make such a determination within the prescribed time, the plan shall be deemed approved and implementation may proceed.

1. If the Executive Director approves the Significance Testing Plan and determines that the Significance Testing Plan's recommended testing measures are de minimis in nature and scope, the significance testing may commence after the Executive Director informs the permittee of that determination.

2. If the Executive Director approves the Significance Testing Plan but determines that the testing measures therein are not de minimis, significance testing may not recommence until after an amendment to this permit is approved by the Commission.

3. Once the measures identified in the Significance Testing Plan are undertaken, the permittee shall submit the results of the testing to the Executive Director for review and approval. The results shall be accompanied by the project archeologist's recommendation as to whether the deposits are significant. The project archeologist's recommendation shall be made in consultation with the Native American monitors and the MLD when State Law mandates identification of a MLD. The Executive Director shall make the determination as to whether the deposits are significant based on the information available to the Executive Director. If the deposits are found to be significant, the permittee shall prepare and submit to the Executive Director a supplementary Archeological Plan in accordance with subsection B of this condition and all other relevant subsections. If the deposits are found to be not significant, then the permittee may recommence grading in accordance with any measures outlined in the significance testing program.

B. An applicant seeking to recommence construction following a determination by the Executive Director that the cultural deposits discovered are significant shall submit a Supplementary Archaeological Plan for the review and approval of the Executive Director. The Supplementary Archeological Plan shall be prepared by the project archaeologist(s), in consultation with the Native American monitor(s), the Most Likely Descendent (MLD) when State Law mandates identification of a MLD, as well as others identified in subsection C below. The Supplementary Archeological Plan shall identify proposed investigation and mitigation measures. The range of investigation and mitigation measures considered shall not be constrained by the approved development plan. Mitigation measures considered may range from in-situ preservation to recovery and/or relocation. A good faith effort shall be made to avoid impacts to cultural resources through methods such as,

but not limited to, project redesign, capping, and placing cultural resource areas in open space. In order to protect cultural resources, any further development may only be undertaken consistent with the provisions of the Supplementary Archaeological Plan.

1. If the Executive Director approves the Supplementary Archaeological Plan and determines that the Supplementary Archaeological Plan's recommended changes to the proposed development or mitigation measures are de minimis in nature and scope, construction may recommence after the Executive Director informs the permittee of that determination.

2. If the Executive Director approves the Supplementary Archaeological Plan but determines that the changes therein are not de minimis, construction may not recommence until after an amendment to this permit is approved by the Commission.

C. Prior to submittal to the Executive Director, all plans required to be submitted pursuant to this special condition, except the Significance Testing Plan, shall have received review and written comment by a peer review committee made up of qualified archeologists convened in accordance with current professional practice. Representatives of Native American groups with documented ancestral ties to the area shall also be given an opportunity to review and submit written comments on the required plans. Names and qualifications of selected peer reviewers shall be submitted for review and approval by the Executive Director. The plans submitted to the Executive Director shall incorporate the recommendations of the peer review committee and Native American representatives or explain why the recommendations were rejected. Furthermore, upon completion of the review process, all plans shall be submitted to the California Office of Historic Preservation (OHP) and the NAHC for their review and an opportunity to comment. The plans submitted to the Executive Director shall incorporate the recommendations of the OHP and NAHC. If the OHP and/or NAHC do not respond within 30 days of their receipt of the plan, the requirement under this permit for that entities' review and comment shall expire, unless the Executive Director extends said deadline for good cause. All plans shall be submitted for the review and approval of the Executive Director.

SOURCE: City of Newport Beach, ESRI

Big Canyon Habitat Restoration and Water Quality Improvement Project. D130934

Figure 1

Regional Location Map

EXHIBIT 1

Path: U:\GIS\GIS\Projects\13xxxx\D130934_BigCanyonNtask\SupplementalPkg\Figure 3 Project Aerial Map.mxd jyl 1/6/2016

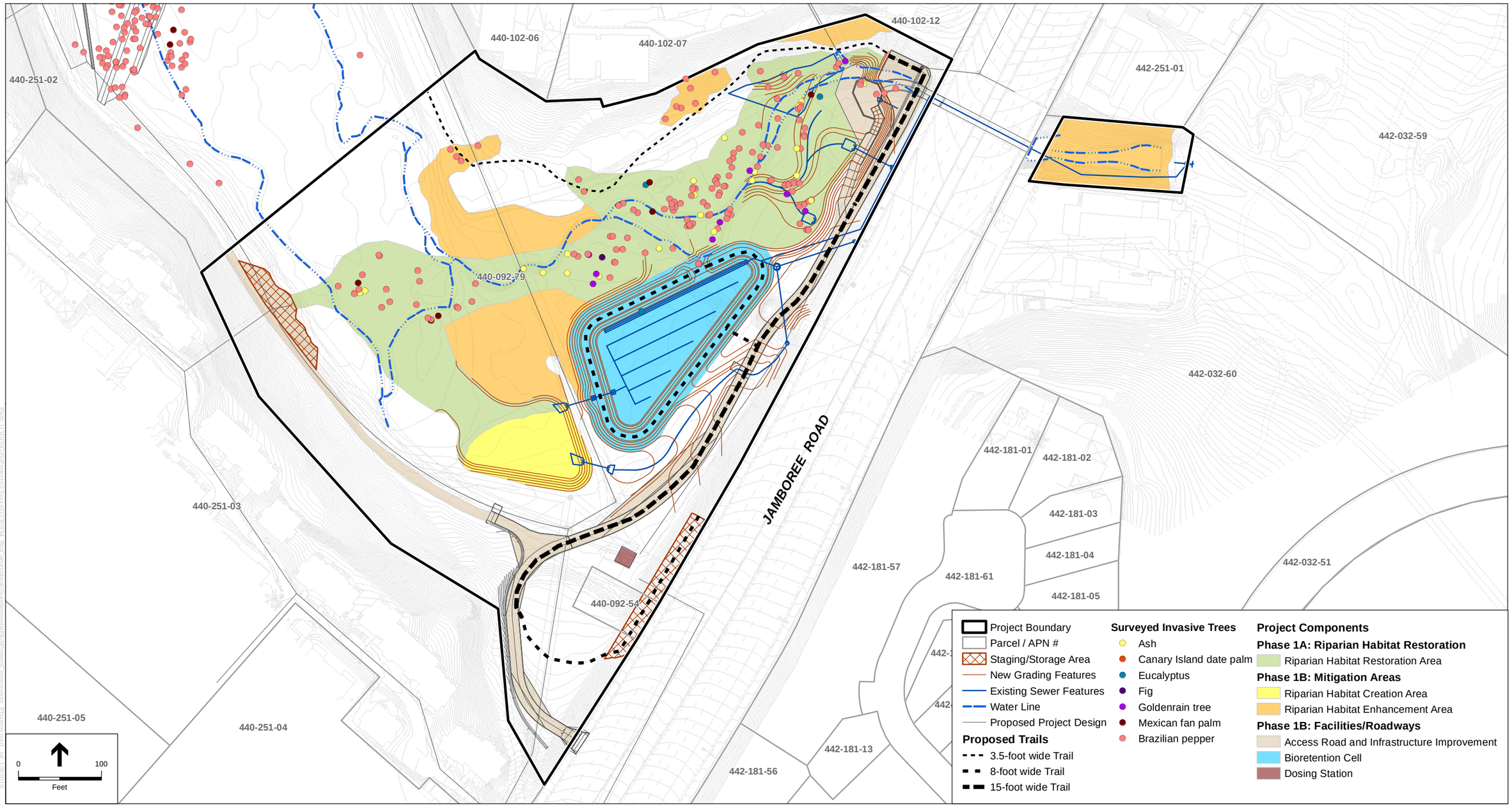
SOURCE: City of Newport Beach, ESRI

Big Canyon Habitat Restoration and Water Quality Improvement Project. D130934

Figure 3

Project Aerial Map

EXHIBIT 2



SOURCE: Burns & McDonnell; Dudek; ESA

Big Canyon Habitat Restoration and Water Quality Improvement Project. 130934

Figure 5

Project Components and Phasing

EXHIBIT 3

1 of 13

SOURCE: ESA, ESRI

Big Canyon Habitat Restoration and Water Quality Improvement Project. D130934

Figure 11

Habitat Mitigation Areas for Impacts to Vegetation Communities

EXHIBIT 3

2 of 13

City of Newport Beach
Public Works Department

Big Canyon Restoration
Newport Beach, CA

January 2016

83234

Permit Drawings

GENERAL DRAWINGS

DWG. NO.	TITLE
-	COVER-INDEX
G001	GENERAL NOTES, LEGEND, AND ABBREVIATIONS

CIVIL DRAWINGS

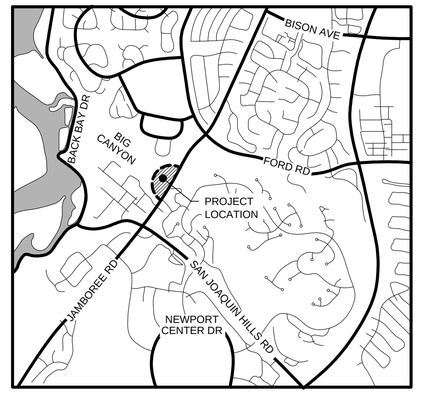
DWG. NO.	TITLE
C001	EXISTING CONDITIONS & PHASE I EROSION CONTROL PLAN
C002	SITE PLAN
C003	DRAINAGE PLAN
C004	PHASE II EROSION CONTROL PLAN
C005	SECTIONS
C006	DETAILS SHEET 1
C007	DETAILS SHEET 2
C008	DETAILS SHEET 3

LANDSCAPING DRAWINGS

DWG. NO.	TITLE
L001	SITE RESTORATION PLAN (PLACEHOLDER - NOT INCLUDED)
L002	IRRIGATION PLAN (PLACEHOLDER - NOT INCLUDED)

REFERENCE DRAWINGS

DWG. NO.	TITLE
R001	OCSD DOSING STATION DETAIL



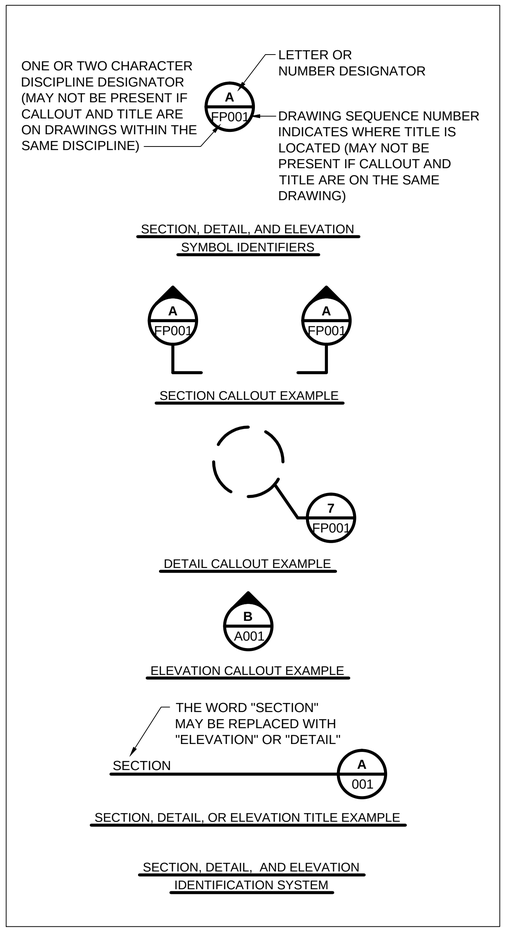
LOCATION MAP

ADDRESS:
1855 JAMBOREE ROAD
NEWPORT BEACH, CA 92660

N

NOT TO SCALE

PRELIMINARY - NOT FOR CONSTRUCTION



no.	date	by	ckd	description
A	01/20/16	BCW	CJS	ISSUED FOR PERMIT

BURNS McDONNELL

9400 Ward Parkway
Kansas City, MO 64114
(816) 333-9400

BRIAN KEITH SNYDER
C 59247

Cover - Index

EXHIBIT 3
3 of 13

LEGEND

- PROPERTY LINE
- EXISTING EASEMENT
- EXISTING SANITARY SEWER
- EXISTING STORM SEWER .
- PROPOSED EASEMENT
- PROPOSED STORM SEWER
- PROPOSED PVC GATED PIPE
- PROPOSED PVC UNDERDRAIN
- PROPOSED SEDIMENT LOGS (WATTLES)
- EXISTING MAJOR CONTOURS
- EXISTING MINOR CONTOURS
- PROPOSED MAJOR CONTOURS
- PROPOSED MINOR CONTOURS
- PROPOSED SOLID PIPE (AS LABELED)
- EXISTING FLOW LINE
- PROPOSED FLOW LINE
- PROPOSED TEMPORARY ROCK CHECK DAM
- PROPOSED RIP RAP
- PROPOSED VEGETATED SOIL LIFT REVETMENT
- EXISTING SANITARY SEWER MANHOLE

ABBREVIATIONS

%	PERCENT
@	AT
-	NOT APPLICABLE
AC.	ACRES
ACI	AMERICAN CONCRETE INSTITUTE
ANSI	AMERICAN NATIONAL STANDARDS INSTITUTE
APWA	AMERICAN PUBLIC WORKS ASSOCIATION
ASTM	AMERICAN SOCIETY FOR TESTING AND MATERIALS
AWWA	AMERICAN WATER WORKS ASSOCIATION
BGS	BELOW GROUND SURFACE
BM	BENCHMARK
BMP'S	BEST MANAGEMENT PRACTICES
BV	BALL VALVE
C, CL	CENTERLINE
CMP	CORRUGATED METAL PIPE
CO	CLEAN OUT
CONT.	CONTINUED
CP	CONTROL POINT
CRSI	CONCRETE REINFORCING STEEL INSTITUTE
CU.	CUBIC
D	DEPTH
DIA.	DIAMETER
DWG.	DRAWINGS
E	EAST / EASTING
ECB	EROSION CONTROL BLANKET
EL.	ELEVATION
ETC.	ETCETERA
E.W.	EACH WAY
EX.	EXISTING
F	FAHRENHEIT
F.E.S.	FLARED END SECTION
FML	FLEXIBLE MEMBRANE LINER
FT.	FEET
GA.	GAUGE
GALV.	GALVANIZED
GPM	GALLONS PER MINUTE
GW	GROUNDWATER
H.W.L	HIGH WATER LEVEL
HDPE	HIGH DENSITY POLYETHYLENE
HRS	HOURS
I.C.	IN CONTRACT
I.D.	INSIDE DIAMETER
ID	IDENTIFICATION
IN.	INCHES
INC.	INCORPORATED
INV.	INVERT
L.F.	LINEAR FEET
L.W.L	LOWER WATER LEVEL
LB.	POUND
MAX.	MAXIMUM
MH	MANHOLE
MIL	MILLI-INCH
MIN.	MINIMUM
MW	MONITORING WELL
N	NORTH / NORTHING
N.I.C.	NOT IN CONTRACT
N.W.L	NORMAL WATER LEVEL
NO.	NUMBER
O.D.	OUTSIDE DIAMETER
OHE	OVERHEAD ELECTRIC
OSHA	OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION
P	PIPE
P. & I.D.	PROCESS AND INSTRUMENTATION DIAGRAM
P.F.D.	PROCESS FLOW DIAGRAM
PI	POINT OF INTERSECTION
P	PROPERTY LINE
PLS	PURE LIVE SEED
PPM	PARTS PER MILLION
PSI	POUNDS PER SQUARE INCH
PVC	POLYVINYL CHLORIDE
P.V.I.	POINT OF VERTICAL INTERSECTION
R	RANGE OR RADIUS
REINF.	REINFORCED
S	SOUTH
S.S.	STAINLESS STEEL
SB	SPLITTER BOX
SDR	STANDARD DIMENSION RATIO
SF	SQUARE FEET
SQ.	SQUARE
STA.	STATION
STD.	STANDARD
SW	SOUTHWEST
SWPPP	STORMWATER POLLUTION PREVENTION PLAN
T	TOWNSHIP
TYP.	TYPICAL
UBC	UNIFORM BUILDING CODE
UV	ULTRAVIOLET
V	VALVE
W/	WITH
W.E.	WATER SURFACE ELEVATION
WLC	WATER LEVEL CONTROL STRUCTURE
WW	WASTEWATER
YDS.	YARDS

PIEZOMETER INFORMATION

PIEZOMETER NO.	TOP OF CASING ELEV.	NORTHING	EASTING	GW ELEV. 3/9/15
P-1	43.91	2175973.98	6066002.22	36.54
P-2	49.65	2176311.21	6066421.20	40.62
P-3	49.33	2175865.57	6066182.06	35.50

PROJECT CONTROL POINTS

CONTROL POINT NO.	DESCRIPTION	NORTHING	EASTING	ELEV.
780	CHISLED "X" IN CONCRETE SEWER PAD	2176055.14	6066062.22	42.57
781	CHISLED "X" IN SIDEWALK	2175907.94	6066276.53	64.11

PROJECT CONTROL POINTS PROVIDED BY SMITH SURVEYING, INC.

no.	date	by	ckd	description
A	01/20/16	BCW	CJS	ISSUED FOR PERMIT

PRELIMINARY - NOT FOR CONSTRUCTION

BURNS McDONNELL
9400 WARD PARKWAY
KANSAS CITY, MO 64114
816-333-9400

date	detailed
JANUARY 2016	T. DUCKER
designed	checked
B. WEIS	C. SNIDER

NEWPORT BEACH, CA

BIG CANYON RESTORATION
GENERAL NOTES, LEGEND, AND ABBREVIATIONS

project	contract
83234	-

drawing G001 – rev. A

sheet 2 of 12 sheets

file 83234_G001 GENERAL NOTES.DWG

EXHIBIT 3
BRIAN KEITH SNYDER
C 59247
4 of 13

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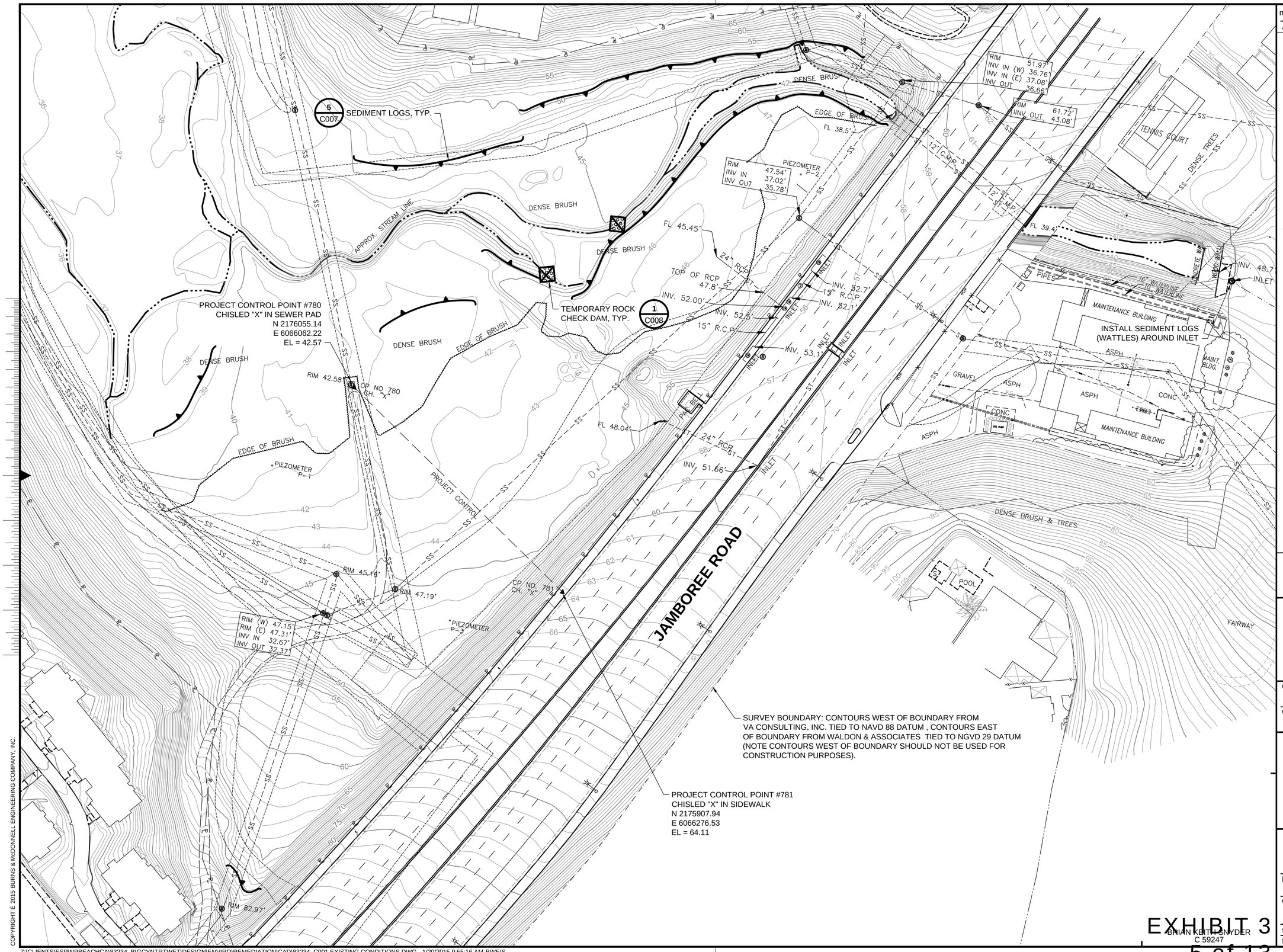


no.	date	by	ckd	description
A	01/20/16	BCW	CJS	ISSUED FOR PERMIT

NOTES:
1. EASEMENTS SHOWN ARE FROM AVAILABLE INFORMATION.
2. TOPOGRAPHY, BOUNDARIES, AND EXISTING FEATURES SHOWN ARE FROM SURVEYS PROVIDED BY VA CONSULTING, INC., SMITH SURVEYING, INC., WALDON & ASSOCIATES, AND INFORMATION FROM THE CITY OF NEWPORT BEACH GIS MAPPING DEPARTMENT.
3. PHASE I EROSION CONTROL PLAN PROVIDES MINIMUM INITIAL BMPs TO BE INCLUDED IN CONTRACTOR'S SWPPP. PHASE I BMPs SHALL BE IMPLEMENTED PRIOR TO ANY LAND DISTURBANCE.

NORTH

0 20' 40' 80'
SCALE IN FEET

PRELIMINARY - NOT FOR CONSTRUCTION

BURNS McDONNELL
9400 WARD PARKWAY
KANSAS CITY, MO 64114
816-333-9400

date	detailed
JANUARY 2016	B. WEIS
designed	checked
B. WEIS	C. SNIDER

NEWPORT BEACH, CA

BIG CANYON RESTORATION
EXISTING CONDITIONS &
PHASE I EROSION CONTROL PLAN

project	contract
83234	-

drawing C001 – rev. A

sheet 3 of 12 sheets
file 83234_C001 EXISTING CONDITIONS.DWG

EXHIBIT 3
BRIAN KEITH SNYDER
C 59247
5 of 13

Scale For Microfilming
Millimeters
Inches

Z:\CLIENTS\ESP\NPBEACHCA\83234_BIGCYNTRTWET\DESIGN\ENVIRO\REMEDIATION\CAD\83234_C001 EXISTING CONDITIONS.DWG 1/20/2015 9:55:16 AM BWEIS

STILLING POOL AND RIP RAP (REFER TO STANTEC DRWAWINGS)

A C005

PROPOSED 3' WIDTH TRAIL

PIEZOMETER P-3 TO BE ABANDONED (BY OTHERS)

MAINTENANCE RAMP TO STILLING POOL (REFER TO STANTEC DRAWINGS)

B C005

4 C007 VEGETATED SOIL LIFT REVETMENT

EMERGENCY SPILLWAY

GATED INET PIPE

APPROX. EXISTING BIG CANYON CREEK FLOW LINE

OUTLET TO NEW HABITAT AREA

PIEZOMETER P-1 TO BE ABANDONED (BY OTHERS)

C C005

NEW HABITAT CREATION AREA / CONSTRUCTION STAGING AREA

OUTLET TO NEW HABITAT AREA

CONCRETE PAD FOR DOSING STATION, SEE SHEET R001 FOR DETAILS

T.O.B.-48.5

47 SLOPE

COLLECTION POINT FOR SE SEEP WATER (WATER LEVEL CONTROL STRUCTURE AND VALVE / METER VAULT)

STAIRS FOR PEDESTRIAN TRAIL ACCESS

JAMBOREE ROAD CULVERT EXTENSION (REFER TO STANTEC DRAWINGS)

BEND IN FRESH WATER PIPE FL=52.0

DRY WEATHER FLOW DIVERSION STRUCTURE

FRESH WATER PIPE FROM GOLF COURSE

EX. FL OUT = 50.0 +/-

EXISTING STORM CULVERT

METERED CONNECTION POINT TO SANITARY PIPE

VALVE / VAULT

PIPE TO ROUTE FRESH WATER THROUGH BIOSWALE

PIPE FOR TEMPORARY IRRIGATION OF BIORETENTION VEGETATION

JUNCTION MANHOLE / BYPASS STRUCTURE

TRAIL ACCESS RAMP (5.0%)

WATER QUALITY UNIT (FL ~ 47)

JUNCTION MANHOLE / BYPASS STRUCTURE

LOW WATER CROSSING (REFER TO STANTEC DRAWINGS)

JAMBOREE ROAD

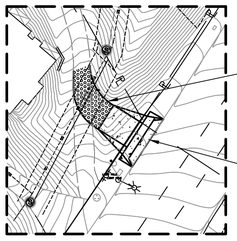
BIORETENTION CELL (SURFACE EL ~ 45.5) (BOTTOM OF BIORETENTION MEDIA ~ 42.5)

UTILITY ACCESS ROAD (REFER TO STANTEC DRAWINGS)

PIEZOMETER P-2 TO BE ABANDONED (BY OTHERS)

SEE "SOUTH OCSD ACCESS IMPROVEMENTS" VIEW, THIS SHEET

SURVEY BOUNDARY: CONTOURS WEST OF BOUNDARY FROM VA CONSULTING, INC. TIED TO NAVD 88 DATUM , CONTOURS EAST OF BOUNDARY FROM WALDON & ASSOCIATES TIED TO NGVD 29 DATUM (NOTE CONTOURS WEST OF BOUNDARY SHOULD NOT BE USED FOR CONSTRUCTION PURPOSES).



TAPER EXISTING GRAVEL ACCESS ROAD TO NEW DRIVE APRON

PROPOSED CURB CUT AND CONCRETE DRIVE APRON

SOUTH OCSD ACCESS IMPROVEMENTS

no.	date	by	ckd	description
A	01/20/16	BCW	CJS	ISSUED FOR PERMIT

NOTES:

1. EASEMENTS SHOWN ARE FROM AVAILABLE INFORMATION.
2. TOPOGRAPHY, BOUNDARIES, AND EXISTING FEATURES SHOWN ARE FROM SURVEYS PROVIDED BY VA CONSULTING, INC., WALDON & ASSOCIATES, SMITH SURVEYING, INC., AND INFORMATION FROM THE CITY OF NEWPORT BEACH GIS MAPPING DEPARTMENT.

NORTH

0 20' 40' 80'

SCALE IN FEET

PRELIMINARY - NOT FOR CONSTRUCTION

BURNS McDONNELL

9400 WARD PARKWAY
KANSAS CITY, MO 64114
816-333-9400

date	detailed
JANUARY 2016	B.WEIS
designed	checked
B. WEIS	C. SNIDER

NEWPORT BEACH, CA

BIG CANYON RESTORATION

SITE PLAN

project	contract
83234	-

drawing **C002 – A** rev.

sheet 4 of 12 sheets

file 83234_C002 SITE PLAN.DWG

EXHIBIT 3
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C 59247
6 of 13

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Scale For Microfilming
Millimeters
Inches

PIPE PENETRATION THROUGH CULVERT WALL

BEND IN FRESH WATER PIPE FL = 47.76Ñ

ANCHOR 6" HDPE PIPE TO CULVERT WALL, MAINTAIN 0.5% SLOPE

DRY WEATHER FLOW DIVERSION STRUCTURE
FL (IN, EXISTING) = 50.25 Ñ
FL (OUT, EXISTING) = 50.10 Ñ
FL (OUT) = 49.50 Ñ*
*MAINTAIN 6" BELOW EX. FL (OUT)

FLARED END SECTION
5' X 5' RIP RAP
FL (OUT) = 45.00

METERED CONNECTION POINT TO SANITARY PIPE

6" HDPE PIPE TO ROUTE FRESH WATER BACK INTO CHANNEL

EXISTING FL (OUT) = 45.50
INSTALL FLARED END SECTION AND 15' X 10' RIP RAP

VALVE / VAULT
FL = 47.27 Ñ

24" HDPE PIPE @ 5.0%

BEND IN 6" IRRIGATION PIPE, FL = 46.19 Ñ

6" HDPE PIPE FOR TEMPORARY IRRIGATION OF BIORETENTION VEGETATION @ 0.5% SLOPE

6" PIPE (ABOVE GRADE) ANCHORED TO BOULDERS, PIERS @ 0.5% SLOPE

EX. FL OUT = 50.0 +/-

CORE-DRILL RET. WALL FOR PIPE PENETRATION

INSTALL JUNCTION MANHOLE DIVERSION / OVERFLOW BYPASS STRUCTURE
TOP EL = 55.00
FL (IN, EXISTING) = 50.25 Ñ
FL (OUT, W, EXISTING) = 49.25 Ñ
FL (OUT, SW) = 47.75*
*VERIFY 1.5' LOWER THAN FL (OUT, EX.)

18" HDPE PIPE @ 0.7%

WATER QUALITY UNIT
RIM = 51.75
FL (IN) = FL (OUT) = 47.00

12" HDPE PIPE @ 1.0%

REMOVE EXISTING END SECTION, INSTALL JUNCTION MANHOLE DIVERSION / OVERFLOW BYPASS STRUCTURE
RIM = 51.90
FL (IN, EXISTING) = 48.04
FL(OUT) = 47.94

LOW WATER CROSSING, FL = 49.00
(REFER TO STANTEC DRAWINGS)

JAMBOREE ROAD

HDPE FLARED END SECTION
10' X 10' RIPRAP
FL (IN) = 42.00

24" HDPE PIPE

HDPE FLARED END SECTION
15' X 15' RIPRAP
FL (OUT) = 39.00

SURVEY BOUNDARY: CONTOURS WEST OF BOUNDARY FROM VA CONSULTING, INC. TIED TO NAVD 88 DATUM , CONTOURS EAST OF BOUNDARY FROM WALDON & ASSOCIATES TIED TO NGVD 29 DATUM (NOTE CONTOURS WEST OF BOUNDARY SHOULD NOT BE USED FOR CONSTRUCTION PURPOSES).

1 C007

1 C006

4 C006

3 C007

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NOTES:
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NORTH

0 30' 60'
SCALE IN FEET

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BIG CANYON RESTORATION
DRAINIAGE PLAN

project	contract
83234	-

drawing **C003** rev. **A**

sheet 4 of 12 sheets
file 83234_C003 DRAINAGE PLAN.DWG

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C 59247
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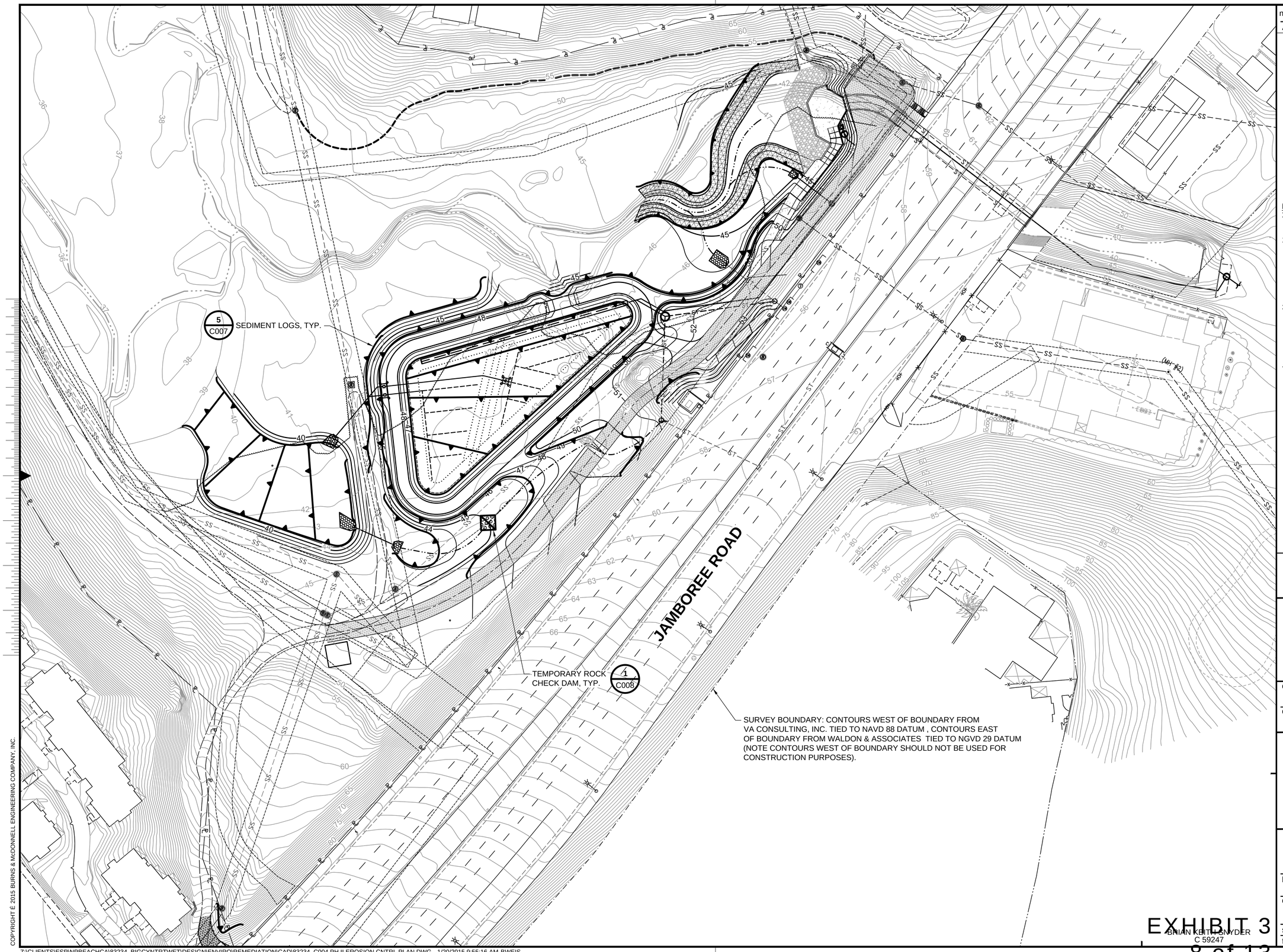

no.	date	by	ckd	description
A	01/20/16	BCW	CJS	ISSUED FOR PERMIT

NOTES:
1. EASEMENTS SHOWN ARE FROM AVAILABLE INFORMATION.
2. TOPOGRAPHY, BOUNDARIES, AND EXISTING FEATURES SHOWN ARE FROM SURVEYS PROVIDED BY VA CONSULTING, INC., SMITH SURVEYING, INC., AND INFORMATION FROM THE CITY OF NEWPORT BEACH GIS MAPPING DEPARTMENT.
3. PHASE II EROSION CONTROL PLAN PROVIDES MINIMUM BMPs TO BE INCLUDED IN CONTRACTOR'S SWPPP. PHASE II BMPs SHALL BE IMPLEMENTED IMMEDIATELY UPON REACHING FINAL GRADES FOR A GIVEN AREA.
4. MAINTAIN PHASE I AND PHASE II EROSION CONTROL FEATURES UNTIL ALL DISTURBED EARTH IS RESTORED AS SPECIFIED.

NORTH

0 20' 40' 80'
SCALE IN FEET

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KANSAS CITY, MO 64114
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BIG CANYON RESTORATION
PHASE II EROSION CONTROL PLAN

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drawing C004 – rev. A

sheet 6 of 12 sheets

file 83234_C004 PH II EROSION CNTRL PLAN.DWG

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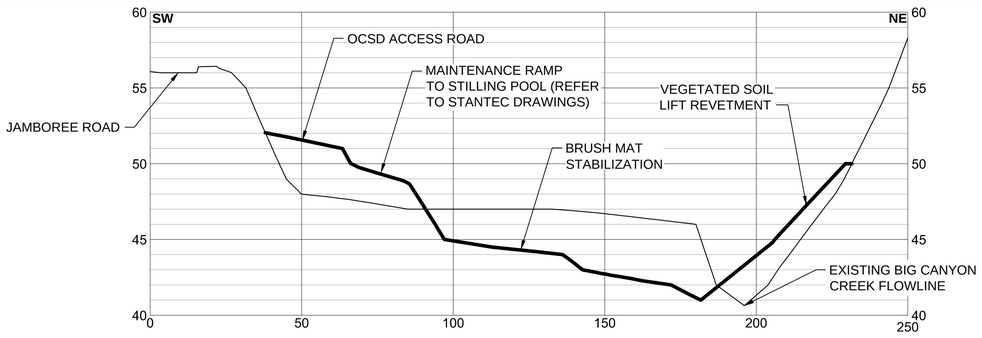
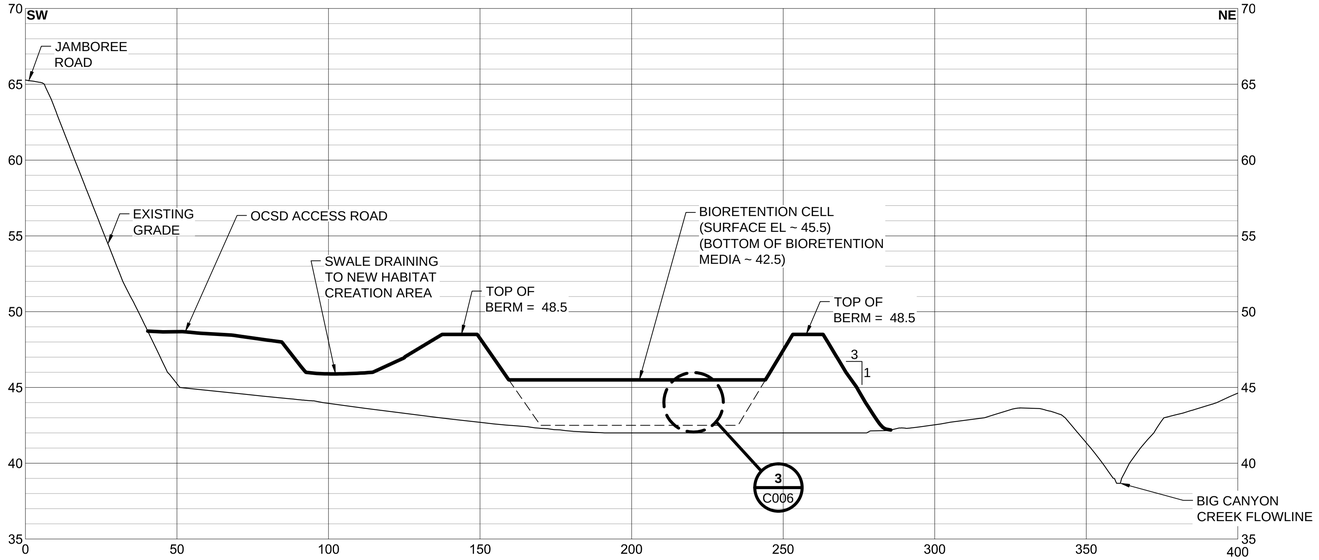


SECTION A / C002

HORIZONTAL 0 25' 50' SCALE IN FEET

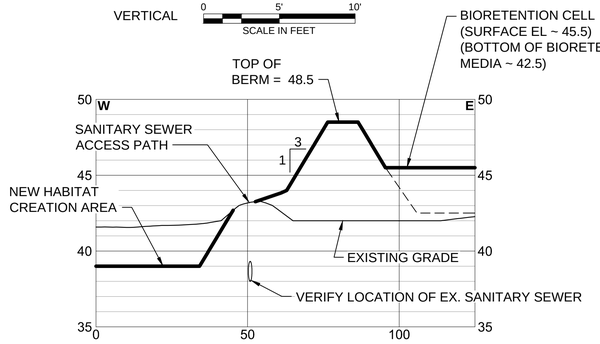
VERTICAL 0 5' 10' SCALE IN FEET



SECTION B / C002

HORIZONTAL 0 25' 50' SCALE IN FEET

VERTICAL 0 5' 10' SCALE IN FEET



SECTION C / C002

HORIZONTAL 0 25' 50' SCALE IN FEET

VERTICAL 0 5' 10' SCALE IN FEET

no.	date	by	ckd	description
A	01/20/16	BCW	CJS	FOR REVIEW

PRELIMINARY - NOT FOR CONSTRUCTION

BURNS McDONNELL

9400 WARD PARKWAY
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816-333-9400
LICENSEE NO. 000165

date	detailed
January 2016	D. NYBERG
designed	checked
B. WEIS	C. SNIDER

NEWPORT BEACH, CA

BIG CANYON RESTORATION

SECTIONS

project	contract
83234	-

drawing **C005** rev. **A**

sheet 7 of 12 sheets

file 83234_C005 SECTIONS.DWG

BRIAN KEITH SNYDER
C 59247

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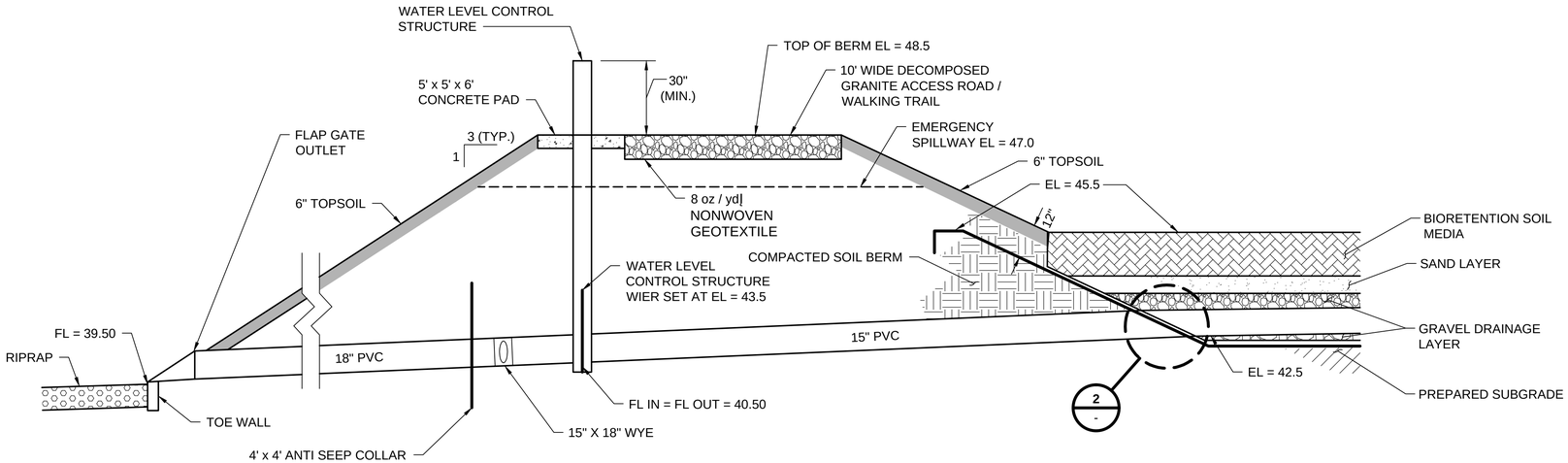
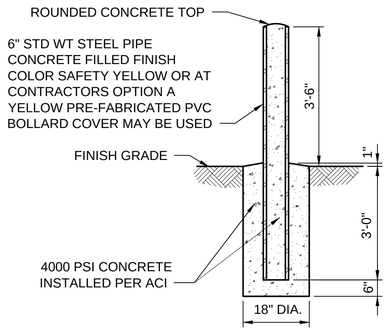
Scale For Microfilming: Millimeters / Inches



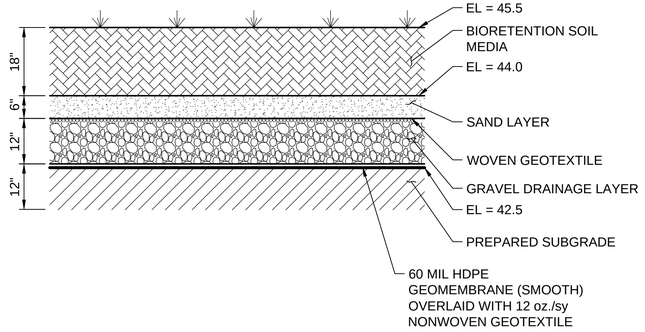
BIORETENTION CELL OUTLET STRUCTURE — 1 / C003
NOT TO SCALE



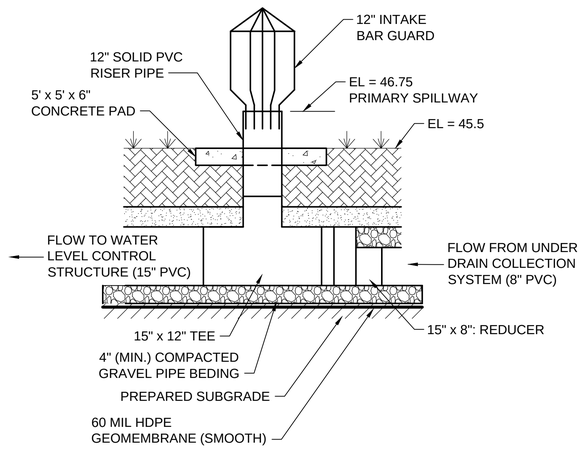
TYPICAL PIPE BOLLARD DETAIL
NOT TO SCALE

NOTE:

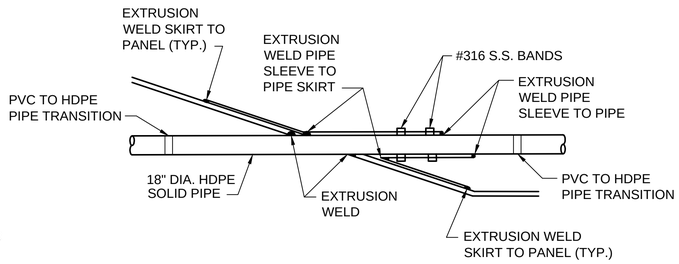
1. PREPARE SURFACE IN FIELD BY SSPC-SP6 METHODS TO SSPC-SP6 QUALITY AND 1.0 MIL MIN PROFILE DEPTH. FIRST COAT IS TO BE ALKYD PRIMER AT MIN 40% SOLIDS BY VOLUME. SECOND AND THIRD COATS ARE TO BE ALKYD GLOSS ENAMEL MIN 40% SOLIDS BY VOLUME. EACH COAT APPLIED AT 1.5 MILS MIN DRY.



BIORETENTION CELL TYPICAL SECTION — 3 / C005
NOT TO SCALE



BIORETENTION CELL PRIMARY SPILLWAY RISER — 4 / C003
NOT TO SCALE



DETAIL
TYPICAL PIPE BOOT DETAIL — 2 / -
NOT TO SCALE

NOTES:

1. USE S.S. BANDS TO CLAMP LINER TO PIPE AFTER APPLYING MANUFACTURER RECOMMENDED LINER-TO-PIPE SEALANT LIBERALLY AROUND ENTIRE AREA TO BE CLAMPED.
2. CONSTRUCT LINER PENETRATION IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.
3. PIPE SLEEVE AND SKIRT SHALL BE 60 MIL HDPE FML.

no.	date	by	ckd	description
A	01/20/16	BCW	CJS	ISSUED FOR PERMIT

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KANSAS CITY, MO 64114
816-333-9400

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JANUARY 2016	T. DUCKER
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B. WEIS	C. SNIDER

NEWPORT BEACH, CA

BIG CANYON RESTORATION
DETAILS SHEET 1

project	contract
83234	-

drawing C006 – rev. A

sheet 8 of 12 sheets

file 83234_C006 DETAILS - 1.DWG

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C 59247

10 of 13

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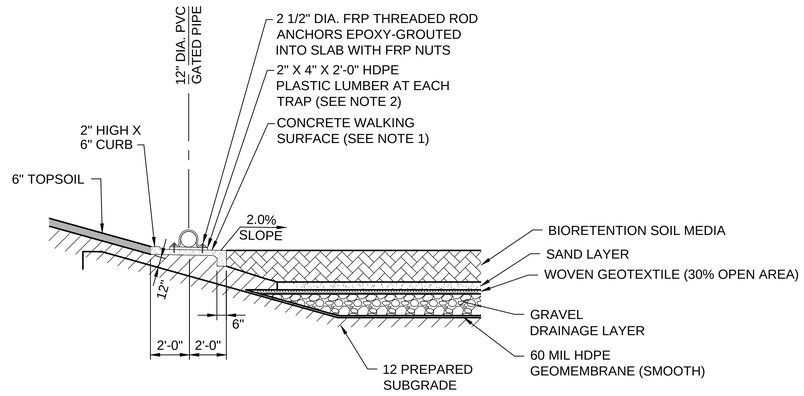
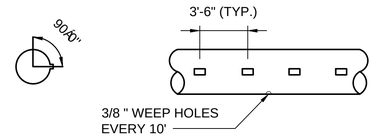


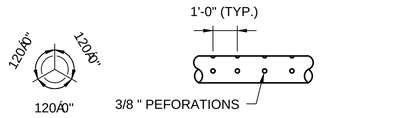
DETAIL BIORETENTION CELL INLET — 1 / C003
NOT TO SCALE

NOTES:

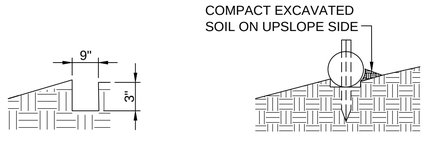
1. CONCRETE WALKING SURFACE MINIMUM 4" THICK FIBER-REINFORCED CONCRETE SLAB WITH SAW CUTS 8'-0" O.C. USE FIBERMESH 300 AT 1.5 LBS/CUBIC YARD (OR APPROVED EQUAL).
2. PROVIDE HDPE PLATE WASHER/SHIMS TO ASSURE THE LONGITUDINAL EXPANSION CONTRACTION OF 12-INCH PVC HEADER PIPE.



TYPICAL 12" DIA. GATED BIORETENTION INLET PIPE — 2 / -
NOT TO SCALE



TYPICAL 6" DIA. PERFORATED COLLECITON PIPE — 3 / C003
NOT TO SCALE



TRENCH DETAIL

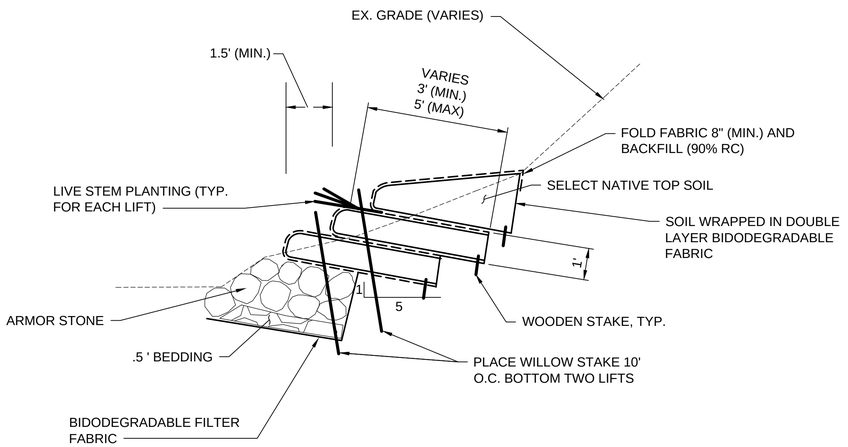
SECTION VIEW

PERSPECTIVE VIEW

NOTES:

1. EXCAVATE A 2"-3" DEEP X 9" WIDE TRENCH ALONG THE CONTOUR OF THE SLOPE. EXCAVATED SOIL SHOULD BE PLACED UPSLOPE FROM THE ANCHOR TRENCH.
2. PLACE THE WATTLE IN THE TRENCH SO THAT IT CONTOURS TO THE SOIL SURFACE. COMPACT SOIL FROM THE EXCAVATED TRENCH AGAINST THE WATTLE ON THE UPHILL SIDE. ADJACENT WATTLES SHOULD TIGHTLY ABUT.
3. SECURE THE WATTLE WITH 18"-24" STAKES EVERY 3'-4' AND WITH A STAKE ON EACH END. STAKES SHOULD BE DRIVEN THROUGH THE MIDDLE OF THE WATTLE LEAVING AT LEAST 2"-3" OF STAKE EXTENDING ABOVE THE WATTLE. STAKES SHOULD BE DRIVEN PERPENDICULAR TO THE SLOPE FACE.

SEDIMENT LOGS (WATTLES) — 5 / C001, C004
NOT TO SCALE



VEGETATED SOIL LIFT (TYP.) SECTION — 4 / C002
NOT TO SCALE

no.	date	by	ckd	description
A	01/20/16	BCW	CJS	ISSUED FOR PERMIT

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JANUARY 2016	T. DUCKER
designed	checked
B. WEIS	C. SNIDER

NEWPORT BEACH, CA

BIG CANYON RESTORATION
DETAILS SHEET 2

project	contract
83234	-

drawing C007 – rev. A

sheet 9 of 12 sheets

file 83234_C007 DETAILS - 2.DWG

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11 of 13

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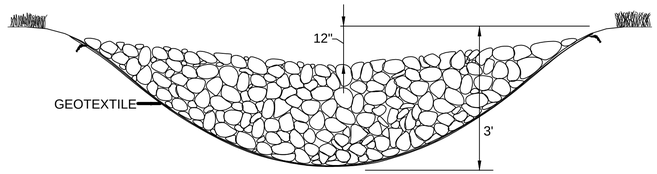
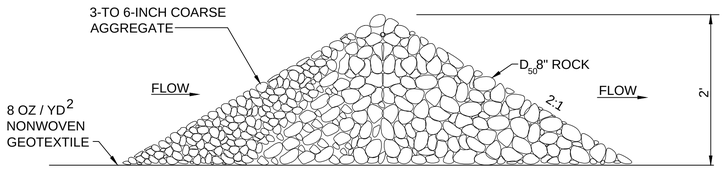


ELEVATION VIEW
NOT TO SCALE



NOTES:

1. CHECK DAMS SHOULD BE CHECKED FOR SEDIMENT ACCUMULATION AFTER EACH STORM EVENT OF 1/2-INCH OR GREATER. SEDIMENT SHOULD BE REMOVED WHEN IT REACHES ONE HALF OF THE ORIGINAL HEIGHT OF THE DAM.

2. REGULAR INSPECTIONS SHOULD BE MADE TO ENSURE THAT THE CENTER OF THE DAM IS LOWER THAN THE EDGES. EROSION CAUSED BY HIGH FLOWS AROUND THE EDGES OF THE DAM SHOULD BE CORRECTED.

TEMPORARY ROCK CHECK DAM (1)
NOT TO SCALE
C001, C004

no.	date	by	ckd	description
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BIG CANYON RESTORATION
DETAILS SHEET 3

project	contract
83234	-

drawing **C008** rev. **A**

sheet 10 of 12 sheets

file 83234_C008 DETAILS - 3.DWG

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C 59247
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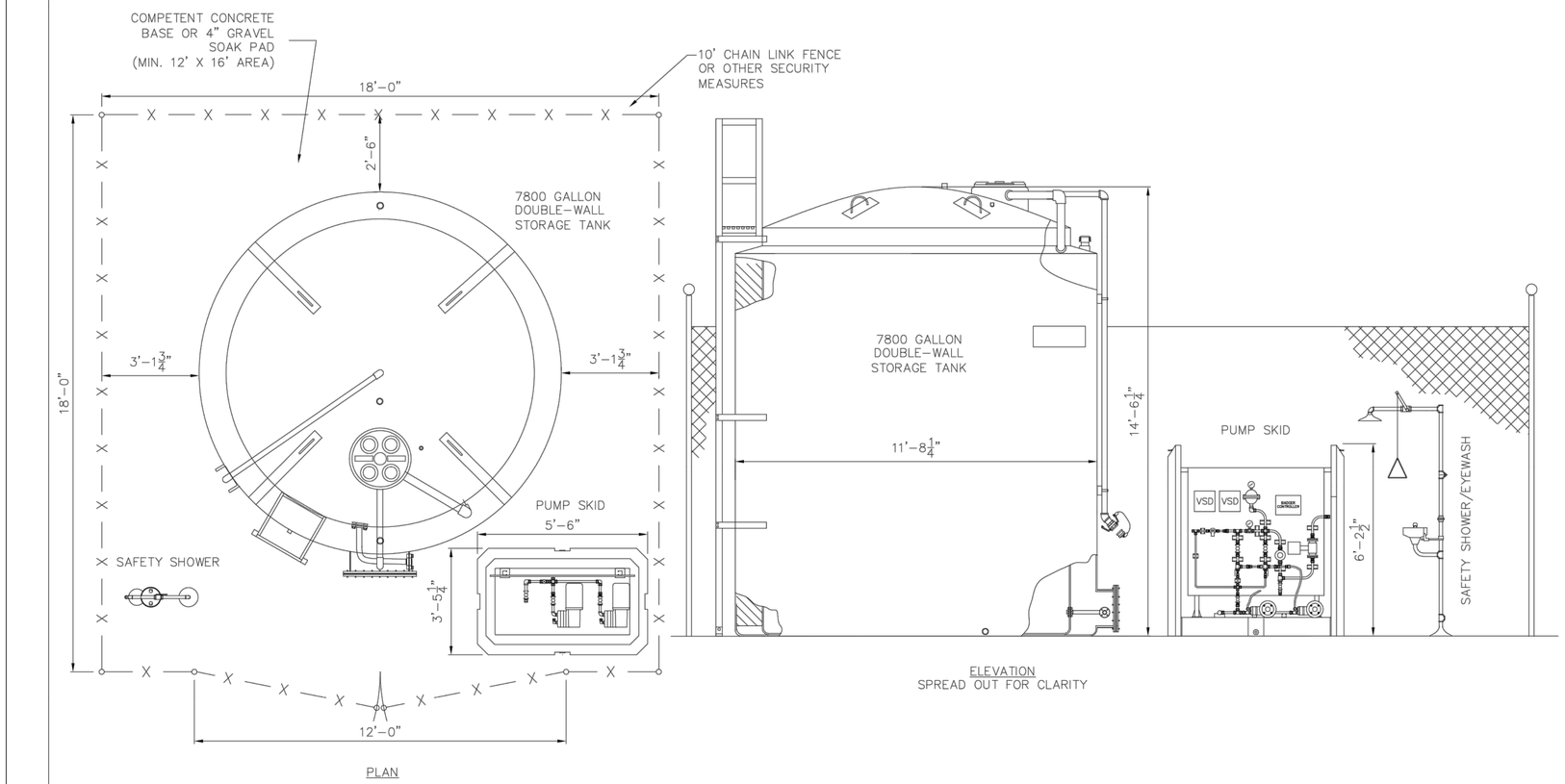

NOTES:

1. NOT TO SCALE, ACTUAL LAYOUT/DIMENSIONS MAY DIFFER
2. 120 V POWER REQUIREMENTS (GENERAL PURPOSE ELEC):

ALL PROMINENT PUMP SYSTEMS	15 AMP
1 GPM WANNER SINGLE DOSE SYSTEMS	20 AMP
1 GPM WANNER DUAL DOSE SYSTEMS	40 AMP
3 GPM WANNER SINGLE DOSE SYSTEMS	20 AMP
3 GPM WANNER DUAL DOSE SYSTEMS	40 AMP
8 GPM WANNER SINGLE DOSE SYSTEMS	25 – 30 AMP
8 GPM WANNER SINGLE DOSE SYSTEMS	50 AMP

US Peroxide
Technologies for a clean environment
500 BISHOP ST. NW, STE. C-3
ATLANTA, GA 30318-4369
Phone 404.403.7092
Fax 404.352.6077
Web www.h2o2.com

DRAWING TITLE:
GENERAL DESIGN
USP-7800 SYSTEM
H2O2 SERVICE

DRAWN BY:	DATE:	CHECKED BY:	DATE:
MTM	2/09/09	JDK	2/09/09

FILE NAME: USP7800HP 2P1D

QUOTE/PO NO:	SHEET:	REV:
N/A	1 OF 1	A

no.	date	by	ckd	description
A	01/20/16	-	-	ISSUED FOR PERMIT

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date	detailed
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NEWPORT BEACH, CA

BIG CANYON RESTORATION
OCSD DOSING STATION DETAIL

project	contract
83234	-

drawing R001 – rev. A

sheet 13 of 13 sheets
file 83234_R001 OCSD DETAIL.DWG

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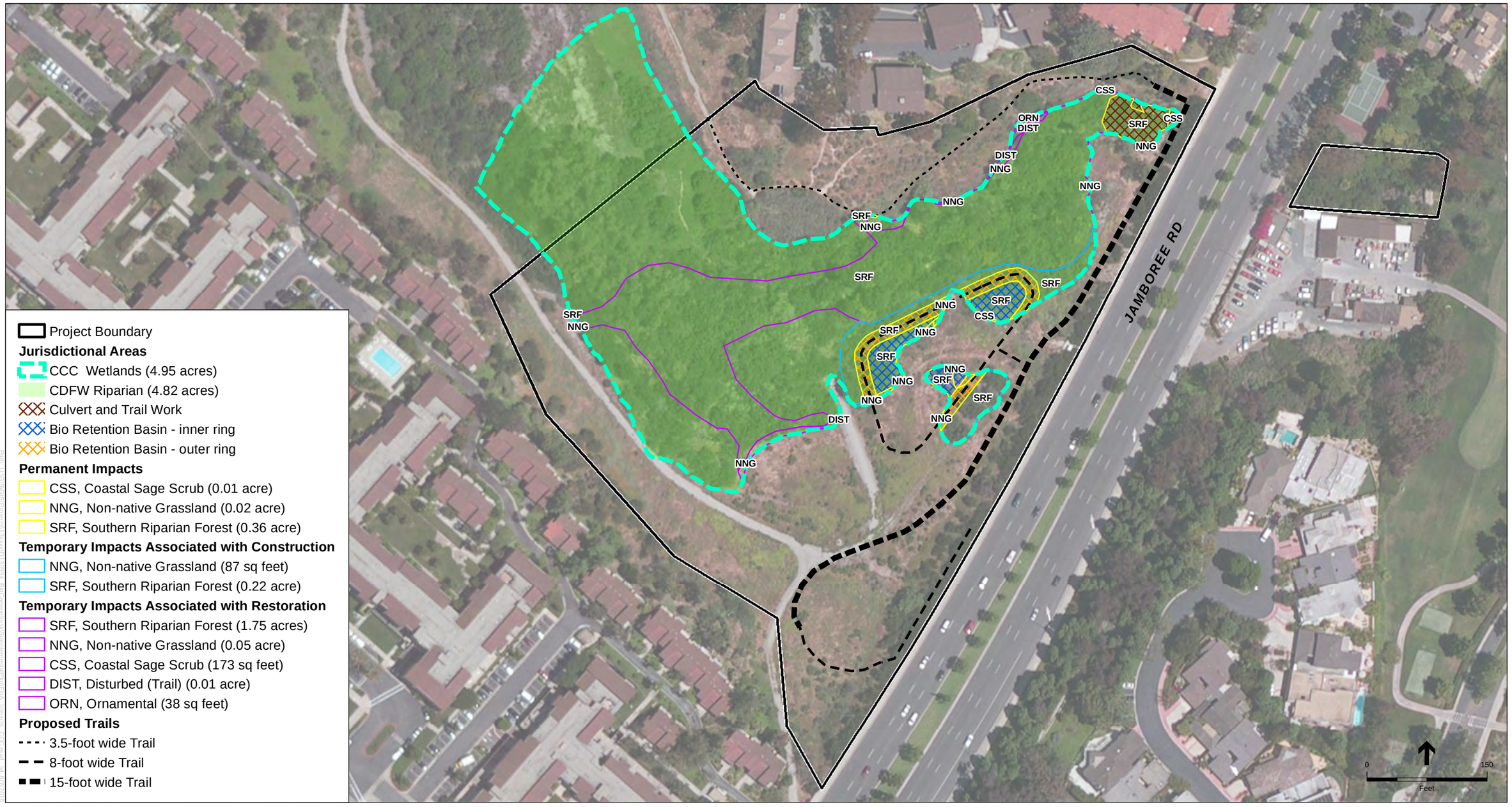
13 of 13



SOURCE: City of Newport Beach, ESA, ESRI

Big Canyon Habitat Restoration and Water Quality Improvement Project. D130934

Figure A

CCC Temporary and Permanent Impacts

EXHIBIT 4