

# **Oregon Zoo Bond Citizens' Oversight Committee**

## CALENDAR YEAR 2015 REPORT

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*Presented March 2016 to the Metro Council and the community*





March 1, 2016

**Re: Oregon Zoo Bond Citizens' Oversight Committee Report for the calendar year 2015**

Dear Metro Councilors and residents of the region:

In 2008 Portland area voters expressed the value they place on animal welfare and water and energy conservation when they passed the \$125 million bond measure that funds habitat and infrastructure upgrades at the Oregon Zoo. As mandated by the bond measure, the Oregon Zoo Bond Citizens' Oversight Committee ("the committee") provides independent citizen review to help ensure the public's money is well spent. This is the committee's annual report to the Metro Council and the community, presenting its findings on how the program has progressed during the period from January through December 2015. This letter highlights some of the major findings and recommendations of the report.

**PROGRESS**

The Comprehensive Capital Master Plan describes the zoo's vision and goals, the purpose and intent for each facility, and includes a budget, sequence and timeline of bond-funded construction projects. The committee commends the zoo staff for the successful completion of Elephant Lands, Condors of the Columbia, the Veterinary Medical Center, and extensive infrastructure upgrades, including the water filtration system at the Penguinarium. The program is halfway through completion of the projects identified in the zoo bond ballot measure. The committee commends the zoo for completing all projects to date within the approved budget and schedule.

Of principal concern to this committee is completion of all bond projects with the remaining funding without sacrificing bond program and animal welfare objectives.

**Animal Welfare**

Protecting animal health and safety was a priority in the ballot measure. The committee commends the creation of Elephant Lands and its success in providing for the welfare of the elephants with its natural habitat features, and a design that encourages natural elephant behaviors and nurtures family dynamics. The committee recommends publicly sharing, when complete, the outcomes of the studies currently underway that are assessing the impact of the new habitat on the elephants' wellbeing and health.

### **Conservation Education**

The ballot measure highlighted a need to increase access to conservation education for zoo visitors. The Education Center is currently under construction and will create a dedicated space for highly interactive, engaging learning about nature and conservation. The zoo is developing partnerships with conservation organizations to deliver collaborative educational programs and office space in the new facility. Prior to the opening of the new center, the committee recommends a status report on the development of those partnerships to deliver sustainability programming.

Animal welfare, sustainability/green living, and conservation education are common threads through each project's interpretive elements. The committee commends the effectiveness of the Condors of the Columbia interpretives. Summative evaluation demonstrated that visitors learned about the impact of lead ammunition and microtrash on the survival of this endangered species, and visitors were willing to make changes to improve the odds of the condors recovering.

### **Infrastructure and Sustainability**

The ballot measure called for the zoo to conserve and reuse water, requiring extensive infrastructure upgrades. The zoo has made significant contributions to water and energy conservation in the design and construction of the new habitats, with a goal to achieve or exceed U.S. Green Building Council Leadership in Energy and Environmental Design (LEED) Silver certification. The Veterinary Medical Center received LEED Gold Certification, and the goal has been set for the Education Center also to achieve LEED Gold.

The committee recommends that the zoo apply for a renewable energy grant from Portland General Electric in spring 2016 if its new grant program receives pending approvals and is opened for application. Receipt of this grant would significantly expand the Education Center's solar panels and create a net-zero facility that can serve as a teaching tool. The committee commends the Oregon Zoo Foundation, zoo bond staff and SolarWorld for developing a partnership to save funds on the procurement of solar panels. The committee also applauds the innovative first commercial use of cross-laminated timber in Oregon as part of Elephant Lands, and recommends the bond program continue to identify innovative sustainability investments.

### **Program Governance**

A robust governance and oversight structure continues to guide the bond program and is proving to be effective in ensuring careful and diligent stewardship of bond funds. The committee recommends preserving the current governance structure of the bond program to report to the Metro deputy chief operating officer for appropriate oversight. The committee looks forward to meeting and working with the new zoo director, Dr. Don Moore, through the completion of the bond projects.

### **Contracting Methods and Diversity**

The committee continues to support the consideration of alternative contracting methods to reduce risk and achieve the most cost-effective and efficient use of the zoo bond funds. The use of Construction

Management/General Contractor (CM/GC) creates a team from the start of the project that works more cooperatively to solve problems and finds the best way to design and build the project. This alternative procurement for the construction contractor minimized the risks on Elephant Lands, including the percentage of change orders. The use of CM/GC on the Education Center and Polar Bear projects will ensure strong project oversight by staff and best address the needs of these complex projects with difficult site conditions. It will also allow for more outreach to diverse contractors during the design phase as the construction contractor is brought on board early in the project.

The aspirational contracting goal for the zoo bond-funded construction projects is 15 percent participation from minority-owned, women-owned, and emerging small business (MWESB) firms. More than \$6 million in contract work has been awarded to MWESB businesses through 2015, with the majority of the contracts going to minority-owned businesses. The zoo has met the 15 percent aspirational goal on some projects, but has been challenged in meeting the goal on other projects due to specialty work not provided by MWESBs, lack of MWESB firms having the lowest bid, and increased regional demand for MWESB contractors.

Construction contracts for the Education Center will exceed the 15 percent MWESB goal. The committee recommends additional reporting on Diversity in Workforce and Contracting plans, evaluation, outcomes, and alternative options available to increase MWESB participation and diversity in the workforce.

The programmatic approach to investing in art on the zoo campus at three major plazas (instead of at each project) is a cost-effective and efficient model. The committee recommends continued partnership with the Regional Arts and Culture Council to assist with artist solicitation and selection.

## **FINANCES**

Bond program funds are being utilized effectively to achieve the commitments of the ballot measure. Expenditures through the end of 2015 were \$73.8 million of the \$144.2 million total resources available.

Cost escalation for construction in the region is impacting the ability to meet the original scope with the estimated budgets for the remaining projects. The committee recommends an updated cost escalation analysis to ensure the budget is adequate to meet the original intent of the ballot measure. Each project budget includes contingency funds, and the overall program has a contingency fund as well. The committee will consider and recommend project modifications if inflationary increases in construction costs exceed current budget estimates.

Program administrative costs are being controlled to ensure voter-approved funds are spent efficiently. The committee recommends updating the budget allocation for administrative costs to reflect the revised forecasted expenditures, and recommends an annual report regarding administrative costs.

The committee commends the thorough feasibility analysis conducted by staff and the Remote Elephant Center Task Force, and supports the Metro Council decision not to pursue a remote elephant center. The committee will work with program staff to recommend reallocation of the remaining \$7.1 million in funds set aside for that project. The focus will be on meeting the commitments defined in the ballot measure.

The committee appreciates the Oregon Zoo Foundation support of the capital upgrades at the zoo.

#### **Independent Audit**

Moss Adams issued the annual independent financial audit report of the zoo bond program on November 17, 2015. The auditors reported that nothing came to their attention that caused them to believe that Metro failed to comply with the provisions of the bond measure. No specific management letter comments were made.

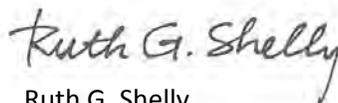
#### **CONCLUSION**

The committee continues to take seriously its charge as an independent group to oversee implementation of the zoo bond program to ensure funds are spent wisely and the bond projects are successfully built. We are pleased to report that the program is on the right path in terms of structure, expenditures and achievement of defined goals, and is on track to deliver on promises to voters.

Respectfully,



Bill Kabeiseman  
Oversight Committee Chair  
Attorney, Garvey Schubert Barer



Ruth G. Shelly  
Oversight Committee Vice Chair  
Executive Director, Portland Children's Museum

# Oregon Zoo Bond Citizens’ Oversight Committee Report

A report to the Metro Council and community regarding progress on the zoo bond program

Presented March 2016 for the calendar year 2015

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# Oregon Zoo Bond Citizens' Oversight Committee Report

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In 2008 Portland area voters expressed the value they place on animal welfare and water and energy conservation when they passed the \$125 million bond measure that funds habitat and infrastructure upgrades at the Oregon Zoo. As mandated by the bond measure, the Oregon Zoo Bond Citizens' Oversight Committee ("the committee") provides independent citizen review to help ensure the public's money is well spent. The committee's charge is to determine if the zoo improvement program is on the right path in terms of structure, expenditures and achievement of defined goals. This is the committee's annual report to the Metro Council and the community, presenting its findings on how the program has progressed during the period from January through December 2015.

## **Zoo Bond Ballot Measure:**

### **Bonds to Protect Animal Health and Safety; Conserve, Recycle Water**

The zoo bond measure calls for updating and replacing old exhibits and facilities, increasing access to conservation education, and replacing utility systems to reduce water and energy use and lower operating costs.

- Provide more humane care for animals; update four outdated and undersized enclosures with larger, more natural and safer spaces.
- Protect animal health and safety; modernize zoo's substandard 45-year-old animal clinic determined deficient by the Association of Zoos and Aquariums.
- Increase access to conservation education; provide more space for summer camps, classes and hands-on learning for kids, adults and families.
- Improve water quality; replace the zoo's 1950s sewer system, reducing pollution by separating sewage from stormwater, harvesting runoff for reuse.
- Conserve, reuse water; install water recycling filtration systems; replace leaking, worn-out plumbing, irrigation systems, saving 11,000,000 gallons of water annually.

## **Why the committee exists**

The Metro Council first appointed the committee in January 2010. The committee met five times in 2015: February, May, September, October (call-in meeting) and November. Currently the committee has 15 members, who bring to the committee skill sets from a diverse set of backgrounds (see Appendix A).

The committee operates under a charter that incorporates the governance and reporting requirements of Metro Council Ordinance 10-1232. The Metro Council president appoints the chair of the committee, a position currently held by Bill Kabeiseman. The chair selects a vice chair, currently Ruth Shelly.

The committee meetings typically involve interactive presentations by the zoo bond staff team and other Oregon Zoo staff. Each meeting includes considerable discussion and question/answer time.

The committee operates at a high oversight level, reviewing the zoo improvement program to ensure that structure, expenditures and defined goals are on track. In most cases, the committee does not make specific project decisions. Members look at how decision-making occurs and how business is conducted. The committee seeks to help ensure that the right processes and controls are in place so that the best possible value can be realized from the voter-approved zoo bond funds. The attached organizational chart of the zoo bond program (Appendix B), illustrates the many different levels of interaction and oversight.

The 2008 zoo bond measure titled "Bonds to Protect Animal Health and Safety: Conserve, Recycle Water" (the "zoo bond") called for a citizen oversight committee to do the following:

1. Assess progress in implementing the Oregon Zoo bond measure project improvements.
2. Report on project spending trends and current cost projections, and review and report on the annual independent financial audit of spending.
3. Consider and recommend project modifications intended to account for increases in construction costs in excess of budget estimates, to ensure that the purpose and promise of the Oregon Zoo bond measure is fully realized.

## **The committee's reporting requirement**

The committee is required to report annually to the Metro Council regarding the progress of the zoo bond measure improvements, spending trends and cost projections, and project modifications. This document satisfies that requirement. This committee helps ensure the best value for the voters' investment and provides this report to the community as part of its oversight and stewardship.

In addition to the bond reporting requirements, the committee reviewed other requirements and goals for the program. These included the state requirement that 1.5 percent of construction cost on projects of a certain size be used for renewable energy installations. Metro requires that 1 percent of construction cost on projects of a certain size be used for commissioned artwork. Zoo bond-funded construction projects have an aspirational contracting goal of 15 percent participation from minority-owned, women-owned and emerging small business firms. The committee also strives to maintain a focus on the visitor experience and how its recommendations impact this crucial component.

The committee changed the format of this 2016 report from previous years' reports by focusing on the three main objectives of the ballot measure – animal welfare, conservation education, and infrastructure and sustainability – and MWESB utilization, for each project. This report also includes the committee's recommendations from the report issued in March 2015 that covered the calendar year 2014 (2014 Findings and Recommendations), and provides an update on the outcomes of those recommendations. Some projects did not have recommendations in last year's report.

## REQUIRED REPORTING ITEM 1 | Assessment of Progress

## A. Program initiatives

### Animal Welfare: Overview

Protecting animal health and safety was a priority in the ballot measure. The zoo is committed to providing its animals with the best care possible. Animal welfare is prioritized during design and monitored during all construction. The sequence and design of the bond-funded projects prioritizes animal welfare.

Animal welfare refers to an animal's collective physical, mental and emotional states over a period of time and is measured on a continuum from poor to excellent. The zoo aims to optimize the welfare potential of each animal through enrichment, enclosure design, nutrition, research programs, veterinary care, husbandry training, population management and staff training. For animals *to thrive* the zoo takes into account psychological aspects of welfare such as mental, emotional and social health. The zoo conducts continuous welfare assessments of individual animals and the species to analyze behavior, physiology, and physical appearance and health.

The ballot measure called for providing more indoor and outdoor space for elephants, replacing the zoo's 45-year-old animal hospital and quarantine facilities to protect animal health and safety; protecting the health of polar bears by replacing concrete structures and substrate with pools, more space and more humane conditions; and replacing plain and sterile areas for primates with trees, rocks and water.

The new Elephant Lands habitat provides more space, natural substrate and enrichment opportunities for the elephants. Expanded spaces and upgraded facilities will improve elephant health and welfare by providing more options for extending outside access, increasing exercise opportunities and offering a more natural and stimulating environment for elephants.

The new Veterinary Medical Center offers dramatic improvements in animal holding, climate controlled spaces, enclosure substrates to increase safety and comfort, reduced stress for animals, options for environmental enrichment and ability to control communicable diseases. The Association of Zoos and Aquariums (AZA) had deemed the zoo's former animal quarantine facility substandard. Built 45 years ago, it had inadequate lighting, heating, ventilation and drainage. The building had been noted for its rusty and crumbling walls and doors. Some surfaces were difficult to sanitize because of degradation and could have provided foreign objects subject to ingestion by animals. The facility's floor could damage the hooves of some animals. The Oregon Zoo is now recognized as having one of the most advanced animal hospitals in the country.

The new Condors of the Columbia exhibit offers room for the birds to fly and provides the public with a rare opportunity to see this threatened Northwest native bird, increasing awareness of the need to protect this endangered species.

In 2016 the polar bear habitat will be designed to increase access to natural substrate, renovate and increase the efficiency of the water-filtration system, reduce temperatures, chill the pool water, and

increase both land and pool space. The current exhibit is almost entirely concrete, generating a very high heat load in the summer. The current exhibit is basically the same footprint as the original facilities from 1959. Although renovated in 1980, the entire exhibit needs improvements to provide more humane conditions for polar bears. Renovations over the years have completely enclosed the bears, creating visual barriers that prevent the bears from looking into the distance. The current space, both land and pools, do not meet the Manitoba Protocols established for zoo polar bears. The future habitat will provide long views, natural substrate, more space, and meet all requirements for polar bear habitats.

The primate habitat will be upgraded to provide more complex spaces. Enlarged indoor and outdoor areas would give chimpanzees and mandrills a sustainable and enriching environment. Zookeepers will be able to separate the animals as necessary in the reworked exhibit without denying them an enriching environment. New holding spaces would allow keepers to address the primates' needs on a daily basis, provide better health care and generally improve conditions for the animals.

The rhinoceros habitat will also be expanded to provide more space for this endangered species.

### **Conservation Education: Overview**

The ballot measure highlighted a need to increase access to conservation education for zoo visitors. The zoo aims to inspire visitors to take conservation action, increase its capacity to invite and engage diverse audiences in conservation education, engage other conservation partners in providing resources and programming to the zoo's 1.6 million annual visitors, and advance conservation education in the region by fostering connection and dialogue between different sectors and issues.

The zoo's education programs are of high quality and filled to capacity every year, even though they are provided in limited and inadequate space: two 12-year-old modular trailers, a former storage space, a basement and leased off-site space are used for group presentations. Camps get bumped all summer for competing uses, and the basement space is shared with the zoo's catering program.

The Education Center is currently under construction and will create a dedicated space for education programming at the zoo. Zoo audiences will make lasting connections with zoo partners and other visitors to share experiences, ideas and resources about safe places for individuals and families to be out in nature. Zoo visitors will learn and share ways to make environmentally responsible choices and to take meaningful conservation actions in their homes and communities. Visitors will understand that small things aggregate to have a big impact, a key concept about nature, conservation and personal actions. They will understand that nature is nearby and buzzing with activity in urban settings, even in our backyards and gardens. Exhibits and activities in the Education Center will motivate visitors to make their backyards, gardens and communities more wildlife-friendly. Through live displays, zoo audiences will learn to have a personal connection to and appreciation for small animals such as insects and other invertebrates. Lastly, zoo audiences will gain awareness of and possibly support the conservation efforts of the Oregon Zoo and its partners.

## **Infrastructure and Sustainability: Overview**

The ballot measure called for the zoo to conserve and reuse water, requiring significant infrastructure upgrades. Most of the zoo's infrastructure dates back to the 1950s and '60s. Pipes, plumbing and irrigation systems are outdated, leaking and well past their useful lives. The most expensive utility cost at the zoo is water, and leaking pipes, run-off, inadequate filtration systems, and lack of water storage all contribute to wasting water and increasing costs. Literally millions of gallons of water per year and thousands of dollars will be saved through a major rebuilding of the zoo's water distribution system. In addition, new buildings are being designed to capture solar warmth, and provide natural light and ventilation.

In its Comprehensive Capital Master Plan, the Oregon Zoo detailed its commitment to creating an efficient and sustainable campus constantly striving to increase conservation of resources, and improvement and expansion of services. The bond funds have provided for the replacement of many of the original buildings, antiquated building/operational systems and animal habitats. The Oregon Zoo strives to be an efficient and sustainable campus.

The physical location of the zoo presents development challenges due to natural landforms, steep grades and unstable soil conditions. Projects are shaped using the design team's study of vegetation, geology, hydrology, landforms, topography, circulation, potable water network and existing infrastructure, age of existing buildings and suitability of land for development. Capital improvements, enhancements and sustainable features have been incorporated to improve site infrastructure, including the new train route and trestle, new service road, sanitary sewer line replacement, improved stormwater management, and energy and water saving measures.

In the past, outdated facilities have been obstacles to the zoo's goal of modeling best practices. Some of the zoo's plumbing and wiring is original to the late 1950s. These aged systems are being updated as projects are completed. In addition, projects will be designed and constructed to achieve or exceed U.S. Green Building Council Leadership in Energy and Environmental Design (LEED) Silver certification. The Veterinary Medical Center received LEED Gold Certification, and the goal has been set for the Education Center also to achieve LEED Gold.

### **Oregon Zoo Bond Project Sustainability and Infrastructure Goals:**

- Achieve LEED (Leadership and Energy in Environmental Design) Silver or higher certification.
- Reduce zoo-wide greenhouse gas emissions 80 percent below 2008 levels by 2050, from building operations and maintenance and through energy efficiency and resource conservation.
- Produce on-site renewable energy with solar panels generating electricity and pre-heating hot water. Meet state requirements to invest 1.5 percent of capital construction cost in renewable energy.
- Reduce zoo-wide water use 50 percent below 2008 levels by 2025.

As Oregon's biggest paid attraction based on annual attendance, the Oregon Zoo has a wonderful opportunity to communicate sustainable practices and sustainability principles while enhancing exhibits.

## **Infrastructure and Sustainability: Overview**

### **2015 Findings:**

- Over the past year, the Oregon Zoo has made significant improvements in new and renovated facilities, infrastructure, and habitats incorporating sustainable elements that build synergy for the care of animals, the visitor experience, and service and operations.
- The zoo has separated the old combined sewer system into isolated stormwater and sanitary sewer pipes on projects to date, and will continue to do so on the remaining projects.
- On projects to date, the zoo has built stormwater planters and bioswales to naturally filter and clean stormwater before sending it downstream and will continue to do so on the remaining projects.
- The zoo installed an underground stormwater storage facility under the Elephant Lands encounter habitat capable of storing and slowly releasing storm runoff from the entire zoo in a ten-year rain event.
- The zoo implemented water reuse or reclaimed water systems for nonpotable water demands (rain water harvesting) on the Veterinary Medical Center and Elephant Lands, as well as on the Education Center still under construction. The zoo will continue to install water reuse or reclaimed water systems in the remaining projects to the degree possible.
- The zoo has designed landscape areas with native, climate-adaptive plant species on projects to date and will continue to do so on remaining projects.
- The zoo has installed water filtration and circulation systems to reuse water in the penguinarium and Elephant Lands, and will also do so in the Polar Bear Habitat pools.

## Diversity in Contracting: Overview

The zoo continues to demonstrate its commitment to increase opportunities for minority-owned enterprises, women-owned enterprises, and emerging small businesses (MWESBs) to provide contract services. The aspirational contracting goal for the zoo bond-funded construction projects is 15 percent participation from MWESB firms. Efforts to increase these numbers include evaluation during the procurement of goods and services, outreach to MWESB firms to encourage participation, mentoring of MWESB firms, and breaking projects down to increase accessibility to bid.

Improved recruitment strategies of MWESB firms included:

- General contractor starts recruiting MWESBs earlier to help get them ready by bid day, and hosting workshops onsite before bid day.
- Breaking down bid packages for subcontractors so that they are not overwhelming for smaller firms to bid.
- General contractor fronting the retainage for smaller MWESB subcontractors who may not be able to participate in the project without it.

The total bond program MWESB expenditures are approximately \$6 million to date. Of that, \$5.4 million has been construction contracts, with a breakdown of 62 percent (\$3.4 million) to minority-owned businesses, 20 percent (\$1 million) to emerging small businesses, and 18 percent (\$1 million) to women-owned businesses.

Early in the bond program, Metro used a different method of calculating MWESB utilization (MWESB utilization percentage was calculated based on the value of contract dollars available to subcontractors; excluding the value of the general contractor's self-performed work). Metro revised its methodology in 2014 to include the total contract value (including the general contractor's self-performed work and overhead costs), and this report has updated all MWESB utilization reporting to be consistent with the current method. Metro's revised methodology for calculating MWESB utilization deducts the value of the scopes of work deemed ineligible to MWESB firms from the total construction contract amount to determine the base for utilization rate calculation. For example, for the Condors of the Columbia project, this methodology resulted in removing the specialized aviary mesh installation scope of work, with a subcontract value of \$157,845, from the base calculation. Only three firms nationwide provide the mesh installation, and none of them were certified MWESB firms.

To determine if a scope of work is ineligible, the Metro project manager and contractor contact and search the Oregon Procurement Information Network (ORPIN), State of Oregon MWESB website, Oregon Association of Minority Engineers, Oregon chapter of National Association of Minority Contractors and minority business chambers of commerce to determine if any vendors in the area are eligible to perform the specialized work. The outcome of this search is documented in the project Minority Utilization Report. Metro's procurement manager must approve the request for any specialized work deemed ineligible to MWESB contractors and is responsible for tracking and reporting MWESB contractor utilization.

## **Diversity in Contracting: Overview**

### **2014 Finding and Recommendation *with update*:**

- The committee recommends continued use of alternative procurement options that allow for more MWESB participation, ongoing communication to share best practices and reach out to the MWESB community, and engaging with local resources to increase participation from MWESB firms.

*Update: Elephant Lands used Construction Management/General Contractor (CM/GC) alternative procurement and achieved an MWESB utilization of 10 percent of applicable contract value, with \$4.4 million going to MWESB-certified firms. The upcoming Education Center project is also using CM/GC and is expected to exceed the 15 percent goal due to extensive outreach and less need for specialized contract work.*

### **2015 Findings and Recommendations:**

- The committee recommends that MWESB quarterly and annual reporting be broken down to report individual categories related to minority, women and emerging small business for each project to enable better tracking and planning.
- The committee recommends that staff share the general contractors' Diversity in Workforce and Contracting plan with the committee prior to seeking subcontractor bids on a construction project.
- The committee recommends that when the 15 percent goal may not be reached because of specialty work, that alternative bidding practices such as those suggested above for "2015 improved recruitment strategies of MWESB firms" should be implemented to maximize opportunity.
- The committee recommends that the RFPs for the prime construction contractor include one of the scoring criteria to be a description of efforts the contractor will take to enhance the diversity of the workforce on the entire project.

## **Program Governance and Structure: Overview**

Prior to the start of the zoo bond construction projects, the Metro Auditor recommended improved accountability through clarity of the organizational structure. The Auditor suggested clearly delineating roles and responsibilities and lines of authority.<sup>1</sup> The governance structure set up for the zoo bond program separated bond program project planning and construction activity from zoo operations. The zoo bond program team reports directly to the Metro deputy chief operating officer. In addition, bond program expenditure authority is separate from zoo operations with limited authority designated to the bond program director and overall authority designated to the Metro deputy chief operating officer.

A follow-up audit demonstrated that separating the bond program from zoo operations created a separate project management function better suited to address financial oversight, scheduling and information sharing.<sup>2</sup> This robust governance and oversight structure continues to guide the bond program and is proving to be effective in ensuring careful and diligent stewardship of bond funds.

In May 2014 the zoo experienced a leadership transition with Teri Dresler, at the time general manager of Metro visitor venues, stepping in as interim zoo director. The zoo bond program continued to report to Scott Robinson, Metro deputy chief operating officer, as the program was originally structured, to provide appropriate oversight and separate lines of authority.

In January 2016 the zoo announced the hire of Dr. Donald E. Moore as the new director, who will begin work on February 29, 2016. (This is an update after the 2015 calendar year reporting period.)

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<sup>1</sup> Metro audit issued in November 2009 entitled "Oregon Zoo Capital Construction: Metro's readiness to construct 2008 bond projects," p. 21.

<sup>2</sup> Metro audit issued October 26, 2011, entitled "Zoo Capital Construction Program Audit Follow-up," p.5.

## **Program Governance and Structure**

### **2014 Finding and Recommendation *with update*:**

- The committee commends the bond program for keeping all projects on track, despite the change in zoo executive leadership.

*Update: The bond program continued to keep all projects on schedule and on budget in 2015 throughout the interim zoo director's service, under the guidance of Metro's deputy chief operating officer.*

### **2015 Findings and Recommendations:**

- The committee commends the bond program for continuing to keep all projects on track, despite the change in zoo executive leadership, and looks forward to meeting and working with Dr. Moore through the completion of the bond projects.
- The governance structure that guides the bond program is proving to be effective. The committee recommends preserving the current governance structure of the bond program to report to the Metro deputy chief operating officer for appropriate oversight.

## REQUIRED REPORTING ITEM 1 | Assessment of Progress

## B. Ongoing and new bond projects

### 1. Education Center

The Education Center design offers a highly interactive, engaging facility that provides multiple avenues for learning about nature and conservation. Key features of the site include the Nature Exploration Station (NESt), the Backyard Habitat, Insect Zoo, a species recovery lab raising western pond turtles, classrooms, a flexible events space, a café and offices. Design of the Education Center kicked off in summer 2014, with schematic design approval in fall 2014. More than 3,600 people in the metro region influenced key interpretive themes and potential activities at the Education Center via online and site surveys. Construction began in September 2015, with an expected opening in spring 2017.

The construction has a significant impact on the visitor experience, zoo classes and camps, and zoo operations. Access in and out of the project site onto busy Washington Park roadways is a safety challenge and concern. Close coordination between construction and facility operations is required. The Metro Council approved an alternative procurement for construction management by a general contractor, which helps address these risks, as well as encouraging more minority-owned, women-owned and emerging small business contractor participation. The design team and construction contractors are working closely with zoo staff and stakeholders to minimize the negative impacts to visitors and surrounding neighbors during construction.

**Animal Welfare** – In addition to new improved facilities for the invertebrate collection at the Insect Zoo and western pond turtles at the Species Conservation Lab, the NESt's message of taking small actions on behalf of wildlife will benefit the welfare of animals worldwide.

**Conservation Education** – The Education Center will facilitate the development of Metro's environmental literacy framework and will be a place where regional conservation education partners can connect with each other and the community. Working with partners, the framework outcomes have been molded into the overarching themes for the Education Center, including the big idea that "Small Things Matter":

**Small animals matter.** While visitors to the zoo care about many larger animals such as elephants, orangutans and polar bears, Education Center exhibits and experiences—like the new, improved Insect Zoo—ensure they don't forget the smaller and often underappreciated inhabitants of our world including insects, turtles and microorganisms which are critical to a functioning and healthy natural system.

**Small actions matter.** Small individual actions and choices can make a big difference. An exhibit in the Education Center's Nature Exploration Station highlights "wildlife heroes"—everyday people who have taken action on behalf of wildlife and wild places. An adjacent "Take Action Now" exhibit encourages visitors to follow these heroes' example and pledge to do more to help.

**Small people matter.** Today's children will one day take over stewardship of the natural world and will inherit a world in whatever condition current generations leave it. The Education Center will provide conservation education program activity spaces for camps, classes and zoo visitor use to develop tomorrow's conservation leaders.

The zoo is developing partnerships with like-minded conservation organizations to deliver collaborative educational programs and access to office space in the new facility. Key partners include the U.S. Fish and Wildlife Service, which has dedicated staff and resources to provide ongoing year-round programming; the Intertwine Alliance, which will be using the space to convene and plan among regional conservation education organizations; and Metro's Property and Environmental Services and Parks and Nature divisions, which will provide content and resources for programs and exhibits on natural gardening, waste reduction and sustainability. Dozens of additional partners participate in a partnership and programming advisory group.

**Infrastructure and Sustainability** – This project includes the completed demolition of the Tiger Plaza structures, a portion of infrastructure work identified in the Master Plan to address stormwater and site utilities, and visitor and revenue-generating amenities for the West Plaza. The Education Center will be a “building that teaches” with sustainable elements prominently on display and interpreted through an interactive sustainability dashboard exhibit. The LEED Gold building will feature rain water reuse in restrooms, solar panels for energy production, bird-friendly glazing, Forest Stewardship Council-certified wood and efficient heating and cooling systems. The Oregon Zoo Foundation and zoo staff have developed a new partnership with SolarWorld, the largest U.S. manufacturer of solar panels and a leader in solar technology, to provide solar panels at cost.

**Diversity in Contracting** – A preliminary estimate of the Education Center total contract expenditures that will be awarded to MWESB firms shows the zoo bond program will meet its target.

## Education Center

### 2014 Findings and Recommendations *with updates:*

- The committee recommends that close attention be paid to impacts on visitor experience and zoo operations during construction of the Education Center.

*Update: Zoo staff worked in close partnership with the Explore Washington Park and Portland Parks & Recreation staff to minimize impacts on traffic flow through the parking lot, and scheduled the construction phasing to minimize impact to visitors and operation revenue by allowing access to the train during peak season.*

- The committee extends its appreciation to Portland Children's Museum for its collaboration with zoo education and bond staff to provide alternative camp/class space during 2014 and 2015.

*Update: The joint summer camps in 2015 were successful, but the number of collaborative camps was reduced for 2016 based on camper request to have the option of a full-day zoo experience.*

- The committee also appreciates the financial pledge from the Oregon Zoo Foundation to support enhancements to the teen space and interpretive signage, with a focus on fostering youth leadership development.

*Update: In 2015 the Oregon Zoo Foundation launched its fundraising campaign to support the Education Center and programs. Foundation support has been strong to date.*

### 2015 Findings and Recommendations:

- The committee recommends that the bond program apply for a renewable energy grant from Portland General Electric in spring 2016 if the grant program receives pending approvals and is opened for application. Receipt of this grant would significantly expand the building's solar panels and create a net-zero facility that can serve as a teaching tool.
- The committee commends the Oregon Zoo Foundation, zoo bond staff and SolarWorld for developing a partnership to save funds on the procurement of solar panels.
- The committee recommends the zoo staff share, prior to the opening of the new Education Center, the status of partnership development to deliver nature, conservation and sustainability programming and resources in the new facility.
- The committee commends the extensive outreach conducted by the CM/GC contractor to secure MWESB subcontractors, surpassing the 15 percent aspirational goal.

## 2. Polar Bear Habitat

Planning and design work for the Polar Bear Habitat included in the bond is underway. The vision is to develop a new and larger habitat to encourage and promote exploring, digging, swimming, scratching and other natural behaviors. As the world's largest land predators, polar bears need space, and the proposed upgrade will offer them not only more room, but also a safer and more natural and diverse habitat to explore.

**Animal Welfare** – As envisioned, the project will expand the bears' access to natural substrate and habitat, renovate and increase the efficiency of the water-filtration system, reduce temperatures, chill the pool water, and increase both land and pool space. New holding areas will have better lighting and ventilation, allowing for better animal care.

**Conservation Education** – Development of this new habitat also provides the Oregon Zoo the opportunity to educate guests about climate change, as well as the conservation research the zoo conducts with polar bears to assess the impacts of such change. A key component of the new polar bear exhibit will be to bring the zoo's research and positive reinforcement training activities to the forefront of the visitor experience. The Oregon Zoo Foundation recently supported the purchase of a metabolic swim chamber, used to understand the metabolic costs of swimming as bears' habitat changes in the Arctic. One of the main objectives of the interpretive messaging will be to introduce facts about climate change, polar bear conservation, and actions visitors can take to preserve polar bears and their arctic habitat.

**Infrastructure and Sustainability** – Infrastructure work associated with the polar bear project includes a public plaza with guest amenities, visitor path upgrades, and the final phase of upgrading utilities as part of the bond program implementation. The polar bear project will also connect to the geothermal "slinky" system installed during the construction of Elephant Lands to exchange heat and cooling between the habitats.

**Diversity in Contracting** – The approval to utilize CM/GC for this project will allow for more outreach to MWESB contractors during the design phase.

## **Polar Bear Habitat**

### **2015 Findings and Recommendations:**

- The committee agrees with the construction of the Polar Bear Habitat using the Construction Management/General Contractor (CM/GC) alternate procurement method to ensure strong project oversight by staff, to create a team from the start of the project that works more cooperatively to solve problems and finds the best way to design and build the project, and to best address the needs of this complex project with difficult site conditions.
- The committee recommends an updated cost escalation analysis to ensure the budget is adequate to meet the original intent of the ballot measure.
- The committee recommends staff bring major project modifications before the committee for review.
- The committee recommends continued outreach efforts to MWESB contractors, with an emphasis not only on diverse business ownership, but also diverse workforce.

### 3. Interpretive Experience and Wayfinding

The zoo's overall interpretive goals, including both bond project and non bond project initiatives, are to create a more synergistic experience for guests across the entire campus and to position the zoo itself – its environmental resources and stewardship of those resources, husbandry and animal care practices, and conservation programs – as an essential part of that experience.

Each project has interpretive themes and goals. Visitors are engaged as part of the front-end (goal setting), formative (design) and summative (effectiveness) evaluations. Animal welfare, sustainability/green living, and conservation education are common threads through each project's interpretive elements.

A new interpretive Elephant Lands app completed in 2015 represents the zoo's first initiative to use smart phone technology to enhance the educational experience. With the new free app (supported by funding from the Oregon Zoo Foundation), visitors can locate individual elephants and record and share observations about the herd by using elephant identification stations. The app also features a pledge that users can take to share a commitment to elephant conservation.

Design of the campus wayfinding system made significant progress in 2015. Zoo staff and consultants continue to work on a system to aid visitor navigation and trip planning on grounds.

#### Interpretive Experience and Wayfinding

##### 2015 Findings and Recommendations:

- The committee commends the effectiveness of the Condors of the Columbia interpretives. Summative evaluation demonstrated that visitors learned about the impact of lead ammunition and microtrash on the survival of this endangered species, and visitors were willing to make changes to improve the odds of the condors recovering.
- The committee appreciates the support of the Oregon Zoo Foundation in funding the Elephant Lands app to enhance the visitors' educational experience.

#### 4. Percent for Art

The zoo bond program is taking a programmatic approach to meeting Metro's 1 percent-for-art requirement. In addition to art installed at the Veterinary Medical Center, the art appropriation for the remainder of the construction projects was pooled for the whole program to fund three major commissions at three plazas (instead of a small art installation at each project). The first commissioned artist, Catherine Widgery, created "Forest Lights" for Elephant Lands and the east plaza, which opened in December 2015 (see Elephant Lands in the next section).

For the second major art commission, the Regional Arts and Culture Council, on behalf of Metro and in conjunction with the Oregon Zoo Public Art Advisory Committee (which includes a member of the Zoo Oversight Committee), issued in 2014 a request for qualifications to select a second commissioned artist to create art for the Education Center and west plaza project. From the 232 artists from around the country who responded to the RFQ, the art committee selected Rob Ley, a public artist from Los Angeles, in November 2014.

Throughout 2015 the Oregon Zoo Public Art Advisory committee worked with Mr. Ley to refine his design. In April, the committee confirmed his recommendation that the best site for the art was in the bioswale near the Education Center entrance, with the goal of mediating human and architecture scales. Inspired by the Education Center's theme of "Small Things Matter," Mr. Ley continued to evolve the design of his sculpture inspired by natural forms, specifically rhizomes. He presented renderings of increasing refinement in both April and September, when the committee officially approved the conceptual design for advancement to design development and construction.

The third major art commission selection process is planned to begin in 2016 in conjunction with the design of the new Polar Bear Habitat.

#### Percent for Art

##### 2015 Findings and Recommendations:

- The programmatic approach to investing in art on the zoo campus at three major plazas (instead of at each project) is a cost-effective and efficient model.
- The committee recommends continued partnership with the Regional Arts and Culture Council to assist with artist solicitation and selection.

## 5. Remote Elephant Center

While a Remote Elephant Center was not included among the list of projects approved by voters when passing Measure 26-96, zoo and Metro staff have been conducting feasibility analysis of potential sites, operational plans and financials, per the Metro Council's direction as stated in Attachment A of Resolution No. 08-3945, approved in 2008.

The Metro Council approved Resolution No. 11-4230 in February 2011 and authorized Metro to enter into options to potentially purchase property for the purpose of providing a Remote Elephant Center (REC). Subsequently the Metro Council allocated \$7.2 million (\$5.8 million of which was from the bond and \$1.4 million from the Oregon Zoo Foundation) earmarked for feasibility, due diligence and, if appropriate, land purchase and construction for the REC project.

Feasibility studies were completed in 2015. These studies include assessments of the operational requirements of an REC and the costs to acquire, prepare and run such a facility. Additional assessments were done on the feasibility of the physical property site on which Metro had the option. Throughout this process, the Oversight Committee recognized that the scope of research, planning and discovery regarding the feasibility of an offsite facility was a time-consuming responsibility that directly competed for staff resources with the ongoing zoo construction site projects.

In 2015 the Oversight Committee recommended that the Metro Council make a final decision in 2015 regarding the feasibility of creating and operating an REC, and whether the currently considered site would be appropriate for such a facility. In an effort to be thorough and thoughtful in a decision regarding a remote elephant center, in 2015 a third-party panel with a range of business and property expertise was appointed by the Metro chief operating officer to review the completed feasibility studies and recommend a path forward. This Remote Elephant Center task force unanimously concluded that constructing and operating an off-site facility was not a feasible undertaking for the zoo, and that zoo resources could better support conservation through other projects and programs. The task force made this recommendation to the Metro chief operating officer, who consulted with stakeholders across the Oregon Zoo.

*Note beyond the 2015 year of this report:* On January 21, 2016, COO Martha Bennett presented her recommendation to the Metro Council to suspend pursuit of the Remote Elephant Center project due to lack of financial viability, difficulty securing suitable property and the ability to achieve the zoo's vision for elephants through the new onsite Elephant Lands. On February 18, the Metro Council unanimously approved a formal resolution supporting her recommendation and ending the project.

## Remote Elephant Center

### 2014 Finding and Recommendation *with update*:

- The committee recommends that the Metro Council make a final decision in 2015 regarding the feasibility of creating and operating a Remote Elephant Center, and whether the currently considered site would be appropriate for such a facility.

*Update: Metro responded to the Oversight Committee's recommendation and in August 2015 determined not to proceed with the acquisition of the site under option for a possible REC. Provided as an update to the 2015 reporting period: On January 21, 2016, Metro's chief operating officer provided a recommendation to the Metro Council not to pursue an REC. On February 18, 2016, the Metro Council supported that recommendation and approved Resolution 16-4683, ending the REC project.*

### 2015 Findings and Recommendations:

- The committee commends the thorough feasibility analysis conducted by staff and the Remote Elephant Center task force.
- The committee supports the REC task force's recommendation not to pursue a Remote Elephant Center.

## REQUIRED REPORTING ITEM 1 | Assessment of Progress

## C. Completed bond projects

### 1. Elephant Lands, December 2015

In recognition that elephants are the Oregon Zoo's signature species, Metro prioritized the onsite Elephant Habitat (known as "Elephant Lands") project in terms of timing and the financial resources dedicated to it. The project was substantially complete in December 2015, within its approved schedule and budget. The grand opening to the public was held on December 15, 2015, with several hundred people attending.

As part of the elephant habitat expansion, a number of related subprojects were also completed. These include: 1) relocation of the train loop, 2) a new perimeter service road, 3) relocation of the Wild Life Live! program and 4) water and energy sustainability measures, including anticipated Leadership in Energy and Environmental Design (LEED) Silver certification for the elephant buildings and site, and a new campus geothermal loop to reduce the use of fossil fuels for heating and cooling. The Elephant Lands project was completed using a Construction Management/General Contractor (CM/GC) alternative procurement approach.

Of particular note, the low percentage of cost for change-order work for this large project is to be commended. A project of this size and scope would generally average change orders that increase costs by around 10 percent of the construction cost. The Elephant Lands number has been particularly low, around 5 percent of the guaranteed maximum price, which shows one of the benefits of utilizing CM/GC.

Two totem poles were displaced in the construction of Elephant Lands, which created an opportunity for a complete restoration by the Lelooska tribe and artist Ray Losey prior to relocating the poles. With significant engagement of the Native American community, the zoo hosted a well-attended totem pole rededication event to celebrate the Native American culture, history and meaning of the poles.

Elephant Lands also includes work by the first major commissioned artist under the 1 percent-for-art program, Catherine Widgery, whose artwork welcomes guests to Forest Hall, the elephants' new indoor habitat.

The Wild Life Live! facility was displaced due to the construction of Elephant Lands. The bond program renovated an under-utilized animal holding facility at the zoo and successfully relocated the Wild Life Live! program. The relocation resulted in improved living quarters for the program animals, and Wild Life Live! staff are pleased with the new headquarters.

**Animal Welfare** – The Elephant Lands project significantly expands the elephant habitat, allowing for an evolution in the way the elephants use their space in support of the zoo's vision for elephants to live in family herds. The design of the habitat sought every opportunity to encourage natural behaviors and nurture family dynamics. The project elements include Forest Hall and the Elephant Barn, the North Meadow Habitat, Encounter Habitat and the South Habitat on a six-acre site.

Throughout the habitat, feeding stations, mud wallows, and water features including a 160,000-gallon pool provide many activity choices and encourage the elephants to be active 14 to 16 hours a day, just as they would in their natural environment. Deep sand groundcover blankets the entire habitat, including most of the indoor areas. State-of-the-art heating and ventilation systems with open doors allow the herd to move inside and out as they please.

In planning for Elephant Lands, the zoo hired a consultant team that included architects expert in the design of animal habitats who drew upon the best features of state-of-the-art elephant facilities around the world. Working with elephant care staff, the design team crafted Elephant Lands to meet the psychological and social requirements of the elephant herd as well as its physical needs. The zoo's research staff collected baseline data on the herd's general health, hormone levels and behavior. Staff will monitor the elephants as they transition into the new habitat, and for years into the future. Their findings are expected to provide scientifically credible documentation of the effects of the new habitat on the elephants' welfare and quality of life, findings that will likely prove valuable to other elephant care facilities.

**Conservation Education** – Art, interpretive signs and other displays installed with the project provide the public with many opportunities to understand the impacts of human activities on wild elephant habitat and to get an up-close experience with these amazing creatures. The Elephant Lands interpretive experience has three main themes:

- **Being an elephant: the mind, body and life of an elephant.** This natural history content helps enrich guests' understanding of elephants as remarkable, unique creatures.
- **Elephant Lands is the Oregon Zoo's vision for elephant care in practice.** These highlights show how elements in and around the habitat enrich the lives of the zoo's elephant herd.
- **Humans and elephants: a shared history.** This exploration of the long, complex history that elephants and humans have shared includes current conservation issues and celebrates more than 60 years of elephants at the Oregon Zoo.

A life-sized wall graphic of Packy, the senior male elephant, allows visitors to appreciate the height and size of an elephant, while a model of an elephant trunk allows them to experience its feel and texture. As mentioned, the Elephant Lands interpretive experience also includes the zoo's first smart phone application. Features of the app, released in December 2015, provide visitors with tools for identifying individual elephants in the herd.

**Infrastructure and Sustainability** – Completion of the six-acre Elephant Lands project exemplifies the zoo's commitment to sustainability through the incorporation of a variety of elements including energy efficiency, sustainable building materials, solar preheating hot water, use of day lighting, stormwater management and the first portion of a new geothermal "slinky" system that will redistribute heat created from cooling the Polar Bear exhibit and move it to Elephant Lands where it is needed to warm the elephants. The zoo received technical assistance and nearly \$150,000 in rebates and incentives from the Energy Trust of Oregon for energy efficiency investments at Elephant Lands.

In 2015 the Portland Business Journal staff nominated Elephant Lands for a PBJ Better Bricks award, primarily for the project's focus on sustainability and use of cross-laminated timber (CLT) for the roof of the Elephant Plaza restroom, the first commercial building in Oregon to use CLT. Cross-laminated timber

is a new engineered wood product made of 2-by-6s glued together in huge sheets and crosshatched in three to nine layers. Made of a naturally renewable resource, CLT is considered a greener choice since it takes less energy to produce than steel and concrete and can be made of smaller, lower-grade timber that avoids cutting old-growth trees.

Infrastructure improvements as part of Elephant Lands include a new service road, which provides a safer environment for visitors by removing most service and construction vehicles from pedestrian paths and by improving emergency vehicle access. In addition, the zoo train tracks were rerouted to provide more space for the elephants and offer better views of the animals.

The zoo anticipates LEED certification of Silver or better; notification will come later this year.

**Diversity in Contracting** – Elephant Lands achieved an MWESB utilization rate of 10 percent of the contract value, with \$4.4 million going to MWESB-certified firms. Due to the project's complexity, scale and specialization, the 15 percent MWESB goal was harder to reach. Also, 25 percent of the subcontractors that bid on the project were MWESB firms, but not all of them had the lowest bid, so some were not awarded the work. The scopes of work deemed ineligible for MWESB firms, and deducted from the total construction contract amount to determine the base for the utilization rate calculation, include: elephant doors and gates, crane, elevators and specialty rock work.

## Elephant Lands

### 2014 Findings and Recommendations *with updates:*

- The use of CM/GC on this project has minimized risks, including the percentage of change orders. The committee recommends that future bond projects continue to utilize alternative contracting methodologies to minimize risk, as appropriate.

*Update: The Education Center and Polar Bear Habitat projects are using the alternative contracting method of construction management by a general contractor.*

- The low percentage of total construction cost for change orders for this large project is to be commended.

*Update: Elephant Lands change orders were about 5 percent of the construction cost, compared to a typical rate of 10 percent for similar projects.*

- The rededication of two totem poles was celebrated in the fall of 2014. The zoo hosted a well-attended event that celebrated the Native American culture, history and meaning of the poles.

*Update: The newly renovated and installed totem poles are popular with visitors and preserve a part of the zoo's history.*

### 2015 Findings and Recommendations:

- The committee commends the zoo staff for the successful completion of Elephant Lands. The design and construction of the zoo's largest and most complex project were successfully completed within the approved schedule and budget.
- The committee commends the creation of Elephant Lands and its success in providing for the welfare of the elephants with its natural habitat features, and a design that encourages natural elephant behaviors and nurtures family dynamics.
- The committee recommends publicly sharing when complete the outcomes of the studies currently underway that are assessing the impact of the new habitat on the elephants' well-being and health.
- The committee applauds the innovation of the Elephant Lands design and construction team in the first commercial utilization of cross-laminated timber in Oregon. The committee recommends the bond program continue to identify innovative sustainability investments.

## 2. Condors of the Columbia, 2014

Condors of the Columbia officially opened to the public in May 2014. Construction was completed on amended schedule and *under* budget by \$412,983. The construction completion date was later than the estimated schedule in the Comprehensive Capital Master Plan, but approved and updated due to the need for a longer design and construction period and the discovery of hidden underground challenges on site. Condors of the Columbia highlights the Oregon Zoo's successful condor breeding program and aims to inspire visitors to learn more about the conservation of these iconic birds.

The interpretative features at the Condors of the Columbia exhibit were designed to illustrate the zoo's role in California condor conservation and to inspire audiences to take conservation action. To validate the efficacy of the interpretive experience, an evaluator was contracted to analyze visitor tracking studies and intercept surveys. The evaluator concluded that Condors of the Columbia was highly successful in meeting the intended outcomes.

The exhibit was not a candidate for LEED certification because it did not meet minimum square-footage requirements.

**Diversity in Contracting** – The project accomplished an MWESB utilization rate of 26 percent; 19 percent were emerging small businesses and 7 percent were minority-owned businesses. The specialty netting scope was deemed ineligible for MWESB firms, and the value was deducted from the calculation.

### Condors of the Columbia

#### 2014 Finding and Recommendation *with update*:

- The committee commends the diligence of the bond team for completing Condors of the Columbia \$418,462 under budget.

*Update: In 2015 the project had some minor landscaping and electrical adjustments totaling \$5,479, resulting in the project being \$412,983 under budget.*

### 3. Veterinary Medical Center, 2012

The grand opening of the VMC was celebrated in January 2012. The Veterinary Medical Center replaced the substandard veterinary and quarantine buildings with a new facility that meets standards set by the Association of Zoos and Aquariums. The Veterinary Medical Center was prioritized as the first bond project for animal health and safety.

**Diversity in Contracting** – Of the total contract value, the project achieved a 10 percent<sup>3</sup> MWESB utilization rate. Five percent were emerging small businesses, 4 percent were women-owned businesses, and 1 percent were minority-owned businesses.

### 4. Penguin Life Support System Upgrade, 2012

The penguin water filtration project was completed in 2012. The goal of the upgrade was to conserve water and improve water quality. Zoo staff estimates that water use has decreased by more than 90 percent as the pool water is filtered versus frequently dumped.

**Diversity in Contracting** – The project accomplished an MWESB utilization rate of 6 percent; all 6 percent were emerging small businesses.

### 5. Comprehensive Capital Master Plan, 2011

The Comprehensive Capital Master Plan was completed and approved by the Metro Council in September 2011. It addresses project sequencing, scope, programming and budgeting for bond projects.

### 6. Water Main Building, 2011

The Water Main Building was completed in 2011 and prevents nonpotable water from entering the water system. It was a crucial upgrade to save water at the zoo, including the capture and reuse of rainwater at the Veterinary Medical Center.

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<sup>3</sup>Metro's calculation methodology at the time of this project was to exclude the cost of prime contractor self-performed work. Out of the \$4,214,163 available in subcontracts (*i.e.*, work not performed directly by the prime contractor), 17 percent of the dollars went to contractors certified as a MBE, WBE or ESB. This number was previously reported in Metro's annual MWESB report.

## 7. Land Use, 2011

Metro completed and received approval for three land use applications with the City of Portland: (1) an amendment to the existing Conditional Use Master Plan to allow work to proceed on the Elephant Lands project and the Condors of the Columbia project, (2) West Lot land use application and (3) an application for a new Conditional Use Master Plan for the next 10 years for the remainder of the specific bond projects and some of the overall master plan improvements.

Parking management responsibilities were turned over to Portland Parks & Recreation as part of the land use process. Impacted parties formed the Washington Park Transportation Management Association (WPTMA). Paid parking for the shared lot and throughout Washington Park was implemented in January 2014. In 2015 the WPTMA was renamed Explore Washington Park with a new website and branding.

### Land Use

#### 2014 Finding and Recommendation *with update*:

- Although Washington Park Transportation Management Association is now responsible for parking management, the committee recommends that Metro ensure the transportation planning process receives adequate oversight and appropriate resources to ensure community access to the zoo and the new bond-funded projects.

*Update: The zoo has representation on the Explore Washington Park board, and continues to participate in the decision-making processes and priority setting to ensure the community has access to the zoo and the new bond-funded projects.*

**REQUIRED REPORTING ITEM 2 | Spending Considerations**

Report on spending trends, current cost projections and independent financial auditors' report

## **A. Overall program spending**

### **Budget and Expenditures**

The zoo bond program is divided into four main areas: construction projects, planning projects, land use processes and program administration. As of December 30, 2015, the total amount budgeted for all program activities is \$140.2 million. Funding sources total approximately \$144.2 million and include \$125 million from general obligation bond measure proceeds, \$5.8 million from the Oregon Zoo Foundation, an expected \$1.1 million in grants, donations, and partner contributions, approximately \$1.5 million in anticipated investment earnings and \$10.7 million from bond sale premium proceeds, of which \$5.9 million has been allocated to the program. The remaining \$4.8 million that is not budgeted to a specific project as of the end of the year is considered additional program contingency.

The Comprehensive Capital Master Plan process is complete as well as the construction of the Veterinary Medical Center, the Penguin Life Support System Upgrade project, the Water Main Building, Condors of the Columbia, Elephant Lands, and the major land use approval processes. These projects represent \$73.8 million (51 percent) of the \$144.2 million total resources, and were completed on time and within budget.

In 2015 Elephant Lands was completed on time and on budget. This was a very complex project with extensive upgrades to habitat, infrastructure and visitor amenities. The committee commends the zoo and all of its internal and external partners for completing this project within the approved budget and schedule.

The planned projects for 2016-2018 include construction of the Education Center, the design and construction of the new Polar Bear Habitat and related infrastructure, and the design of the new Primate and Rhino improvements. In addition, the program continues to plan campus and program-level interpretive design, and projects to meet the one-percent-for-art requirement. These projects represent \$55.4 million (37 percent) of the \$144.2 million total resources. As of December 30, 2015, \$5.6 million has been spent on these projects, including planning, design and construction on the Education Center (construction is 20 percent complete), planning and design of the Polar Bear Habitat (design development scheduled to begin early 2016), and interpretive, wayfinding and art associated with those projects.

The Oregon Zoo Foundation pledged to donate \$5.8 million to support the bond projects. To date, the foundation has provided \$5,330,000 of its total commitment to the zoo; the remaining funds committed to the Education Center will be provided by the fall of 2016. The OZF pledge includes \$3.2 million for Elephant Lands, \$130,000 for Elephant Lands identification mobile application, \$488,000 for the Education Center capital improvements and interpretives, \$30,000 for the Willard Martin mosaic restoration, and the remainder unrestricted for the bond program. OZF has the financial capacity and stability to guarantee the pledge to the bond program.

## Budget and Expenditures

### 2015 Findings and Recommendations:

- The committee commends the zoo for completing all projects to date, including Elephant Lands, within the approved budget and schedule.
- The committee congratulates and thanks the zoo bond program and all of its internal and external partners for successfully completing Elephant Lands.
- The committee congratulates and thanks the Oregon Zoo Foundation for its significant financial support of \$3.2 million to the Elephant Lands project.

## Contracting Methods

The program received Metro Council approval to use an alternative general contractor procurement method called the Construction Management by General Contractor approach for the Elephant Lands, Education Center and Polar Bear Habitat projects and related infrastructure. This approach worked well for the Elephant Lands project and, given the complexity of the zoo bond-funded projects and the possibility of simultaneous construction projects, the committee continues to support the consideration of alternative contracting methods such as this in order to reduce risk and achieve the most cost-effective and efficient use of the zoo bond funds.

## Contracting Methods

### 2014 Finding and Recommendation *with update*:

- The committee supports the continued consideration of alternative contracting methods.

*Update: The program received Metro Council approval to use an alternative general contractor procurement method called the Construction Management by General Contractor approach for the Elephant Lands, Education Center and Polar Bear Habitat projects and related infrastructure.*

### 2015 Findings and Recommendations:

- The committee and Metro Council supported the use of Construction Management by General Contractor (CM/GC) for the Polar Bear Habitat construction.
- The committee supports the continued consideration of alternative contracting methods.

## **B. Cost projections**

### **1. Master Plan Implementation**

The Comprehensive Capital Master Plan describes the zoo's vision and goals, the purpose and intent for each facility, and includes a budget, sequence and timeline of construction projects that will bring the future vision to reality. This representation of the zoo's future is an essential tool to coordinate the development of the zoo's separate facilities into a coherent, effective and unique institution with a clear and recognizable theme and mission.

The Metro Council approved the master plan in 2011, which included the budgets for the bond-funded projects. The CCMP has been and will continue to be a crucial element to ensure efficient and effective use of bond proceeds. As part of the CCMP process, each project budget was developed with a contingency fund for both design and construction. Annual cost escalation due to inflation was also incorporated into each project budget. In addition, the overall program has a contingency fund. The Education Center budget was updated to reflect cost escalation. Funds still remain in program contingency to cover future needs.

The committee commends the economy and efficiency with which the program has been run, and recommends its continuance. Of principal concern to this committee is completion of all bond projects with the remaining funding without sacrificing bond program and animal welfare objectives.

## Master Plan Implementation: Cost Projections

### 2014 Findings and Recommendation *with updates*:

- The committee recommends that the program continue to review and validate budgets and the inflation and cost escalation assumptions on an ongoing basis.

*Update: The zoo bond architectural contracts require that the architect provide cost estimates three times during the design process (at schematic design, design development and 50 percent construction documents), and that the general contractor provide its own cost estimates. Differences between the two estimates are reconciled for an agreed-upon cost projection, and scopes are adjusted to stay within budget. The bond team monitors construction costs through peers and publications, and reviews project detailed estimates.*

- It is critical that the bond program staff continue to use the Comprehensive Capital Master Plan and resulting budgets and schedules to manage the remaining project scopes. This will help ensure that funding and resources are available to complete all bond commitments.

*Update: The Education Center budget was updated to reflect cost escalation. Funds still remain in program contingency to cover future needs.*

### 2015 Findings and Recommendations:

- The committee commends the economy and efficiency with which the program has been run, and recommends its continuance.
- The committee is concerned with the escalating cost of construction and would like a regular report on the effect it will have on the final projects.
- The committee would like a report on the funds available after the next bond sale and the Metro Council decision on the Remote Elephant Center.
- The committee recommends a subcommittee review the remaining commitments and budgets, unallocated resources, and cost escalation to ensure the resources are available to complete all bond commitments.

## 2. Administrative Costs

Administration costs and the actual costs of issuing the bonds total \$3.6 million (4.4 percent) of the zoo bond program's total expenditures through December 30, 2015. This percentage is comparable to other local public bond-funded construction projects. An analysis of the Beaverton School District, Portland Public School District and Portland Community College bond programs resulted in a range of administrative costs between 3.8 percent and 7.2 percent of the total program budget.

Originally staff projected that total administrative overhead costs for the bond program would be \$3.9 million, about 3 percent of total expenditures. At the request of the Oversight Committee, the zoo finance manager completed an analysis of this projection and, in November 2014, reported that estimated costs for direct and indirect program administration is approximately \$4.95 million, or about 4 percent of total bond program expenditures. Of this total, \$1.16 million will be for direct bond program staff and administrative costs.

The balance of the \$4.95 million (\$3.67 million) will pay for indirect support services provided by Metro (finance and accounting, procurement, legal, information services, and human resources). Metro adopts a cost allocation plan in which costs for centralized services are allocated on a reasonable basis. The same methodology for allocation is applied and charged to all Metro programs. The Oregon Department of Transportation reviews Metro's cost allocation plan for compliance with federal rules.

In 2015 the Oversight Committee received a report on the revised numbers and a detailed explanation about how Metro allocates resources for central services. This report made it clear that Metro and zoo staff have taken steps to control these overhead costs to ensure voter-approved funds are spent efficiently to achieve the bond program objectives, while maintaining proper controls and providing needed administrative support.

**Administrative Costs: Cost Projections****2014 Finding and Recommendation *with updates*:**

- Administration and bond issuance costs should continue to be monitored as the bond program moves forward, but do not appear unreasonable. A report to the committee on this matter in the coming year would be appropriate.

*Update:* A report on the administration costs, including allocated central service costs and bond issuance costs, was provided to the committee in January 2015. This report made it clear that Metro and zoo staff have taken steps to control these overhead costs to ensure voter-approved funds are spent efficiently to achieve the bond program objectives, while maintaining proper controls and providing needed administrative support.

**2015 Findings and Recommendations:**

- A report on the administration costs, including allocated central service costs, and bond issuance costs was provided to the committee in January 2015.
- The committee recommends updating the budget allocation for administration and bond issuance costs to reflect the revised forecasted expenditures.
- The committee recommends an annual report regarding the administration and bond issuance costs.

### 3. Operating Costs

The Oregon Zoo staff anticipates that some future operating costs of the zoo will increase upon completion of the bond-funded projects, but will be offset by additional revenue-generating opportunities and the enhancements and efficiencies gained through new technologies and the modernization of zoo infrastructure. The committee believes it is important that staff continue to monitor this assumption as project planning matures, to allow reasonable financial planning by zoo staff.

#### Operating Costs: Cost Projections

##### 2014 Findings and Recommendations *with update*:

- The committee recommends the zoo continue to monitor the impact of zoo bond projects on future operating costs, specifically the increased cost of staffing, and identify whether projected visitor increases are accurate.

*Update: Staff developed operating plans for Elephant Lands and the Education Center to prepare for changes in operating costs.*

- The committee recommends that the Metro Council assess the zoo's ability to meet any potential increases in operating costs resulting from zoo bond projects.

*Update: In 2015 the Metro Council approved one additional zoo staff position to assist with elephant management and care, and the Oregon Zoo Foundation is supporting a limited duration position to develop the partnerships and programming for the new Education Center.*

##### 2015 Finding and Recommendation:

- The committee recommends that staff provide by December 2016 a report on the impact of Elephant Lands on operating costs and revenue.

#### **4. Remote Elephant Center**

Metro and the Oregon Zoo staff have been analyzing the feasibility of developing and operating a remote elephant center (REC) since 2009. Zoo bond program funds were set aside for potential capital needs of an offsite space, pending evaluation of the project's feasibility. The committee has repeatedly recommended that bond funds not be expended on REC infrastructure and habitat without an adequate plan for meeting ongoing costs of operating an offsite facility, and the Metro Council's commitment to provide the revenue for the additional expenditures for operating a REC. In 2015 the Oversight Committee recommended that the Metro Council make a final decision in 2015 regarding the feasibility of creating and operating an REC.

Metro's chief operating officer convened a task force to assess projected capital and operating costs, the financial status of the zoo, and potential funding sources and to provide a recommendation regarding how to proceed. The task force concluded that the construction and operation of an REC was not a feasible undertaking for the Oregon Zoo, and that moving forward with such a project without adequate financial resources would have a detrimental effect on other zoo operations.

Given the inability to meet ongoing costs of operating an offsite facility, the committee agreed with the task force's recommendation that the Metro Council not move forward with the REC project. The Metro Council adopted a resolution to not proceed with the project and directed staff to propose alternative uses for the \$7.2 million (\$5.8 million from bond funds and \$1.4 million from Oregon Zoo Foundation contribution to the bond program) currently allocated for that purpose. Due diligence costs totaled \$117,864. Per the Metro Council's request, the committee will work with program staff to recommend next steps for the remaining \$7.1 million in funds.

## **Remote Elephant Center: Cost Projections**

### **2014 Finding and Recommendation *with update*:**

- Bond funds should not be expended on infrastructure and habitat for a Remote Elephant Center without an adequate plan for meeting ongoing costs of operating the offsite facility, and commitment from Metro for providing necessary revenue on an ongoing basis.

*Update: A citizen task force convened in 2015 to assess and report on the feasibility of creating an REC. The task force concluded that the construction and operation of an REC was not a feasible undertaking for the Oregon Zoo, and that moving forward with such a project without adequate financial resources would have a detrimental effect on other zoo operations. On February 18, 2016, the Metro Council supported that recommendation and approved Resolution 16-4683, ending the REC project.*

### **2015 Findings and Recommendations:**

- The committee commends the thoughtful financial feasibility analysis conducted by the remote elephant center task force and concurs with its recommendation not to proceed with the project.
- Per the Metro Council's request, the committee will work with program staff to recommend allocation of the remaining \$7.1 million in funds, with priority consideration of the approved ballot measure projects.

## C. Independent financial audit

Moss Adams issued the annual independent financial audit report of the zoo bond program on November 17, 2015. The auditors reported that nothing came to their attention that caused them to believe that Metro failed to comply with the provisions of the bond measure. No specific management letter comments were made. Notice of the audit report was published on December 16, 2015, in the Daily Journal of Commerce, and the audit report was posted on the zoo website.

REQUIRED REPORTING ITEM 3 | Project modifications in excess of budget

### **Consider and recommend project modifications intended to account for increases in construction costs in excess of budget estimates**

No project modifications are recommended at this time.

#### **How to learn more**

We encourage you to learn more about the Oregon Zoo's bond program by visiting [www.oregonzoo.org/newzoo](http://www.oregonzoo.org/newzoo).

We also welcome your feedback about what you would like to hear from us next year. Would you like us to focus on specific areas of concern or processes? Please contact us with any ideas, suggestions or questions.

**Email:** [zoobond@oregonzoo.org](mailto:zoobond@oregonzoo.org)

**Phone:** 503-914-6028

## Appendix A – Committee Membership

### **Bill Kabeiseman – Committee Chair**

Bill Kabeiseman is an attorney at Garvey Schubert Barer specializing in land use and municipal law. He graduated from the University of Oregon School of Law and later served as an adjunct professor teaching land use law at the school. Bill chaired the Oregon State Bar Task Force on Sustainability and is on the Multnomah County Planning Commission.

### **Ruth Shelly – Committee Vice Chair**

Ruth Shelly, executive director of Portland Children's Museum, leads a learning complex that consists of a children's museum, private preschool, public K-5 charter school, and research center with a total staff of 37 full-time and 28 part-time employees; \$3.8 million annual budget; and more than 300,000 visitors annually. Shelly is a lifelong museum professional who started in exhibit design and moved to administration, serving in art, history, natural history, and science museums – as well as an aquarium – before entering the children's museum field. She has served on museum association boards at the state, regional and national level. In her present role, Shelly is at the nexus of informal, formal and professional learning, and she is particularly interested in the role that museums can play in shaping the future of educational systems in the United States. Prior to moving to Portland in 2013, Shelly served as Executive Director of the Madison Children's Museum during its move to a renovated historical building, which became the first LEED-certified museum in Wisconsin, and a 2011 recipient of the IMLS National Medal for Museum and Library Service.

### **Noah Bishop**

Noah Bishop is an attorney and the proud father of two young zoo enthusiasts. A graduate of Lewis and Clark Law School, he has focused his practice on debtor-creditor law, and now runs his own law firm, Bishop Bankruptcy Law. He volunteers at The Bankruptcy Clinic, a free service provided by the lawyers of the Oregon State Bar.

### **Linda S. Craig**

Linda S. Craig recently retired from her tax and accounting practice, Linda S. Craig, LLC. She holds licenses as a Certified Public Accountant and Certified Financial Planner. She is familiar with citizen oversight committees, having served five years, including a term as chairperson, on the Metro Natural Areas Performance Oversight Committee. She was also on the Advisory Committee for Clean Water Services in Washington County. Since moving to Portland in 1970, she has been on several boards of directors of conservation organizations, including many years with the Audubon Society of Portland. Now she is treasurer of the Xerces Society, an international not-for-profit dedicated to the protection of invertebrate species and their habitats. She is also treasurer of the board of Portland Homeless Family Solutions, which helps homeless families find and keep permanent housing.

### **Sharon Harmon**

Executive director for the Oregon Humane society since 1998, Sharon Harmon has helped lead the organization for 24 years and been a professional in the field of animal care and welfare for more than 30 years. She holds a BS in zoology (pre-veterinarian medicine) from Oregon State University and a Certificate in Nonprofit Business Administration and Leadership from Johns Hopkins University, and is a

## Appendix A – continued

certified animal welfare administrator. She serves on advisory boards for Banfield Pet Hospital and Merck Pharmaceuticals. Recipient of the American Veterinary Medical Association's Humane Award for 2008, she currently serves on the board and is past chairman of the National Federation of Humane Societies.

### **Susan Hartnett**

Susan Hartnett has more than 25 years of experience in urban planning and development. Her career includes almost 20 years with City of Portland bureaus, including planning, transportation and water; she currently serves as the spectator facilities and development manager in the Office of Management and Finance. Hartnett has also worked for the City of Tigard, Oregon Heath & Science University, the City of Chicago and several private sector companies. She earned her Bachelor of Science in criminalistics from the University of Illinois and her master's in urban and regional planning from Portland State University, and is an active member of the American Institute of Certified Planners.

### **Deborah Herron**

Deborah Herron is the director of public affairs and government relations for Walmart in Oregon and several other Western states. Walmart has been a strong supporter of the Oregon Zoo, and Herron has been instrumental in ensuring this connection, including serving on the Oregon Zoo Foundation's Board of Trustees. Previous to her work at Walmart, she was a principal at Vox Public Relations in Portland. She is well known and connected in the public affairs community, bringing collaboration, curiosity, careful thinking, passion, enthusiasm and a solution-oriented approach to engage audiences.

### **Mickey Lee**

Mickey Lee is a project manager with MPower Oregon, which offers a simple, integrated solution for lowering energy and water expenses at existing, affordable, multifamily properties. She has a background in project development and management, with an emphasis on environmental and social equity. She previously worked in health care, digital technologies, solar installations and overall carbon emission reductions, including six years with Carbon Concierge. She has been recognized nationally for helping to bridge the gap between private and public entities. She holds an MBA in sustainable development from Bainbridge Graduate Institute and is accredited through the national Building Performance Institute.

### **Daniel Morris**

Dr. Daniel Morris is research director for Our Oregon, studying government finances and budget priorities. Educated in Portland Public Schools, he went on to earn a master's degree in physics from the University of Michigan and a doctorate in public health from Saint Louis University. As an epidemiologist, Morris led studies on topics ranging from tobacco tax evasion to tracking obesity with driver licenses.

## Appendix A – continued

### **Robyn K. Pierce**

Robyn K. Pierce recently opened her own professional consulting business – Pierce, Bonyhadi & Associates – following a successful 30-year career in higher education facilities management. Her work included planning, development, design and construction of academic, research, housing and student service facilities. Prior to her 2014 retirement, she was the director of facilities and planning at Portland State University (PSU). In eight years as director, she managed a department of 160 staff and had an active role in more than 1.5 million square feet of campus growth and development, including nine LEED-certified buildings and three public-private and public-public partnership projects. She managed annual budgets exceeding \$100 million, including construction budgets. Pierce remains dedicated to supporting women and minority contractors in all facets of project development. She completed her undergraduate degree at the University of Oregon and master's degree at PSU.

### **Mike Schofield**

Mike Schofield is the chief financial officer of the Gresham-Barlow School District. He previously served as business manager for the Forest Grove School District, managing the school district's finances and \$65.3 million worth of construction and school improvements included in a successful bond measure. Prior to that, he served as the chief financial officer of the Northwest Regional Education Service District. Schofield has more than 25 years of managing finances for various public education entities. He is a graduate of Portland State University and holds a Certified Management Accountant.

### **Kevin Spellman**

Kevin Spellman is a business consultant and trainer for construction contractors and industry professionals, following a 28-year career with commercial contractor Emerick Construction, including 18 years as president. In his Spellman Consulting, Inc. practice, he works with contractors on business strategies, development of contract management tools and techniques, and effective operational procedures. He has been an adjunct instructor in the Civil Engineering Department at Oregon State University, and at Portland Community College. He has served on several local boards, including Multnomah Education Service District, and currently chairs the Bond Accountability Committee for Portland Public Schools' bond program.

### **Dick Stenson**

Dick Stenson retired last year after more than 20 years as Tuality Healthcare president and chief executive officer. He was previously administrator of Straub Clinic & Hospital and Straub Health Plan in Honolulu, after working in San Francisco as administrator of Harkness Community Hospital and Upjohn Medical Group. He has a BS degree from the University of California, Berkeley and master's degrees in healthcare and business administration from Tulane and Loyola universities in New Orleans. Stenson is a fellow in the American College of Healthcare Executives and the American College of Medical Practice Executives. He serves on the boards of Hillsboro Community Foundation, Portland Community College Foundation, Virginia Garcia Clinic Foundation, Community Action, Commission on Children, Washington County Public Health, Intel Community Advisory Panel, Vision Action Network, Pacific University Acorn Foundation, Tuality Foundation, and Greater Hillsboro Chamber of Commerce.

## Appendix A – continued

### **Tom Turnbull**

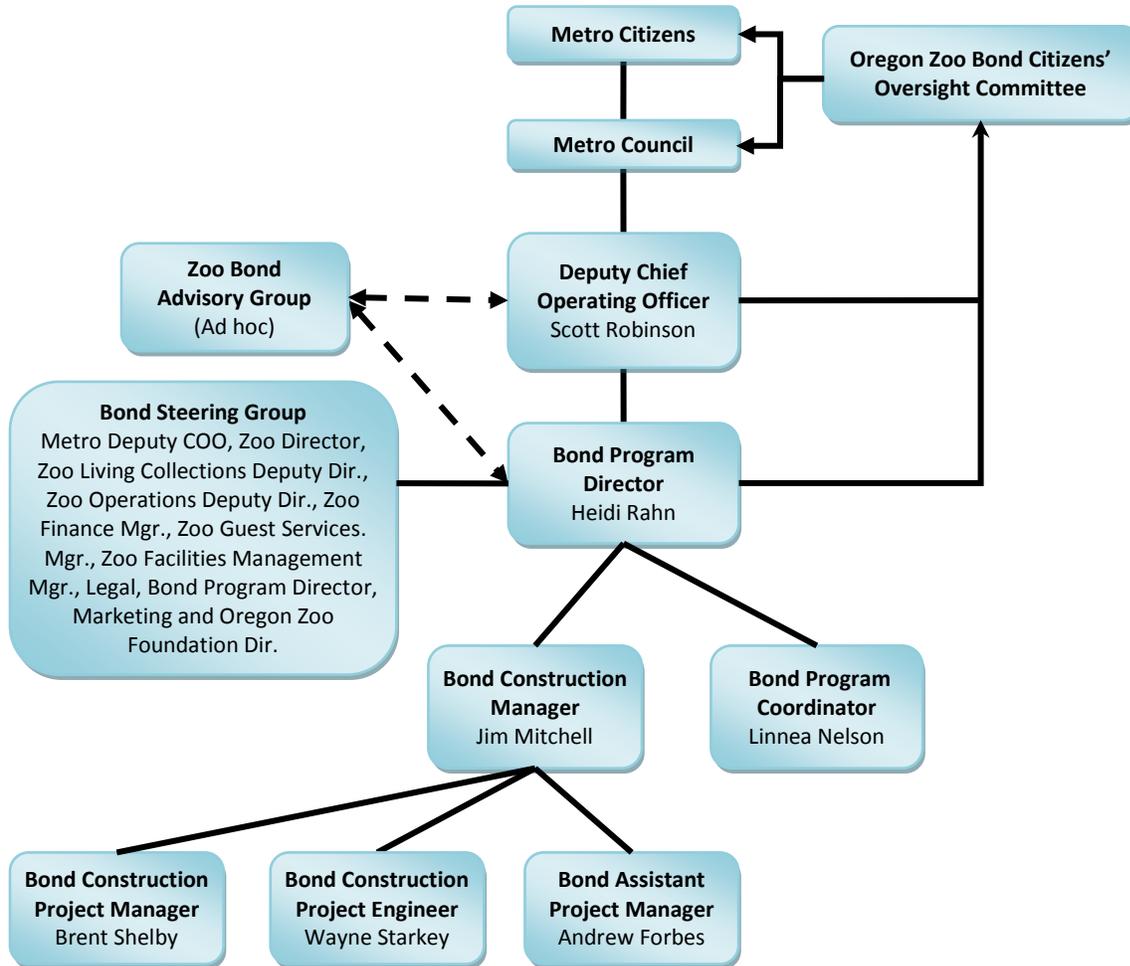
Tom Turnbull specializes in providing business and legal advice to high-growth companies and entrepreneurs. He is a co-founder and vice president of business development with OpenSesame, the largest source for elearning content in the world with more than 20,000 online courses. Turnbull previously served on the Oregon Museum of Science and Industry board of trustees for five years. He has an MBA in finance and entrepreneurial studies from New York University, a JD from the University of Washington School of Law, and a BA in philosophy from the University of Puget Sound.

### **Karen Weylandt**

Karen Weylandt has served at Providence Health & Services for more than 25 years, and is currently chief planning and design officer for the five-state health system. She has worked in the building, construction and improvement of Providence hospitals, outpatient clinics, surgery centers and educational facilities from Alaska to California. Her leadership for the planning and construction of Providence Newberg Medical Center resulted in the first hospital in the country to earn a LEED Gold designation. She also directed the planning and construction for the Providence Cancer Center in Portland. Weylandt's recent projects include a major expansion of services for Providence's downtown Seattle facilities, and a master plan for the south campus expansion at St. John's Hospital in Santa Monica, California. Weylandt earned a degree as a registered nurse and a master's degree in health care administration. For the past seven years she has served on the Oregon Facility Authority Board, and she also served several years on the Oregon Humane Society Board.

## Appendix B

### Zoo Bond Program Organization Structure



#### External Consultant and Contractor Contributions

Bond Construction Projects: Design consultants and construction contractors managed by bond construction and project managers.

#### Zoo Staff Contributions

Animal Welfare, Guest Experience, Facilities Impacts, Conservation Education, Grant Administration, Finance, Procurement, Marketing, and Public Relations and Involvement.

#### Oregon Zoo Foundation Contributions

Financial, Grant Administration, Donor Management and Communications.

#### Metro Contributions

Governance, Civil Engineering, Real Estate, Planning/Permitting, Program Delivery, Historical Investigations, Legal, Finance, Procurement, Human Resources, Sustainability, Diversity/Equity/Inclusion, and Risk Management.

Solid Lines = Primary responsibility for or relationship to

Dashed Lines = Secondary/support for or relationship to