

JULY 2017

DESERT DISCOVERY CENTER ARCHITECTURAL FINAL REPORT

Prepared for the City of Scottsdale | Solicitation No. 16SQ009



SWABACK PARTNERS pllc
Architecture • Planning • Interior Design

“

*Invest wisely in beauty, it will serve
you all the days of your life.*

”

- Frank Lloyd Wright

CONTENTS

<i>1. Executive Summary and Introduction</i>	<i>1</i>
<i>2. Concept Evolution</i>	<i>5</i>
<i>3. The Site</i>	<i>12</i>
<i>4. The Architectural Program</i>	<i>22</i>
<i>5. The Architectural Concept</i>	<i>26</i>
<i>6. Materials Palette</i>	<i>58</i>
<i>7. Select Surrounding Property Sight Line Views</i>	<i>62</i>
<i>8. Overall Project Statistics</i>	<i>67</i>
<i>9. Net Zero, LEED, Environmental Opportunities Report</i>	<i>69</i>
<i>10. Conceptual Landscape Report</i>	<i>85</i>
<i>11. Conceptual Drainage Report</i>	<i>88</i>
<i>12. Traffic Impact Analysis</i>	<i>95</i>
<i>13. Conceptual Cost Estimate</i>	<i>175</i>
<i>14. Municipal Use Master Site Plan</i>	<i>220</i>
<i>Appendix</i>	<i>222</i>
- Presentation to the City November 28, 2016	
- Presentation to the Community November 30, 2016	
- Firm Descriptions	

1. EXECUTIVE SUMMARY AND INTRODUCTION



EXECUTIVE SUMMARY AND INTRODUCTION

EXECUTIVE SUMMARY

The Desert Discovery Center is a history making place. It will be a place like no other. A one of a kind institution. A place that the McDowell Sonoran Preserve, The Sonoran Desert, and the Deserts of the World will be presented to the public in interpretive ways that are engaging, educational, unique and dynamic. All focused on understanding how we as humans can inhabit and adapt to deserts in better ways through understanding and appreciation. The Desert Discovery Center will be a place you will come back to time and time again, and each time you do you will experience something different.

The Architecture of the Desert Discovery Center, presented in this report, was conceived primarily as tool to aid in the interpretive experience. The architecture is one of the desert. It is inspired by the many wonderful examples of desert architecture that has been built currently within the Preserve. It is timeless, it is bold, it is durable, and most importantly, it is of minimal visual impact along the beauty of the Preserve to be first and foremost always.

Presented in this report is a compound of buildings that have been developed over the past year or more through intensive site analysis, listening to the public, researching topics of interpretation with many institutions and individuals, and studying examples worldwide. The architectural design was a collaborative effort lead by Swaback Partners and its Team of Consultant Partners, but informed by the work of Thinc, the DDCS, and ASU.

The site location at the Gateway, during the process shifted from just northwest of the existing Gateway Trailhead, to just south of the existing Maintenance building. The shifted site was based mostly on the input from the public and their concern of maintaining the current entry experience at the Gateway Trailhead. In the end, the new location allows for a lower site to help minimize visual impact as well as several other interpretive experiences that were not at the original location.

The current design has a series of linked desert pavilions that blur the line between indoors and outdoors through

their use of retractable door and window systems. The linked desert pavilions are all positioned to capture view sheds that are tied to the interpretive panels and experiences throughout. They are also positioned for maximum orientation to sun angles and integration with the site.

The project is conceived to be highly energy efficient through a sustainability strategy conceived by some of the top leading thinkers in the world on sustainability. The overall project has a building area of 5.34 acres, excluding parking and a new access road. It is 47,586 sf of gross conditioned area. The buildings and sitework have an estimated construction cost of \$33,533,443.00, excluding exhibit design or soft costs.

The materials used in the design are very similar to those used at the current Gateway Trailhead – rammed earth, rustic concrete, weathered steel, desert roof, low reflective glass. The buildings are less than 24' feet in height, and are at a lower elevation than the current Gateway building, which makes the overall compound lower in height than the Gateway. Sight line studies included in this report taken from adjacent neighborhoods show minimal visual impact.

The Desert Discovery Center will be an environmental benchmark of excellence for the City, and an example of architectural design that will inform the visiting public of the evolving architectural typology that is unique to Scottsdale, and most importantly an architecture of the desert.



EXECUTIVE SUMMARY AND INTRODUCTION

INTRODUCTION

On June 16, 2016 Swaback Partners pllc, along with its multi-disciplinary Team that included Civil Engineers - Wood Patel, Traffic and Parking Engineers - Kimley Horn, Sustainability Consultants - Terrapin Bright Green, Landscape Architects - Trueform, and Cost Estimators - Cumming, were commissioned by the City of Scottsdale to work in collaboration with the Desert Discovery Center Scottsdale (DDCS), and its Experience Designers - Thinc, and its Management and Economic Advisors - ConsultEcon to Program, and Schematically Design the Desert Discovery Center (DDC).

Along with the Architectural Programming and Schematic Design effort, the following general activities were conducted:

- Public Presentations
- Meetings with DDCS
- Meetings with Arizona State University
- Meetings with numerous community organizations and institutions
- Prepared Documents for Processing the Municipal Use Master Site Plan (MUMSP)
- Conceptual Drainage Report
- Traffic Impact Analysis and Parking Report
- Creation of Sustainability Strategy
- Landscape Design Concept
- Statement of Probable Construction Cost
- All the reports referenced above are included within this report.

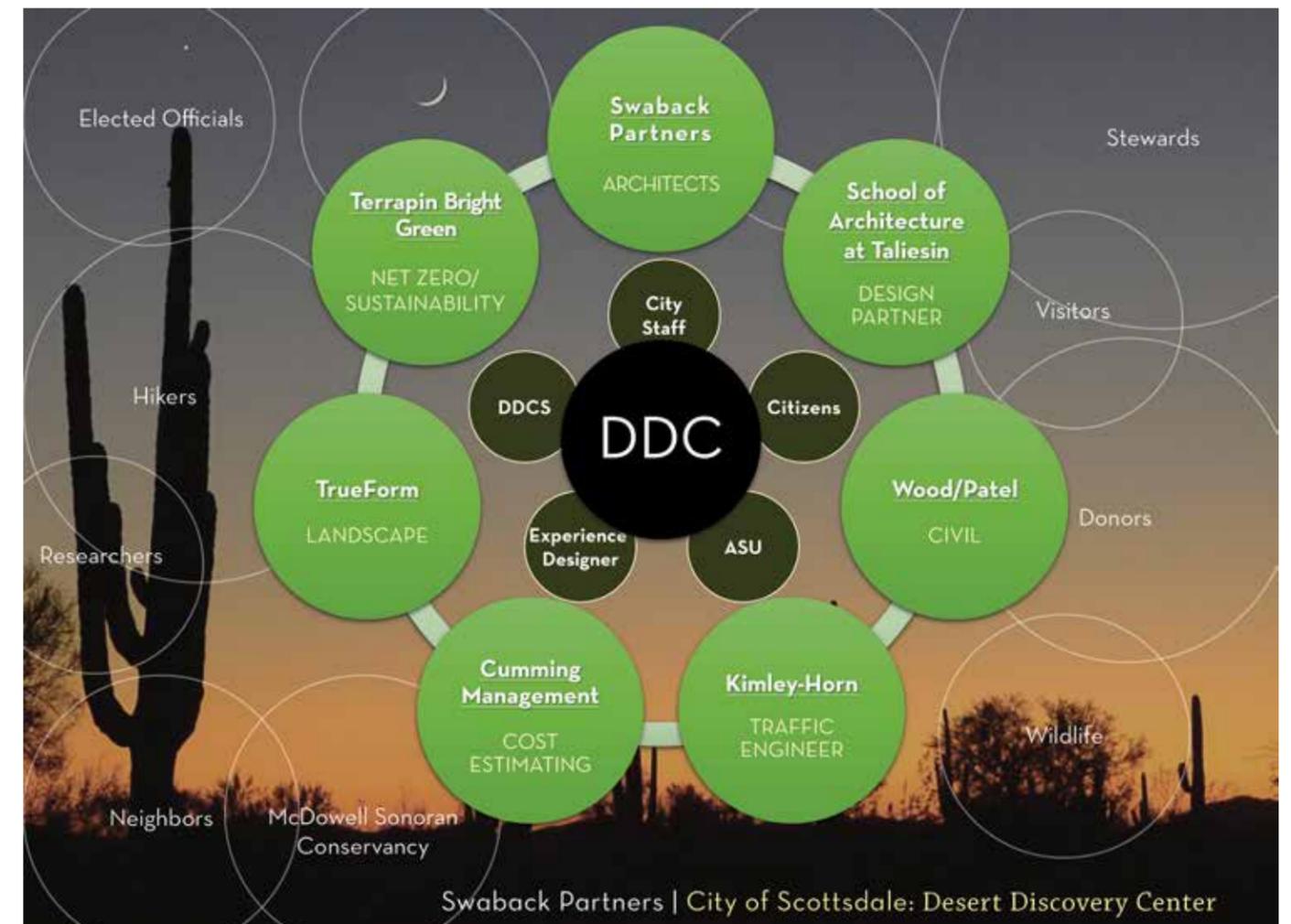
All the reports referenced above are included within this report.

The results of this work produced an Architectural Program and Schematic Design that is appropriately integrated into, and respectful of the magnificent site it will be located within. It will engage visitors in a world class experience that prepares them for their journey into the McDowell Sonoran Preserve, and educates them as to the beauty and mystery of the Sonoran Desert.

The Schematic Design is based on a series of linked desert pavilion forms that blur the line between indoors and outdoors. The pavilions are linked together with various experience-spaces that flow between them and open up to views of the Preserve and the City beyond. The architects see the design as more than a building—it is a tool for educating, learning, researching, enjoying, appreciating, and preparing you to experience the desert through the many exhibits and experiences conceived by Thinc, and the programs that will occur at the DDC. The architectural design has striven to be compatible, and consistent, with what we as the architects see as the emerging Typology of the Architecture of the Preserve. That typology is demonstrated through the many fine examples of the highly-integrated desert architecture built at Gateway, and the other Trailheads throughout the Preserve.

The Schematic Design that evolved as the result of this study has been informed by the Conceptual Design that evolved during the Phase 2 Feasibility Study, but has considerably advanced beyond it. The revised concept that evolved during this phase of study has produced a design that is smaller, less costly, and much more highly evolved from that in Phase 2. One of the most significant changes has been to relocate the facility from its previous location north of Gateway Trailhead to south of the existing Maintenance Building at Gateway. That will be discussed more in-depth in Section 2: Concept Evolution of this report. The shift of the site allows for a more expansive experience to occur at the DDC due to the site opportunities that were found southeast of behind the current Maintenance Building such as city views, adjacency to a wash, and access off an area of parking that is currently less utilized by hikers.

Beyond the space, flow, and functional needs of the pavilions the sustainability of the design was paramount. As such, a design concept was produced that links together many known strategies of sustainable design for desert buildings, and leaves flexibility for the opportunity to work with researchers and product designers as the design goes through Design Development, and Construction Documents to evolve and incorporate new and innovative concepts in the design.



EXECUTIVE SUMMARY AND INTRODUCTION

DESIGN TEAM

ARCHITECTURE:

Swaback Partners, pllc

- John Sather, AIA, AICP - Senior Partner
- Ryan Cook – Design Partner
- Brent Harris, LEED AP, CDT - Design Partner
- Annie Tapp – Project Coordinator
- Rebecca Talen – Project Graphics
- August Lietz - Student Intern at the School of Architecture at Taliesin

CIVIL ENGINEERING:

Wood Patel & Associates, Inc

- Darrel Wood, PE, RLS
- Dan Cronin, PMP, LEED AP, CDT

TRAFFIC:

Kimley-Horn & Associates, Inc

- Chuck Wright, PE

SUSTAINABILITY:

Terrapin Bright Green

- Bill Browning, Hon. AIA, LEED AP
- Jonce Walker, LEED AP, CSBA

LANDSCAPE:

Trueform Landscape Architecture Studio

- Todd Briggs, ASLA

COST ESTIMATE:

Cumming

- Daniel Pomfrett
- Feba Thomas