



DESERT DISCOVERY CENTER SCOTTSDALE  
PRESENTS

# DESERT EDGE

encounters + discovery + global + education



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## INTRODUCING: DESERT EDGE

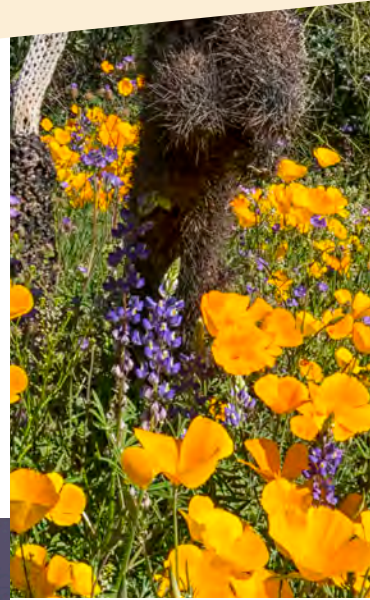
What does the desert smell like after it's been soaked in rain?

How do our mountains create a "rain shadow?"

What do the desert's extremes in temperature feel like?

What are the nuances of the desert's "five seasons" and what do they mean?

What does the soil crust itself tell us about our future?



As the desert discovery center project was reimagined, it was questions like these that formed a new vision.

*At its heart, the project is about:*

- Encounters
- Discovery
- Global Insights
- And, most of all, Education.

These words have formed to create a new identity and a new name –

DESERT  
EDGE

encounters + discovery + global + education

## CONTEXTUAL OVERVIEW OF NEW DESERT EDGE VISION

In conversations with thousands of people, we heard a strong desire for a new vision for the Desert Discovery Center – a center focused on education and what the desert can teach us, on global as well as local issues, and, above all, a place that would help people thrive in the desert in addition to interpreting it. We heard a desire to make smart use of space and technology so that visitors could have immersive and interactive experiences and explore as widely and deeply as they wished within a limited footprint. We learned how much interaction with real scientists and experts can enrich visitors’ experiences and understanding. And how important place-based STEAM education focusing on conservation and sustainability is to Scottsdale residents and their families.

We also heard the community’s shared love of the McDowell Sonoran Preserve and the desire for a center that would enhance, not detract from, the experience of the Preserve. We heard among the community’s voices concerns about impact on the Gateway trailhead, Preserve views, size, financial feasibility, a destination restaurant and convention center-like facilities that would make it too commercial with resulting traffic, lights and noise.

The design is open, blending indoor and outdoor spaces so that visitors get a complete experience and so that nocturnal animals can freely move through the area.



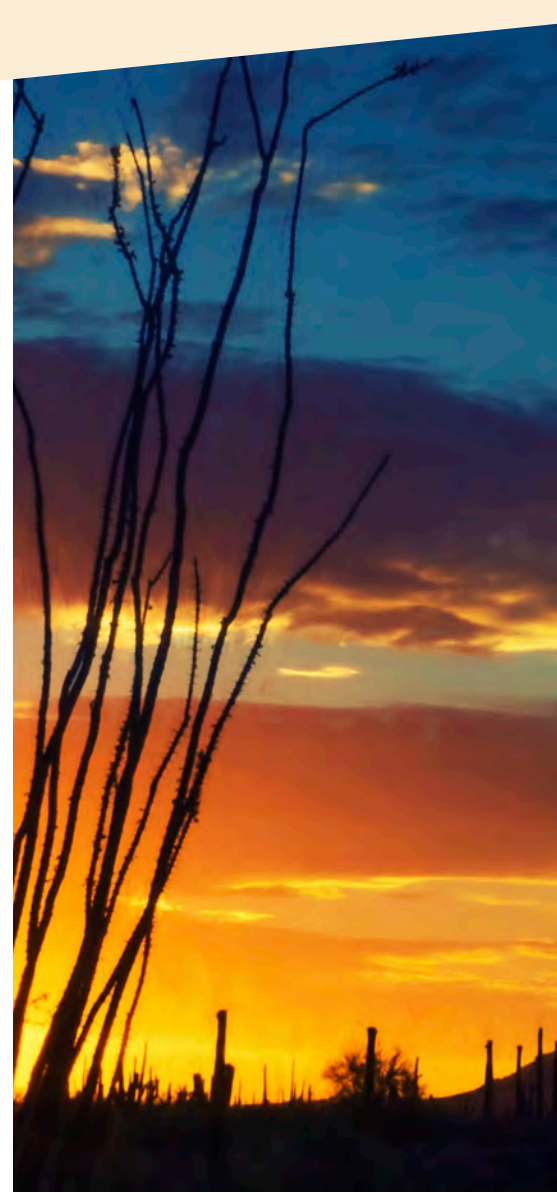
...a place that would help  
people thrive in the desert  
in addition to interpreting it...

Guided by this full range of community input, we are proposing the Desert EDGE, a center of Encounters, Discovery, Global, Education.

- We are proposing not only a different name and orientation but a different location away from the existing trailhead at a lower elevation behind the maintenance building to the south.
- We have moved non-essential facilities and additional parking off the Preserve and created a new entry to ease traffic flow.
- There is now only a small café to provide refreshments for visitors, no destination restaurant, no large convention center type facility, no amphitheater.
- The center's new design uses low-pitched structures that are consistent with the architecture of buildings already in the Preserve and will be no more noticeable.
- The design is open, blending indoor and outdoor spaces so that visitors get a complete experience and so that nocturnal animals can move through the area.
- The goal is to have the facility recede into the desert and showcase it, to support the mission and vision of the Desert EDGE without distracting from the desert itself.

We have listened carefully and worked diligently to create a proposal that will become a renowned center for desert education, interpretation and research. A center that is accessible and enriching for all: residents, visitors of all ages, families, young learners and their teachers, scientists, those unable to explore more deeply onto the trails. A center that is physically modest but intellectually large; a big vision in a smaller footprint; a point of pride for Scottsdale.

With the location of this education center at the edge of the urban/Preserve interface, the intent is that the encounters, discovery and global insights provided will inspire a new generation of conservationists to adapt to a world that is becoming hotter, drier and more like the Valley of the Sun.



## DESERT EDGE: THE CONCEPT

Where did this concept come from? As the Experience Designers began to explore and unpack their concepts, they frequently referred to the notion that people seem to think of the desert as “over there – on the other side of the developed land.” Essentially, they view an edge between their home and the desert environment.


In fact, we all live in the desert – even if it seems that we are in the middle of the city. The paradigm shift of not only living in the desert, but living well in the desert, is more significant than ever in a time when we are on the edge of a new reality with regard to the changing environment and its consequences to our way of life, locally, regionally, nationally and globally.

Additionally, the location and its significance to the community at large, surrounding neighbors and those who frequent the Gateway trailhead, motivated moving the site itself more toward the Preserve’s edge – behind the existing maintenance building and away from the trailhead. Not only does this new site leave the existing Gateway untouched, it is also recessed more so that it is virtually hidden from Thompson Peak Parkway, Bell Road and the three surrounding neighborhoods. Literally, only the edge is visible.



We all live in the desert.

We all share a love for the desert.



Desert EDGE will inspire kids, families and  
residents and visitors of all ages to fall in love  
with this land that speaks to us in such profound ways.

We all share a love for the Sonoran Desert and the McDowell Mountains. Our shared goal is to ensure the future protection of the Preserve. It is our deepest desire that Desert EDGE will inspire kids, families and residents and visitors of all ages to fall in love with this land that speaks to us in such profound ways. As they learn more about it and feel connected to it, so too will their commitment strengthen to protecting and preserving this land for future generations.

*NOTE: During this proposal section, you will be introduced to the Desert EDGE name and concept. In the supporting materials that follow, you will see reference to the name Desert Discovery Center (DDC) since that was the project name over the course of this 18-month contract.*

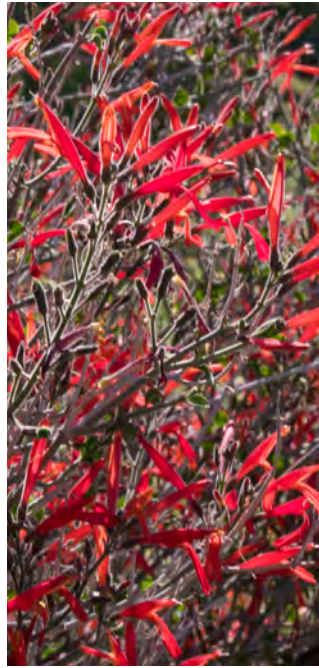


## BACKGROUND: LEADING US TO THE DESERT EDGE

The term desert discovery center was a moniker coined almost 30 years ago by Florence Nelson whose family developed the private land at the base of Pinnacle Peak. When the State Trust land there could not be acquired to accommodate a desert discovery center, the location was moved to what would become the Gateway to the McDowell Sonoran Preserve. This land was specifically brought into the Recommended Study Boundary that ultimately defined the Preserve for the purpose of including the main trailhead and an interactive education center. The City of Scottsdale's records over the years reflect that what is today known as the Gateway to the McDowell Sonoran Preserve was always meant to be a place where people could access the Preserve, physically and intellectually.

Today, this desert discovery center – now Desert EDGE, has become a more robust, yet understated, interpretive center. Encounters, discovery and education were always part of the plan. The addition of a significant partner, Arizona State University and its newly launched Global Drylands Institute has added the element of global research and insights, positioning Scottsdale and the McDowell Sonoran Preserve as a significant ecological area from which the world can learn.

The Gateway to the McDowell Sonoran Preserve  
was always meant to be a place where people could access  
the Preserve, physically and intellectually.





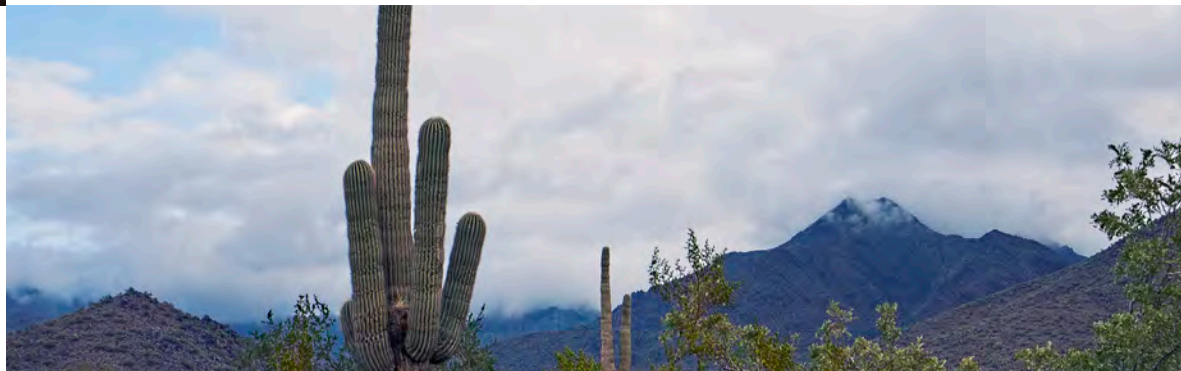
Desert EDGE will stand as testament to a community that understood the sublime magnificence of the Sonoran Desert, valued the dramatic backdrop the McDowell Mountains provide to the entire community and set about to preserve both from future development. That thrilling history, captured in *The People's Preserve*, written by Desert Discovery Center Scottsdale board member Joan Fudala, will be shared in a prominent introductory exhibit at the entrance to Desert EDGE. The exhibit will include photos, news articles, videos and mementos of this citizen-driven effort.

### **SMALL FOOTPRINT/BIG VISION...SMARTER FOOTPRINT**

***The mantra adopted for the project has been Small Footprint. Big Vision.***

Let's start with the Big Vision. Desert EDGE is envisioned as the most important environmental education center in the world focused on desert living and arid lands. The site, in the McDowell Sonoran Preserve, is purposefully situated on the edge of the Preserve, looking out at the Valley and back into the Sonoran Desert and McDowell Mountains.

...small footprint on  
the edge of the  
Preserve looking out  
at the Valley...



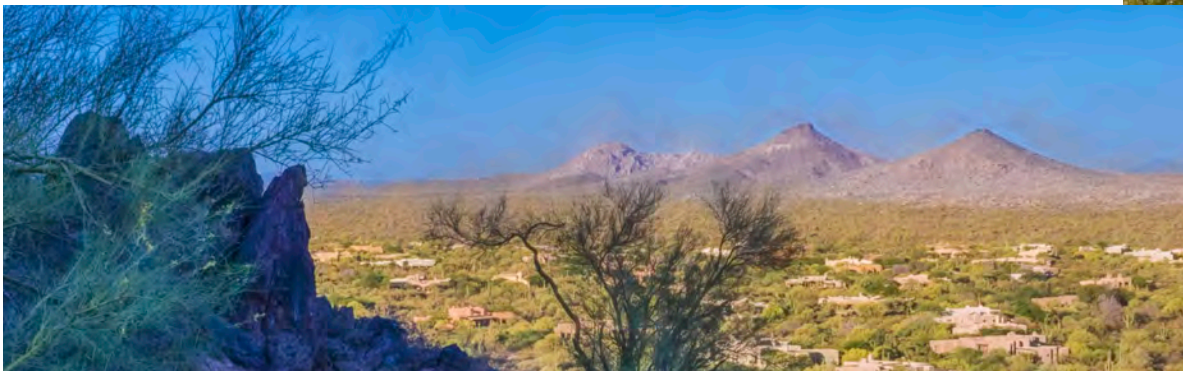
As the Architect, John E. Sather from Swaback Partners, PLCC, and the Experience Designers, Thinc Design, considered the vision in conjunction with the site, they imagined a place that shaped a deeper connection to the McDowell Sonoran Preserve. The team determined there was a way to design the center in harmony with the land and to situate it so it showcases educational experiences for families learning about the desert for the first time, residents' respectful appreciation of the desert's secrets, visitors for whom the desert is a mystery and world-renowned scientists studying the Sonoran Desert as a microcosm of an increasingly hotter and drier planet. Each principal exhibit arises from and more deeply explores a specific view out to the Preserve, focusing on the Preserve itself as the subject of Desert EDGE.

## BACKGROUND: LEADING US TO THE DESERT EDGE

This Big Vision can take place on a Smaller Footprint. And the design team worked not only to create a Smaller footprint, but also a Smarter footprint. Desert EDGE is more sophisticated than the previously proposed project, in part because the community psyche and the way we live in 2017 is vastly different than the way we lived even in 2010 when the last iteration was proposed. In creating Desert EDGE, the team has continually listened to feedback and refined accordingly – right-sizing architecturally, economically, educationally, operationally and most importantly, experientially.

The City of Scottsdale initially identified a 30-acre area at the Preserve Gateway for DDCS and Swaback Partners to find the right location for the Desert Discovery Center. Based on public feedback, the design team took a thoughtful look at the experiences that were enhanced by the Preserve site and those operational functions that did not rely on the Preserve. Thus, a few key decisions were made:

- Although originally conceived in conjunction with the existing Gateway Trailhead, the site itself has been moved to the south. This maintains the current Gateway Trailhead experience for hikers and bikers. In addition, the location will be virtually hidden from surrounding neighborhoods, since it's on a lower plain, shielded from the south by an existing natural earthen dam.
- Structure heights will be no higher than that of existing facilities within the Gateway and in fact will likely appear lower since the location is recessed more into the desert.





- This new Desert EDGE site is on just under six acres – and takes advantage of the existing maintenance facility, one of 10 buildings already built in the Preserve.
- The entire Desert EDGE experience is meant to blur the lines between indoor and outdoor experiences.
- The environmentally sensitive site plan is permeable for movement of wildlife.
- The current parking lot footprint will stay the same. Additional parking will be provided off-Preserve, as well as some administration, storage and other uses that do not need to be onsite and in the Preserve.
- Deliberately situated to be least impactful on the neighbors, Desert EDGE will be no more visible than the current Gateway – no intrusive night lighting, no speakers or loud concerts, no parked buses and no destination dining.

Desert EDGE creates  
a Smaller footprint  
and also a Smarter footprint.

## ENCOUNTERS: THE DESERT EDGE

You will likely first encounter Desert EDGE through its architecture, or more specifically, by how the architecture blends into the natural environment.

You will encounter Desert EDGE not at the Gateway Trailhead that you may know well. Instead, you will either turn from a new entrance off Thompson Peak Parkway or wind your way through the parking lot south. This is when you may first notice Desert EDGE as it briefly catches your eye. The low-profile structure, converted from the Preserve's existing maintenance building, marks your arrival.

Each step you take toward Desert EDGE will more clearly define the experience. Although you're outside, you may feel you're in shade. Look up and only then might you notice flexible, almost transparent solar shade panels giving dappled light to the stabilized natural path reflecting the patterns of palo verde leaves.

You'll find that you're in a constant state of indoor/outdoor experiences with pavilions that are low-slung, modestly sized and that creatively capture the essence of the Desert EDGE experience – the five viewsheds that unlock the Sonoran Desert's history and inform our collective future of life in the desert.

[CLICK HERE TO READ SWABACK PARTNERS' ARCHITECT PLAN REPORT](#)



The Commons will be free and open to the public daily  
as an inviting respite for hikers and explorers.



What is this place? What don't we see?

What can we learn from living in the desert?

What future do we want to create?

The Center will make the actual experience

of the Preserve more vivid and meaningful.

The Desert EDGE volunteer corps (known to us as Desert Keepers) welcomes you. The existing maintenance building will be repurposed into this volunteer base that will include just a few administrative functions. The rest will be located off-Preserve. This rammed earth building will be a teaching tool in and of itself.

The Commons includes a small desert café and desert shop. Unlike previous iterations, the café and shop are right-sized to the environment, featuring locally-sourced food and refreshments (including a small selection of craft beers and wines), as well as authentic keepsakes and educational materials related to the Desert EDGE mission. The Commons will close when Desert EDGE (and the Preserve) closes. Here, visitors also will learn how the McDowell Sonoran Preserve was first conceptualized and finally protected from development. This area will be free and open to the public daily and also will serve as an inviting respite for hikers and explorers.

The Sonoran Seasons exhibit and function space changes with the seasons to provide insightful and challenging exhibits - and to host community groups and visitors. Easy to adapt and to be reconfigured to its use, with pivoting wall elements, Sonoran Seasons is the most flexible of the spaces and will be an ever-changing invitation to return again and again. Sonoran Seasons is especially configured for teachable spaces for classes, children's programs and family learning sessions.

The overall architectural typography will be in keeping with the 10 buildings that have already been built in the Preserve, low-scale, understated and in many cases blurring the lines from the indoors to the outdoors.

Each structure and experience is situated on the site to take advantage of various place-based viewsheds – looking out to the Valley, to the mountains, into the wash, toward Tom's Thumb and onto the Bajada Trail.



## DISCOVERY: THE DESERT EDGE

At its heart, Desert EDGE is about discovery. Everything about the experience is meant to keep guests engaged. Admission gains you access to incredible desert experiences, set in their native site, allowing you to interpret what you're seeing and experiencing in real time. The experiences have been conceptualized, interweaving vistas while you're looking in (exploring indoor exhibits), transitioning (crossing from indoors to outside) and looking out (taking in carefully framed views of the landscape surrounding you).

After meetings with hundreds of people – often with competing interests – our experience designers from Thinc Design created the key to understanding five unique viewsheds in the Preserve: mountains and valleys, the bajada, the city itself, the wash and the ephemeral: deep time. Instructive, challenging, provocative, delightful, dramatic and fun – Desert EDGE, as crafted by Thinc Design, will be accessible and open to all ages and levels of interest.

The experiences crafted by Thinc Design are all firmly grounded in a “sense of place” – based on what is beneath your feet, in front of your eyes and showcasing those authentic sensory impacts that cannot be experienced on a typical hike or that likely wouldn't be noticeable on a given visit. Each experience answers the questions: What is this place? What don't we see? What can we learn from living in the desert? What future do we want to create?

Desert EDGE experiences are designed with state-of-the-art technology, digitization, video imaging and interactive elements, all designed to be deep, expandable, accessible, immersive and able to change over time in order to capture the attention of today's inter-generational audiences. Continually changing exhibits is the key to return visits. The next few pages give a glimpse of the experiences at the heart of Desert EDGE.



Journey through the Biomes.  
Fly through the Nectar Corridor.

Build an Ecosystem.

Take a walk on the Bajada Interpretive Trail.



## EXPERIENCES

### *The Pod*

For the uninitiated, the desert may seem a barren, lifeless place. In fact, life is everywhere if we tune our senses to the desert. As you approach the seed-like pod, you'll be greeted by various aromas of the desert: creosote, sage, camphor, mesquite, lavender. The scents occur in the same order in which you might encounter them throughout a desert year, so the procession serves as the first step into desert time. Inside this intimate setting, your eyes and ears will be treated to a brief 3-D projection around, under and above you – on the walls, ceiling and floor. Desert Time presents three video “rings”: the sun rising over the McDowells, a dramatic haboob weather change and zooming in to observe a burrowed mammal. When the theater is not in use, the Pod can function as a Talking Circle, holding up to 40 people for storytelling, group meetings or for traditional Native American “sharing sessions.”

### *Bajada*

The Sonoran Desert is the most biodiverse desert in North America. Over thousands of years of evolution, desert flora and fauna have come to rely on each other in specific, mutually beneficial ways. This indoor/outdoor experience showcases the Web of Life (including a ghost illustration technique to represent threatened, endangered and extinct species and the potential impact to this ecosystem and its way of life). Bajada includes a Journey Through the Biomes, Fly Through the Nectar Corridor, a Build an Ecosystem hands-on experience. Take a self-guided family tour of the adjacent Bajada Interpretive Trail or plan to come back prepared for a longer hike in the McDowell Sonoran Preserve.

## DISCOVERY: THE DESERT EDGE

### *Mountains and Valleys*

Beautiful and majestic, we are drawn to the mountains. We have named their peaks, used their rock faces to calculate the solstices, marked and cut trails to navigate through them, told stories to remind ourselves of our relationship with them and drilled into them for their ancient stores of minerals and water. Mountains and Valleys includes an exploration into the three spheres the Salt River Pima-Maricopa Indian Community describes as needing to be in balance with one another – that which is above, on the ground and below the surface.

### *Tom's Thumb – Deep Time*

The landmark granite spire that rises in the distance, began as magma beneath the earth's surface that cooled into granite, pushed up and was exposed after millions of years. This rounded, light-colored rock contrasts sharply to the dark, jagged basalt and rhyolite found throughout the McDowells. This land's deep history challenges the notion of permanence. Our activities (population growth, the creation and use of plastics, the collapse of agricultural diversity) have become geological forces as significant as deep time processes. Tom's Thumb explores the desert rising from the sea through the deep time periods of the Paleozoic, Mesozoic and Cenozoic Eras and moving into artist interpretations of the Sonoran Desert in the far future.

### *The Wash*

Part of living in the desert is letting the washes and desert systems do their work. Desert wash habitats are important to wildlife populations and the establishment of plant communities. Desert species know how to live in a land of diametrically opposed conditions: drought and flood. Our future in the desert will depend on how well we can apply these lessons to our own communities. The Wash takes people through a drought/rain season experience, populated with live animal exhibits and culminating in a walk through a real wash.



▶ [CLICK HERE TO READ THINC DESIGN'S EXHIBITION CONCEPT DESIGN REPORT](#)





### *Saguaros – Keystone Species*

The saguaro is the centerpiece of extended ecological connections. A single saguaro can provide sustenance, protection and shade to a host of organisms – bacteria, insects, birds, bats, cold- and warm-blooded animals and people. As we think about our future in the desert and our connection to these landscapes, the saguaro is a reminder that change never occurs in isolation. Saguaros—Keystone Species includes a sunwatch station, which marks annual solstices, listening stations where you can hear the saguaro’s actual pulse and a “see and touch” trail.

### *City – On the Edge*

Sometimes the city’s “edge” feels like a line in the sand, a perimeter around the oasis we’ve built. We are a city in the desert, but perhaps its edges aren’t the hard borders we think they are. The city is, in fact, in the desert and the desert is in the city. As the earth’s climate becomes warmer and drier, much of the world will turn into drylands. If we can learn to live sustainably here, other parts of the world will benefit from our knowledge and adapt to new conditions. While the word Preserve makes us think of the past – it may, in fact, hold our future. City – On the Edge explores the city as habitat and breaks down the idea of “oasis” and the urban edge.

While visiting Desert EDGE, you will encounter eight outdoor teaching spaces. Here, you may have the opportunity to interact with rescued denizens of the desert – reptiles and birds brought in by our conservation partners who will share transformative messages about steps you can take to protect these creatures. And at announced times throughout a typical stay you may be able to visit with an onsite principal investigator at the ASU Global Drylands Institute or hear a world-class scientist give an update on his project – one that will likely reflect insights gained from drylands around the planet.



A single saguaro can provide sustenance,  
protection and shade to a host of organisms –  
bacteria, insects, birds, bats, cold- and warm-blooded animals and people.

## GLOBAL: THE DESERT EDGE

In 2017, ASU – our academic partner – formally created the Global Drylands Institute (GDI) that focuses on interdisciplinary, solution-oriented research, education and outreach. This includes a strong presence at Desert EDGE. Here, GDI researchers will produce use-inspired research that will draw sustainability paths for the Sonoran Desert and drylands around the world. A new generation of leaders, students and practitioners will be trained here – and Desert EDGE guests will have a first look into this work and how it will change the world.

What are drylands? Drylands encompass deserts to grasslands, currently covering 40 percent of the Earth's surface – and growing. The fact that the United Nations has put in place the Convention to Combat Desertification underscores the global importance of these regions. Because of their large impact on the functioning of our planet, achieving sustainability of drylands is a necessary step to achieving the sustainability of our planet.

In spite of the enormous importance of drylands for achieving global sustainability, they have received relatively little attention. Few universities have a focus on use-inspired research and education in drylands. No institution is in a better position than ASU to rise to such a grand challenge.

Desert EDGE will serve as a research and education field station that connects people with the desert in a myriad of ways.





GDI will link the ASU leaders of the Julie Ann Wrigley Global Institute of Sustainability, School of Life Sciences and College of Liberal Arts and Sciences. ASU already has hired Dr. Osvaldo Sala as the GDI Director. We are working with him and his staff on *Symposium: Pulses Reserve Paradigm*, which will bring 20+ internationally recognized arid lands researchers to our community in spring 2018.

Conceptually, Desert EDGE will serve as a research and education “field station” that connects people with the desert in a myriad of ways: through earth and life sciences, human ecology, sustainability and the humanities. This GDI relationship will give the Desert EDGE guests face-to-face access to world-class scientists, a global connection to transformative research and rich exhibit content for future exhibit displays.

Guests with scientific interests may be attracted to participating in field research projects with ASU or the McDowell Sonoran Conservancy Field Institute. Such as bat health and habitats, desert crust formation, mule deer migration and population trends. ASU’s Central Arizona–Phoenix Long-Term Ecological Research grant looks to answer the following question: “How do the services provided by dynamic urban ecosystems and their infrastructure affect human outcomes and behavior, and how do human actions affect patterns of urban ecosystem structure and function and, ultimately, urban sustainability and resilience?” This provides a model for Desert EDGE projects.

For other research inquiries, the Internet may be the key communication channel. Desert EDGE will connect a field station in other desert regions that sends results back to lead investigators housed at Desert EDGE where the results symposia will be held. Scholastically ASU’s GDI partner institutions, the University of New South Wales and Ben-Gurion University, will be a force, creating innovative approaches to dryland problems. Desert EDGE is where the training to implement these solutions will happen.



Achieving sustainability of drylands is a necessary step to achieving the sustainability of our planet.



[CLICK HERE TO LEARN MORE ABOUT ASU’S GLOBAL DRYLANDS INSTITUTE](#)

## EDUCATION: THE DESERT EDGE

Desert EDGE's primary focus will be on educating and inspiring a global audience to value, thrive in and conserve desert environments. We propose hiring an education director early in the second contract who could develop this concept to present educational opportunities for guests of all ages, such as:

- **STEAM LEARNING FOR CHILDREN AND FAMILIES** — Fun, hands-on learning activities with real objects help children develop critical thinking skills and a deeper interest in science. When science is made enjoyable and memorable, kids become more confident in exploring their world and want to learn more. Being able to meet real scientists working at Desert EDGE can inspire students to follow this path, too. We want to show our young explorers that Desert EDGE is an exciting place for discovery and for new learning adventures. In keeping with the trend toward STEAM curriculum building, integrating science and art, Desert EDGE may also promote various art and craft forms inspired by the desert (drawing, painting, fiber arts, photography, digital media, ceramics) for all ages.
- **SCIENTIST-IN-RESIDENCE** —Desert EDGE will establish a Scientist-in-Residence program to facilitate new research and to connect with local inquisitive young minds. The chosen Arizona scientist or conservationist will pursue his or her research interests that align with the Desert EDGE mission.
- **SCHOOL VISITS** — Possibly working with the McDowell Sonoran Conservancy, Desert EDGE plans to engage with students in the Scottsdale area. The center has been designed to accommodate school groups with a bus drop area. Students will gather at the Sonoran Seasons or Sonoran Steps for orientation and program description. Sonoran Encounters is a multipurpose space that can support up to 60 children. Depending on their ages, the students may investigate geology with microscopes, use watercolors to paint pictures of Tom's Thumb or learn sustainability: reduce, reuse, recycle and repurpose.



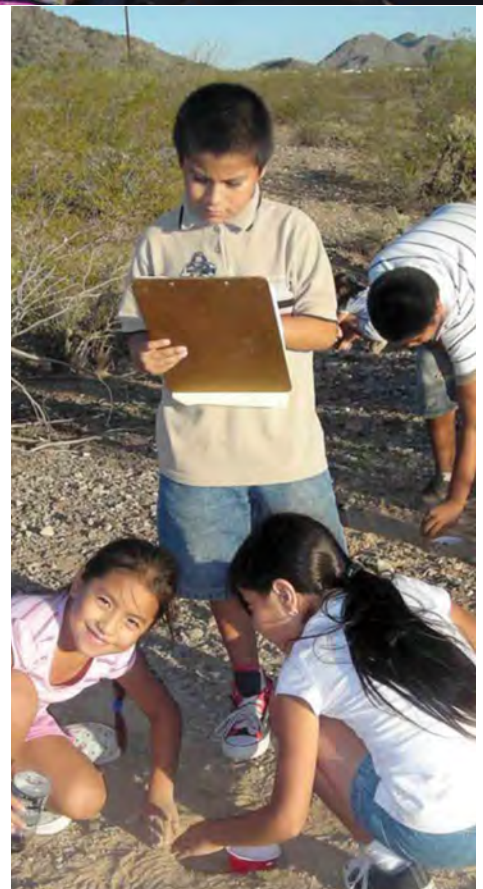
The education program will  
develop experiences that  
empower people of all ages to  
explore like a scientist.



- **TEEN VOLUNTEER PROGRAM** — We will engage teen volunteers who will interact with Desert EDGE visitors and who will have access to onsite scientists. Teens will learn first-hand the relevance of science and its connection to issues they care about and can in turn share their knowledge and passion with the public. Our teen volunteer and digital learning programs will blend scientific inquiry, digital media production and the sharing of Center science with visitors. These experiences help teens gain digital literacy and 21st century learning expertise they can use now and in the future.
- **SCIENCE LEARNING AT LOCAL SCHOOLS** — Desert EDGE’s school-focused experiences will engage third and fourth grade educators and students in learning through collections and scientific investigation. We will encourage learners to use science in their everyday lives, to apply creative and critical-thinking skills to understand our world and to enjoy Desert EDGE as a place for discovery. The foundation for these informal learning experiences is ASU’s Julie Ann Wrigley Global Institute of Sustainability’s Ecology Explorer’s program. Beyond this unique resource will be educator professional development, student experiences, live interactive video broadcasts and instructional tools for educators. These programs could be seamlessly presented in collaboration with the McDowell Sonoran Conservancy.

The education program will develop experiences that empower people of all ages to explore like a scientist, investigate nature and culture and become meaningful contributors to our complex global society. Guests will have the opportunity to choose the depth of their involvement and continuing participation will be encouraged.

For all visitors, there will be opportunities to discover more about the desert systems, cycles and species, history and land use. Our approach will encourage social engagement and intergenerational learning for families, with experiences, interactivity and live programming. These are strategies that can “open people up” to exploring. They include encounters with live species and guided outdoor experiences. Visitors will be equipped with knowledge that will enrich their experience in the landscape.



## BUSINESS PLAN HIGHLIGHTS

ConsultEcon, Inc. has been involved with the development of a desert discovery center for more than 10 years. Their perspective has been critical to model the planning for financial sustainability. In addition, Desert Discovery Center Scottsdale Advisory, Ex Officio and Board members lent their expertise, which helped inform the Business Plan. We welcome the City of Scottsdale staff's assessments and recommendations going forward and anticipate an Economic Impact Study prepared by the City's Economic Vitality Office. That study will be included in our Final Report to the City Council at its Work Study Session on Sept. 26, 2017.

Specifically, ConsultEcon has provided the following professional opinions:

- Desert EDGE will offer a unique setting and visitor experience, encompassing an indoor/outdoor setting with views framed to enjoy the natural environment, as well as connections to the McDowell Sonoran Preserve trails.
- The Desert EDGE site is easily accessible by vehicle to residents from the Phoenix metro area, as well as visitors from outside the region who may be less familiar with the area.
- The growing residential market within a 75-mile radius of the Gateway site has an elevated level of engagement in active, leisure and educational activities. Overall, the growing population and income level data are positive indicators for visitation to Desert EDGE.
- Scottsdale is a high-profile tourist destination. Desert EDGE will diversify and enhance Scottsdale tourism offerings with its indoor and outdoor focus. It is projected that the 4.4 million-day visitors a year to Scottsdale will welcome the addition of the Desert EDGE venue.
- Given the size of the Phoenix Metro area there are only a few cultural- and nature-based destinations. Desert EDGE will be quite competitive in the local market.
- Based on market research and analysis, the Desert EDGE attendance potential at the stable year (year 3) is estimated at 285,000 to 385,000, with a mid-range estimate of 306,000.



Desert EDGE will diversify  
and enhance Scottsdale's  
tourism offerings with its  
indoor and outdoor focus.





**PROJECT DATA**

**Operating Expenses in Stable Years:  
\$6.3M ANNUALLY, IN CURRENT DOLLARS**

**Earned Revenue:  
\$4.6M  
(72 percent of revenues needed)**

**Non-Operating Revenue Generation is Projected at:  
\$1.7M YEARLY FROM FUNDRAISING  
AND OPERATING RESERVES**

(This represents an approximate 70%-30% earned and contributed revenue model, consistent with the operations of similar nonprofits such as The Phoenix Zoo and the Arizona-Sonora Desert Museum )

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“It is quite true to say that in order to protect endangered wild lands and species we have to teach people why to protect them, then how to protect them, not just once but on an ongoing basis. In Scottsdale you have achieved the first (why protect them), and you are grappling with the second (how to protect them) and this will be ongoing.”

— VALERI LEBLANC, PRINCIPAL, PLACES CONSULTING

## DESERT EDGE: CAPITAL COST

The architecture, exhibit design and ASU Global Drylands Institute proposed for Desert EDGE will give the City of Scottsdale a new visitor option, appealing to the interests of today's travelers for authentic, place-based educational and family-oriented experiences to expand the city's current offerings related to golf, resorts and shopping. To echo Experience Scottsdale, "a visit to Desert EDGE will be on everyone's bucket list."

Desert EDGE will be unique, like nothing else in the Valley. Guests will experience the desert through a series of pavilions, which shelter thought-provoking interactive encounters designed to capture the imagination. Desert building materials are consistent with other Preserve Trailhead facilities, with the introduction of an innovative solar canopy over the interstitial space between pavilions.

In order to prepare a cost estimate for Desert EDGE, each pavilion was analyzed, walkways were measured and a unit cost was applied for mechanical systems. Guest experience features were broken down by complexity and specialized tech equipment. The architectural design team provides a comprehensive project cost estimate for the Desert EDGE in Section 3 of their report.

The City of Scottsdale's projected capital cost is \$61.2 million. The table on the top of the next page includes both on-Preserve and off-Preserve improvements, with the exception of the interior of the Global Drylands Institute pavilion will be equipped, furnished and staffed by Arizona State University.

Off-Preserve costs include paving for 250 parking spaces, extending off-Preserve utilities, secured storage and an administration building.



A visit to Desert EDGE  
will be on everyone's  
bucket list.





**PROJECT DATA**

**Gross Conditioned Pavilion Space:**  
47,586 SQUARE FEET

**Disturbed Building Area:**  
5.34 ACRES

**Total Gateway Parking:**  
544 SPACES  
(all included within the existing parking lot footprint )

**Off-Preserve Building:**  
5,400 SQUARE FEET

**Total Off Preserve Parking:**  
250 SPACES

**TABLE**

DESCRIPTION	DESERT EDGE
Architecture and Exhibit Cost Construction	49,794,153
Project Support* and Contingency	10,784,526
Subtotal Capital Cost	60,578,679
Public Art**	605,787
<b>TOTAL CAPITAL COST</b>	<b>61,184,466</b>

\* Project Support includes standard:

- City project review and related fees
- City capital project management fees and overhead
- Architectural and experience design services
- Fees for other consultants
- Desert Discovery Center Scottsdale staff and expenses are not included in project support

\*\* Note that public art is one percent of the subtotal capital cost.

Desert Discovery Center Scottsdale is committed to raise 10 percent of the project capital costs in a new contract. Desert Discovery Center Scottsdale will raise at least this much through donations. This amount could offset costs, which are not funded by the city: pre-opening, start-up, administration, operating reserve, other non-depreciable assets and operation expenses.

The next step is for the architectural design team, experience designer, city staff and other support consultants to transition into design development and prepare construction documents and the construction management plan.

Desert Discovery Center Scottsdale will support the project plan preparation and permitting phase by continuing public involvement and fundraising. The nonprofit also will search for the first President/CEO.



## DESERT EDGE: OPERATIONS

Desert EDGE will

open up people of  
all ages to exploring.

Desert Edge will be open year-round, but daily hours will vary with the seasons.

### *General Admission Hours will be Seasonal*

- General admission hours will not exceed Preserve hours of sunrise to sunset
- October – April: 9 a.m. to 5 p.m. (generally – open the same hours as the McDowell Sonoran Preserve, which is based on sunset)
- Fall and Spring Break weeks for local schools, we anticipate earlier opening hours for special family programs
- May – September: anticipate an earlier opening due to heat
- Scottsdale Residents get free admission one day per month and on guest's birthday
- The Commons hours are the same as general admission hours

### *Regular Programs*

- During general admission hours, Desert EDGE program offerings will occur, as well as programs sponsored by groups, organizations or individuals
- Desert EDGE tours led by volunteer Desert Keepers – reservations required for groups larger than eight
- Guided Preserve hikes (led by McDowell Sonoran Conservancy stewards, if desired) will include detailed interpretation, rules and safety. These may extend beyond general admission hours but not past Preserve hours
- Educational Programs examples include:
  - SYMPOSIA – Lectures and Educational Outreach
  - ENCOUNTERS – Feeding the reptiles, Tortoise Lady, Meet a Scientist and rotating visits from Southwest Wildlife Conservation Center and Liberty Wildlife, as examples
  - LIVING IN THE DESERT – such as Native Plants Life and Survival, Shade in the Desert, Building Techniques, Audubon Arizona Backyard Habitats



### *Educational and Special Programs*

Educational programs expand on the Desert EDGE's exhibits, research and regular programs. A program may enhance a Desert EDGE experience to outside groups, encourage guests to return with their families for a later visit and provide a forum for those who otherwise may not visit.

Some examples of educational programs are: GDI symposia on research project status, presentations by a scientist, local chapter meetings of environmental groups, and Desert Discovery Center Scottsdale-sponsored fundraising programs. Rental fees are not anticipated for general education programs.

Special programs are designated for non-Desert Discovery Center Scottsdale-sponsored groups, partners or related associations wishing to use Desert EDGE past normal or Preserve hours. Special programs are limited to 60 per year. Special programs are important for financial stability, but more importantly, these programs give another opportunity for locals and tourists to connect and participate with Desert EDGE. As a part of the special programs, there will be a presentation about Desert EDGE and the McDowell Sonoran Preserve's conservation and education mission and purpose.

The following restrictions are required to sponsor a Special or Education Program:

- Programs that may conclude after the Preserve closes (sunset) will originate at the Off-Preserve site and be shuttled to Desert EDGE
- Programs shall be completed by 9 p.m. The premises must be clean and vacated by caterers, staff, etc. before 10 p.m.
- Program guests are restricted to the Desert EDGE footprint. There will be no access to Preserve trails, etc.
- Weddings, wedding receptions, bar /bat mitzvahs and the like shall not be allowed
- Programs will use Desert EDGE – preferred caterers who must provide their own liquor license
- Program users will not be allowed to bring in any outside food or drink
- Program users shall have access to only the portions of Desert EDGE designated in its agreement, will carry insurance naming Desert Discovery Center Scottsdale/ City of Scottsdale as additional insured parties and sign a contract outlining limitations, indemnifications, rules and restrictions of use

In planning the management for special and educational programs, mitigation measures were included to lessen any impact on adjacent neighbors. By starting an after-hours program at the off-Preserve site, the number of vehicles will be dramatically reduced. Area lights will not be necessary in the parking lot because shuttles would use the loop drive. All lighting within Desert EDGE will be low, shielded and designed to comply with the shoebox fixtures designed to exceed the City of Scottsdale's outdoor lighting regulations. No off-site locations will see the lighting fixtures.

Loud concerts will be prohibited because of the noise effects and insufficient space to accommodate them. Noise levels will be contained within Desert EDGE and sound emanating will be minimal.



All visitors will have the opportunity to discover more about the desert systems, cycles and species, history and land use.

## DESERT EDGE: OPERATIONS

### *The Commons Café*

The average Desert EDGE stay is calculated at just over two hours. The purpose of the café is to provide guests with a place for nourishment, rest and relaxation during their visit. It is an important amenity for all visitors, especially families with children and older guests. It will offer scenic views and educational elements.

The following describes the Commons Café:

- Café closes when Desert EDGE closes and may open earlier (within Preserve hours) during milder weather
- No admission fee is required for the Café –it is open to the public
- Food and drink (except water) may not be consumed in Desert EDGE, except in designated areas
- The café and café patio will have a defined area
- Clean-up and trash, including food and crumb removal will be managed aggressively
- Food packaging will be recyclable and no-glass products will be allowed
- The café will feature a simple offering of locally inspired pre-made and made-to-order sandwiches, salads and limited hot items with a limited selection of local craft beers and wines, which may not be removed outside of the café or patio
- A vendor will operate the café
- Volunteers and staff will receive a café discount while working

### *The Commons Store*

Distinctive items will be offered that meet the needs of the array of audience segments: children, adults, tourists and outdoor enthusiasts. These will be selected to complement Desert EDGE's conservation and education mission, help commemorate guests' overall experience and as an extension of the educational experience, (similar to sales currently allowed in the Preserve). Retail experiences are considered by guests to be an extension of the Desert EDGE experience.

- No admission fee is required – it is open to the public
- Commons Store has the same hours as Desert EDGE
- Desert EDGE members receive a discount
- Ancillary Municipal Use

Both the Commons café and store are accessory uses as defined by the Scottsdale Zoning Ordinance: "an activity customarily incidental, related, appropriate and clearly subordinate to the principal use of the lot or building." The principal use is an education, interpretation and research center, an approved municipal use.



The Desert EDGE approach will encourage social engagement and intergenerational learning for families with experiences, interactivity and live programming.

***Other Desert EDGE Regulations:***

- No handbills will be placed on vehicles in the Preserve parking lot or placed upon any structure
- No jeep tours
- No smoking or use of devices that produce smoke or vapor
- No overnight accommodations, hotel or lodging facilities
- No guest may bring in animals or pets, except service dogs
- No temporary tents, tarps, canopies or structures other than an approved portion of an exhibit or experience contained within the Desert EDGE footprint

***Traffic and Parking Management***

- The City of Scottsdale will install a new traffic light at Thompson Peak Parkway and Carla Way.
- The new entry, with right turns only from Thompson Peak Parkway south of Carla Way is being added to ease traffic flow and to offer options for cars going to Desert EDGE from those going to the Gateway Trailhead.
- Off-Preserve parking will accommodate all bus parking, as well as overflow peak parking with shuttle service provided. Phone apps and other leading-edge technology innovations will be used in parking management, along with traditional methods such as valet service.
- Alternative transportation options will be made available through hotel shuttles and services such as Uber and Lyft.



## DESERT EDGE: NEXT STEPS

The City of Scottsdale RFQ, for which Desert Discovery Center Scottsdale was the successful bidder, solicited an organization to submit statements of qualifications for one of possibly four contracts.

### *First Contract*

The purpose of this first contract was to determine what Desert EDGE is, what it looks like, what it costs to build and what it costs to operate. This Proposal and the Preliminary Strategic Planning Report that follows is the culmination of this first contract.

### *Second Contract*

The second contract will further develop the Desert EDGE design and prepare construction documents for the site, architecture and guest experience. A major milestone for the Desert EDGE architectural team will be obtaining final Development Review Board project approval.

It is the city's decision to determine how to procure construction services for Desert EDGE. Desert Discovery Center Scottsdale recommends a Construction Manager at Risk (CMAR) contract. Given the nature of the building materials, proposed environmental control systems and magnitude of coordination required between the general contractor and the exhibit contractor, procurement by low bid would be daunting. The project is of sufficient size and importance that CMAR selection should attract quality companies that have cultural and interpretive center experience.

In this phase, Desert Discovery Center Scottsdale will evolve from a founder's board to a traditional operating board by selecting Desert EDGE's first Chief Executive Officer and Development Director. The Feasibility Study conducted by current Development Director Randy Schilling proposes a four-phase fundraising campaign that should start during the second contract. As a nonprofit, Desert Discovery Center Scottsdale will continue to pay for its own operations.

The continuing development and formalization of partnerships and alliances will transpire in this phase, as well. Periodic project updates and presentations to interested parties should be included in the second contract scope. This will last at least 20 months.



### ***Third Contract***

This contract is principally for construction and fundraising.

In early conversations with ConsultEcon, we concluded that constructing and opening Desert EDGE in stages would be financially disadvantageous.

We do not recommend phasing the construction for a variety of reasons:

- The experience is designed to tell a complete story
- Disturbing the hiker/biker experience twice
- Not having adequate breadth and depth of experiences to justify the admission fee necessary for financial sustainability
- Not having room for ancillary revenue-generating services necessary for financial sustainability
- Not meeting the tourism industry's expectations and thereby potentially losing bed tax and marketing support
- The added expense of mounting a construction project twice.

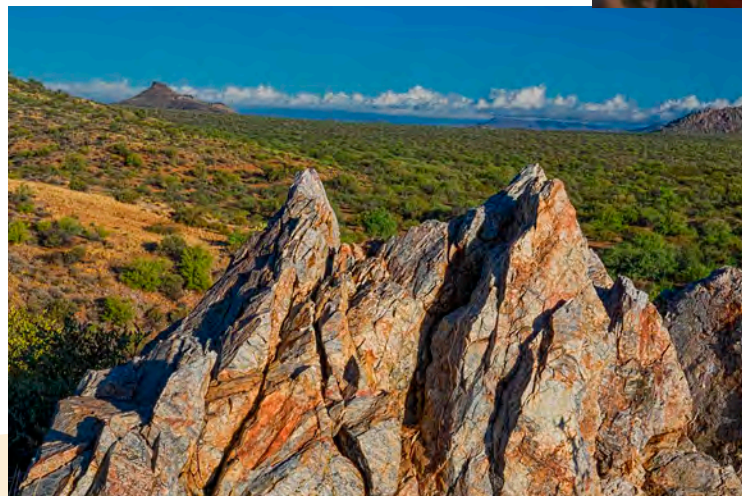
We did not examine this alternative further due to these considerations.

The construction term is expected to require 16 months, which at the end will require four to six weeks to install exhibit controls and train staff. Significant fundraising interest is expected during this contract phase.

### ***Fourth Contract***

The final contract is an agreement that governs how Desert EDGE will be managed and operated. The agreement, using the Museum of the West template as recommended by the City of Scottsdale, sets forth responsibilities for financial commitments, management duties, improvement responsibilities, maintenance and utilities, legal bindings and insurance and indemnity. While the management agreement is not needed for three years or more, these discussions start before construction begins.

Educate and inspire  
a global audience to value,  
thrive in, and conserve desert  
environments through  
transformative experiences  
based on scientific studies  
in Scottsdale's McDowell  
Sonoran Preserve and from  
around the world



## DESERT EDGE: CONCLUSION

Desert EDGE is Desert Discovery Center Scottsdale's answer to the question "why do we need the Desert Discovery Center?" We have faithfully sought to develop a perspective through superb experiences that will engage guests and architectural mastery that demonstrates the best of desert living. The cornerstone of the project is Arizona State University's Global Drylands Institute (GDI). As the vision for both Desert EDGE and GDI flourishes, so too will Scottsdale's reputation for preservation and conservation. Tourism will be given a new edge and Scottsdale residents and school children will have a touchstone to identify with this unique environment they call home.

Desert Discovery Center Scottsdale has proposed that with no new taxes, Desert EDGE can be funded and operated. We have identified the capital and operational cost to the City of Scottsdale and the Desert Discovery Center Scottsdale's commitment for fundraising. Our proposal presents what we believe is the best Desert EDGE for the City of Scottsdale.

We are proud to present this proposal to the Scottsdale Mayor and City Council and look forward to working in partnership to see Desert EDGE become a reality.

You protect what you love.

You love what you know.





