

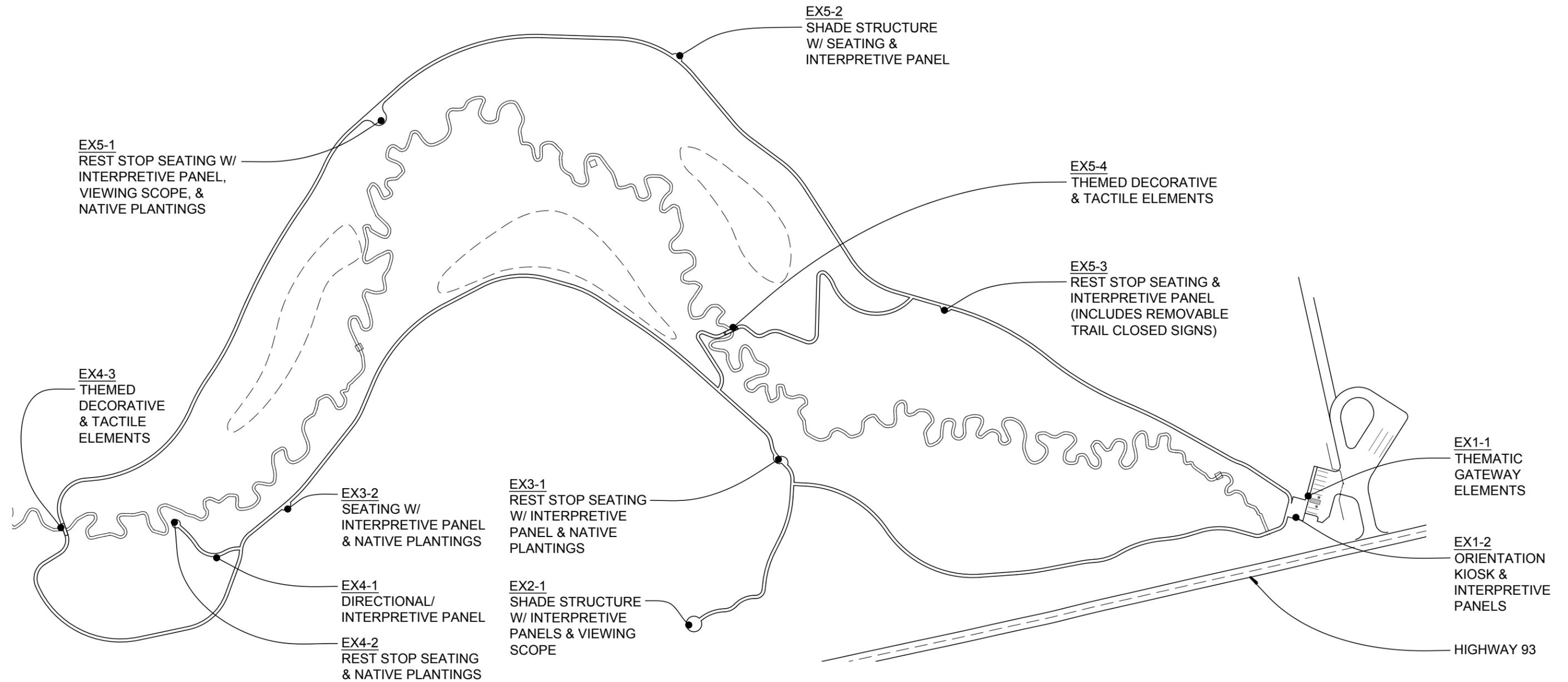


U.S. FISH & WILDLIFE SERVICE

PAHRANAGAT NATIONAL WILDLIFE REFUGE BLACK CANYON TRAIL

Phase I - Content Concept Design

Exhibit Outline | April 12, 2019



SCHEMATIC PLAN @ BLACK CANYON TRAIL

N.T.S.

LEGEND

EX1: BLACK CANYON TRAILHEAD

- EX1-1: BLACK CANYON TRAILHEAD GATEWAY ELEMENT
- EX1-2: BLACK CANYON TRAILHEAD KIOSK

EX2: PAHRANAGAT MAN TRAIL & VIEWING AREA

- EX2-1: PAHRANAGAT MAN VIEWING AREA

EX3: BUTTE

- EX3-1: BUTTE REST STOP (FORMERLY SHOTGUN)
- EX3-2: FALCON REST STOP

EX4: NORTH LOOP / SOLITUDE SPUR TRAIL & REST STOP

- EX4-1: SOLITUDE SPUR TRAIL
- EX4-2: SOLITUDE REST STOP
- EX4-3: NORTH BRIDGE

EX5: CANYON WALL PERIMETER TRAIL

- EX5-1: RAINDROP VIEWING AREA
- EX5-2: ROSES REST STOP
- EX5-3: CUTOFF REST STOP
- EX5-4: CUTOFF TRAIL BRIDGE

EX6: BLACK CANYON TRAIL MARKERS

- MARKER LOCATIONS TBD

Pahrnagat National Wildlife Refuge
Black Canyon Trail
Exhibit Outline
April 12, 2019

EX1: BLACK CANYON TRAILHEAD

EX1-1: Black Canyon Trailhead Gateway Element

GOALS Provide a sense of arrival, invite visitors to enter from the east, and lead them to the trailhead kiosk.

EXHIBIT DESCRIPTION Monolith rockwork displays the name of the trail and guides visitors to the kiosk along a defined pathway with decorative paving set with animal tracks. The rockwork is similar to that outside the visitor center, but the colors are darker to complement the desert varnish on the rocks at Black Canyon.

Contoured bands of colored paving symbolize the historic presence of water: Depressions suggest rocks falling on the water's surface, and the colored bands represent ripples of water extending outwards.

VISITOR EXPERIENCE Visitors feel confident they have arrived at a special place and are drawn from the parking lot to the gateway created by the monolith stonework, entering the area from the east. They notice the animal tracks along the pathway and realize a rattlesnake is tracking a jackrabbit. These tracks end in what looks like a struggle between the two, reminding visitors of the circle of life.

GRAPHICS

- Jackrabbit tracks
- Mojave rattlesnake tracks

EX1-2: Black Canyon Trailhead Kiosk

GOALS

- Provide directional/orientation information to the trails, encourage visitors to explore, and interpret major themes.
- Identify the area as an archeological district and its significance.
- Express gratitude to the Nuwuvi for sharing their living culture with us and acknowledge the contributions of the working group.
- Introduce major themes and the inter-connectedness of the cultural and natural resources.

EXHIBIT DESCRIPTION

The kiosk has 3 interpretive panels and a brochure holder with cutout silhouettes of a bald eagle and a coyote as well as tactile models of a chuckwalla and a ram's horn. The kiosk area includes natural shade, visitor log/donation box, and a trail counter.

Interpretive panels will have decorative rockwork. They include:

- First interpretive panel consists of a large map of the trail that highlights key features, encourages visitors to explore, and provides trail length and time information. Part of this panel includes a sidebar of rules and regulations in black and white.
- Second panel interprets the major themes and expresses gratitude to the Nuwuvi for sharing their living culture with us and acknowledges the contributions of the working group. It also asks visitors to respect this place as the Nuwuvi's Holy Land.
- Third panel includes the tactile ram's horn and highlights the unique features of Black Canyon and their significance.

VISITOR EXPERIENCE

Visitors sense they have come to a special place and feel honored to learn they are being welcomed to a sacred place. The interpretive panels provide them with an overview of the themes and the history and contributions of the Nuwuvi. They begin their journey with an attitude of respect and stewardship for this unique place.

Maps and trail markers help visitors decide which direction to travel based on their interest and the time they have available to explore. They learn that if they go left/clockwise along the Pahrnagat Man Trail, they will quickly come to one of the most sacred places in the Pahrnagat Valley with the best views of Pahrnagat Man and other rock writings. If they go right/counter-clockwise along the Perimeter Trail, they will quickly leave the noise of the highway behind and discover solitude and a more natural experience. They also learn that a cutoff trail is open seasonally if they want to experience both the sacred butte and the

canyon wall, but do not want to travel the entire length of the trail, and they understand why it is closed during nesting season.

KEY MESSAGES

Black Canyon

- Relict oxbow of the pluvial White River that once contained Pahrnagat Creek before agricultural stream modifications and the construction of Highway 93.
- Part of the Colorado River drainage system and its tributaries.
- An oasis in the dry Mojave Desert, the springs, marshes, and streams of this this dynamic environment nourish a rich wetland and riparian habitat that supports thousands of waterfowl, fishes, and other wildlife.

Features & Habitats

- Restored wetlands and riparian corridor/migratory bird habitat (historic irrigation ditches and travel corridor). Cottonwoods and other trees provide rest areas for birds and bats that roost in trees.
- Sacred volcanic butte sits like an island in the center of Black Canyon.
- Rock cliffs of the butte and canyon walls provide important daytime roosts for bats and birds that roost in rocks and crevices.

Theme(s)

- **Interconnection & Stewardship.**
 - The rock writing is connected to everything in the environment from the water to the weather.
 - Restoration and natural and cultural protection.
- **Everything is Alive and has Power:** All plants, animals, rocks, water, mountains, and rock writing are alive and has its own power.
- **Voices of the Rocks Sing Through Us:** Nuwuvi and the rock writing are relatives and have communicated with each other since the world was new.
- **Come See Me:** The beings/images in the rock writing want to be seen by those with the right frame of mind. Nuwuvi, local residents and the general public feel drawn to them.

History & Significance

- Black Canyon is a culturally-significant landscape for seven tribes of Nuwuvi throughout four states. It contains hundreds of archaeological sites and petroglyph panels including the famous "Pahrnagat Man" petroglyph style.
- Interpret different climatic or anthropogenic eras when the road was a river and the river surrounded the butte.
- Change over time.
- Restoration: this old bend of the White River is now a seasonal marsh that's managed for migratory birds and other wildlife.

Nuwuvi

- Nuwuvi (Southern Paiute) are Numic speaking peoples who call the southern Great Basin and northern Mojave Deserts home, as they have for thousands of years.
- The Pahrnagat Valley, specifically Black Canyon, has an important place in our stories because it is a site of creation and considered a central part of our **holy land**. It is a **place of reflection**.
- The information we are sharing needs to be offered and respected with those of an open mind and a good heart.

GRAPHICS

- Cutout silhouette of a bald eagle
- Cutout silhouette of a coyote
- Black Canyon Trail map
- Nuwuvi working group
- Pahrnagat Man and other rock writings
- Migratory and nesting birds in Black Canyon
- Restoration efforts and species that depend on these habitats

ARTIFACTS

- Tactile model of bighorn ram's horn
- Tactile model of a chuckwalla

EX2: PAHRANAGAT MAN TRAIL & VIEWING AREA

The Pahrnanagat Man Trail extends from the South Trailhead to the Pahrnanagat Man Viewing Area. It provides visitors direct access to one of the main attractions in the Black Canyon Archaeological District. Approximately 1/4 mile.

EX2-1: Pahrnanagat Man Viewing Area

GOALS

- Create a place where school groups can gather and provide visitors with an intimate view of Pahrnanagat Man.
- Encourage viewing of petroglyphs from a safe distance using magnified spotting scopes.
- Discourage visitors from climbing the sacred butte.

EXHIBIT DESCRIPTION

This viewing area will have seating, two interpretive panels with decorative rockwork, one small regulatory sign, built shade, a magnifying viewing scope, and visitor containment features. It also includes cutouts of a bighorn sheep and a red-tailed hawk along with a model of a Mojave rattlesnake guarding the trail up the butte.

Colored concrete seat walls will be situated within native boulders, if the topography of the area allows for it without disturbing the natural setting, to provide a sense of enclosure suggestive of a sheltered rock ring.

- A large vertical panel attached to the shade structure interprets the Nuwuvi's connection to this sacred space and the significance of rock writing, especially the unique style of the Pahrnanagat Man. It also asks visitors to respect this place as the Nuwuvi's Holy Land.
- A small horizontal panel invites visitors to use the magnified spotting scope to look for rock writing and animals that live in rocky crevices.
- A small black-and-white regulatory sign discourages visitors from climbing the butte and reminds them of other rules and regulations.

VISITOR EXPERIENCE

Visitors understand the significance of rock writing and respect the cultural and natural resources of the area. Visitors view rock writing through a magnified scope, which helps satisfy their need to see these intriguing features close-up. That, plus the regulatory sign, discourages them from climbing the butte.

KEY MESSAGES

Features & Habitats

- Sacred volcanic butte sits like an island in the center of Black Canyon.
- Rock cliffs of the butte provide important daytime roosts for bats and birds that roost in rocks and crevices.

Theme(s)

- **Come See Me:** The beings/images in the rock writing want to be seen by those with the right frame of mind. Nuwuvi, local residents and the general public feel drawn to them.
- **Voices of the Rocks Sing Through Us:** Nuwuvi and the rock writing are relatives and have communicated with each other since the world was new.

Nuwuvi/Rock Writing

- Nuwuvi oral history says that the rock writing here goes back to time immemorial when water flowed through here; they were placed here by the creator.
- Archeologists believe they are at least 2,000 years old when the biblical King David was alive. They call it a PBA (patterned body anthropomorph).
- Nuwuvi consider these features to be rock writing and not rock 'art' because they have a purpose in communicating important messages: they are not made for their beauty.
 - The rock writing and the stories embodied in our homelands are not made by humans and are not considered 'works of art.' The term 'art' implies that an artist made these and that they are an expression of his or her individual perspective.
 - Rock writing reaffirms the work and presence of the mountain spirits who watch over the area. Each image contains the spirits of the maker and the power of the beings they represent.
- Nuwuvi and the rock writing are relatives and have communicated with each other since the world was new. "We are connected to them and they are connected to us." These writings give important messages and insight to our people. They interact with each other and point out sites of important resources, places of power and things that only Nuwuvi can understand or are meant to see.
- Nuwuvi oral history tells us that *tu-tu-gove* (little people) created the rock writing throughout our lands. They are our ancestors. They help protect the land, mountains and everything within its sight.
- The beings/images in the rock writing want to be seen by those with the right frame of mind.

Pahranaḡat Man

- No one knows for sure what it means, but many Nuwuvi say it's a powerful shaman or spiritual advisor, a water being that protects water and other natural resources.

IMAGES

- Cutout silhouettes of a coyote and bighorn sheep
- Closeup images of rock writing visible through the scope

ARTIFACTS

- Model of a Mojave rattlesnake.

EX3: BUTTE

Black Canyon is a sacred volcanic butte in the middle of an extensive riverine oasis filled with clear fast flowing artesian springs, creeks, lakes, and marshes. It is a place of great power in a valley of great power.

EX3-1: Butte Rest Stop (formerly Shotgun)

GOALS

- Instill a sense of respect and stewardship for the cultural and natural resources of this sacred area.
- Discourage visitors from climbing the butte, vandalizing trees, rocks, or panels or adding graffiti.
- Prevent visitors from climbing the butte.

EXHIBIT

DESCRIPTION

This rest stop will have seating, one small horizontal interpretive panel with decorative rockwork, and a visitor containment feature.

Colored concrete seat walls will be situated within native boulders, if the topography of the area allows for it without disturbing the natural setting, to provide a sense of enclosure suggestive of a sheltered rock ring.

The panel will interpret the butte and the importance of natural and cultural resource protection.

VISITOR

EXPERIENCE

The proximity to a variety of accessible petroglyphs (lower down on the hillside), lush vegetation (existing cottonwoods along historic ditch), the stream restoration project and significant geologic formations together make this area attractive to visitors.

KEY MESSAGES

Features & Habitats

- Sacred volcanic butte sits like an island in the center of Black Canyon.
- Rock cliffs of the butte provide important daytime roosts for bats and birds that roost in rocks and crevices.

Theme(s)

- **Interconnection & Stewardship:**
 - The rock writing is connected to everything in the environment from the water to the weather.
 - Restoration and natural and cultural protection.

Cultural Resource Protection

- The rock writings in this area have been desecrated by graffiti and shotgun holes.
 - Historical graffiti (e.g., contact period relationships). Self-expression through graffiti is not equal to rock writing.

- The butte and the rock writings are sacred to the Nuwuvi. They should be respected as one would any other place of worship.
- Interconnection of the butte with the entire Nuwuvi ancestral territory. Butte summit is central to site and the Pahranaagat Valley
- Geology of volcanic butte (but not why volcanic buttes are sacred).
- cliff bands on north side of butte.

GRAPHICS

- Rock writing desecrated with bullet holes.

EX3-2: Falcon Rest Stop

GOALS

- Interpret the importance of rocky cliffs and wetland and riparian habitat to bats, peregrine falcons, and other animals.
- Prevent visitors from climbing the Butte to protect rock writing/sensitive cultural areas and peregrine falcons' nesting and roosting sites.

EXHIBIT DESCRIPTION

This rest stop will have seating, natural shade, one small horizontal interpretive panel with decorative rockwork. It also includes a cutout silhouette of a peregrine falcon.

Colored concrete seat walls will be situated within native boulders, if the topography of the area allows for it without disturbing the natural setting, to provide a sense of enclosure suggestive of a sheltered rock ring.

The panel will interpret the butte as an important roosting and nesting habitat for birds and bats that depend on nearby wetland and riparian areas for food.

VISITOR EXPERIENCE

As they stop to rest at the old cottonwood trees near the rocky wall of the butte, visitors learn about the importance of rocky cliffs and wetland and riparian habitat to birds and bats that nest and roost here.

KEY MESSAGES

Features & Habitat

- Rock cliffs of the butte near wetlands provide habitat for birds and bats.
 - Peregrine falcons require isolated cliff sites for nesting and benefit from restored marshlands
 - Daytime roosts for bats that roost in rocks and crevices.
- Restored riparian habitat and the cottonwood overstory, mesquite/ willow understory, and herbaceous understory support their own wildlife communities.
 - Importance of mature cottonwood trees.
 - Cottonwood and willow trees line the refuge's lake shores and springs. Riparian habitats (a word that refers to moisture-dependent vegetation that grows along watercourses) are among the most endangered habitats in the Southwest. Riparian habitat provides feeding and nesting areas for birds that migrate here from the tropics, such as the yellow warbler, Bullock's oriole, and endangered Southwestern willow flycatcher. On the refuge, riparian areas are irrigated to sustain vegetation and promote sapling growth. Nonnative tamarisk (salt cedar) trees, which add toxic salts to soils and use large quantities of valuable groundwater, are removed, as are Russian olive trees.

Theme(s)

- **Interconnection & Stewardship:** Restoration and natural and cultural protection.

GRAPHICS

- Cutout silhouette of a peregrine falcon.

EX4: NORTH LOOP / SOLITUDE SPUR TRAIL & REST STOP

EX4-1: Solitude Spur Trail

GOALS	<ul style="list-style-type: none">• Provide directional/orientation information.• Interpret the purpose of the solitude area.• Encourage respect, silence, and contemplation.
EXHIBIT DESCRIPTION	A large vertical interpretive panel decorated with rockwork interprets the sacredness of the site and encourages visitors to be respectful and contemplative.
VISITOR EXPERIENCE	Visitors are drawn along the spur trail to the large vertical sign located a respectful distance from the solitude area. Here they learn they are about to enter a traditional prayer area, and they are inspired to treat this sacred place with reverence and respect.
KEY MESSAGES	<u>Themes</u> <ul style="list-style-type: none">• This is a place of solitude and reflection. Traditional prayers have taken place at the site since time immemorial.• A place of abundant resources that holds great spiritual power. Everything in this landscape is alive and has power.• The area is a place of intrigue that holds the answers to many mysteries about our past, how things are today and what is in store for the future.• A Nuwuvi settlement may once have been here.
GRAPHICS	<ul style="list-style-type: none">• Images suggestive of solitude and reflection.• Nuwuvi at prayer.• Others TBD (with input from Nuwuvi Working Group)

EX4-2: Solitude Rest Stop

GOAL Encourage silence and contemplation.

EXHIBIT DESCRIPTION The solitude area will have seating, natural shade, and a visitor containment feature. Colored concrete seat walls will be situated within native boulders, if the topography of the area allows for it without disturbing the natural setting, to provide a sense of enclosure suggestive of a sheltered rock ring.

VISITOR EXPERIENCE Visitors will gain an appreciation for solitude and contemplation as they rest in the secluded peninsula of the stream bend. They will feel respect for this sacred place and be inspired to be mindful of their own thoughts and prayers.

EX4-3: North Bridge

GOAL Encourage visitors to pause on the bridge and take in the view.

EXHIBIT DESCRIPTION Bridge is decorated with 4 cutout silhouettes and 2 tactile models of animal species that depend on the refuge's woody riparian habitat.

VISITOR EXPERIENCE Visitors enjoy the cutout silhouettes and tactile models and admire the view of the valley between the butte and canyon wall.

GRAPHICS

- Cutout of black-crowned night-heron (*Nycticorax nycticorax*)
- Cutout of greater sandhill crane (*Grus canadensis tabida*)
- Cutout of Pinyon jay (*Gymnorhinus cyanocephalus*)
- Cutout of a spotted bat (*Euderma maculatum*)

ARTIFACTS

- Tactile model of yellow-backed spiny lizard (*Sceloporus uniformis*)
- Tactile model of western whiptail lizard (*Aspidoscelis tigris*)

EX5: CANYON WALL PERIMETER TRAIL

The steep cliffs of Black Canyon's east wall provide a dramatic backdrop to the scale, vastness, and views of the valley. The trail acts as a pathway to experience the landscape and observe the butte and other locations from different perspectives, and its distance from the highway provides visitors with a sense of seclusion.

EX5-1: Raindrop Viewing Area

GOALS

- Encourage visitors to use the spotting scope to view rock writing and interpret its significance.
- Interpret the habitat and geology of the steep cliffs of the canyon's east wall.
- Discourage visitors from climbing rocks.

EXHIBIT

DESCRIPTION

This viewing area will have seating, natural shade, viewing scope, 1 interpretive sign, 1 regulatory sign, and post and wire safety fencing between the trail and the seasonal meandering stream.

Colored concrete seat walls will be situated within native boulders, if the topography of the area allows for it without disturbing the natural setting, to provide a sense of enclosure suggestive of a sheltered rock ring.

A small horizontal interpretive panel with rockwork and a magnified viewing scope will be oriented toward the hillside and interpret the canyon's habitats and geology. A black-and-white regulatory panel asks visitors to be respectful of the sensitive natural and cultural resources here and not to climb on rocks.

VISITOR

EXPERIENCE

Visitors view rock writing through a magnified scope, which helps satisfy their need to see these intriguing features close-up. That, plus the regulatory sign, discourages them from climbing the canyon wall. Visitors understand the significance of rock writing and respect the cultural and natural resources of the area.

KEY MESSAGES

Features & Habitats

- Steep cliffs of the canyon wall provide important daytime roosts for bats and birds that roost in rocks and crevices.

Theme(s)

- **Come See Me:** The beings/images in the rock writing want to be seen by those with the right frame of mind. Nuwuvi, local residents and the general public feel drawn to them.
- **Voices of the Rocks Sing Through Us:** Nuwuvi and the rock writing are relatives and have communicated with each other since the world was new.

Nuwuvi/Rock Writing

- Nuwuvi oral history says that the rock writing here goes back to time immemorial when water flowed through here; they were placed here by the creator.
- Nuwuvi oral history tells us that *tu-tu-gove* (little people) created the rock writing throughout our lands. They are our ancestors. They help protect the land, mountains and everything within its sight.
- The beings/images in the rock writing want to be seen by those with the right frame of mind.
- No one knows for sure what Pahrnagat Man symbolizes, but many Nuwuvi say it's a powerful shaman or spiritual advisor, a water being that protects water and other natural resources.

Geology

GRAPHICS

- Closeups of rock writing visible with the spotting scope.
- Diagrams and images interpreting area geography.

EX5-2: Roses Rest Stop

GOALS

Interpret the steep cliff habitat of the canyon wall and the species that depend on it.

EXHIBIT DESCRIPTION

This rest stop will have seating, a built shade feature, and 1 interpretive panel with decorative rockwork that encourages visitors to look for bird signs in the steep cliffs of the canyon and admire the views down the valley.

Colored concrete seat walls will be situated within native boulders, if the topography of the area allows for it without disturbing the natural setting, to provide a sense of enclosure suggestive of a sheltered rock ring.

VISITOR EXPERIENCE

Visitors look for rock writing and bird signs in the steep cliffs of the canyon and admire the views down the valley.

KEY MESSAGES

Features & Habitats

- Steep cliffs of the canyon wall provide important daytime roosts for bats and birds that roost in rocks and crevices.

Theme(s)

- **Interconnection & Stewardship:**
 - The rock writing is connected to everything in the environment from the water to the weather.
 - Restoration and natural and cultural protection.
- Interpret the specific rock writing image visible from trailhead (need to confirm which one it is).

Habitat

- Birds and bats that nest and roost in steep cliffs.
- Neotropical migrants eat native rose hips.
- White streaks on rocks from nesting barn owls.

IMAGES

- TBD

EX5-3: Cutoff Rest Stop

GOALS

- Explain the importance of marsh habitat and why this area is closed during nesting season.
- Explain how and why wetlands are actively managed to maintain ecosystem for migratory birds.
- Encourage visitors to listen to the sound of the wind and bird calls.

EXHIBIT
DESCRIPTION

This rest stop will have seating, natural shade, and 1 small horizontal interpretive panel with rockwork that interprets wetland restoration and its importance to migratory birds. This rest stop also includes 2 removable "trail closed" signs (one for each end of cutoff trail).

Colored concrete seat walls will be situated within native boulders, if the topography of the area allows for it without disturbing the natural setting, to provide a sense of enclosure suggestive of a sheltered rock ring.

VISITOR
EXPERIENCE

Visitors will understand why this area is closed seasonally and will listen for natural sounds.

KEY MESSAGES

Themes

- This area is closed during the nesting season (April / May – August).

Habitat

- restored wetlands and marshlands
- Historic oxbow
 - Species that benefit from restored marsh habitat: Northern harriers, marsh wrens, yellow-headed blackbirds, bald eagles, peregrine falcons.

Plants and Animals

- Species that nest here include vermilion flycatchers, red-tailed hawks

GRAPHICS

- Marsh wren (*Cistothorus palustris*)
- Vermillion flycatcher (*Pyrocephalus rubinus*)

EX5-4: Cutoff Trail Bridge

GOAL

Encourage visitors to stop on the bridge and admire the view of the restored marsh.

EXHIBIT DESCRIPTION

Bridge is decorated with 4 cutout silhouettes and 2 tactile models of animal species that depend on Black Canyon's marsh habitat.

VISITOR EXPERIENCE

Visitors enjoy the cutout silhouettes and tactile models and admire the closeup view of wetland habitat.

GRAPHICS

- Cutout of nesting migrant songbird: marsh wren (*Cistothorus palustris*)
- Cutout of nesting migrant songbird: vermilion flycatcher (*Pyrocephalus rubinus*)
- Cutout of nesting migrant songbird: yellow-headed blackbird (*Xanthocephalus xanthocephalus*)
- Cutout of nesting migrant wader: killdeer (*Charadrius vociferous*)

ARTIFACTS

- Tactile model of northern leopard frog (*Lithobates pipiens*)
- Tactile model of Great Plains toad (*Anaxyrus cognatus*)

EX6: BLACK CANYON TRAIL MARKERS

GOAL Guide visitors along the trail and inform them of their options at key decision points.

EXHIBIT DESCRIPTION Approximately 10 trail markers decorated with rockwork and a cutout of a roadrunner will be placed approximately every .25 miles. These include both ends of the Cutoff Trail and both directions along the Pahrnatagat Man Trail and the Solitude Spur Trail.

VISITOR EXPERIENCE Visitors will enjoy the trail knowing where they are along its path and which way to go to visit specific features such as the Pahrnatagat Man Viewing Area, restored wetlands (Cutoff Trail), and the Solitude Rest Stop.

GRAPHICS

- Cutout of greater roadrunner (*Geococcyx californianus*)

PHASE I

PROJECT START UP

1st meeting Pre-design

- Theme development, resource and collections review
- Preliminary story line, objectives
- Target audiences
- Analyze exhibit program
- Document existing collection, conditions, colors, field measurements
- Photographic survey
- Define programming needs and site constraints
- Exhibit technologies
- Write trip report, develop project agreement
- *Client provides project information and identifies major themes, images, and artifacts*
- *Client coordinates participation of experts*

CONTENT CONCEPT

submittal

- Prepare general research
- Exhibit outline
- Organize exhibit data
- Site plan with exhibit layout, support areas, circulation
- Site/exhibits coordination
- Project budget and schedule
- *Client reviews and approves items above*



FORMATIONS
EXHIBITS + GRAPHICS + TECHNOLOGY

PHASE II

DESIGN CONCEPT

2nd meeting

- Develop design package for exhibits, other amenities, and signage: plans, elevations, with brief description of exhibit content and visitor experience
- Define site modifications
- Continue gathering image and artifact data
- Develop graphic look and feel
- Word count and unit numbering system
- Provide exhibit resource book to include first draft text, treatments, graphics and artifacts listings
- Preliminary colors and materials
- Develop layout and reproduction methods for exhibit graphic panels
- Cost estimate
- *Client reviews and advises on design and artifact information*
- *Client provides 20–30% of images from collections*
- *Client provides 20–30% of artifact information*

PHASE III

PRE-FINAL DESIGN

3rd meeting

- Graphics developed and submitted to 50%
- Update exhibit resource book to include second draft text, A/V treatments, graphics and artifacts listings
- Revise design package
- Dimensioned plans
- Native plant revegetation
- Dimensioned elevations & sections
- Construction details & specs
- Final color and materials board
- Coordinate site conditions and exhibit structures
- Secure graphic references and images
- Cost estimate
- *Client provides remaining 70–80% images and artifacts*
- *Client reviews and approves Pre-Final Design package deliverables*

FINAL DESIGN

submittal

- Graphics developed and submitted to 75%
- Final design corrections
- Provide revised design materials listed above to client
- Provide final text, scripts, graphic and artifact listings
- Assemble final exhibit resource book, graphic and artifact listings with facsimiles
- Fabrication schedule
- Final cost estimate
- *Client reviews and approves Final Design package*
- *Client provides authorization to proceed to fabrication*

PHASE IV

FABRICATION

Checkpoint I

25% Complete

- Graphics developed and submitted to 100% for production
- Report on fabrication expenses
- Shop drawings if required
- Finish samples
- Prototypes if required
- Final graphics revised to 100% for Production
- *Client reviews progress on digital images, fabrication of furniture and casework, taxidermy, diorama, and other specialty items*

Checkpoint II

50% Complete

- *Client reviews corrections to Checkpoint I and progress on elements above*
- *Client will address any issues in writing for immediate correction*

Checkpoint III

95% Final Inspection

- *Client will review all finished exhibit elements at Formations*
- *Client will address any final issues in writing for immediate correction*

INSTALLATION

Inspection

After shipment and before installation

- Damaged items will be repaired or replaced as required
- *Client will inspect all exhibit elements for damage during shipping*

Installation

100% Complete

- Work together with client on any items or issues on-site
- Make all agreed-upon changes
- *At substantial completion, client will share punchlist items to pick up*

Closeout

- Deliver O&M manuals including all warranties and equipment maintenance; train staff
- Return all drawings, artwork, and final digital files to client

**PROPOSED WORK PLAN FOR
PAHRANAGAT
NATIONAL
WILDLIFE
REFUGE
BLACK CANYON
TRAIL**

**INTERPRETIVE
EXHIBITS**