

DINO Yampa District Multi-Ops Facility
FINAL PREDESIGN DOCUMENTS
NPS PMIS 310253 | March 15, 2024



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Project Introduction

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Background

The scope of DINO Yampa District Multi-Operations Facility consists of constructing a multi-operation support building to serve facilities, fire, search and rescue, and other operations. The project is located adjacent to and will demolish the existing Yampa District Operations building located next to Dinosaur National Monument's Canyon Visitor Center, fueling system, and auto service lifts. The site work for the project includes parking surface replacement, drainage and stormwater improvements, and a vehicle and river raft rinse station with an oil/water separator system. Utility systems to be upgraded or replaced include water, wastewater, and electrical supply. The existing communication system will include extending fiber optic from the Visitor Service Center up to the Maintenance and Operations site. Hazardous materials abatement associated with the demolition will be completed.

During the initial Scoping Phase, the Otak architectural and civil design team, along with representatives from the electrical design team AE Design, traveled to the DINO site on July 27, 2023. They were joined by David Longtin, Ron Shields, and Guy Headland of the Denver Service Center (DSC). The scoping of the site and interviews with the DINO staff leads, consisting of Paul Scolari (Park Superintendent), Manuel Montano (Maintenance Director), Michael Guarino (Wildland Fire), Jason Griswold (Ranger Program), Quayle Chew (Maintenance), and Megan Willison (Archeology), were a productive exchange of information and established the Maintenance and Operations program for the replacement building. These discussions resulted in not only a building program, but also eyes-on experience which supported the development of the narrative for the Class C estimate.

The initial Class C estimate came back higher than the project budget. Follow-up exercises were held to explore individual estimate items and their associated costs to assess which items were essential to fulfilling the functions of the Maintenance and Operations building. The original plan included a lift station and a force main to the lagoon serving the residential area. That plan was reassessed as a cost-saving measure and it was instead decided to upgrade the existing gravity sewer service to a septic tank and leach field. Similarly, the lagoon to the west was identified as a separate improvement for the park and therefore removed from the scope of this project. Finally, reviews of each department program were exchanged, and, with the participation of the project manager and DINO staff, the design team was able to identify approximately 1,000 square feet of building footprint that could be removed to better achieve the project budget. Proposed reduction concepts and a synopsis of square footage were issued in the 100% Scoping phase deliverable.

On January 24, 2024, Otak Architecture (Tom Hoover) and Landscape (Cliff Lind) joined Ron Shields, David Longtin, and William Groeninger from the DSC to observe the project scope area, visit the site, and interface with NPS Dinosaur interim superintendent David Schirokaur and lead personnel with a focus on Pre-Design considerations. Primary activities of the site visit were to view the building to be demolished and assess the site and its immediate surroundings for schematic design opportunities. An appendix of site photos captured during the visit was distributed with the meeting minutes.

Following the site walk, the design team and DSC representatives presented their observations to NPS Dinosaur personnel to gain insight on needs and to create the program for the Multi-Ops replacement building. These staff interviews provided a conceptual preview of beneficial building siting concepts prior to developing schematic layouts.

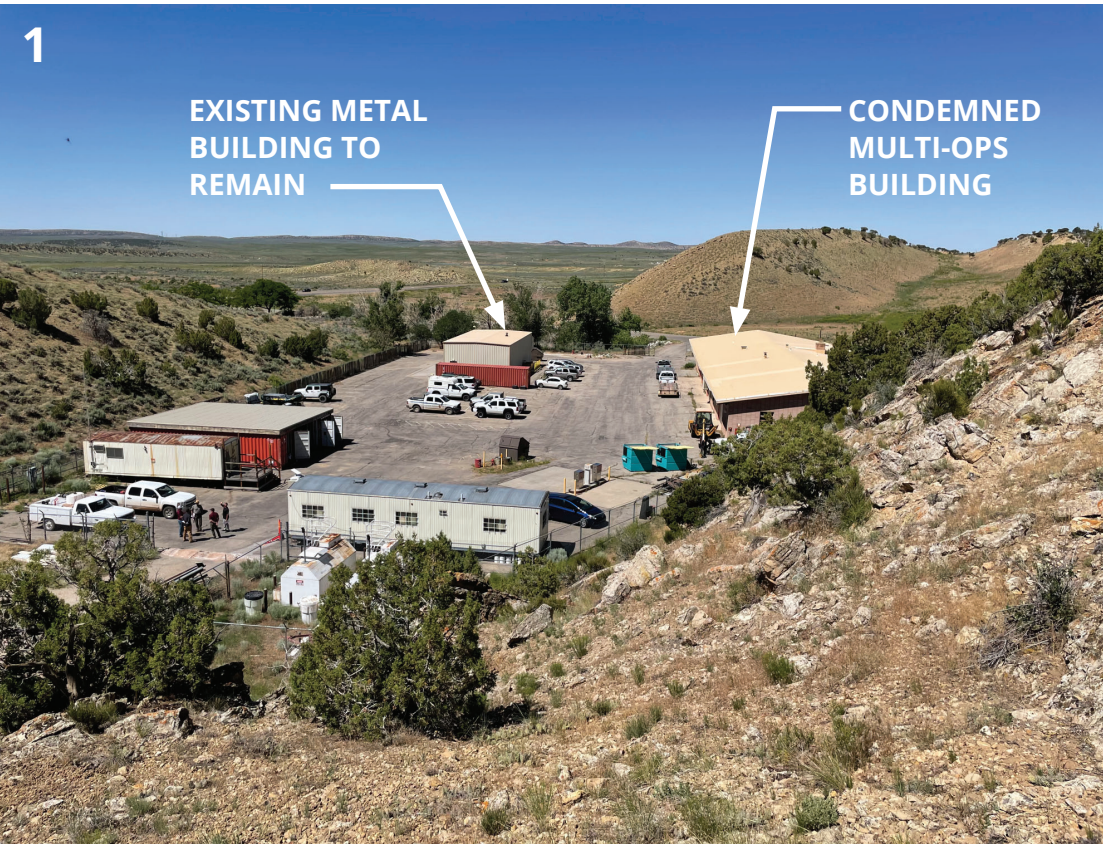
The site meeting resulted in applicable feedback for the functional aspects of DINO personnel. In the meeting, the program for the Maintenance and Operations replacement building was reviewed, with elaboration on the reductions obtained in scoping and how they might occur in the next phase. The Class C estimate was also presented relative to the program, along with suggestions for potential savings such as adjustments to current assumptions for the foundation, skin material, and building height in order to best align with the project budget.

Primary items from the estimate targeted for savings were identified as:

- Discuss cost savings potential for a two-story office option. Placing a portion of the administrative space onto a second story reduces footprint, foundation, roofing, and other construction material, as well as providing greater flexibility with site parking and circulation.
- Place teams that frequently work together near each other to improve operations.
- Explore re-use opportunities for existing flammable materials outbuilding.
- Study existing metal building at southwest portion of site to support a drive through layout to reduce new drive bay construction.

These meetings, followed by review and further exploration by the design team, have resulted in this Pre-Design document for NPS review and consideration.





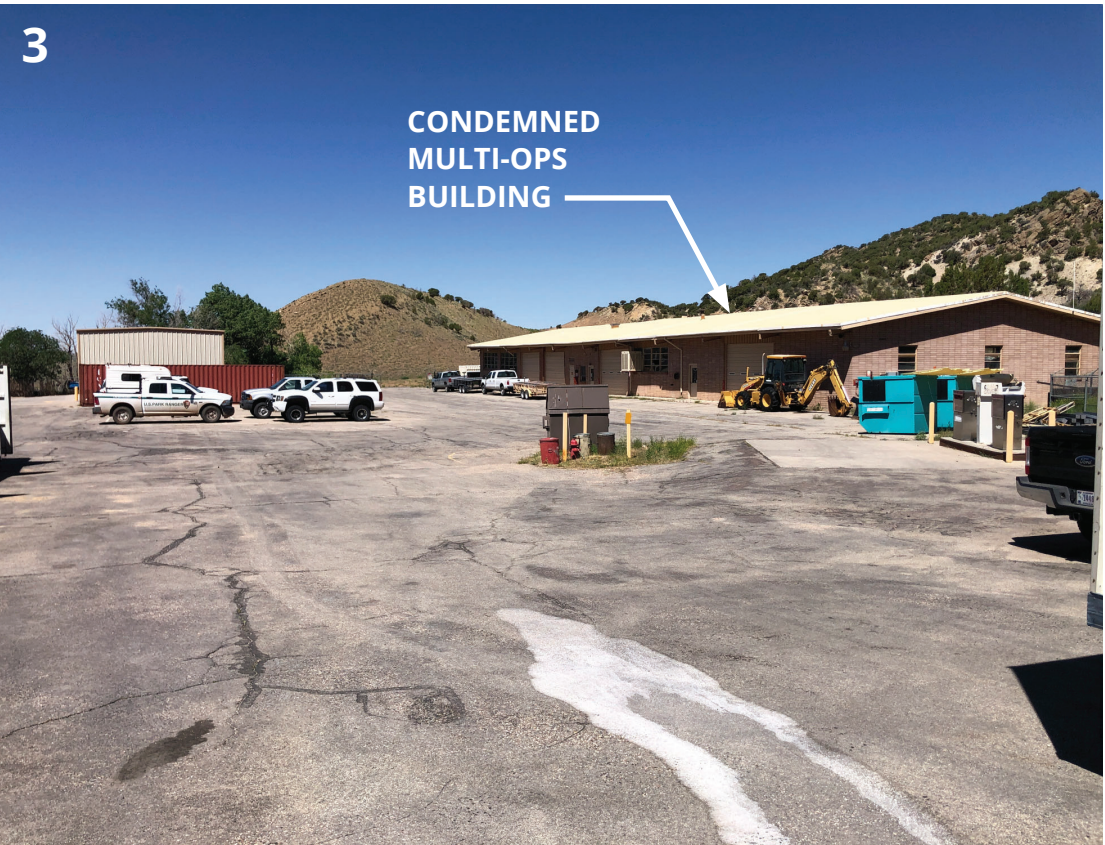
EXISTING SITE PHOTOS

PHOTO 1
Photo taken from the hilltop northeast of site.

PHOTO 2
Photo of building to remain for River Ranger use. Conex box and temp restroom building in the background.

PHOTO 3
Photo taken from eastern gate looking west across site. Masonry building on the right will be removed.

PHOTO 4
Photo taken near west entrance of movable storage containers (doors raised) and the flammable liquids building and enclosure (to the right).



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Contextual Analysis

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EXISTING SITE CHARACTER



1.4 Contextual Analysis

National Park Service (NPS) - Denver Service Center (DSC) | 10-21-18

Park/Unit: DINOSAUR

PMIS Number: 310253

Project Title: Replace Maintenance and Operations Building

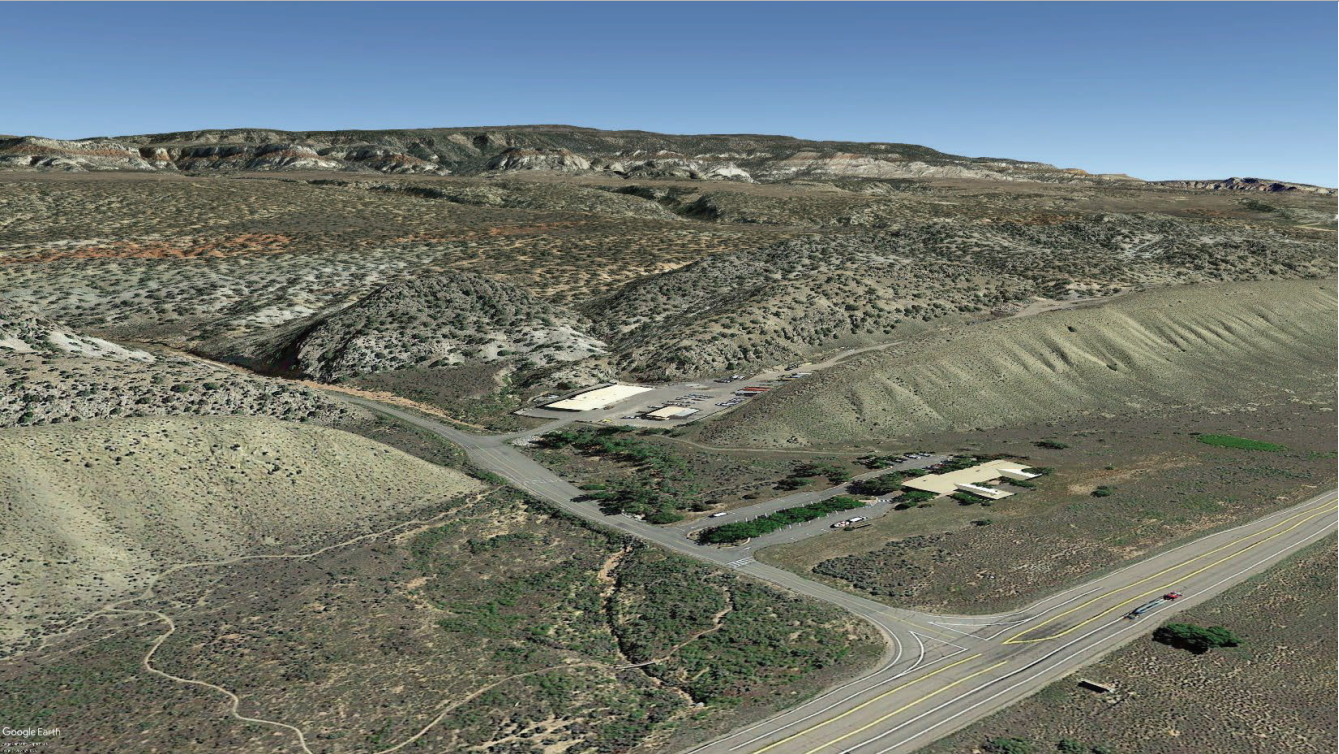
Park Purpose and Significance:

Dinosaur National Monument is a culturally significant park for its unique recreation and science history. Vast undisturbed landscape, varying topography, paleontology, and geology make for an unparalleled setting. One of the most engaging dinosaur quarries in the nation lies nearby, where over 1,500 dinosaur fossils are embedded with opportunities for viewing. Additionally, the rich cultural history of people that have lived and passed through the 210,000-acre monument over time create significant park visits and interest.

Site Character

	Proposed Site Character
The Maintenance and Operations site is at the throat of a west-facing valley and protected between hills to the north and south. It is on the east side of Harpers Corner Road and uphill from the Canyon Visitor Center at the intersection of Highway 40 and Harpers Center Road. The site is somewhat concealed from the Visitor Center per Mission 66 guidelines via a significant hillside to the south that separates the maintenance and operations functions from the visiting public. The existing maintenance building, currently condemned and to be removed, occurs on an asphalted surface-parked site with perimeter fencing. Temporary out-buildings have arisen over time scattered to the east to serve small scale functions previously housed in the condemned building. Power is fed from electrical poles from the east, with a step-down transformer slightly west of the southeast corner of the site. The lot slopes and drains gently from east to west, with a significant culvert catching drainage at the east side of Harpers Corner Road. The surrounding landscape is carved by arroyos or dry watercourses. Brush, natural grasses, and low pinyon beyond the fence line obscure a significant amount of the fence and site.	The proposed site is intended to have the vacant fuel pumps and condemned maintenance building removed and asphalt that is in poor condition removed and replaced. An existing masonry flammable liquids out-building, separated from existing building uses and on the northwest corner, is proposed to remain to fulfill part of the flammable liquids function. Similarly, the existing metal building at the southwest corner of the site is proposed to remain to house a portion of DINO river rafts and equipment. General drainage patterns of the site are to remain conceptually, with improvement to areas where ponding has occurred over the years. The perimeter site fence at the northwest will be refurbished where failing, and barbed wire atop the fence will be removed as it is deemed unnecessary by DINO staff. It is intended that the hillside obscuring views from the south remain intact with natural vegetation to conceal the maintenance and operations functions from monument visitors.

Existing Site Character Photos



Existing Maintenance & Operations site to north (uphill), Canyon Visitor's Center to south (downhill).



Surrounding landscape and vegetation.



Building Character

Existing Building Character	Proposed Building Character
<p>The existing Maintenance and Operations building is 181 feet long by 60 feet wide with masonry exterior cladding, a metal framed structure, and metal roof system. The building was originally constructed in 1963. It is a Mission 66-era building and is considered a contributing resource to the National Register of Historic Places eligible Canyon Area and Harpers Corner Road Historic District. Most of the building is high-bay with eaves at 13 feet and the roof ridge at 18 feet. The bays are single loaded to receive maintenance and fire vehicles. The steel frame windows generally face north to the quiet and shaded side of the building to allow for some natural daylighting. High-bay doors are located on the west and south sides. The building is inadequately insulated which has resulted in high summer and low winter operational temperatures that were not highly controllable. The building is currently condemned due to structural failure which has caused the western portion of the building to sag. The existing building incorporates tan, beige, and natural earthtones to recede into the landscape indigenous to Dinosaur.</p>	<p>The architectural expression of the proposed Maintenance and Operations replacement building will be influenced by the original Mission 66-era building, using the existing building as a guide in terms of color and form. While the structural system is planned to be tilt-up concrete panels, the exterior of the building will incorporate masonry, a gabled roof with eaves, and windows in similar fashion to the original building. An earthtone material color palette, inspired by the surrounding landscape, is proposed. The administrative/office functions are envisioned with standard office heights, while the drive bays, cache, and workshop functions will utilize high-bay ceiling heights to accommodate vehicles and equipment. The administrative/office functions are anticipated to occur at the north segment of the building to enjoy the arroyos and vistas beyond the fence line. The drive-through bays and workshop spaces will face an interior motor court. Since the existing building is not drive-through, the circulation patterns will be studied with software utilized by the civil design team to ensure proper clearances and to reduce pinch-points while accessing the building.</p>

Existing Building Character Photos



Existing condemned high-bay Maintenance and Operations building to be removed.



Existing metal storage building to remain.



Canyon Visitor's Center to south.

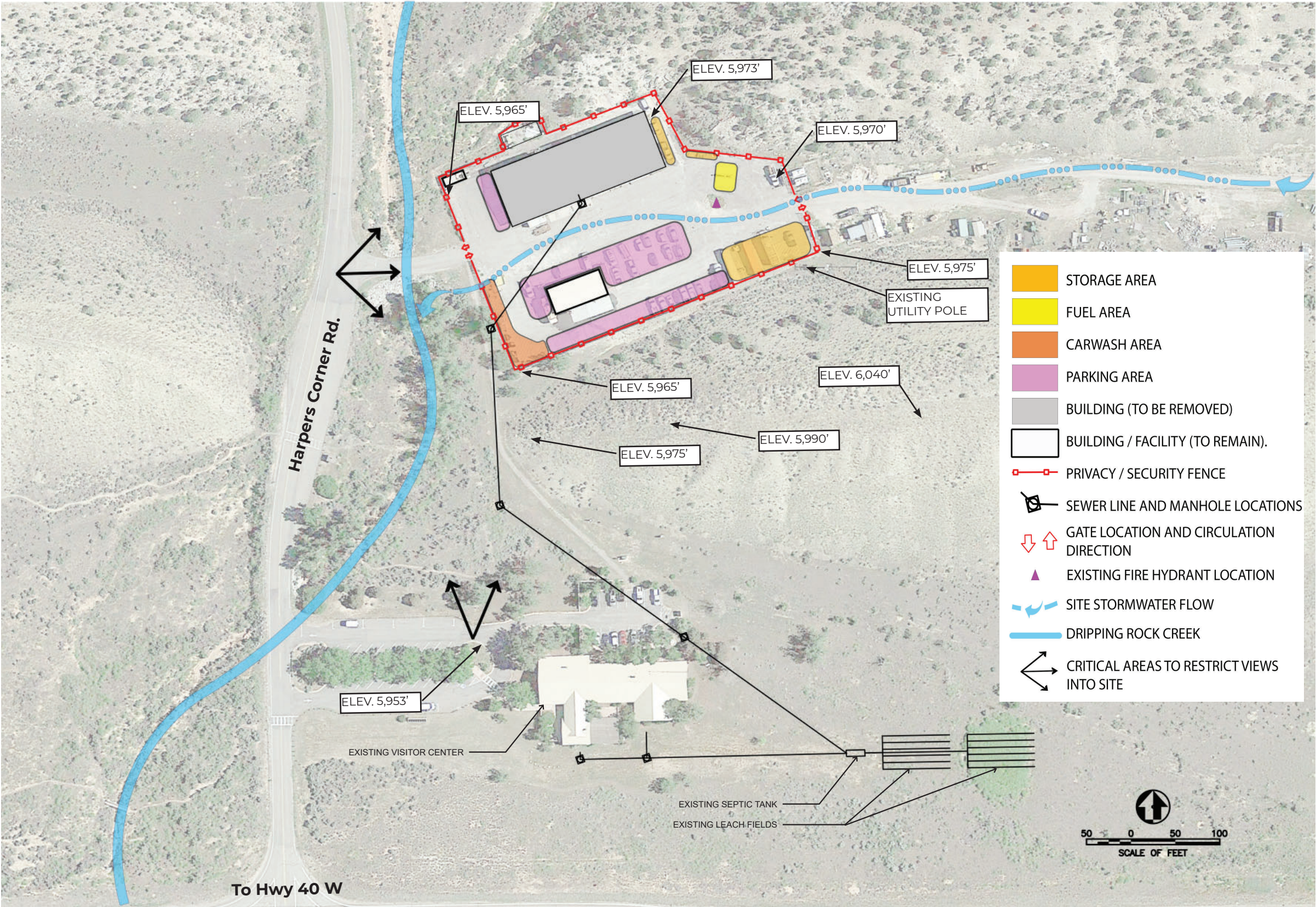


Project Program

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STORAGE AREAS
The site currently houses equipment and general maintenance storage throughout the site.

FUEL SITE
The fuel site is currently vlocated in the northeast corner of the site. The fuel equipment will need to be relocated to accommodate new building.

CAR WASH AREA
The car wash is currently located along the southwest fence line. This will be reorganized for a more efficient site layout.

PARKING
There are approximately 55 parking stalls currently on site. This will be reduced to accommodate new building.

PRIVACY FENCE AND GATES
The existing fence and east gates are in good condition and shall remain intact. The front (west) gate shall be replaced.

FIRE HYDRANT
The existing fire hydrant will be relocated to accommodate the future building.

VIEW CORRIDORS
The hill to the south of the site blocks most site views from the visitor center. Additional screening may be required around Canyon Visitor Center and Harpers Corner Rd.

STORMWATER
All stormwater travels west across the site and ultimately flows into the adjacent creek.

SITE ANALYSIS

Office Space Architectural Program	Total SF (Reduced)	Occupants	SF/Occ	% of Overall
River Rangers and Law Enforcement	1,600	11	145	10%
Departmental Area	1,600			
Vehicle Bay Area	-			
Maintenance and Operations	3,580	6	597	23%
Departmental Area	580			
Vehicle Bay Area	3,000			
Wildland Fire	4,570	4	1143	29%
Departmental Area	1,570			
Vehicle Bay Area	3,000			
Resource Stewardship and Science	1,430	3	477	9%
Departmental Area	1,430			
Vehicle Bay Area	-			
Shared Spaces	3,500	1		22%
Departmental Area	2,500			
Vehicle Bay Area	1,000			
Circulation Factor (7%)	1,040			7%
Departmental Total SF	8,720	25	349	100%
Vehical Bays SF	7,000			
Total Building Area (SF)	15,720			

Site Program	Qty.	Unit
Shared Parking Spaces	27	EA
Trailer Parking Spaces	7	EA
Parking Space Total	34	EA
Vehicular Gates	2	EA
Fencing	246	LF
Fencing Screening	220	LF
Fencing Total	466	LF
New Building	17,317	SF
Circulation space	48,212	SF
Vehicle Wash	1,246	SF
Fueling Station	500	SF
Site Storage	1,500	SF
(2) Buildings to remain	2,204	SF

ARCHITECTURAL AND SITE PROGRAM



- General Parking (10'x20') = 28 Stalls
- Service Bays = 8 Vehicles
- Car wash = 60' length x 15' width
- Fueling Station
- Trailer Parking = 1 Dedicated Space Adjacent to Existing Maintenance Building
- Additional Parking and Storage = Located in Exterior Storage Area

- All ramp runs shall have a running slope not steeper than 1:48.
 - CROSS SLOPES OF RAMP RUNS SHALL NOT BE STEEPER THAN 1:48.
- Cross slopes of ramp runs shall not be steeper than 1:48.
 - RISE FOR ANY RAMP RUN SHALL BE 30 INCHES MAXIMUM.
- Rise for any ramp run shall be 30 inches maximum.
 - RAMP RUNS WITH A RISE GREATER THAN 6" SHALL HAVE HANDRAILS. CLEAR WITHIN THE USE OF HANDRAILS SHALL BE 36 INCHES.
- Ramp runs with a rise greater than 6" shall have handrails. Clear width between ramp handrails shall be 36 inches.
 - RAMP SHALL HAVE ABA COMPLIANT LANDINGS AT THE TOP AND BOTTOM OF EACH RUN.
- Ramps shall have ABA compliant landings at the top and bottom of each run.
 - ABA PARKING STALLS SHALL BE LOCATED WITHIN 200' OF PRIMARY BUILDING
- APA parking stalls shall be located within 200' of primary building access.
- ABA van stalls shall be 11' wide and standard ABA stalls shall be a minimum of 8' wide. A 5' access aisle is required adjacent to van stall.
- Turning and maneuvering space, as well as wayfinding elements, shall comply with ABA standards.



BUILDING PROGRAM

SSP

- 1. Fitness & fitness storage
- 2. Mechanical, Eleclectrical, IDF/MDF/IT, storage
- 3. Locker rooms
- 4. Break room

MOP

- 5. MOP offices & workstations
- 6. MOP service bay
- 7. MOP workshops

RSS

- 8. RSS offices & workstations
- 9. Temp. controlled storage
- 10. RSS service bay

RLE

- 11. RLE offices & workstations
- 12. RLE non-sensitive storage
- 13. RLE service bay
- 14. RLE armory & evidence

WFD

- 15. WFD office & workstations
- 16. WFD emergency response
- 17. WFD fire & equip caches
- 18. WFD service bays

— — — Accessible Route

▲ Building Entrance

BUILDING DIAGRAM



ARCHITECTURAL DIAGRAM

