

Arch 464
ECS
Spring 2018

Name _____

Quiz #3

"Phoenix Rising"

Read and look at everything before you write!



The aftermath of the forest fire (left) and the new cabin (right).

All photos & drawings: Architecture Magazine and Gibbon Photography Mar 23, 2018

The Phoenix

Carney Logan Burke Architects

PROJECT DESCRIPTION FROM THE ARCHITECTS:

In Greek mythology, a phoenix is a long-lived bird that is cyclically regenerated or reborn. Associated with the Sun, a phoenix obtains new life by arising from the ashes of its predecessor...

The Phoenix is the rebirth of an Architect's family retreat destroyed by a forest fire. Located in central Wyoming on a south-facing slope within an aspen and pine forest, the original building was a classic log cabin with a gable roof. The cabin was constructed in the late 1970s on a building pad scratched out of the slope within the floor of the forest. In 2013, human-caused fire swept through the southern slopes of Casper Mountain destroying the forest and 36 structures. The architect's family retreat was lost.

In 2016, the Phoenix rose on the site of the former cabin...

In response to family patterns of use in the old building, the program for the Phoenix was re-considered. On a site with challenging accessibility, no electricity, no water and no cellular service, the Phoenix is conceived as a folly in the landscape; a viewing platform, a fire lookout, a shady spot for a picnic, a remote crash pad for limited stays, a place to become detached, a place to commune with the landscape, a place for contemplation.

The new building is perched at the edge of the old building pad, touching the slope very lightly and creating an edge for the court where the old building stood. The ruins of the old fireplace were retained for memory, to create a vertical marker for the site, and as a gathering point around an outdoor fire.



The Phoenix viewed from the south.

The new building is organized in open and closed zones: the open porch enjoys access to dramatic views of the landscape framed by simple rectangular openings in the galvanized building shell. The 300 sqft. closed zone provides shelter, a wood stove for warmth and meal preparation and storage of necessities.

Standing dead charred timber was incorporated in the structural system to connect the new building with the forest and to create a lasting reminder of the story of this place...The Phoenix has risen.

— Carney Logan Burke Architects



View from the enclosure to the porch.

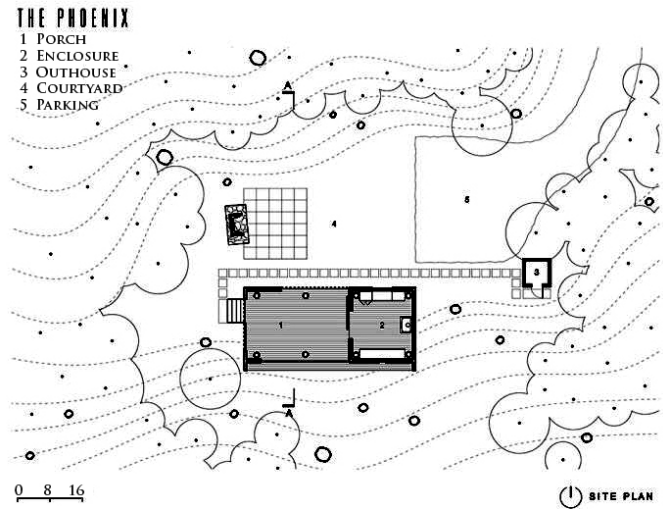
New wood stove in the enclosure.

Site Energy

1. The architect did not opt for any on-site energy generation, but the cabin could easily harvest sufficient site energy to operate lights and appliances. (1) **Discuss** the merits, placement, and drawbacks of photovoltaics. (2) **Discuss** the merits, placement, and drawbacks of solar thermal. & (3) **Discuss** the merits, placement, and drawbacks of a wind turbine. Use diagrams and the site plan to **illustrate and locate** your ideas.

3 points

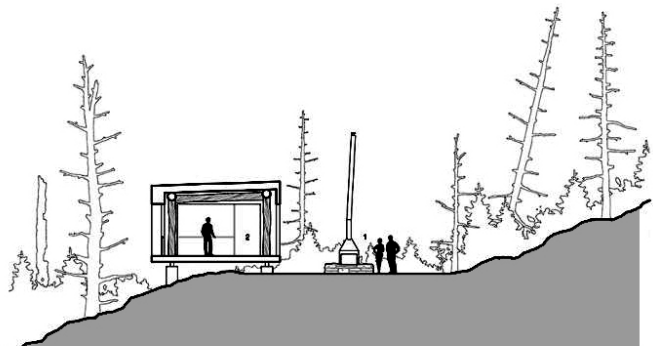
1



2

THE PHOENIX

- 1 COURTYARD
- 2 PORCH



SECTION A LOOKING WEST

3

Regeneration-Based Checklist for Design and Construction

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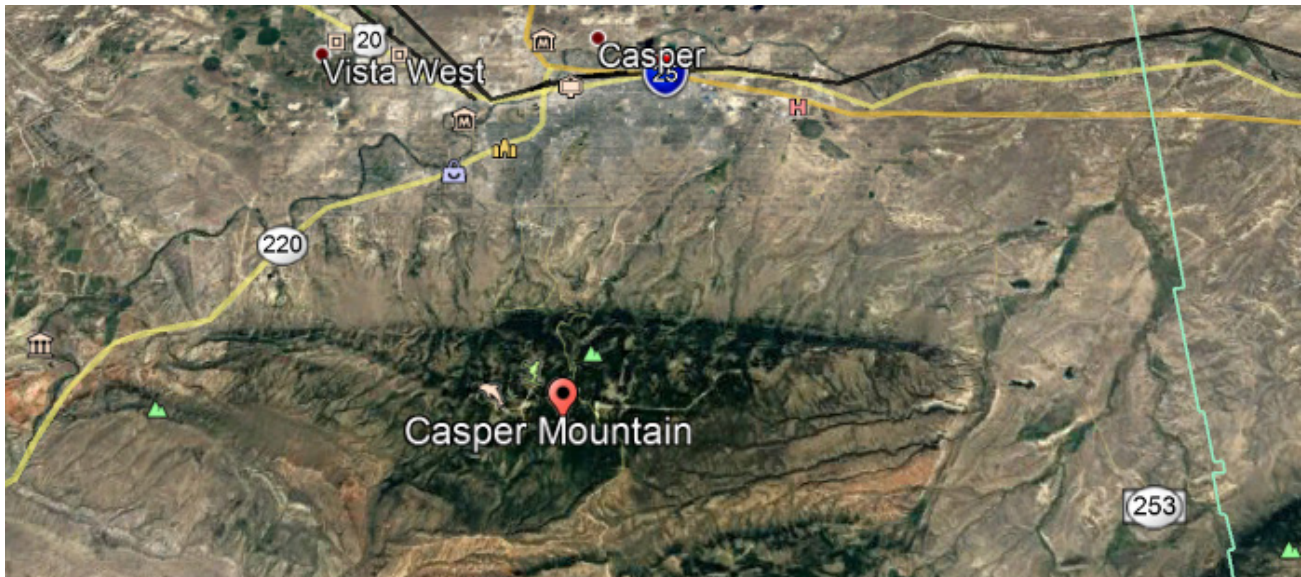
Project:

For one point of extra credit rate the cabin for each of the checklist items.

		degeneration				sustainability				regeneration						
		-100 always	-75 usually	-50 sometimes	-25 a bit	0 balances	25 a bit	50 sometimes	75 usually	100 always						
the site	pollutes air										cleans air					
	pollutes water										cleans water					
	wastes rainwater										stores rainwater					
	consumes food										produces food					
	destroys rich soil										creates rich soil					
	dumps wastes unused										consumes wastes					
	destroys wildlife habitat										provides wildlife habitat					
	imports energy										exports energy					
	requires fuel-powered transportation										requires human-powered transportation					
	intensifies local weather										moderates local weather					
	the building	excludes daylight										uses daylight				
		uses mechanical heating										uses passive heating				
uses mechanical cooling											uses passive cooling					
needs cleaning and repair											maintains itself					
produces human discomfort											provides human comfort					
uses fuel-powered circulation											uses human-powered circulation					
pollutes indoor air											creates pure indoor air					
is built of virgin materials											is built of recycled materials					
cannot be recycled											can be recycled					
serves as an icon for the apocalypse											serves as an icon for regeneration					
is a bad neighbor											is a good neighbor					
is ugly											is beautiful					

negative score 2200 possible	positive score 2200 possible
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final score:



Building Regeneration

2. The cabin site is at about 8,000 feet in elevation on a south-facing slope of Casper Mountain is a few miles south of Casper, WY. Given the building plan and orientation **point out and discuss two** features of the **building design** that would earn regeneration points on the SBSE checklist (facing page) and **two** features of the **building design** that would earn degeneration points on the SBSE checklist.

4 points



North elevation showing sole tiny window to enclosed space.

1+

2+

1-

2-

Site Regeneration

2. Given the site location and orientation **point out and discuss three** features of the **site design** that would earn regeneration points on the SBSE checklist (page 4) or that would earn degeneration points on the SBSE checklist, at least one positive and one negative.

3 points

1+

2+/-

3-