

# 'alalpay

INSTITUTE OF ARCHEO-ASTRONOMY AND ROCKET ENGINEERING RESEARCH PROJECT

= the place of the rocket scientist

= 'altšuqlašmu "the place of the astronomer"

Interpretive Planning at stawayək 'i'alalpay, "sky valley"  
Simi Hills, Eastern Ventura County

'altšuqlaš = a person who observed the night sky and named children

The root verb for 'altšuqlaš (astronomer) is šuqlaš.  
šuqlayəš, a related noun, is the term for a series of songs sung at night by the 'altšuqlaš.

Resource Conservation District of  
the Santa Monica Mountains (RCDSMM),  
Clark P. Stevens  
Michael Sotona  
Matthew Vestuto  
Devlin Gandy  
for Santa Ynez Band of Chumash Indians  
Sam Cohen



Coca 2 Test Stand # 2787 Area 2 Nasa SSFL  
Photo: Wired Magazine June, 2014

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Cupuled rock outcrop with a Bedrock Milling Feature Area 2 SSFL  
Photo by: Juergen Nogai

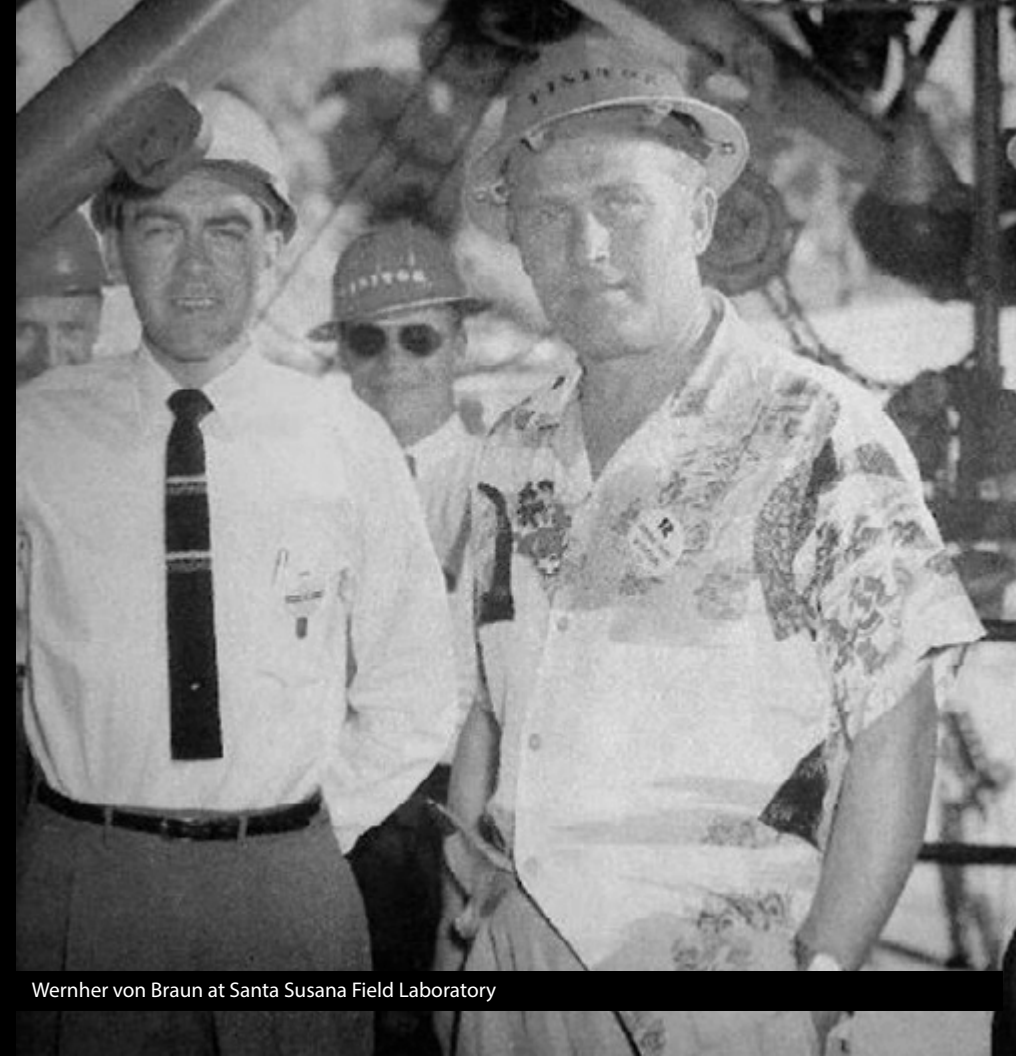
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Chumash 'altšuqlaš "Astronomer"

+



Wernher von Braun at Santa Susana Field Laboratory

=

# INTERPRETIVE CENTER

'**alałpay** INSTITUTE OF ARCHEOASTRONOMY AND ROCKET ENGINEERING

The interpretive center covers the entire history of the site, while focusing on two primary periods of significance:

PERIOD 1 Chumash, Paleo-astronomical 'altšuqlaš period of Astronomer activity (\_\_\_? to present)

PERIOD 2 Santa Susana Field Lab period

Contrast of two different cultures, both focused on the heavens in this extraordinary landscape, is the unique interpretive opportunity of the site.

Geological, pre-historic, ranching/mission, and environmental remediation and habitat conservation periods will also be interpreted to provide a context for the primary periods of significance.

PROJECT SITE : stawayək 'i'alałpay "sky valley" - former Santa Susana Field Laboratory (SSFL)

= the place of the rocket scientist

'altšuqlašmu = the place of the astronomer

# 'altšuqlaš

= a person who observed the night sky and named children

The root verb for 'altšuqlaš (astronomer) is šuqlaš. šuqlayəš, a related noun, is the term for a series of songs sung at night by the 'altšuqlaš.

# 'ałtšuyapo'oš

“the milky-way”

“journey of the piñon gatherers”



## PROJECT PREAMBLE

Both indigenous and modern cultures have occupied the hills above šimiyi (a Chumash village from which our modern Simi Valley derives its name) to develop and practice the rituals, ceremonies and technologies that could connect humankind and the heavens- in order to influence their conditions on earth. The results have been both mythical and Promethean.

The F-1 engine developed in this place brought the crew of Apollo 13 to the moon. The cupuled and painted rocks here at tšwaqšikitš simup, the painted cave at “Burro Flats” - framed the solstice and illuminated the Chumash astronomer’s hierophany, or - a “showing of the sacred”.

This 2,800 acre plateau, now the Santa Susana Field Lab, and perhaps one day to be open space protected from development, was and is the place where cosmic order is revealed. The Boeing Company is the current owner of most of the Field Lab, while the western portion of the site is leased to the federal Department of Energy. With the demolition and cleanup process well underway, there is broad interest in preserving the rocket-era history of the site, even as the physical evidence of that history, - much of which is eligible for Historic Status - is erased.

The interior of the property is owned and managed by NASA (National Air and Space Administration) and has been declared “surplus property” to be transferred or sold after the contaminant removal has been completed. The Santa Ynez Band of Chumash (SYBCI) initially submitted a request to become the owner/steward of the interior 400-acre parcel containing the remaining rocket engine test stands and facilities along with many of the most important cultural artifacts of the site, including tšwaqšikitš simup, the painted cave, as well as the undeveloped Northern Buffer Zone.

The SYBCI did so largely because, as the only federally recognized band of Chumash people, having both the opportunity and capability of assuming the responsibility as caretakers of the site on behalf of the many other native communities that once came here. Since then, the SYBCI has advocated instead for national monument status for the NASA parcel and possibly the rest of the site.

The parallels between the activities of the rocket engineers, the ‘high priests’ of the Cold War and Space Race, and the Chumash Astronomers if not somehow directed by the Land itself, if not actually uncanny, then are at least entirely unprecedented in their co-location. Nowhere else did two cultures share a space so intensely focused on reaching the heavens, in order to learn the secrets and divine the intentions of the sky above, so that the people below might benefit by that knowledge.

As this place exists now, at least for a while, it contains the best remaining examples of Cold War and Space Race architecture alongside a major ceremonial site with some of the best preserved Chumash rock paintings. Archeologist Dan Larsen suggested that it would be appropriate to bring together the different meanings of the sky and space that the different cultures have, in order to underline this ironic parallel.

“Thus, [a suitable]... name might be Place for the Study of ‘ałapay, the heavens. After all, the Upper World is alive for both cultures”. This place has been the seat of power and “light” for two cultures, the locus of great aspirations but also of fears. It seems that light often attracts darkness.

The post-war American program for the site, which kept a competitive edge in militarized space and brought us the heroes with “The Right Stuff”, also left a residue of toxic and radioactive “wrong stuff”, now being addressed and- one hopes healed by the current culture, that of restoration and litigation.

Even now, darkness and light, light and darkness: In order to make things right (justice) some proponents of cleanup would go too far (shame), and needlessly destroy the very ecosystem, landforms and human artifacts and architecture that provided the platform for these attempts to access what the Chumash call the Upper World. For Chumash linguist Matthew Vestuto, this is a place “where the acquired visions found actuation, the wind (spirit) carrying the vision off the surface of the womb-like cave into the world to manifest.”

So there are important differences here, too. It comes to mind that one culture observed and studied the Upper World here, and another worked and built here in order to access it. In some way both were attempting to influence it for the betterment of their “villages.” It is ironic that the tall, heaven-reaching structures were designed to tether the heaven-straining engines to the earth, and that the earthen, interior, cave sheltered artifacts were created to reach, and curry favor with, the heavens. Harmony of opposites?

All of this is rich material for interpretation and the design of landscapes and structures. Recognizing this, the Santa Ynez Band of Chumash hope to create an Interpretive Center for the public along with a landscape made safe for public use.



“Old Men, powerful doctors, carefully study  
the horizon  
and the heavens

measuring the movement of the Sky people  
against the shapes on the

eastern horizon  
and with wooden markers,

arguing about the rising times  
of the stars, sun, and moon.

Anywhere power  
moves through the Above and Below  
into the Middle World

and speaks to those  
who have the knowledge-power

to understand is kas' elew.

Doctors paint Their visions on the walls.  
images that activate the  
power of what is painted

In the Simi Hills  
during the Winter Solstice ceremony  
at dawn doctors gather

to sing and hold rituals  
in a painted cave.

Focused by a notch in the sandstone cave  
a small triangle of light,

like an arrowhead,

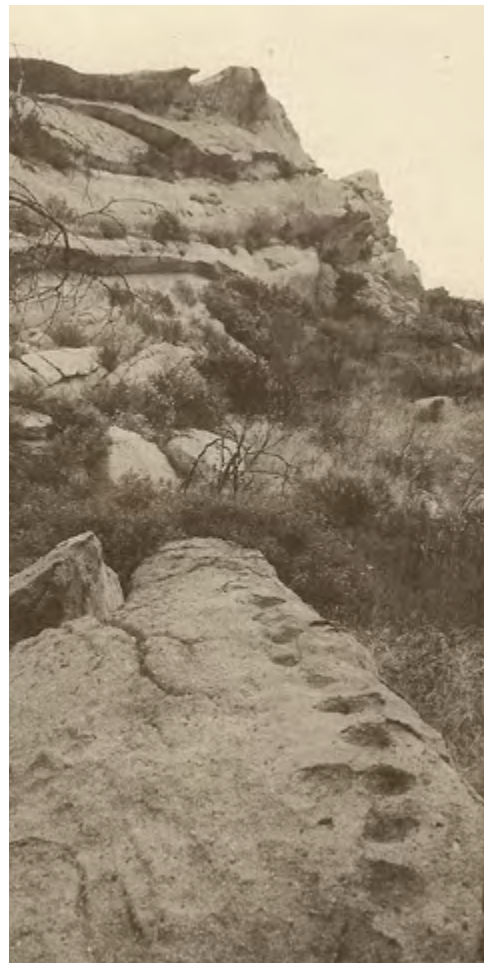
pierces a target of five white circles.

The light shifts  
into the shape of a finger  
moving, left to right, over the  
mural's pecked and polished wall

with its red and white figures  
painted on the blackened rock.

The light renews the life of the images  
and everything  
in the world they evoke”.

Text From: Sacred Sites: The Secret History of Southern California  
by Susan Sontag



A scale model of Burro Flats Main Panel (VEN-1072, Locus 160),  
constructed at Southwest Museum of the American Studies.

Chatsworth Formation exposed sandstone outcrop Simi Hills

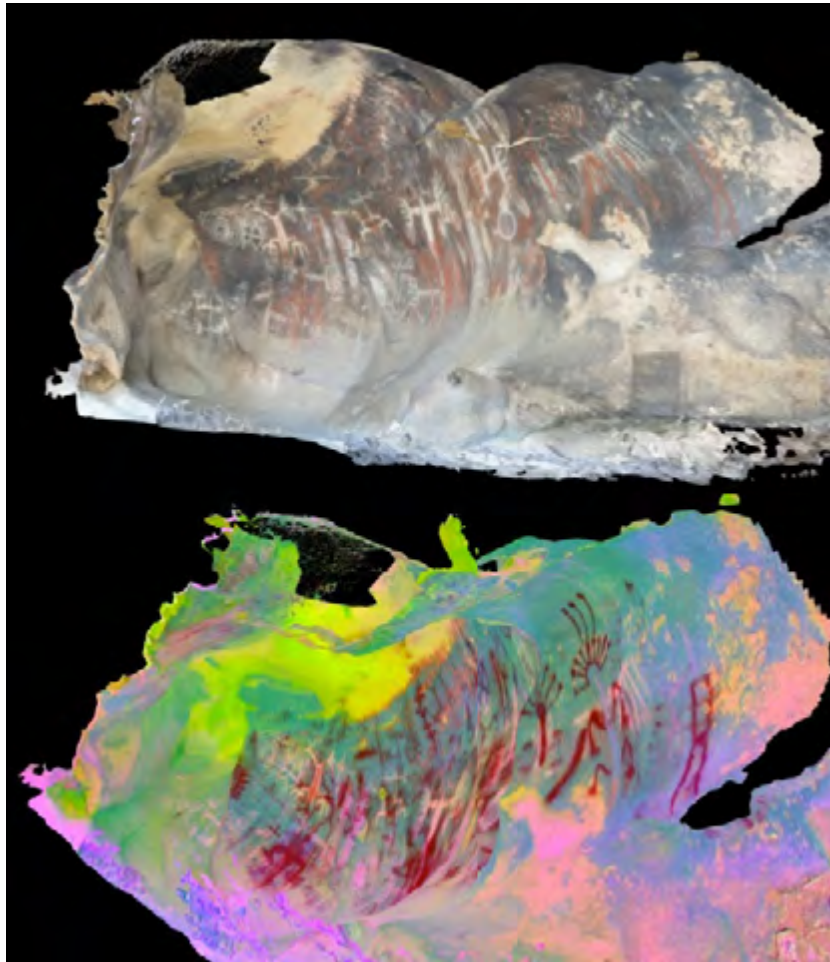


## PALEO-CULTURAL CONTEXT

Photo by: Juergen Nogai

“The most important archeological complex at the SSFL is undoubtedly the 25-acre National Register of Historic Places (NRHP) Burro Flats Painted Cave site (#76000539; hereafter BFPC), which has the State of California trinomial CA-VEN-1072, and the primary number 56- 001072. The BFPC itself is only the most obvious and elaborate focus of what is a large ceremonial complex, which consists of over a dozen pictograph and/or cupule loci, and which includes 258 associated sites. Note that in 1917 the then–leader of the local Native American community, Don Juan Menendez, explicitly told the anthropologist John P. Harrington that the Portrero de los Burros was a ‘place of first class importance’- in other words, a sacred place.”

Right Image: Low resolution photogrammetry digital model of the Burro Flats Main Panel (VEN--1072, Locus 160). Model created from photographs available at the SCCIC. Lower image; DStretch CRGB colorspace. (Devlin Gandy)



A scale model of Burro Flats Main Panel (VEN--1072, Locus 160), constructed at Southwest Museum of the American Studies.

“The best known and possibly the most important location in the greater SSFL site complex is the “Burro Flats Painted Cave.” It is of special interest that the “main panel” of paintings is still very bright, especially some of the red paintings. Given the freshness of many of the paintings and given the isolation of the area where the Painted Cave is located, it is likely that the “Burro Flats” site may have been one of the last, if not the last, important ceremonial site in the general region.”

Text From: SCA Proceedings, Volume 26 (2012) by Albert Knight  
Sky Valley Ethnographic History by Albert Knight

“The pictographs at Burro Flats are a remarkable record of prehistoric Native American art. Archaeologists who have visited the site have said that it includes some of the most dramatic and best preserved pictographs known and is among the finest examples of prehistoric pictographic art in North America.”

“The site’s 1976 inclusion on the NRHP reflects its significance. While the main gallery is renowned for its aesthetic mastery, vibrant colors, and good state of preservation, the remaining galleries are generally in a poor state of preservation. Their ongoing degradation is a reminder that archaeological sites are often very fragile links to knowledge of the past.”





Coca Towers Test Stand 2 as seen from Stand 1  
Photo credit: Wired Magazine June, 2014

## MODERN-HISTORICAL ROCKET ERA CONTEXT

### SITE TIMELINE

144 - 65 MILLION YEARS AGO The Chatsworth Formation is created.

1200 - 1800 AD Chumash cave dwellers paint pictographs in the caves of the Burro Flats.

1946 The Navaho Program was awarded to North American Aviation by the United States Air Force to study supersonic missiles.

1947 NAA, Rocketdyne's parent company, selects a site in the Simi Hills known as the Santa Susana Field Laboratory.

1954-1957, NAA builds the Alfa, Bravo, Coca, and Delta test stands under contract with the USAF.

1958 NASA joined the USAF as a sponsor of the Atlas program in 1958. Both the USAF and NASA had SSFL facilities contracts and Atlas development production contracts with Rockwell from the 1960s through the 1980s.



Image Credit: <http://thelalibupost.blogspot.com/2015/08/ad-astra.html>



Image Credit: <https://www.nps.gov/hdp/exhibits/ssfl/intro/index.html>

1959 The F-1 Program was established in earnest at SSFL. The F-1 engines were the largest and most powerful produced in the United States.

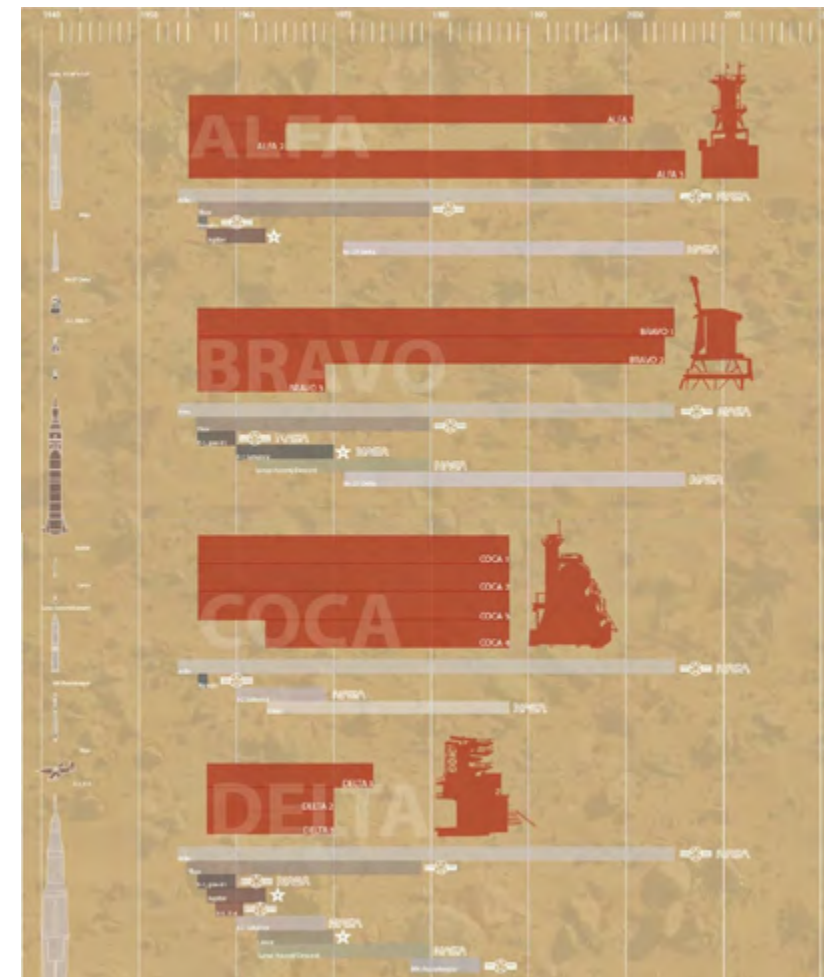
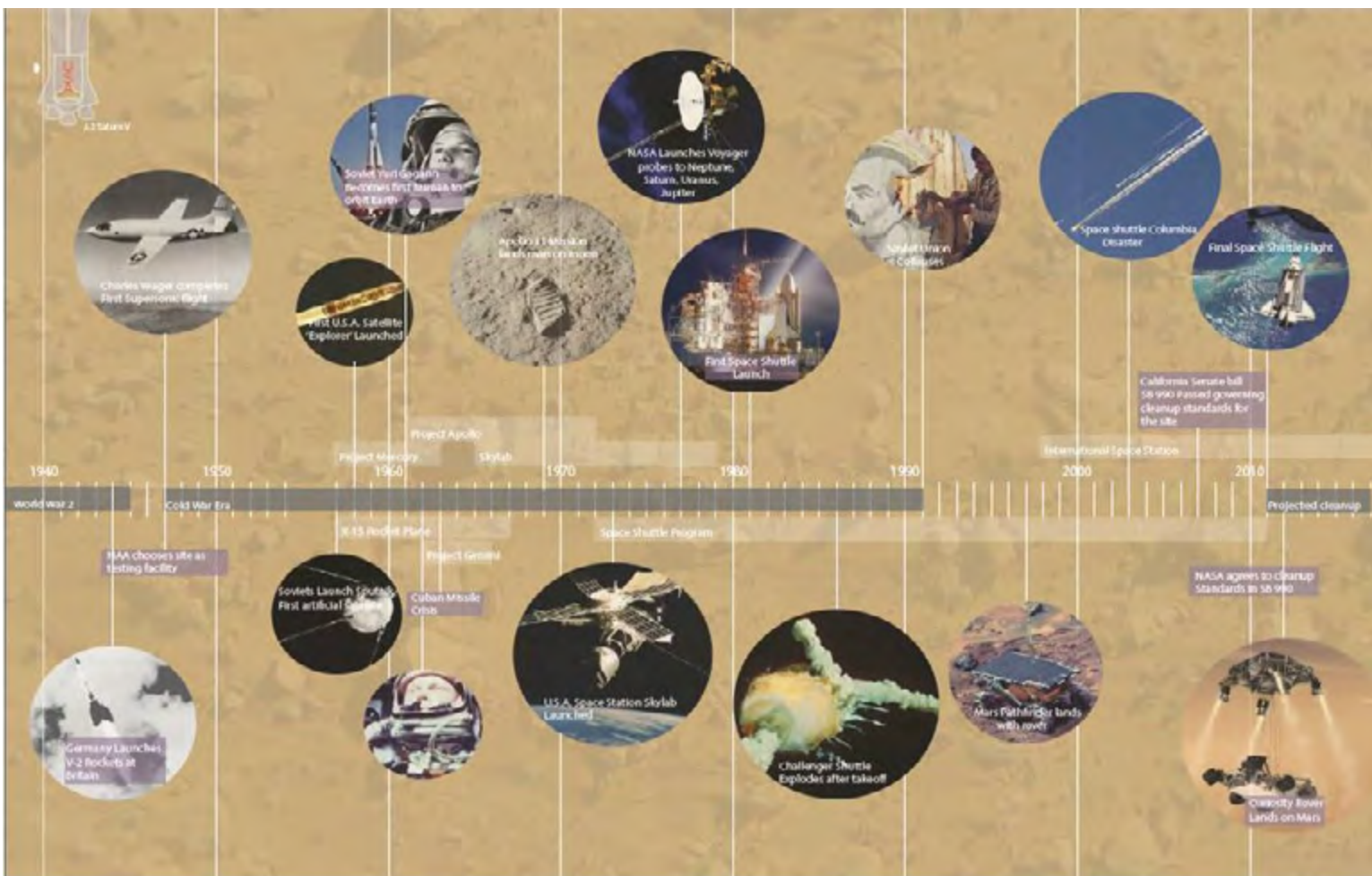
1964 The 200,000th test is recorded at SSFL, climaxing 13 years of testing components & engines.

1969 Rocketdyne's hard work climaxes with Apollo 11 Mission, landing the 1st Americans on the moon.

1980s The veil of secrecy is involuntarily lifted by a series of troubling revelations about the environmental issues at DOE nuclear sites.

Source: <http://lahistoryarchive.org/resources/SSFL/timeline.html>





# MODERN-HISTORICAL ROCKET ERA TIMELINE

Diagram by: Austin Wilson

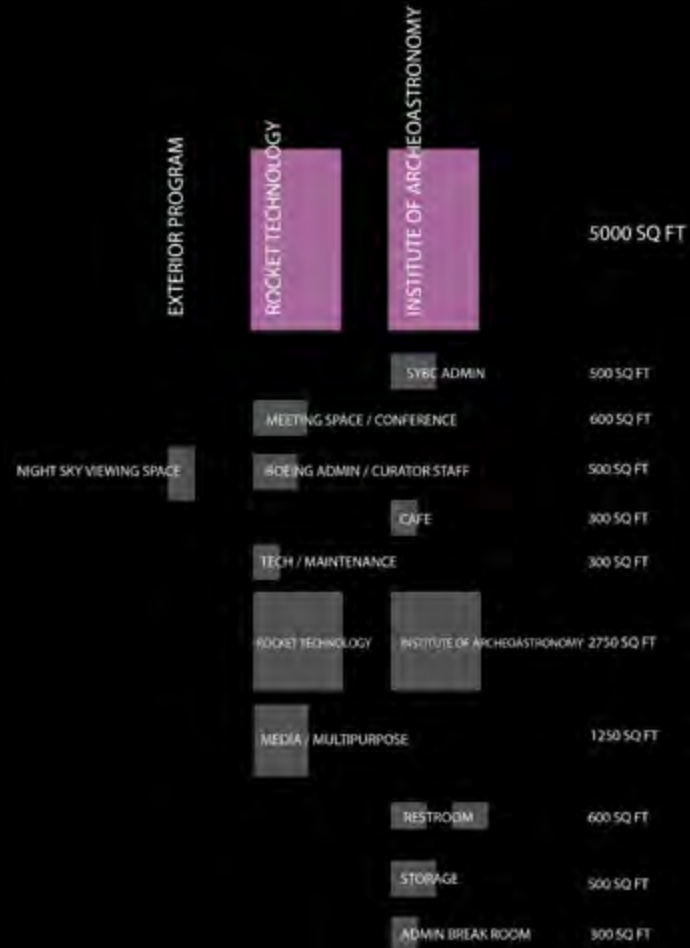
# PROJECT PROGRAM

## PROPOSED FEATURES OF THE CENTER TO INCLUDE:

- Central area for meetings with A/V support and lecture space
- Small kitchen area for supporting snacks and refreshments
- Drop off and pick up areas
- Administrative Support area (6-8 work stations)
- Lockable areas for equipment storage
- Incorporation of green/sustainable technologies

## GALLERIES AND EXHIBITION HALLS (may include):

- Re-deployed Lummis Burro Flats Cave replica as solstice demo
- LIDAR virtual reality video of Coca Test Stand Fly-Through
- The Stories and Geometry of the Chumash Cosmos
- The Stories and Geometry of Rocket Technology and Space Exploration Planetarium (?)
- Rotating exhibits (including current cultural and research activities)
- Learning Landscape elements in associated open spaces



## INTERPRETIVE CONTEXT

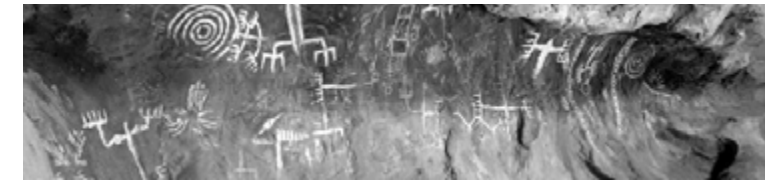
MODERN - HISTORICAL COLD WAR INFRASTRUCTURE

PALEO-HISTORICAL POLYCHROME ROCK ART

GEOLOGIC CHATSWORTH FORMATION

ARCHEOASTRONOMIC NIGHT SKY OBSERVATION PLATEAU

ECOLOGIC MEDITERRANEAN ECOSYSTEM





## COMPLEMENTARY INSTITUTE



### LANG RANCH CHUMASH PROGRAM HIGHLIGHTS

Chumash museum/retail gift shop/picnic site  
Outdoor amphitheater  
Chumash village and learning outdoor space

### COMPLEMENTARY PROGRAM

Connect via 9 mile shimiya trail along spine of Simi Hills  
Swordfish pictogram and cupules at the Chumash Center  
Painted Cave at Burro Flats

## LANG RANCH CHUMASH MUSEUM





# CHUMASH PALEO-HISTORICAL SITE

SITE ORIENTATION TO CHUMASH SIGNIFICANT PEAKS

**'iwəhənmu (MOUNT PINOS)**

**tašololo (MOUNT FRAZIER)**

"...by far the two most important Chumash sacred peaks were 'iwəhənmu and tashololo, for they were located near the very center of the Middle World, the sacred plain called 'antap Plain (Cuddy Valley). When darkness came, it was believed that the spirits lit their fires at this sacred spot and began to dance."

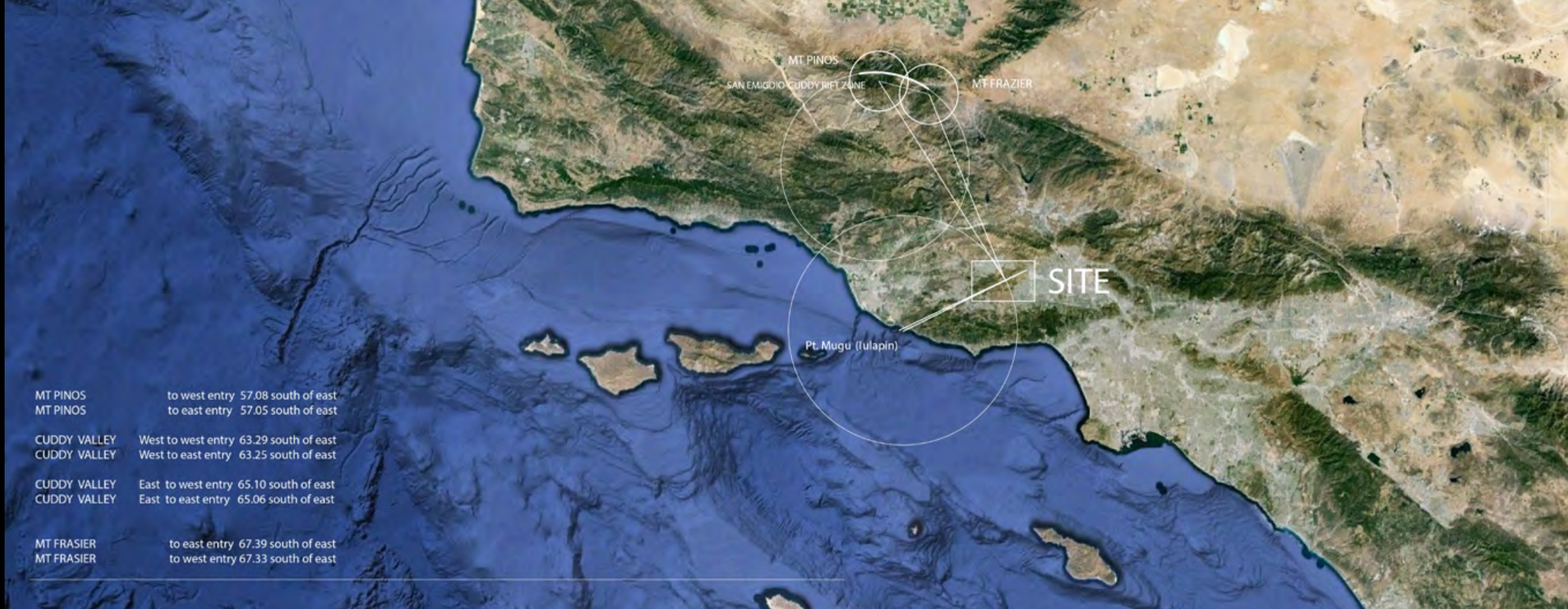
Text From: Crystals in the Sky  
by Travis Hudson, Ernest Underhay

MT PINOS  
MT PINOS  
to west entry 57.08 south of east  
to east entry 57.05 south of east

CUDDY VALLEY  
CUDDY VALLEY  
West to west entry 63.29 south of east  
West to east entry 63.25 south of east

CUDDY VALLEY  
CUDDY VALLEY  
East to west entry 65.10 south of east  
East to east entry 65.06 south of east

MT FRASIER  
MT FRASIER  
to east entry 67.39 south of east  
to west entry 67.33 south of east



MT PINOS

SAN EMIGDIO CUDDY RIFT ZONE

MT FRAZIER

SITE

Pt. Mugu (Lulapin)





"Cardinal directions bisected the Middle World into ritual quarters, radiating outwards from its center between Mt. Pinos and Frazier Mountain. Chumash astronomers used the phrase choposh 'ulop for East, meaning "heart of the east, where the sun rises".

"Many references point to cardinal directions in prayers as well to make them divert storms and in instances pointing out to certain springs, which were places of supernatural power and were used as 'curing shrines'".

"Prayers and offerings were made to Earth and Sun, as well as the four cardinal directions. Physical arrangement of ceremonial structures and paths taken by the dancers in these rituals mirrored the sacred compass."

Text From: Crystals in the Sky  
by Travis Hudson, Ernest Underhay

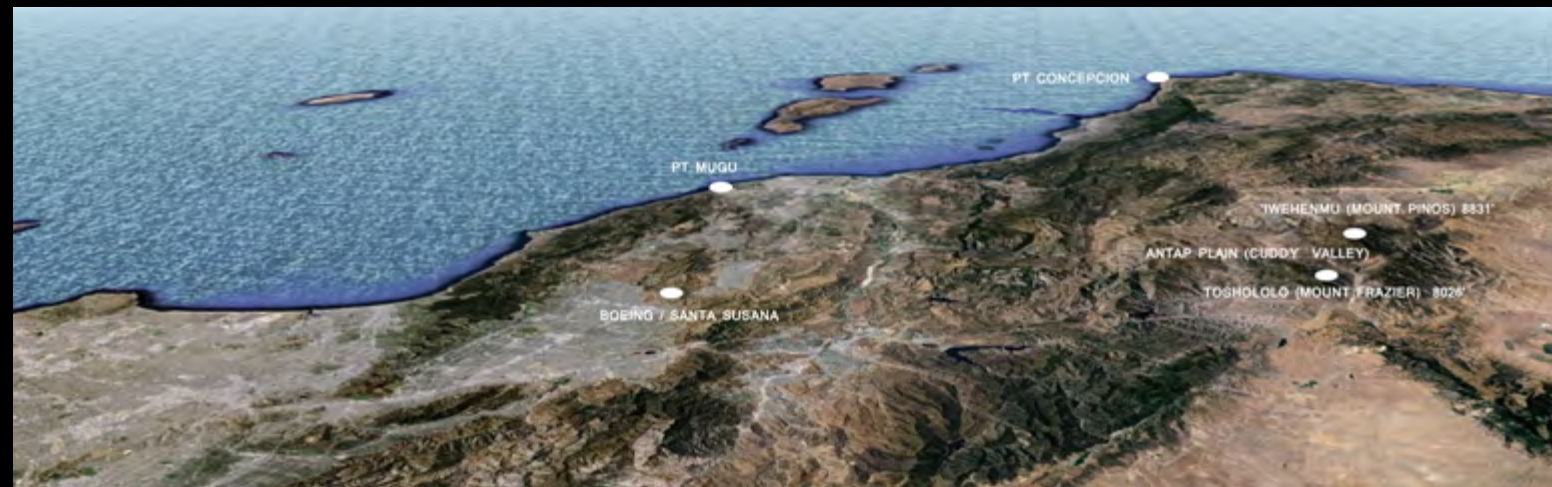
# CHUMASH GLOBAL ORIENTATION AND COSMOLOGY

PROJECT SITE: stawayək 'i'alałpay "sky valley" - former Santa Susana Field Lab

"itiashup was the Chumash Middle World, supported by two giant serpents whose body movements caused earthquakes. It was the home of the 'First People', supernatural beings who were ambiguously described as having both human and animal characteristics and behavior; as might be expected, their culture was much like that of the Chumash themselves.

However, the 'First People' were not modern Chumash men, women, and children, for they made their initial appearance in the Middle World prior to the creation of man."

PLACE OF THE ASTRONOMER: THE SACRED PLACE OF THE 'altšuuqlaš











## PROJECT SITE (ELV PLATEAU)

### SKY VALLEY ACCESS / PROPOSALS CONSIDERED

Alternative A. Vehicles to Boeing NE site (Main Facility) with shuttles to ELV (NASA) site and Boeing SE cultural zone overlook site (at former CTL 5 site). Guided shuttle no further south than skyline for views of former and preserved rocket testing sites while protecting cultural sites. Pedestrian trails with interpretive kiosk/shelters at key overlooks with remote rest room facilities

Alternative B. Vehicles to ELV as Main Facility with shuttle to Boeing SE cultural zone overlook site (small enclosure here). Guided shuttle no further south than skyline for views of former and preserved rocket testing sites while protecting cultural sites. Pedestrian trails with interpretive kiosk/shelters at key overlooks with remote restroom facilities

Alternative C. Vehicles to Boeing SE cultural zone overlook site (Main facility) plus ELV as Interpretive and "Institute" Facility (campus). Guided shuttle no further south than skyline for views of former and preserved rocket testing sites while protecting cultural sites. Pedestrian trails with interpretive kiosk/shelters at key overlooks with remote rest room facilities



34°14'14.04" N 118°41'54.12" W Elev 1861 ft ELV FACILITY SITE 18.365 ACRES PAVED / ELEVATED PLATEAU ZONE





## ELV SITE DESIGN

The historic Rocket Test Bay structure known as the ELV (Expendable Launch Vehicle) Facility sits at the north of the proposed National Monument area, well away from the most sensitive sites and artifacts of this Sacred Landscape, yet offers views and a context similar to that found in the protected areas to the south.

The adjacent northern buffer zone is undeveloped and offers interpretive landscape walk opportunities including potential linkage to longer day hikes within the adjacent public lands and trails, without exposing the critical archeological sites to visitors.

Existing public trails could be linked from Sage Ranch Park along the entire length of the Simi Hills, taking ambitious hikers all 9 miles to the existing Chumash Museum at Lang Ranch, the last of this following the existing Museum's interpretive trail which also contains evidence of archeo-astronomical activity.

The existing elevated plateau provides views of the northern buffer zone landscape, the Simi Valley and the Santa Susana Range Entrance. The elevation of ELV facility plateau also allows for an unblemished view of night sky. The size of this plateau allows for potential supporting facilities, large scale interpretive landscape design and ecological restoration.





The cultural relationship of the ELV siting and the proposal include entries which orient themselves to **iwəhənmu** and **tašololo**, sacred Chumash mountain peaks between which is **\*antap**, center of Chumash Middle Earth.

The existing concrete wall and the exterior terrace, including Test Bay structures, would be reclaimed; all other structures and surfaces would be removed and remediated.

Orientation of reclaimed elements allows for Winter and Summer solstice events as a design organizing principle. Landform creates circular enclosure, providing Landscape- scale site demonstration of a Chumash ritual and cosmological orientation.

Venturan coastal sage scrub nursery zones and oak woodland restoration habitats are proposed to occupy zones of the ELV plateau post concrete removal and soil remediation.

Coca Test Stand would be partially preserved within interpretive trail. Test stands and associated support facilities become points of interest (either in their current locations, or with elements relocated to interpretive facilities).

ELV SITE CONTEXT / PROPOSAL



ELV (EXPANDABLE LAUNCH VEHICLE)





ELV WALL EXTERIOR WALKWAY



ELV STEPPED CONCRETE WALL SOUTHEAST EDGE



ELV WALL SOUTH FACE

## ELV WALL ADAPTIVE REUSE

Building 206 of the Expendable Launch Vehicle Final Assembly Facility is located in the northern portion of NASA-administered Area II of SSFL. Constructed in 1956, Building 206 began operating in the 1960s and remained active until 2006. It was originally called the Component Test Laboratory II (CTL II), where in four small bays located on the south side of the building, rocket engine components were tested. These components were powered by liquid oxygen (LOX) and petroleum-based fuels and were cleaned using small quantities of trichloroethylene (TCE). From 1978 to 1989, Building 206 housed a machine and welding shop that used compressed gases and lubricating oils. Source: <https://ssfl.msfc.nasa.gov/>



ELV WALL SOUTH FACE





ELV TEST BAYS

ELV TEST BAY WITH CATCHMENT BASIN

ELV TEST BAY CONCRETE TILE 3' PANELING



ELV BUILDING TESTING BAYS "(SINCE DEMOLISHED)"



SOUTHWEST ELV VIEW



ELV WINTER SOLSTICE SUNRISE VIEW WEST



VIEW FROM SOUTHWEST OF ELV STRUCTURE WALL

## ELV POST CLEAN-UP





"...Like the neighboring kitanemuk, the Chumash remained indoors during the winter solstice day, in the belief that Sun was especially angry with them at this time of the year. They feared that should they venture out, Sun might take them into his crystal house and eat them."

"The winter solstice was the most critical moment of all because of the possibility that the sun might choose not to return. It also marked the annual finish of nightly ball game played by two teams of sky people, one led by the Sun, the other by Sky Coyote (the North Star), with the moon acting as a scorekeeper. The game was an opportunity for the most powerful celestial beings to assert their influence and so upset the balance of nature; the outcome was literally a matter of life and death."

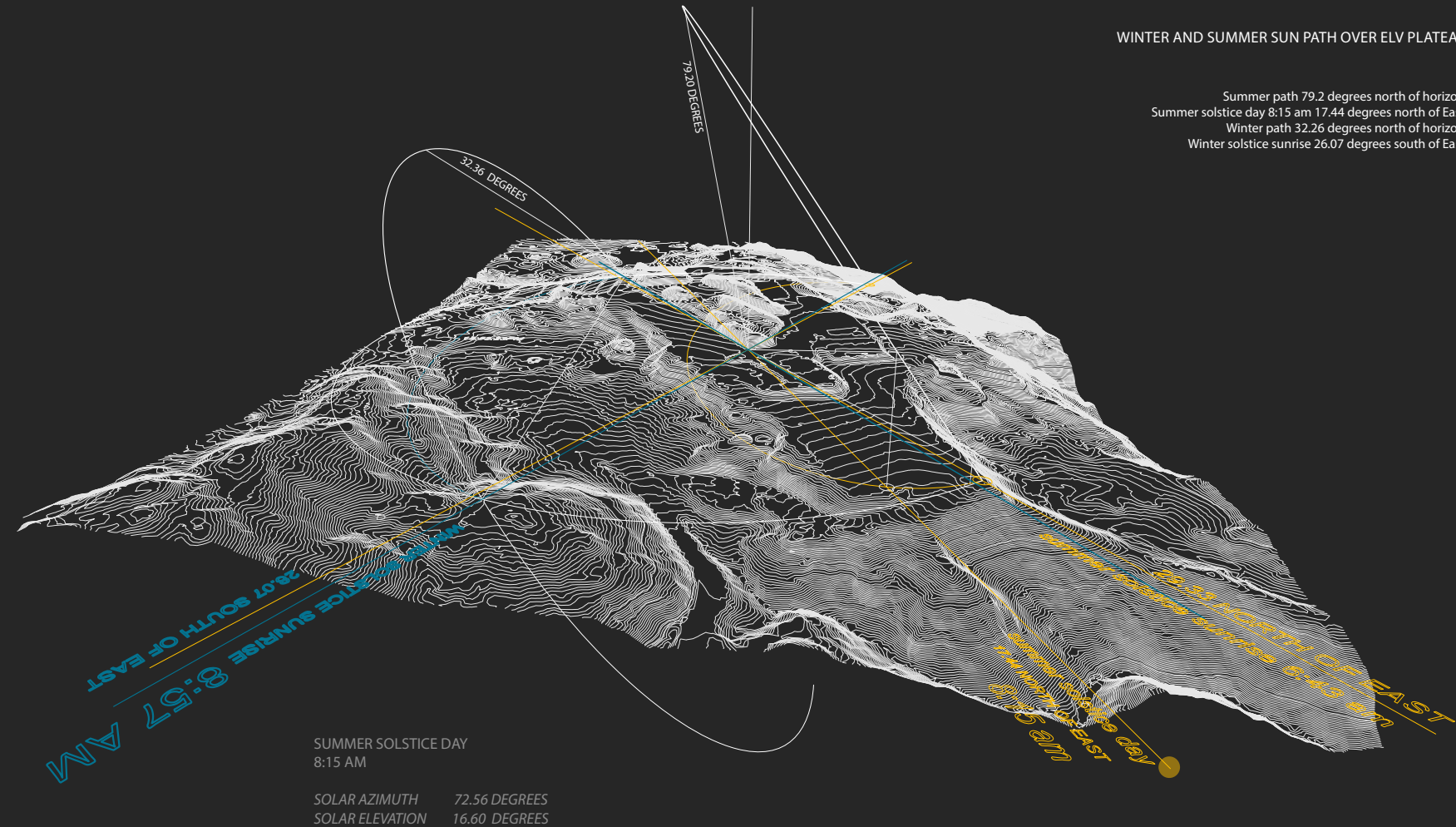
"Human participation in the cosmic struggle reached the climax in the ceremonies of midwinter, which involved the entire community. The public observances lasted for several days, beginning with a gathering of those who had incurred debts over the course of the year."

"The midwinter ceremonies continued for two days and two nights post winter solstice. Among the activities were dances dramatizing the soul's journey along the Milky Way to reach the land of the dead. The people also erected great feather poles, which were eventually moved to sun shrines located on the local hilltops. The start of the twelve months of the Chumash year was timed according to the solstices and to the rising of important stars on the eastern horizon."

-Early Man and the Cosmos by Evan Hadingham

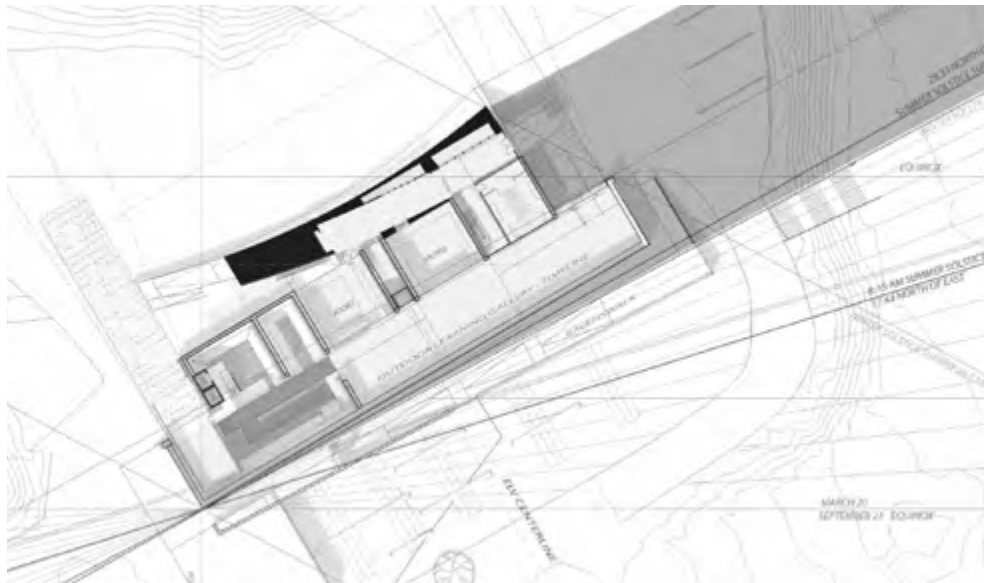
WINTER AND SUMMER SUN PATH OVER ELV PLATEAU

Summer path 79.2 degrees north of horizon.  
 Summer solstice day 8:15 am 17.44 degrees north of East.  
 Winter path 32.26 degrees north of horizon.  
 Winter solstice sunrise 26.07 degrees south of East.



PATH OF THE SUN AT ELV PLATEAU





September 22	-36
September 29	2.96
October 6	6.15
October 13	9.33
October 20	12.49
October 27	15.47
November 3	18.11
November 10	20.67
November 17	22.84
November 24	24.73
December 1	26.16
December 8	27.25
December 15	27.95
December 22	28.10

AT WINTER SOLSTICE SUNSET ELV SHADOW LINE  
DEGREES SOUTH OF EAST 28.10

ELV BLAST WALL ORIENTATION  
DEGREES SOUTH OF EAST 30.63

“Daily rituals and observations were essential for the Chumash priests to interpret the actions of the sky beings. These sky beings seem to have ranked in hierarchy, as was Chumash society itself. First came the sun, believed to be an aged widower living in a quartz crystal house. Who carried a blazing torch on his daily journey across the sky. The moon was a female who controlled human health and the menstrual cycle of women, and also seemed to have been identified with datura, the powerful hallucinogen drunk by shamans to perform cures and foretell the future.

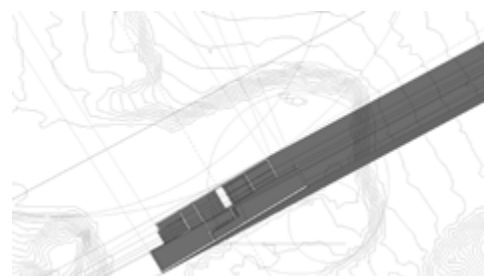
The twin appearances of Venus seemed to have been treated separately by the Chumash. The morning Star was benevolent, perhaps associated with rain: in contrast, the Evening star was the feared chief of the underworld, probably the giant golden eagle who removed and ate the bones of people from the middle world. Another celestial bird, the California Condor possessed magic clothing that allowed him to locate missing objects or persons”

-Early Man and the Cosmos by Evan Hadingham

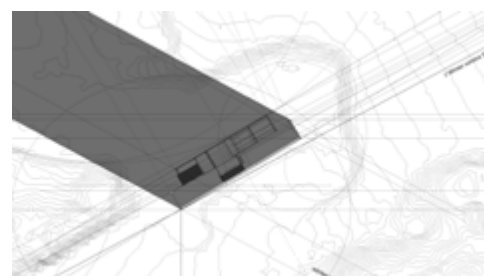


WEEKS PRECEDING WINTER SOLSTICE SUNRISE SOUTH OF EAST ORIENTATION AT HORIZON

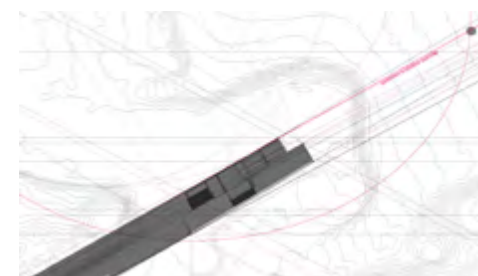
SUMMER SOLSTICE SUNRISE



WINTER SOLSTICE SUNRISE



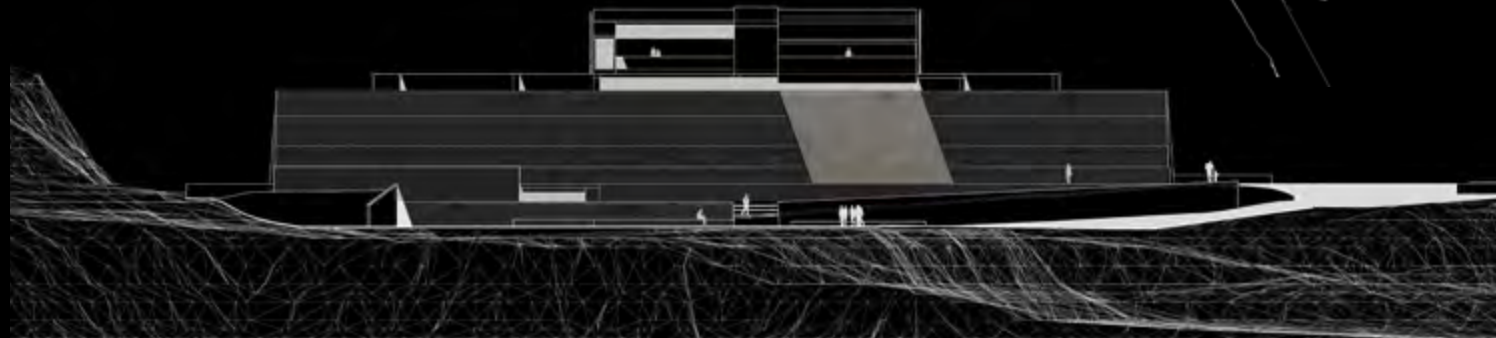
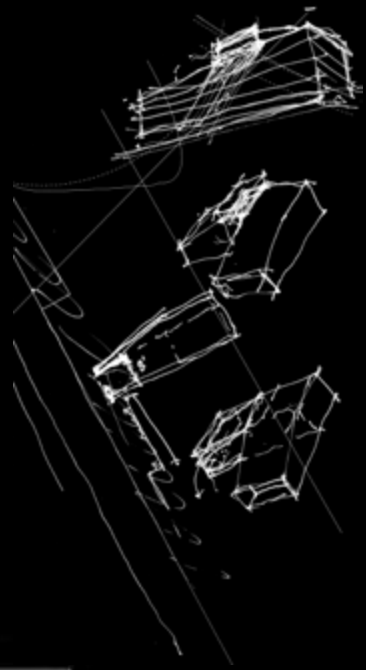
SUMMER SOLSTICE SUNRISE



ELV WALL A SOLSTICE SUNDIAL

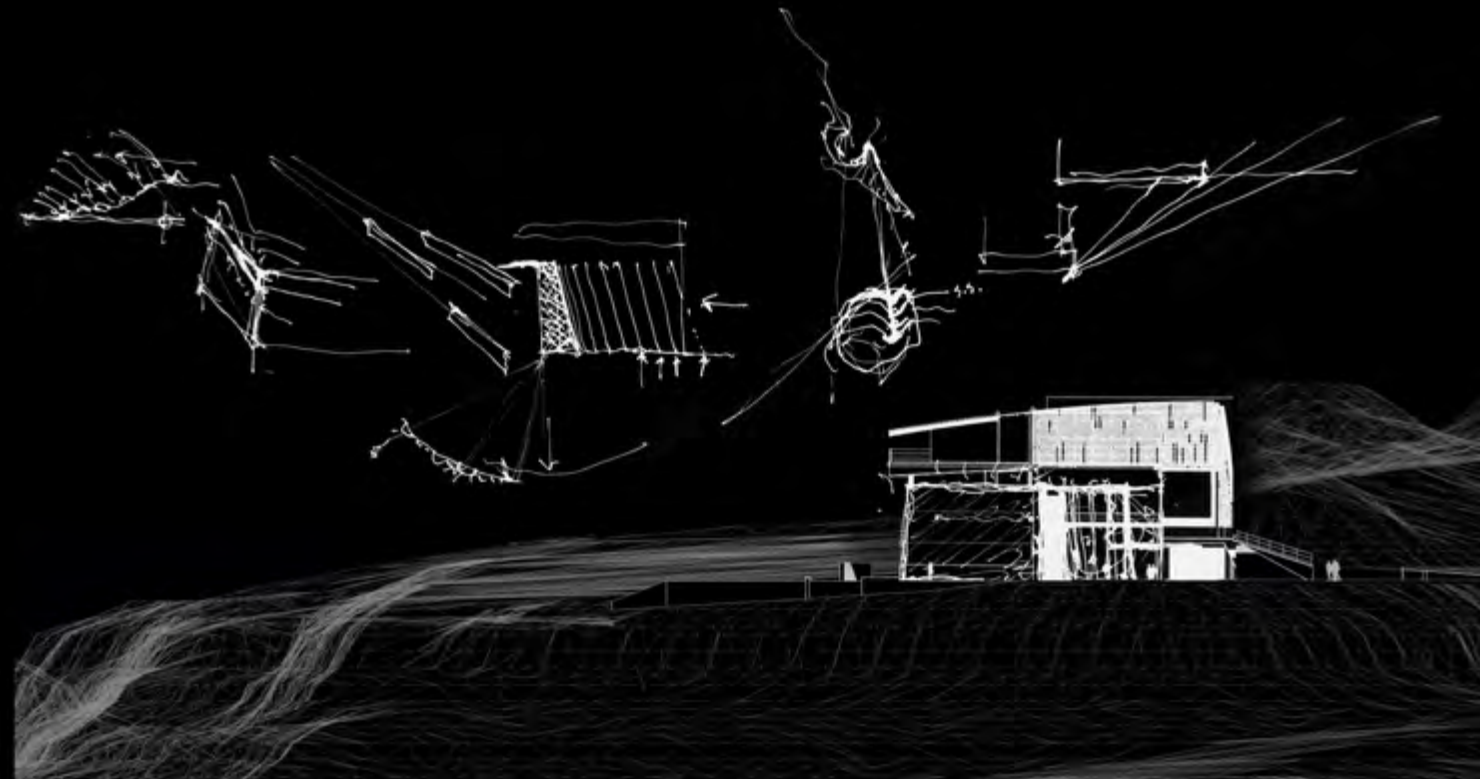


ELV BLAST WALL ADAPTIVE RE-USE FRONT (SOUTH) ELEVATION WALL

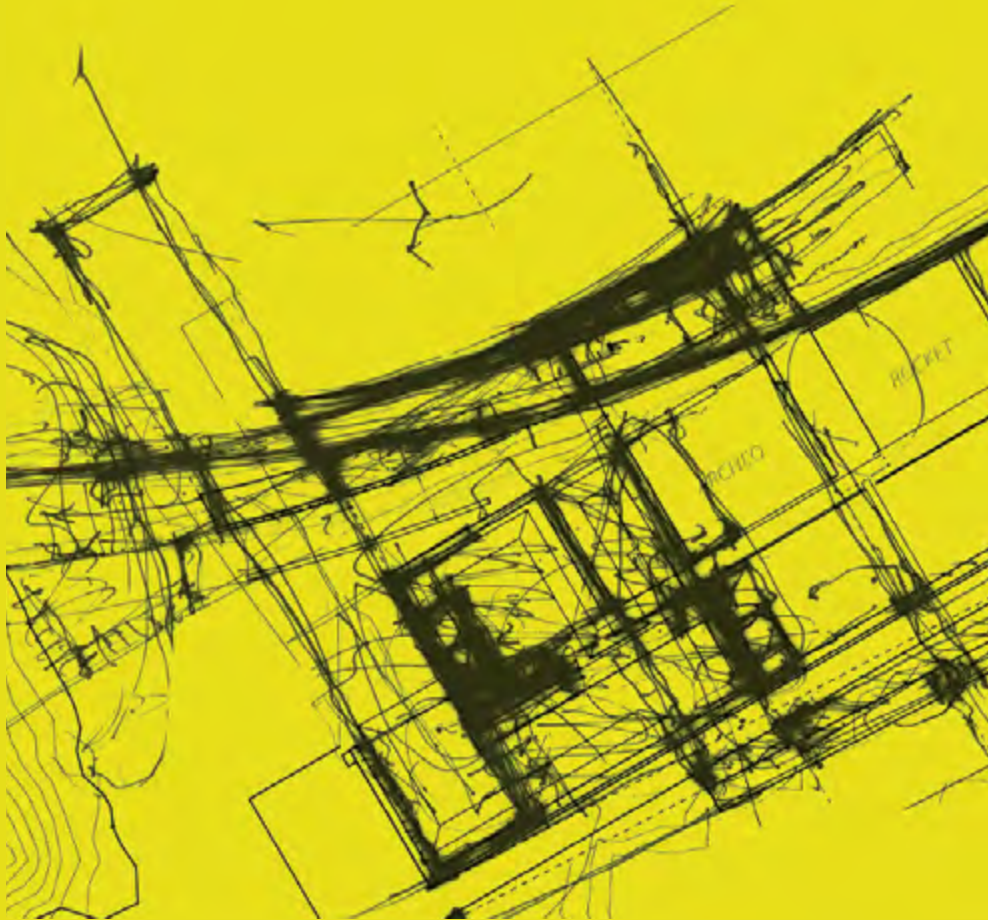


EAST ELEVATION

East facing ELV Building Wall used as sundial markers for weeks preceding winter solstice sunset events.







Ground level *Piano Rustico* serves as a landscape component entry ramp connecting the interpretive center building to its greater landscape. Radius of this ramp derived from location of radii of adjacent geologic formation, combined with that of a circle tangent to ELV centerline, create an interpretive arc zone north of 'ELV' building.

This rustic piece follows an interpretive arc path into what is expected to be a heavily excavated zone directly west of ELV, articulated into a sunken interpretive space.

Narrative of landscape restoration and contaminant removal is established here and a space analogous to Chumash Lower World is open to interpretation for site visitor.

Initial schematic design of adaptive reuse of the ELV building.

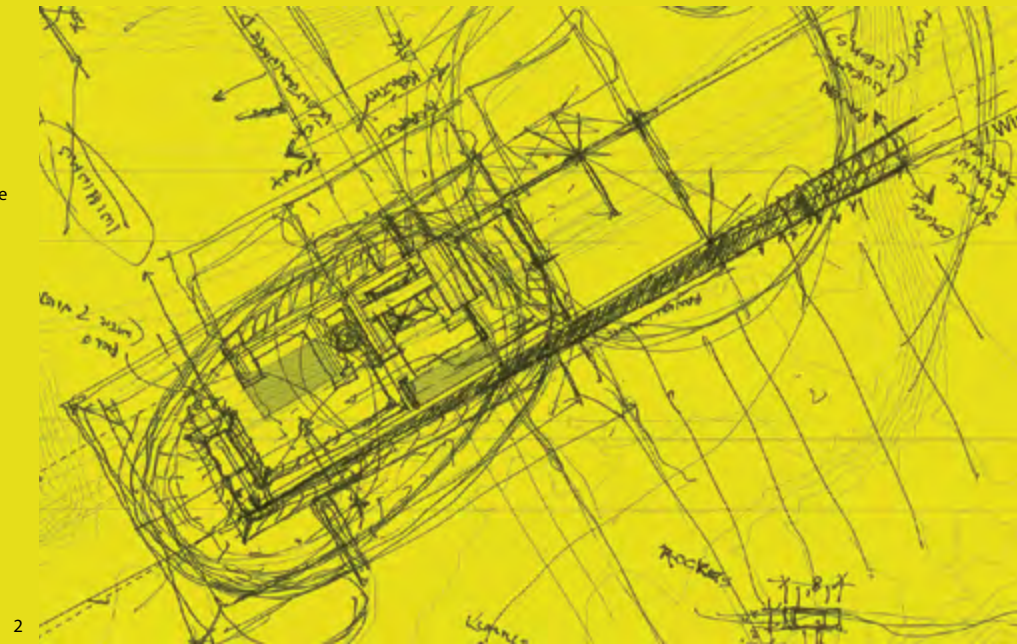
Interpretive opportunity of contaminant removal process designating portions of existing ELV as an exposed ruin.

Extracted soil will reveal building structure below ground plane creating physical and spiritual zone analogous to Chumach Lower World.

Chumash interpretive arc designed as engaging ELV existing walls by way of rustic earthen entry ramp connecting to north building test bays.

tašololo facing aperture articulated by the use of existing ELV walls extends into 'antap interpretive zone.

Adjacent excavated bays then designed as holding rotating exterior exhibit spaces by a consequence of anticipated zone of heaviest soil removal at ELV.



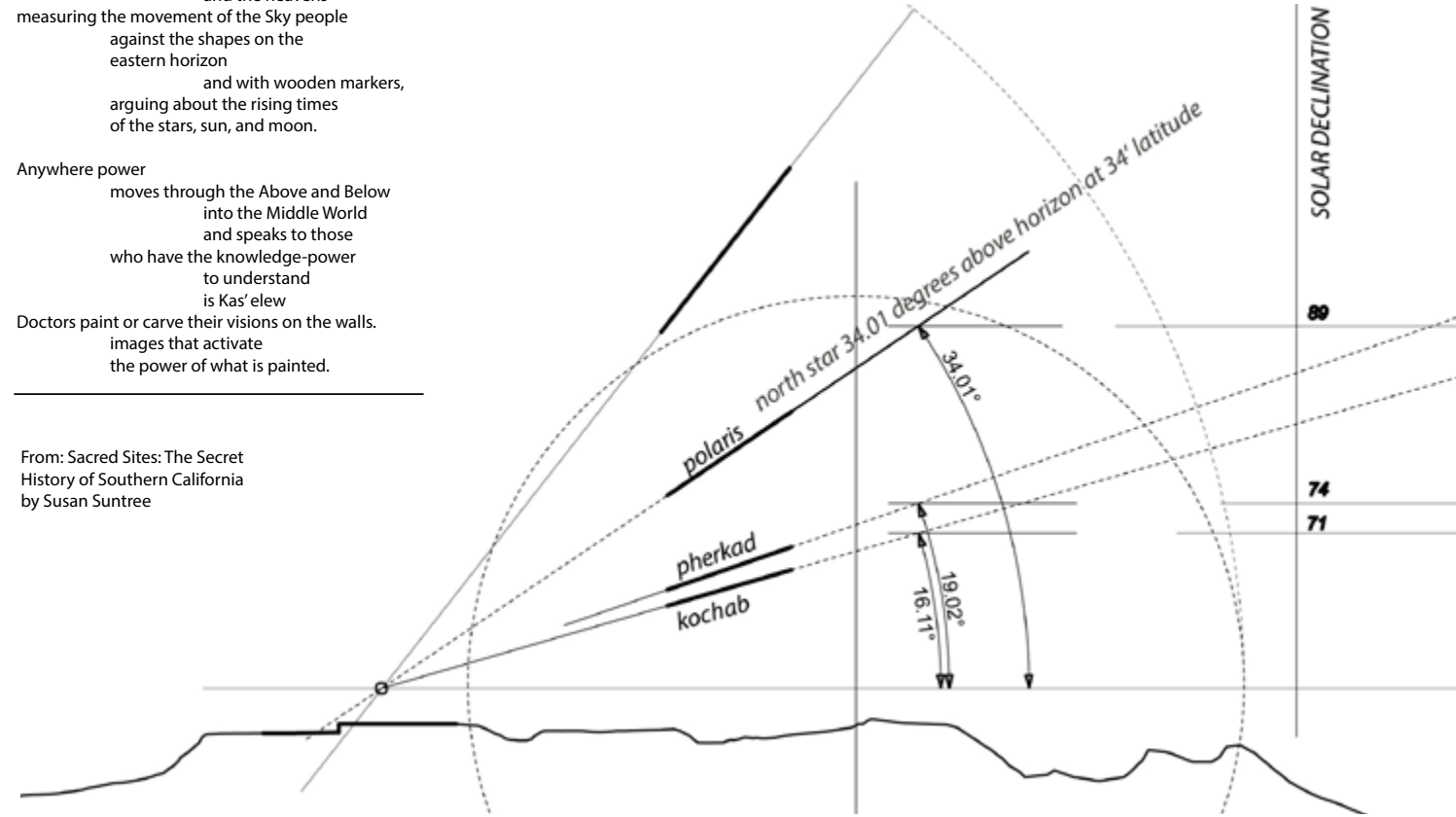


Old Men, powerful doctors, carefully study  
the horizon  
and the heavens  
measuring the movement of the Sky people  
against the shapes on the  
eastern horizon  
and with wooden markers,  
arguing about the rising times  
of the stars, sun, and moon.

Anywhere power  
moves through the Above and Below  
into the Middle World  
and speaks to those  
who have the knowledge-power  
to understand  
is Kas' elew

Doctors paint or carve their visions on the walls.  
images that activate  
the power of what is painted.

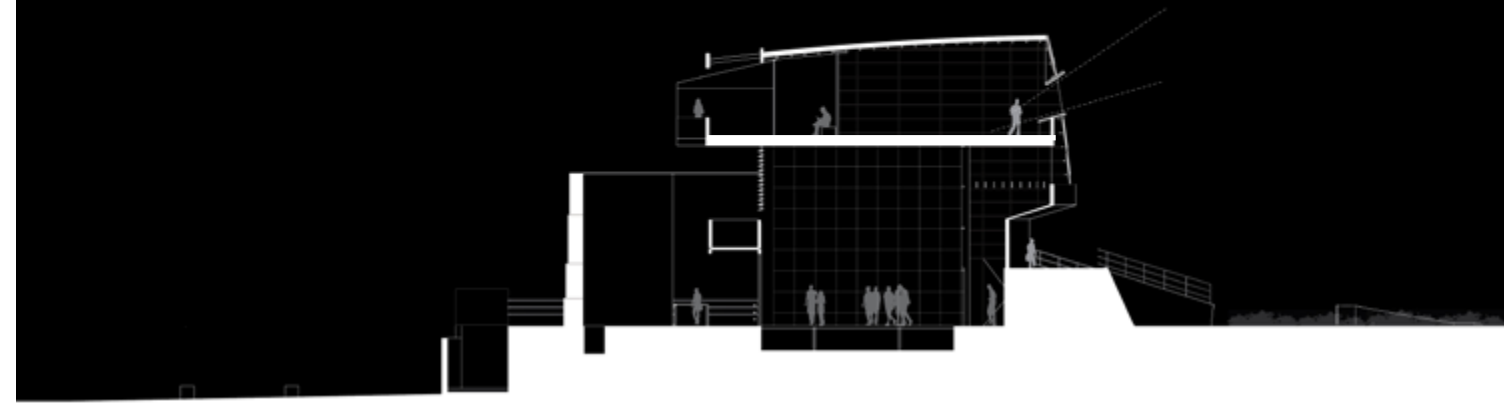
From: Sacred Sites: The Secret  
History of Southern California  
by Susan Sontree



URSA MINOR NIGHT SKY LOCATION

URSA MINOR VIEW APERTURE SECTION

SECTION 01

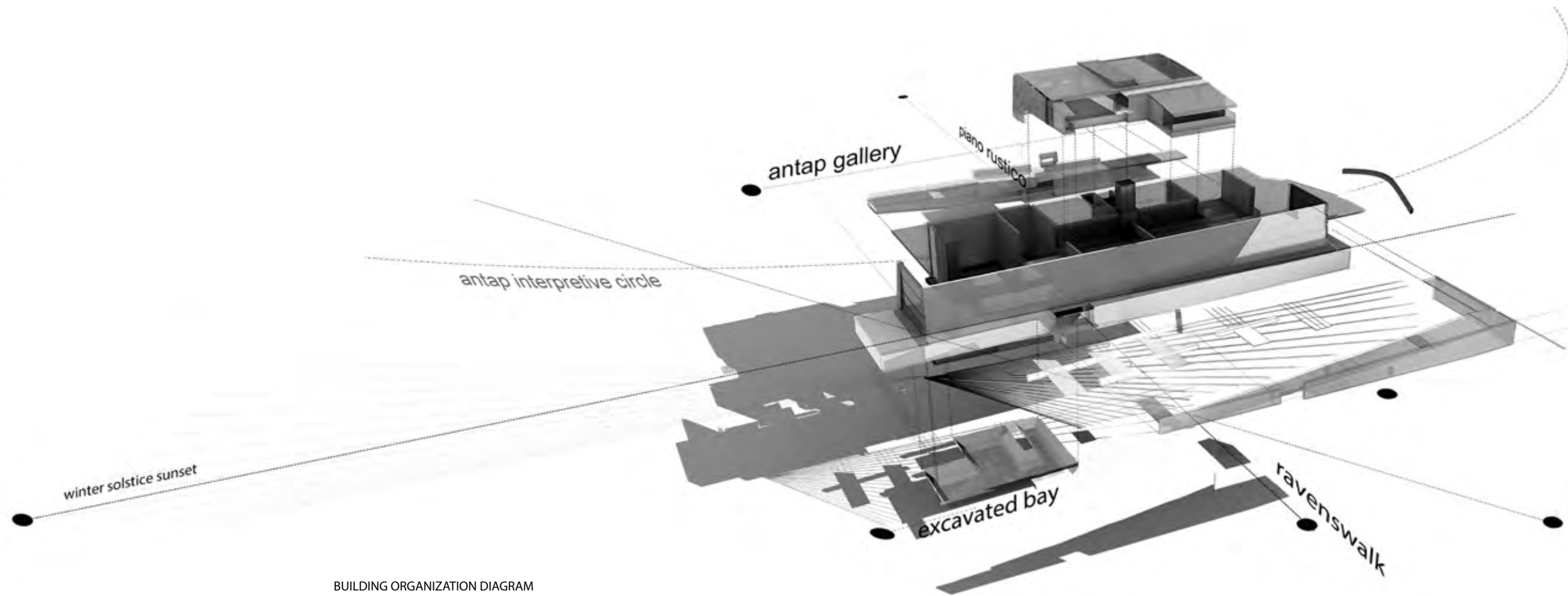


ASTRONOMICAL ORIENTATION



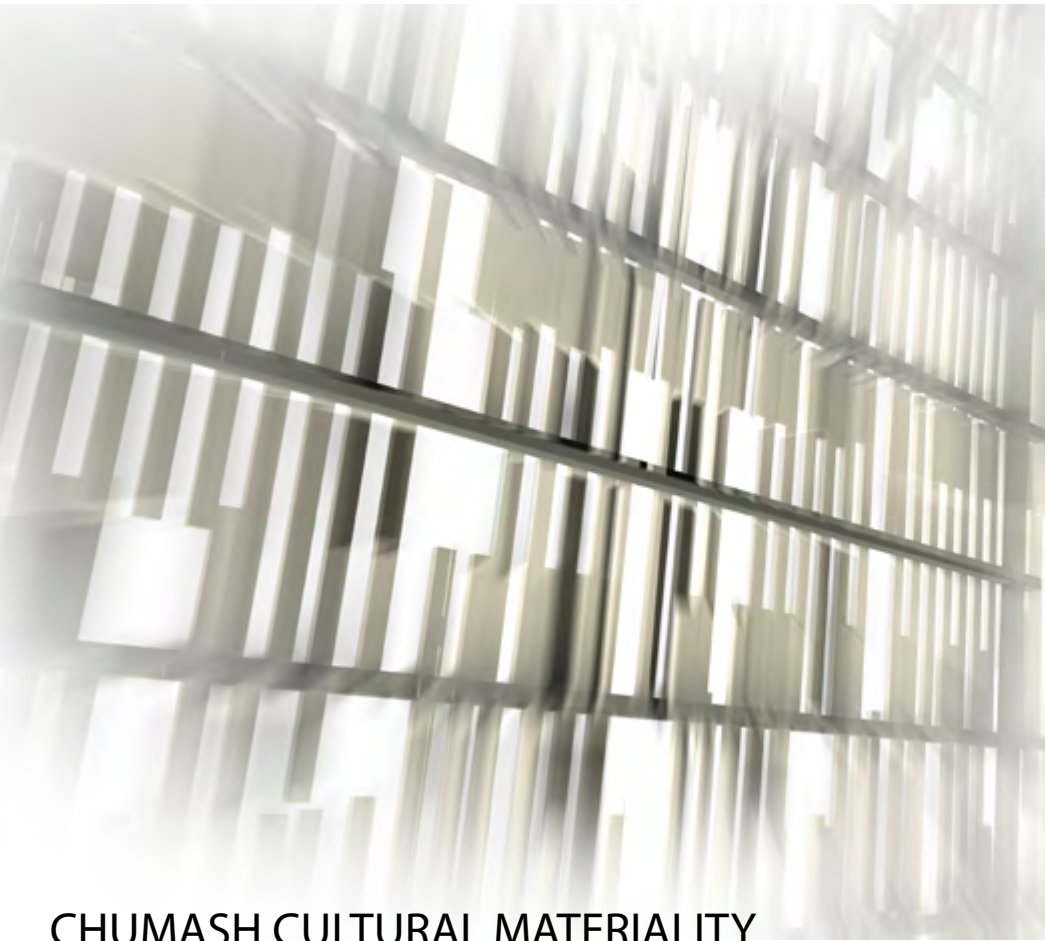
# ARCHITECTURAL ORGANIZATION

1. Ground level *Piano Rustico* serves as a landscape component entry ramp connecting the interpretive center building to its greater landscape. Radius of this ramp is derived from the location of radii of adjacent geologic formation.
2. Interpretive Zone on the south face of the ELV Wall holds the Ravenswalk. This slot marks the journey of the sun on the eve of Winter Solstice sunset and becomes an exterior circulation zone connecting the entry space to exterior excavated bay space.
3. Two ELV West Entry bays which "are expected to have the heaviest clean-up excavation" are designed as exterior exhibit spaces housing relics of Cold War and pale-ohistorical significance.
4. 'antap Gallery, the main volume of the Interpretive Center is designed to engage and climb over ELV walls, with the skin of the facility appearing as a woven surface reminiscent of a Chumash vessel or shelter.



BUILDING ORGANIZATION DIAGRAM





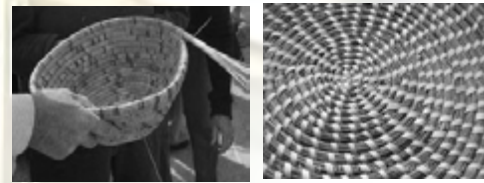
The 'antap Gallery enclosure is designed to demonstrate and celebrate Chumash culture through its materiality.

Native basketry making methods and patterns, obtained from traditional weaving methods combined with 'ap adobe construction methods lend logic to creation of antap enclosure.

In Chumash native basketry making techniques, horizontal densifying and layering of material is hung onto vertical structure.

Utilizing this method, ELV interpretive building uses horizontal bands of native material to anchor vertical pieces of siding. Inherent porosity of the structure derived from incorporation of this system allows for natural light to filter into gallery spaces.

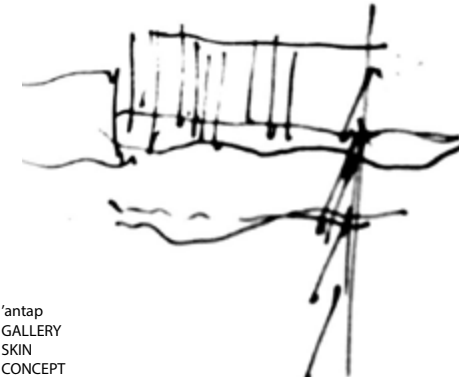
#### CHUMASH BASKET WEAVING METHODS



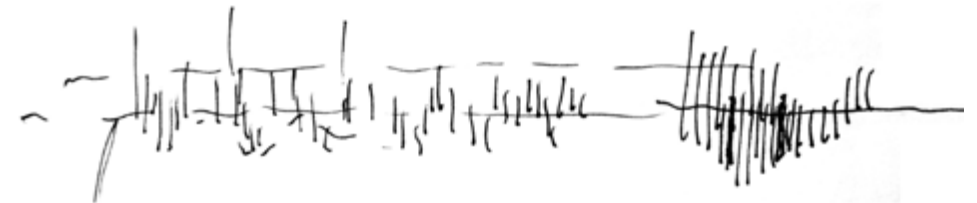
## CHUMASH CULTURAL MATERIALITY

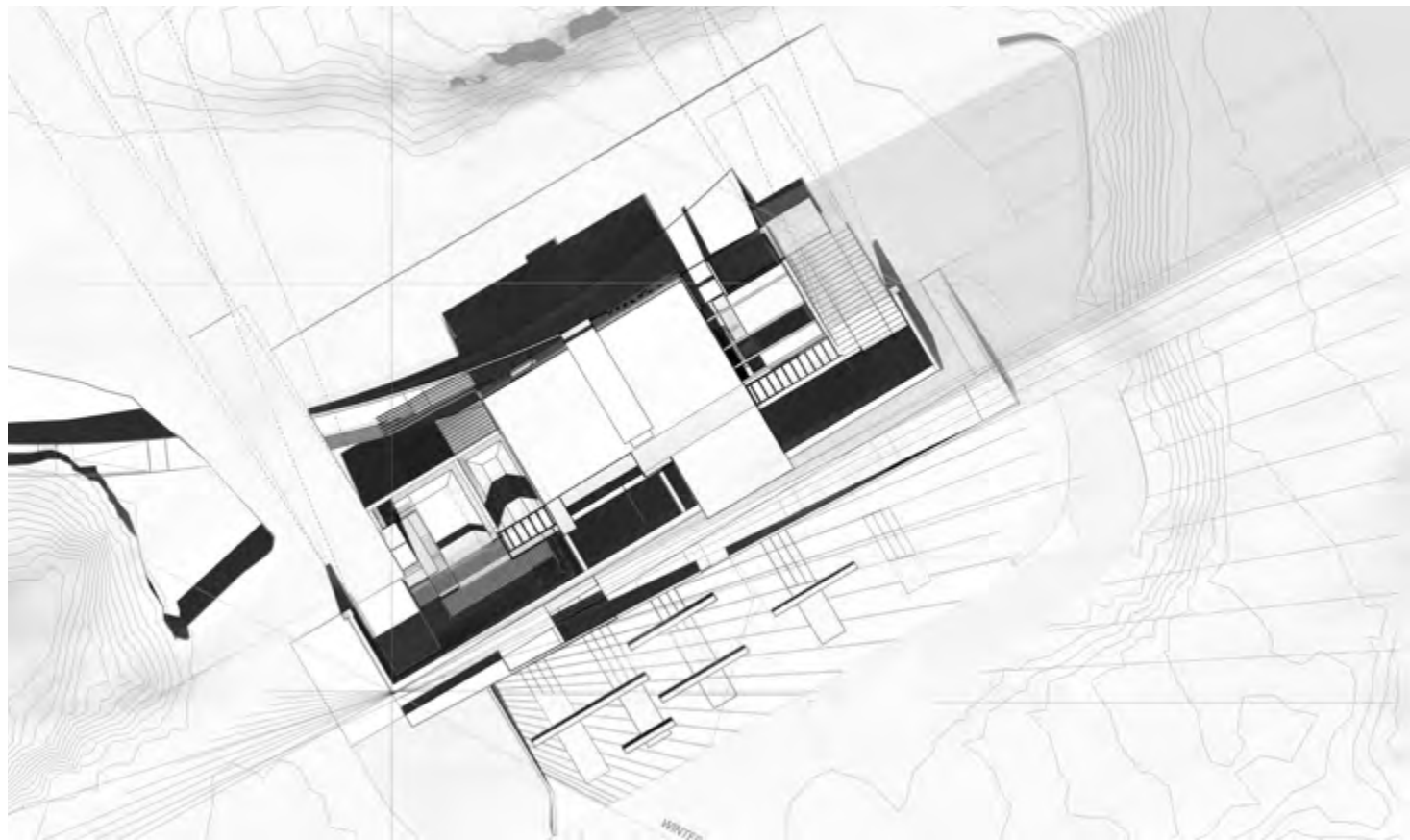


'antap  
GALLERY  
SKIN  
CONCEPT

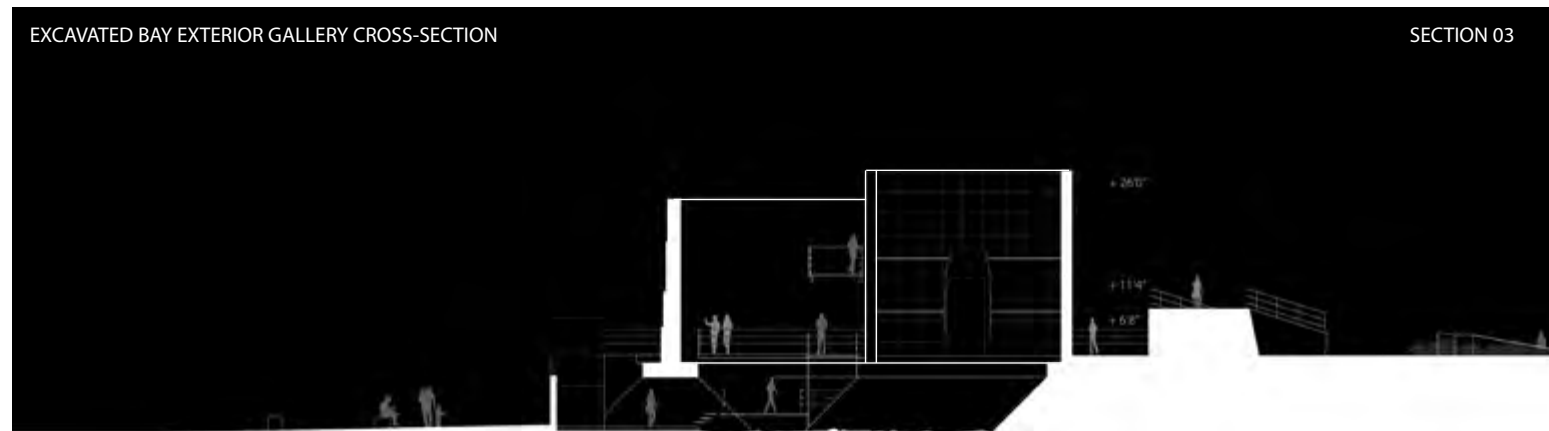
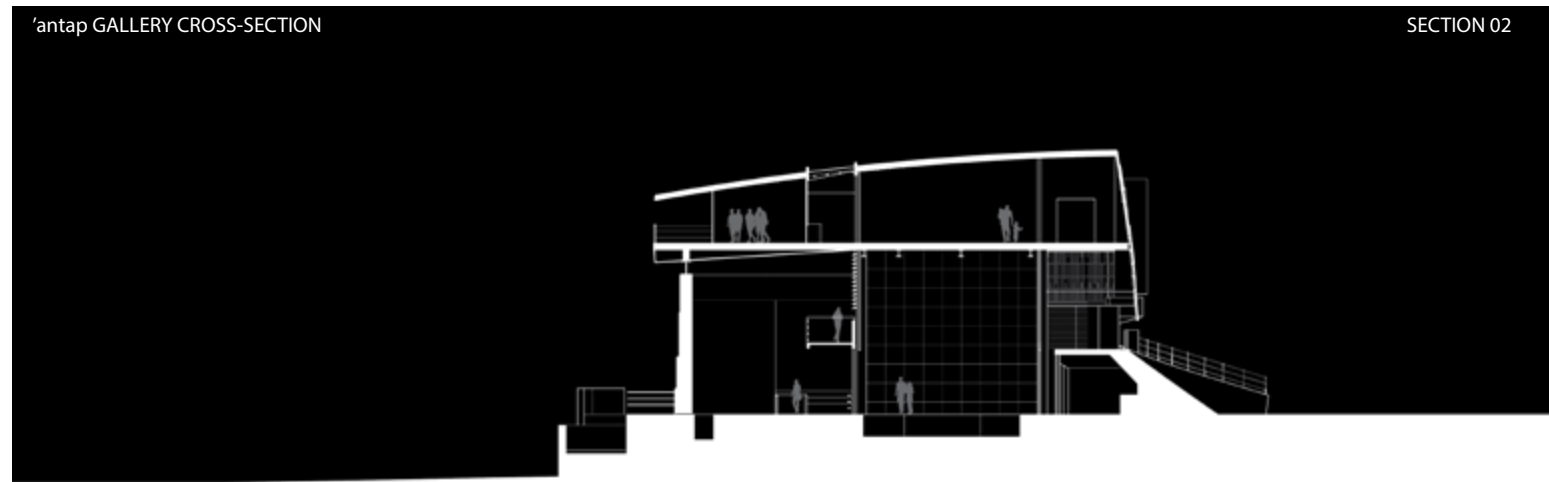


The Chumash house or 'ap was round and shaped like half of a sphere. It was made by setting willow poles in the ground in a circle. The poles were bent at the top, to form a dome. Then smaller saplings or branches were tied on crosswise. To cover the outside, bulrush or cattails were added in layers starting at the bottom, each row overlapping the one below. Like shingles on a roof, this thatched covering kept out the rain.





SHADOW ROOF PLAN





The ELV WALL is not only the best element of the historic test structures remaining in the north of the site, it is also uniquely oriented;

coincidentally corresponding to a line connecting the sunrise at summer solstice with the sunset of winter solstice. Due to this uncanny alignment, its shadow begins to tell a story about Sun and his daily and seasonal journey through 'alalpay that is analogous to that told by the protected solstice rock art located within the cultural preserve areas of the SSFL ("SKY VALLEY").

The large openings where the southern ELV blast wall wraps the northern on the east and west ends, symbolically and actually orient toward the two sacred Chumash peaks, 'iwēhənmū and tašololo (Mount Pinos and Frazier Mountain), addressing them as all ceremonial Chumash structures once did, framing the 'antap plain that is the heart of the Chumash Middle world, the 3-dimensional center of their universe.

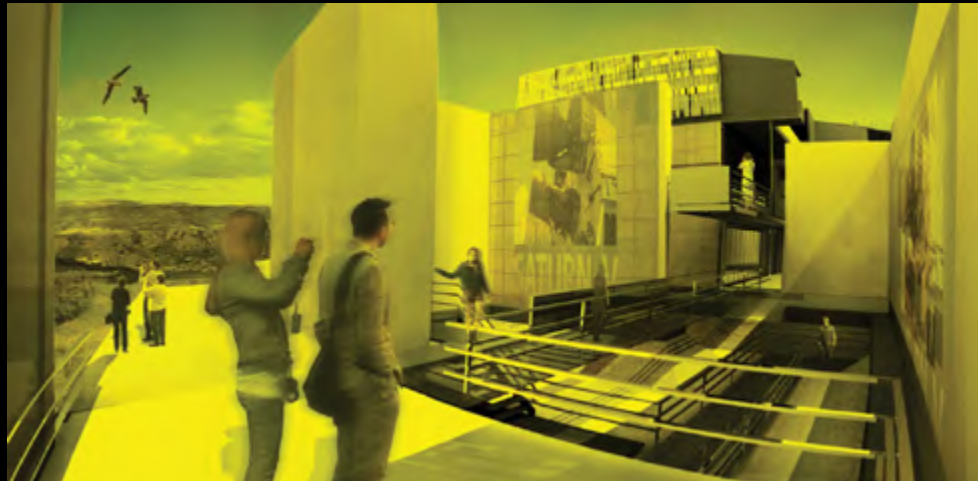
Since the proximity of the southern test stand sites to the critical cultural resource areas precludes locating major interpretive facilities there, retaining and re-using the historic and monumental blast walls of the ELV can help tell the Cold War/"space race" story, while also providing the main structure for large and flexible display galleries.

In the current schematic design proposal commissioned by SYBCI, the main volume of the Interpretive Center is designed to engage and climb over those walls, with the skin of the facility appearing as a woven surface reminiscent of a Chumash vessel or shelter, offering views of the sandstone ridges of the proposed 'alalpay National Monument to the south, with night sky viewing of the North pole star and the Small Bear constellation (another indigenous and western coincidental naming) and daylight viewing of the unblemished buffer landscape to the north.

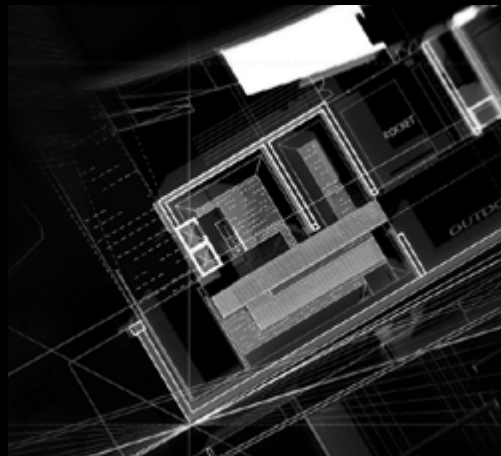
- Clark Stevens



ELV ADAPTIVE REUSE BUILDING GALLERY CROSS-SECTION



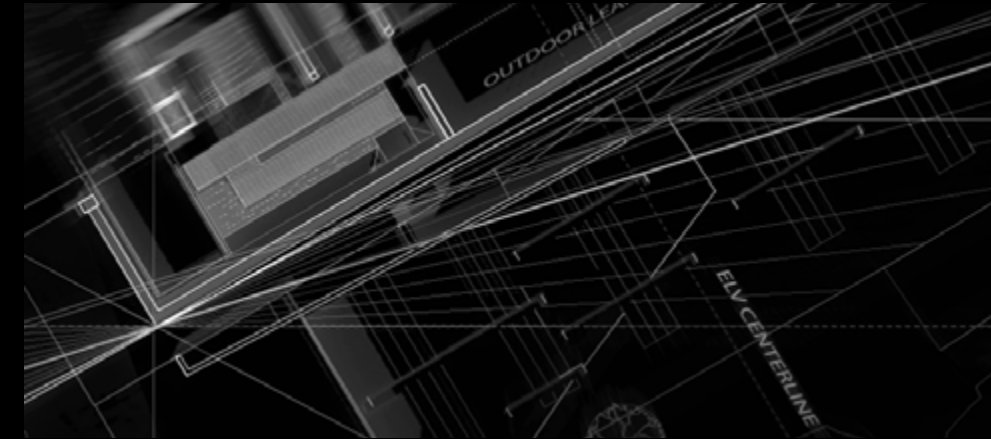
ELV - EXCAVATED BAY EXTERIOR GALLERY ROTATING EXHIBIT SPACE



The western edge of the existing ELV structure bays is anticipated to undergo the heaviest soil removal and contamination clean-up process. Current schematic proposal plans designate these two bays to be used as exterior gallery spaces with the occupiable ground floor sunken to excavated ground plane.

Volume of the two bays will allow for rotating exterior exhibit and the sunken earthen floor plate will serve as a space analogous to Chumash Lower World zone.

The tašololo ceremonial entry zone will also occupy this space with a portal to wildlife and nature interpretive space north of the ELV building. Spatially, the excavated bay of the ELV will serve as a circulation corridor connecting exterior exhibit space to the Ravenswalk winter solstice marker zone.



WINTER SOLSTICE SUNSET INTERPRETIVE PATH - RAVENSWALK

The interpretive zone on the south face of the ELV Wall holds the Ravenswalk. This space, articulated between the existing ELV wall and a newly created wall marking the line of Winter Solstice sunset line, becomes a slot through which one can descend along the existing structure to lower levels of the ELV, taking advantage of expected cleanup excavations, descending through a zone of perpetual shadow.

Ravenswalk is a part of a greater interpretive zone facing the south side of the ELV building wall, a zone in which weeks preceding to and from winter and summer solstices are marked on the ground and Chumash sacred order and practices are revealed. Interpretive narrative illustrates the story and tradition of the practitioners who worked to ensure that Coyote defeated Raven so that the Sun would return to its home in the north each year and not leave humans in perpetual night.







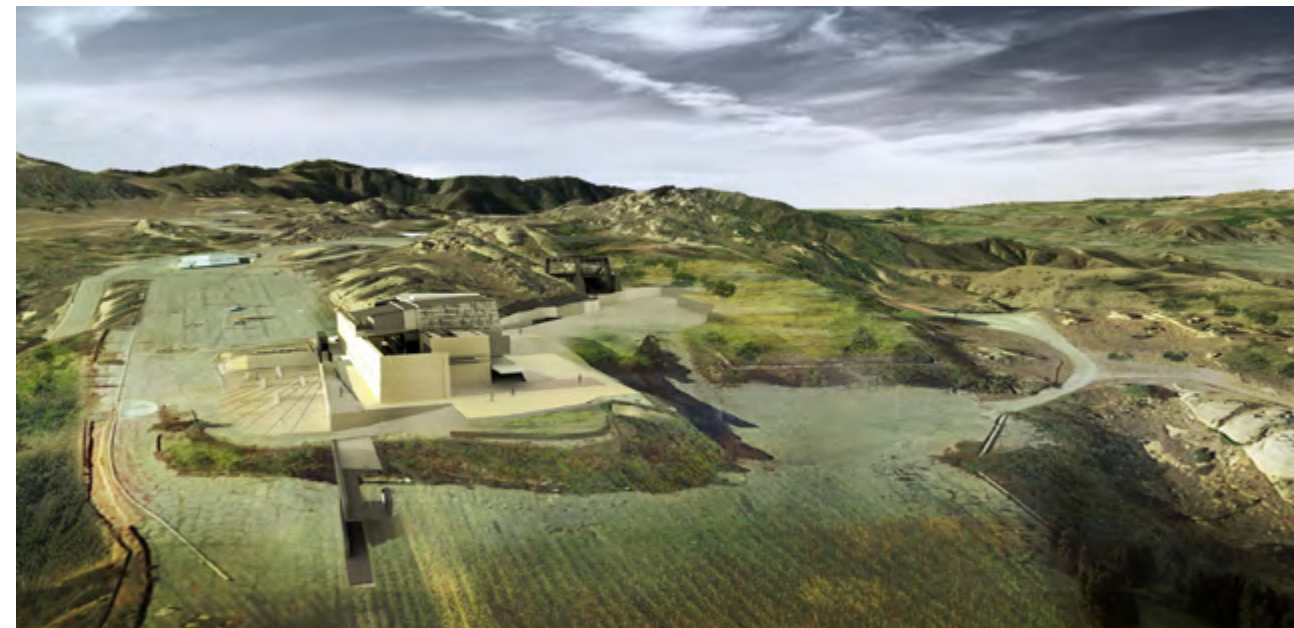
LANDSCAPE SCOPE AND RESTORATION

Monument status of the SSFL site will help protect not only the ecological diversity and viability of the existing habitat but also that of the entire Santa Monica Mountains' ecosystem, as well as the Simi Hills' ecosystem it currently anchors.

Preservation of the existing landscape will allow for creation of a reservoir of native and endangered plants and animals, and protection of up to 60 acres of existing oak forests so diminished elsewhere throughout Ventura and Los Angeles Counties.

ELV BUILDING NORTH FACE ENTRY RAMP CONNECTING TO ZONE OF ELV INTERPRETIVE LANDSCAPE

- Clark Stevens



# ADDENDUM

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SKY VALLEY CRITICAL HABITAT LINKAGE

SKY VALLEY AREA 2 FORMER NASA ZONE REMEDIATION ZONES MAPPING

HISTORICAL SITE MORPHOLOGY AND USE

POST CONTAMINANT REMOVAL HABITAT RESTORATION

INTERPRETIVE LANDSCAPE / TRAILS



# CRITICAL HABITAT LINKAGE

The 2,800 acres of the SSFL, including the NASA-Administered Area 2, are situated within a critical wildlife corridor connecting the Santa Monica Mountains to the Santa Susana Mountains and Los Padres National Forest. The currently unoccupied landscape is just large enough to provide a vital stepping stone habitat, connecting the Santa Monica Mountains with its source of sustainable biodiversity.

BOEING/NASA SITE LOCATION RELATIVE TO SIMI HILLS



The relatively undivided and sparsely developed Simi Hills and Santa Susana Mountains (SHSSM) are of great importance to the people and land managers of the region, as they represent the core areas of a primary habitat linkage that provides the Santa Monica Mountains (SMM) with the source of its sustainable biodiversity.

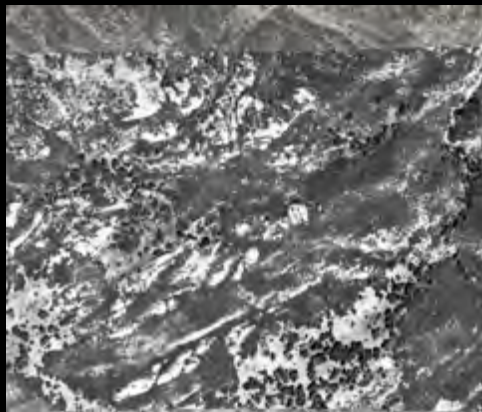
The SSFL zone is the heart of the habitat linkage that is most critical to maintaining the ecological health of the entire Santa Monica Mountains ecosystem, as well as the Simi Hills ecosystem it currently anchors.





# HISTORICAL SITE MORPHOLOGY

## ELV SITE



1939



1947



1952



2015

The ELV site of Nasa administered Area 2 contains significant zone of support facilities for test stands due south.

Horizontal and sectional alteration of exposed sandstone formation as well as former landscape grazing, followed by significant zone of concrete paving surfaces, have notably altered the ELV plateau.

Restoration of the landscape provides an opportunity for native oak woodland and venturan coastal sage nursery zones and augmentation to adjacent northern

Aerial Archive Photography research database images

University of California Santa Barbara  
Aerial Flight Photography Database

Current hardscape, infrastructure, support structures, power facilities and soil treatment systems situated at ELV building zone plateau.



# POST-CONTAMINANT REMOVAL HABITAT RESTORATION

Oak woodland restoration zones, based on historical images, and venturan sage scrub habitats to occupy portions of restored landscape post concrete removal and soil treatment.

1. Historical aerial image of native coastal live oak locations.
2. Current aerial site image of ELV structures, hardscape and ecology.
3. Current oak woodland and venturan sage scrub habitat



"As rare as this convergence of aspirations from widely separated eras and cultures is the opportunity to interpret Native American cultural resources within the largely intact ecological systems that supported their activity and sourced their cosmology.

The oak woodlands, the horizontal and sectional geometry of the exposed rock formations and the converging valleys all contributed to the inevitability of this site as the Chumash place of solstice observation, of the human effort to support the cause of Coyote in his yearly contest with Raven to bring the sun back from its journey south and diminishing day-life."

- Clark Stevens





# INTERPRETIVE LANDSCAPE/TRAILS

**ECOLOGICAL VIEWSHED** Places and zones that provide interpretation of nearby ecology and habitat, the northern buffer zone and skyline rock formation, as well as the site remediation process.

**DAY HIKE TRAILS** Starting off points from ELV zone that link to trails connecting the Sage Ranch north trail and the Skyline guided walk interpretive path.

**ECOLOGY OF COAST LIVE OAK** Landscape restoration is a part of interpretive context of soil remediation, ecology and the watershed management.

**ARCHEO-ASTRONOMY** Existing artifacts of archeo-astronomical significance and zones of native activity will be highlighted as places of reinterpretation.

**HISTORICAL RE-USE** A portion of the Coca Tower Test Stand will be incorporated as a physical historical artifact of modern historical activity of the area.

**GEOLOGY** Significant geologic formations will be utilized as a part of learning context of previous site alteration of the landscape and the cosmological relation.

**PLANT ECOLOGY** Endangered venturan coastal sage and various other plant life ecology will be a part of this site interpretation.





# SITE PLAN

The proposed SSFL National Monument act will protect the ecology as well as history of the site, providing an educational and recreational resource to the millions of inhabitants who live within minutes of its border. Protection and careful restoration of this multi-layered historical landscape will allow for re-telling of landmark events born in this place.

This storied landscape frames an extraordinary history for two significant periods of our collective indigenous and modern cultures - to which we may add a yet unwritten and important story of cultural and ecological landscape conservation in one of the world's most populous urban regions. The connecting link across the centuries between the paleo-astronomical and modern-era exploration of the heavens is an overlay of unprecedented interpretive significance, is found only in this place, and so is an educational resource worthy of preservation and celebration, within the context of appropriate remediation and sensitive stewardship.



