

SPACE BASE  
CALIFORNIA

# Project Summary

July 2023

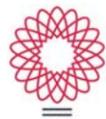
Prepared by



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## INTRODUCTION

When astronauts last left the moon in 1972, it was a dry and barren world with little to offer. 50 years later, our strategic and scientific understanding of the moon and its resource potential has expanded dramatically. NASA plans for a man & a woman to launch a sustainable presence on the Moon by 2024, thereafter establishing a deep space gateway to explore Mars and worlds beyond. We want to tell this epochal story.

Pale Blue Dot Ventures (PBDV) believes it has an exceptional opportunity to tell the story and teach the science of future space exploration. In mid-July 2019, PBDV agreed to an exclusive period of negotiation with the City of Lompoc, California to complete a concept and feasibility program and negotiate a Disposition & Development Agreement (DDA) for an educational and entertainment venue. Space Base California will be located on 82 acres of land on Pacific Coast Highway, just 10 miles from the Pacific Ocean and adjacent to Vandenberg Space Force Base (VSFB). Lompoc, on California's Central Coast, has agreed in principle to sell this unique land parcel with direct viewshed into VSFB's Southern Space Launch Complexes at an extremely favorable cost in exchange for the economic impact the project will provide. VSFB, the only active space launch facility on the West Coast, and already a key facility within the new U.S. Space Force, anticipates a rapidly increasing launch cadence beginning in 2023 and building over the next two decades.

Our founding team has 40+ years of experience in destination design, marketing, finance, and operations. We are in the preliminary conceptual stages of designing a venue with premium branding and a global draw. Our future-facing focus is on space exploration and its natural overlap with earth observation. Respectful of past achievements, but certainly not tethered to merely retelling history, the Space Base California project will be designed to convey the story of mankind's next great adventure and provide an enduring spark and engagement long after guests have departed.

This Experience Design Plan presents the initial conceptual creative thinking for a completely new kind of destination. Not a "theme park" or science center but borrowing best-practices from both, Space Base California will offer an entirely new way to educate, entertain, and inspire. Our target is families, students, teachers, industry professionals, and everyone with the curiosity and passion to join the next generation of space exploration. We have a tremendous opening to create a destination where we can advance the science and story of future space exploration. We have every intention of building a national treasure.

Steve Franck  
Founder & CEO  
Pale Blue Dot Ventures, Inc.



## OVERVIEW

The City of Lompoc, despite its relatively low profile compared to its well-known neighbor, Santa Barbara, is a perfect site to participate in a human space-faring experience exploring how we as a civilization may change and adapt as we venture off-world and out into our solar system with increasing regularity. While the Central Coast and surrounding counties are not lacking in activities to occupy a visitor's time, primary research supports a healthy market of residents and California drive tourism from north of Los Angeles to south of San Francisco who have indicated they are likely to support a space-themed portfolio of distinctive offerings – an in-park day guest experience, onsite themed overnight lodging, and multi-day stay programming for students.

Space Base California will be an educationally rich, highly entertaining, scientifically valid, and financially successful new destination experience for California's Central Coast. The project will be comprised of a carefully conceived portfolio of offerings that leverage the canyon chapparral topography with new facilities, programs, attractions, and lodging designed to take full advantage of the property's proximity to Vandenberg Space Force Base's Southern Launch Complexes. Our story is rooted in the realities of human exploration of our Solar System over the coming decades. It is the basis for an exciting visitor experience that allows guests to participate in the transition of the human species into a space-faring civilization. **This summary is intended to be a high-level briefing document. Additional creative work is available in the Space Base California Experience Design Plan. The topline market analysis and economic data in Appendices A, B, and C are derived from the Integrated Insight Market Assessment, Appeal Research, and Investor Briefing documents along with additional financial analysis which can be made available upon request by Pale Blue Dot Ventures.**

### Key Topline Notes:

- Space Base California has high appeal and is particularly strong among families and tourists with “top 2 box” appeal ratings totaling 53% of respondents.
- Potential visitors want creative leisure activities emphasizing education with a broad age appeal. They find Space Base California's focus on learning appealing.
- Those who rated it “10” out of 10 on overall concept appeal are a significant *Sweet Spot* market segment.
- The project will realize stabilized annual revenue of \$38+M and a 30% EBITDA through attendance, programming, lodging, merchandise, F&B, and entertainment offerings. Conservatively hedged market analysis demonstrates the ability to capture significant market share among regional resident and Central Coast visitor audiences with a stabilized base annual attendance of 290K-320K.
- The project drives regional economic impact through job creation and GDP growth. Space Base California will excite a new generation of students through immersive STEAM learning programs and help meet the workforce requirements of Lompoc's growing commercial space industry by introducing high-paying career pathways to local students and residents.

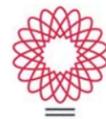


See **Appendix A** for a summary of the Integrated Insight Market assessment, appeal, and demand studies.

See **Appendix B** for a summary of the regional economic impact.

See **Appendix C** for a summary of the project proforma and supportable investment.

See **Appendix D** for an educational programs overview



## A Big Idea

Space is no longer the domain of the few, nor the realm of exotic science-fiction. European explorers crossed the Atlantic ahead of the settlers who followed, and Lewis and Clark traveled to the Pacific ahead of millions of homesteaders. Early aviators took to the nascent skies, pre-dating literally millions of daily air passengers. In much the same way, living outside Earth's atmosphere in orbiting space stations, sustainable habitats on the Moon, and human exploration on Mars are our next horizons. This future has a place for all – space travelers braving life off our home world, visionaries innovating the next generation of technologies to sustain these efforts, and those who will continue to work and live on a space-faring Earth. Space Base California will be the public's first off-world travel test drive and space habitation mission trainer. For the first time, anyone can experience the reality of what it will take to succeed in the next frontier, and, just as importantly, fostering a more sustainable life here on earth.



## EXPLORE

*Investigate the coming reality of routine human space exploration and travel throughout our Solar System and find real ways that you can become an active participant.*

## IMAGINE

*Experience the thrilling challenges of living, working, and surviving off-world as the wonders of humanity becoming a space-faring civilization are finally coming to fruition.*

## LEARN

*Learn how the many ways we are studying our own home world are preparing us to do the same as we return to the moon, advance to Mars, and continue to go beyond.*



## SITE INFORMATION

Under an exclusive agreement with the City, Space Base California will be located on 82 acres encompassing a portion of Ken Adam Park; a City of Lompoc owned property. The park itself is a Lompoc Valley treasure nestled in a large grove of mature oaks and will be maintained for community use. Strategic upgrades will enhance the special events rental of the various group use areas in the park. The proposed site is located on the Pacific Coast Highway adjacent to the Lompoc campus of Allan Hancock College and is less than 5 miles to the east of Vandenberg SFB's South Base Space Launch Complexes (SLC). The elevated plateaus provide a panoramic viewshed for launches amid the rolling California canyon topography.



Area for development facing SW toward VSFB and Pacific Ocean



North side of property facing Allan Hancock College



Ravine between south mesa and primary development area

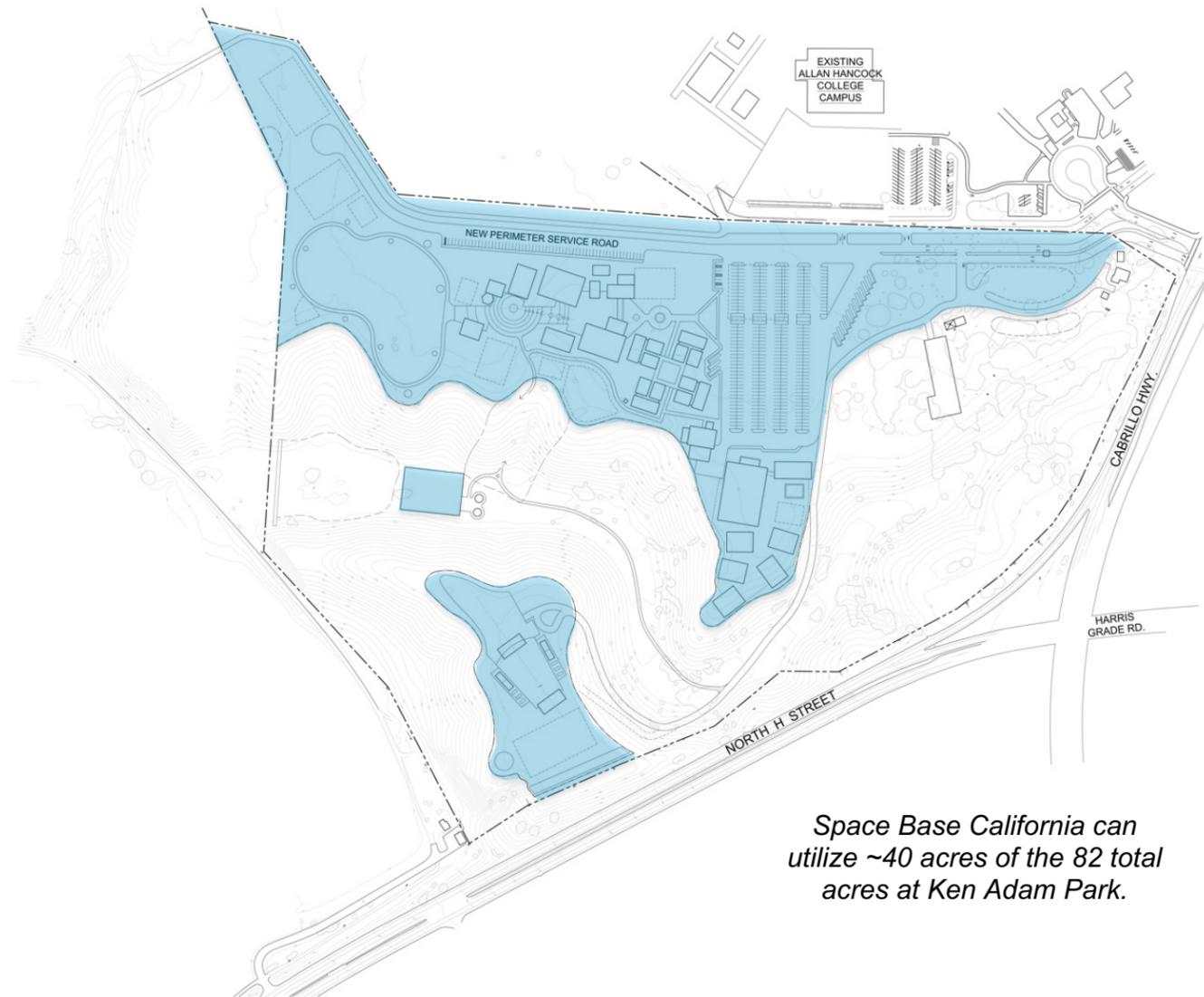


View of south mesa with southern sightline of the Lompoc Hills

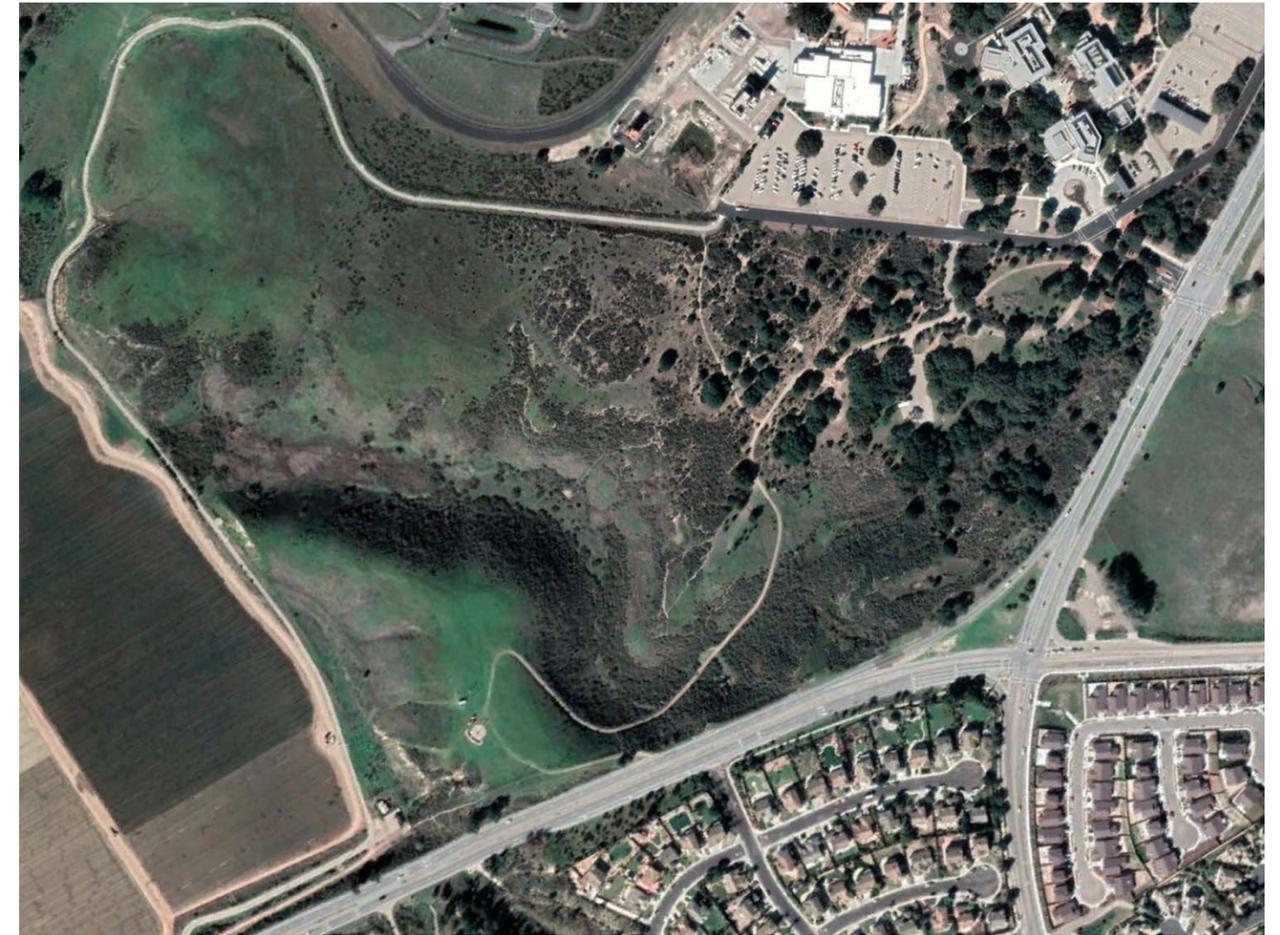


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*Space Base California can utilize ~40 acres of the 82 total acres at Ken Adam Park.*



*Google Earth view of property from same aerial orientation.*

### **Note 1: Environmental Considerations**

The Biological review of the Space Base California site has just been completed. There were no plant or animal species of Concern, Threatened or Endangered on the parcel. Additionally, the recent U. S. Supreme Court decision with regard to Waters of the U.S. has eliminated the ravine on the site from any potential of being considered as Waters of the U.S. as it has no standing water connection to the nearby Santa Ynez River. A bid is in place for completing all the necessary environmental review required.

### **Note 2: Entitlement and Zoning**

Entitlement for the project will be completed by the creation of a Project Specific Plan with a new Zoning Ordinance Section which will embody the specific requirements of the project and include an amendment to the General Plan. The parcel is within the City of Lompoc which has sole Entitlement Jurisdiction and will not have to meet other existing zoning ordinance requirements.



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## Conceptual Master Plan

### LEGEND

- 100: Bus and RV Parking [12 spaces]
  - 101: Mandated EV Charging spaces 20% of 336= 70 with conduit in place and 17 wired with a panel capable of supplying the 67 spaces at 40 amps 22 Volt 3 phase. Panel supplied at 12,000 primary voltage or 480 volt in a structure with racks for 18 bicycles adjoining
  - 102: Guest Parking [304 spaces and [64 Future] with 8 accessible of which 2 are van accessible. Accessible spaces 5 & 1 van at the main entrance and 1 & 1 van at the front of the Sim Lab
  - 103: Arrival Plaza
  - 104: Astronaut Memorial
  - 105: Ticketing and Guest Services
  - 106: Themed Retail
  - 107: Central Concourse
  - 108: Hangar 1 - OmniDome
  - 109A: Hangar 2 - Flying Theater
  - 109B: Hangar 3 - Mission Training Center
  - 110: Hangar 4 - Nutrition Science Cafe & Terra Bistro
  - 111: Sim Lab for Camp Odyssey
  - 112: HAB Lodging Pods for Camp Odyssey
  - 113: Earth Base Lodging for overnight guests
  - 114: Aqua Lab Microgravity Team Trainer
  - 115: VR Micro Gravity Drop Tower
  - 116: Explorer Trail and Training Pods
  - 117: Mars Surface Rover Challenge [2.5 Acres]
  - 118: Remote Rover Corral
  - 119: Drone Aviary
  - 120: The Range for Model Rocket Launching and wild fire suppression system.
  - 121: The Rendezvous
  - 122: Astronaut Training Activity Areas [10]
  - 123A: Community Event Stage
  - 123B: Launch Viewing Stage
  - 124: Launch Observation Plaza and Community Event Space
  - 125: Public Toilets
  - 126: Launch Plaza Food Truck Utility Connections [6]
  - 127: Space Base California Icon and Flag Plaza [Prior Donors Plaques]
  - 128: Multipurpose Building at 4,500 square feet and seats 300 for banquet
  - 129: Future Expansion Spaces [See list by Letter]
  - 130: Vehicle and Pedestrian Access Road to Launch Viewing Plaza [30' Wide at 10% grade max.]
  - 131: North Service Road [24' wide]
  - 132: Parking Lot Entry Kiosk
  - 133: Section of Bike Path relocated to 10' From Property Line
  - 134: Saw tooth Bus Loading and Unloading Zone [3 buses]
  - 135: Guest Drop Off and Pick Up [White Zone]
  - 136: Water Percolation Basin with 10' High Dam and Spillway
  - 137: Accessible trail from Central Concourse to Drone Aviary [Less than 5% grade]
  - 138: Nature Trail from Drone Aviary to Launch Viewing Plaza Road
  - 139: Security / Medical / Police / Fire Office Space
  - 140: Existing Bike Path at about 75' from property line
  - 141: Space Technology Education Lab [1,500 sq. ft.]
  - 142: Accessible Parking Spaces
  - 143: Berm to block sight and sound [30' wide and 10' high with landscape on sides and top]
  - 144: Transformer Building and Main Panels
  - 145: Park Perimeter Security Fence at Approximate Location
  - 146: HAB Lodging / Camp Odyssey Security Fence at Approximate Location
  - 147: Gray Water Recycling Plant for Earth Base Lodging & HAB Showers and Sinks
  - 148: City Water Main and Fire Hydrants
  - 150: New Entry and Exit Road
  - 151: Entrance to Allan Hancock College for Special Event Parking
  - 152: Delete Unpermitted Road
  - 153: Former Road Location to Launch Viewing Plaza [show as dashed lines]
  - 154: Entrance for Group Tours, Lodging guests, Sim Lab/HAB guests, Commanders Club and VIPs
- FUTURE EXPANSION AREAS**
- 129A: Large Attraction
  - 129B: Medium Attraction
  - 129C: Small Attraction
  - 129D: Food and Beverage Patio on Astronaut Training Trail
  - 129E: Small Attraction
  - 129F: Launch Viewing Plaza expansion
  - 129G: Small Astronaut Training Trail Attraction
  - 129H: Large Astronaut Training Trail Attraction
  - 129I: Central Warehouse and Maintenance Building
  - 129K: 64 Additional Parking Spaces
  - 129L: 50 Staff Parking Space including 1 accessible, 1 van accessible and 8 piped EV charging locations and 2 powered and completed. [450' x 20']
  - 129M: Future HAB Pod
  - 129N: Future Large Attraction
- KEN ADAM PARK AREA**
- 200: Existing Park Area
  - 201: Existing Parking
  - 202: Existing Overflow Parking
  - 203: Existing Group Bar-B-Que and Picnic Table Area [Rental by reservation]
  - 204: Existing Play Ground
  - 205: Existing Horseshoe pits, to be converted to Group Picnic Area. [Rental by Reservation]
  - 206: Existing Wedding and Event Gazebo [Rental by reservation]
  - 207: Existing Restroom [To be renovated]
  - 208: New Unisex Accessible Restroom [1]
  - 209: Existing Host Residence. [To be converted to Dressing Rooms]
  - 210: Existing Utility Shed
  - 211: Existing Park Roads
  - 212: Relocated existing individual Picnic table areas [6]
  - 213: Former Office Trailer Site to be re-used during development
  - 214: New Accessible Parking Spaces [2 with one van accessible]



1. SPACE BASE CALIFORNIA - CONCEPTUAL SITE PLAN  
LOMPOC, CA 93436 07-14-2023 SCALE: 1" = 100'-0"



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## Design Statement

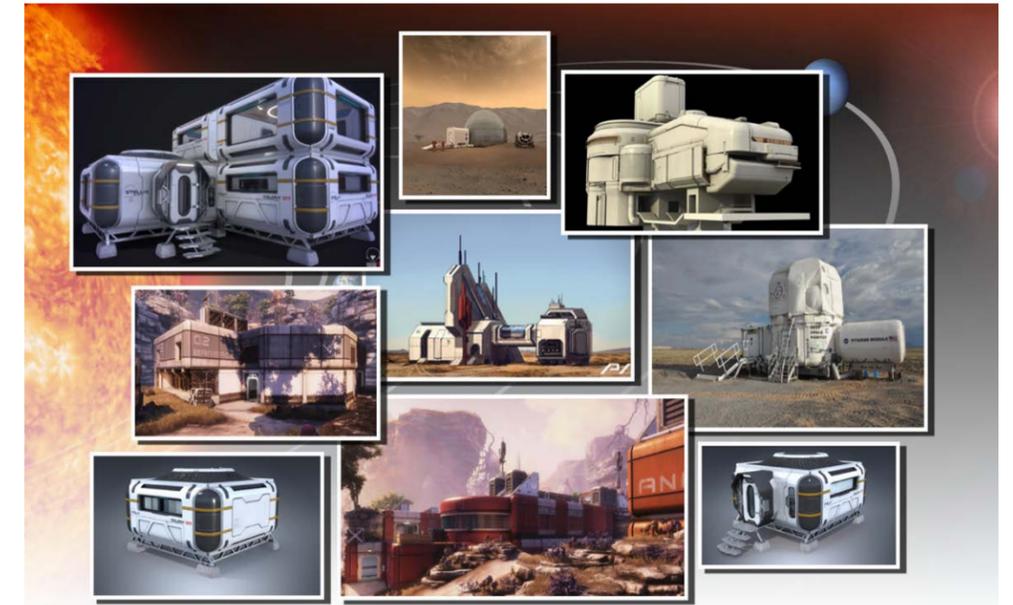
The conceptual master plan has carefully located a collection of visitor facilities in an open-air campus situated around a central plaza, creating what looks like an industrial outpost that might have evolved over time as space pioneers adapted traditional hangar buildings and related facilities. The structures are mindfully placed with an effort to maximize the best aspects of the project's California-canyon topography, along with careful consideration of the western view shed of south rocket launch complexes located at Vandenberg Space Force Base.

This guest experience is built on the story of guests finding themselves immersed in a remote inter-planetary space flight training complex with a very minimalistic and utilitarian architectural aesthetic... picture a working space flight center with pre-engineered steel warehouse and hangar structures, embellished and propped with salvaged industrial aerospace elements, operable solar panels, wind-driven generators, and scenic elements such as satellite tracking dishes. These buildings are functionally similar to motion picture sound stages with minimal fenestration, windows, and/or exterior glazing and minimal natural light. Also known as "black boxes", this design approach allows for controlled show lighting to enhance both the exterior and interior spaces, conferring programmatic flexibility.

Building exteriors and interiors will also include exposed structural systems, mechanical ductwork, electrical, and fire suppression systems as intentional set dressing. Interiors will also feature polished concrete floors, etc. Show sets and props will largely be scavenged and salvaged parts that are installed and flown or applied as attachments to building exteriors, temporary structures, and interiors. Heavy metal grates, painted steel with cable deck rails, and extruded aluminum accents will support outdoor viewing terraces, exterior stairs, and upper-level decks.

Primary building forms will be styled architecturally with a modular aesthetic, comprised of elements themed to look like they have been prefabricated and transported and then reassembled on site as a universal design aesthetic that maintains the sense of a working space-training center. The design/build concept assumes a "shell & core" approach to execution making use of cost-effective pre-fabricated structures where possible, with most interior build-out assumptions carried as attraction theming. Some cost-effective and appropriate environmental megagraphics will be painted onto the exteriors of the buildings, all contributing to the illusion of an industrial inter-planetary space center.

The conceptual program reflects this industrial, rather than a traditional and more expensive approach to typical theme park design, planning, and execution. During Schematic Design (SD), and Design Development (DD), architects and show designers will be charged with value-engineering all prospective solutions to meet supportable investment targets. This iterative process will involve interim cost estimating, and re-designing solutions.



*Building Massing & Modular/Cargo Design Concept*



*Inflatable, Suspended Canvas, and Temporary Structures*



Design Renderings



Conceptual rendering of Complex Alpha during nighttime launch event.



Conceptual rendering of Launch Observation Plaza



Conceptual rendering of Hangar 4 with Café and Bistro levels facing VSFB



Conceptual rendering of Mars rover on terrain course



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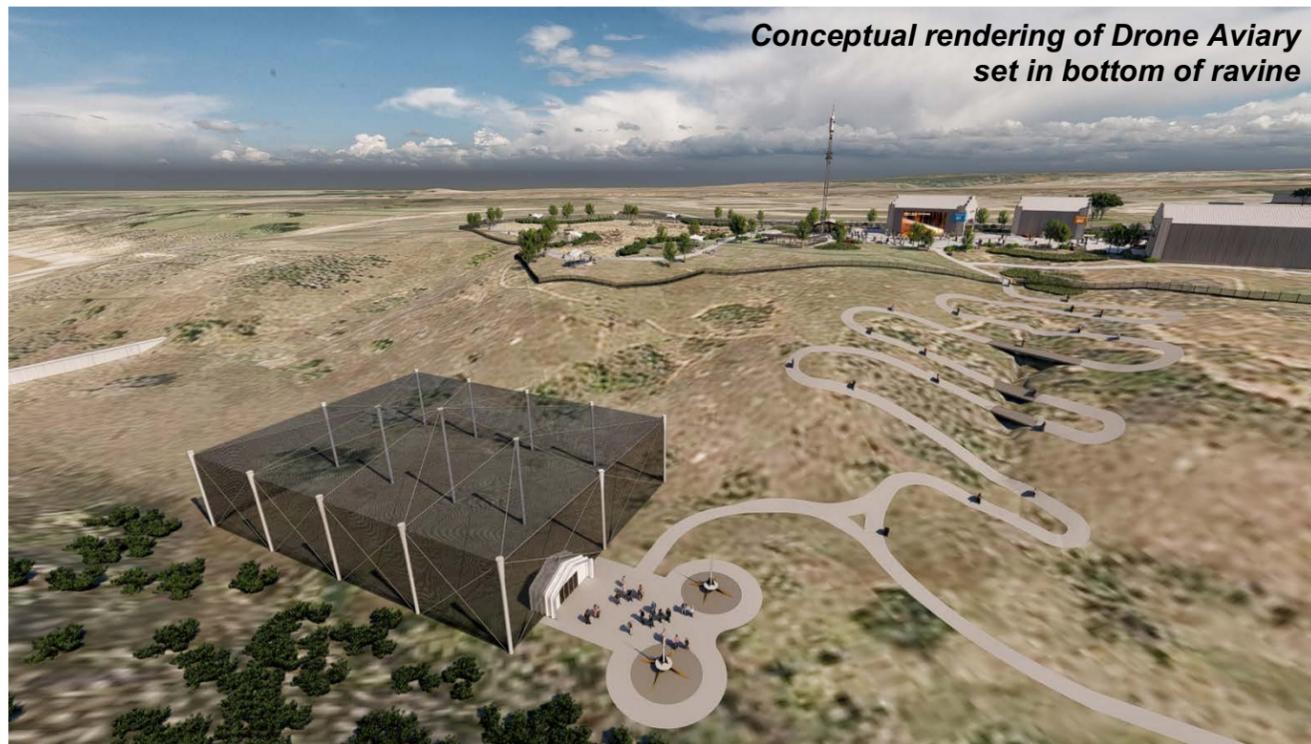
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Conceptual rendering  
of VR Drop Tower



Conceptual rendering of Earth Base overnight guest lodging facilities



Conceptual rendering of Drone Aviary  
set in bottom of ravine



Conceptual rendering of Space Base California as  
seen from Allan Hancock College across the street



## EXPERIENCES & PROGRAMMING

Space Base California will be built less than 10 miles to the northeast of Vandenberg Space Force Base’s “South Base” of active Space Launch Complexes (SLCs). The elevated plateau within the Ken Adam Park parcel provides a panoramic viewshed for launches. Space Base California will be an experiential nexus offering an exciting “off-world” daytrip for guests, immersive role-playing challenges for students on field trips, and extended multi-day overnight missions that put survival and sustainability in space to the test. This robust portfolio of multi-sensory simulations and scenarios will be scalable across age-groups, grade levels, abilities, and expertise making each challenge realistic, authentic, and mission-critical for the guest. Discovery will be an active, exciting, and immersive experience where the doing is the learning. Everyone will have an important role to play, decision to make, job to do, task to complete.

The space exploration story here will be future-facing and, while respectful of past achievements, not tethered to recounting its history. Instead, Space Base California is an immersive encounter with the realities of space exploration and what inspires guests to do next on their own individual journeys of exploration and discovery that will continue long after they have left. The mix of facilities, services, and attractions will be subject to ongoing revision and value-engineering but will provide guests with the opportunity to experience:

- Working inside a space-themed habitat performing immersive mission-based activities based on real off-world life support, communication, engineering, and teamwork challenges in order to succeed ... and survive.
- Viewing and interacting with astronomical imagery and satellite data feeds from orbit to better understand our home world and imagine how we’ll investigate other moons and planets in our solar system once we get there.
- Simulating microgravity in immersive off-world experiences as well as providing real-life mission practice for human space exploration and colonization using a combination of kinetic trainers and ride systems.
- Discovering how launch vehicles work and the science and engineering behind them including the option to purchase, build, and launch a model rocket.
- Learning about satellites, orbital mechanics, space debris, Earth observation, communication, navigation, and being able to design/assemble a mini satellite.
- Demonstrating how exo-culture hydroponics not only provide a laboratory for learning how to grow food in space but also generate ingredients used for Space Base food & beverage offerings.
- Enjoying the view of coastal California canyons at a themed rooftop bar and bistro restaurant that provides an elevated view of the Space Base campus, surrounding area, and VIP views of launches from Vandenberg SFB’s south space launch complexes.
- Taking on an outdoor challenge trail that tests the coordination, strength, intelligence, and resilience of future space travelers of all ages.
- Viewing VSFB launches from an outdoor observation plaza that also serves as an onsite function space for an active special event calendar supporting community gatherings, cultural events, wine tastings, outdoor movies, and space/science fairs.



## Concept Overview – Complex Alpha

Complex Alpha is the main visitor center and primary feature at Space Base California. It is being designed to provide a six to eight-hour visitor experience with high repeatability through variable content. Guest demographics will cover a broad range with families as the key audience segment.

### Main Entrance “Welcome to Space Base California”

**Story Beat: Here’s how we all will be part of the next generation of space exploration.**

Space Base California will provide on-site parking for 300 personal vehicles and 15 motor coaches. Immediately upon exiting the parking area, guests can find ticketing, restrooms (with themed space info audioscapes!), guest and group services, plus the security office and first aid station. The Resupply Shop features memorable souvenirs, space-themed products, and Space Base California branded merchandise. Wheelchair and/or stroller rentals will be located in this area.

**ESTIMATED DWELL TIME: 1-2 minutes**

### Central Concourse “What’s Within Reach”

**Story Beat: There were so many things to do, it was hard to decide where to start.**

Complex Alpha is an open campus built along a central concourse offering vistas of the rolling California canyon topography that surrounds the property. The concourse serves as a large public plaza as well as the primary circulation artery between major facilities. The hardscape design may feature the *Ecliptic Expanse*, a linear sculpture installation of our solar system to scale in size with graduated hardscape demarcations showing relative distances between the planets. Proper scaling allows all the planets to be within line of sight of each other as they share the ecliptic plane around the sun, yet appropriately represent the dramatic differences in size and distance to each other and from the sun. The Central Concourse is one of several possible locations for relocating the existing Astronaut Memorial currently located in Ken Adam Park and can also serve as an outdoor function space for large events.

**ESTIMATED DWELL TIME: 5-8 minutes**



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## Hangar 01 “Where We’re Heading”

**Story Beat: It was the biggest view of outer space I’ve seen!**

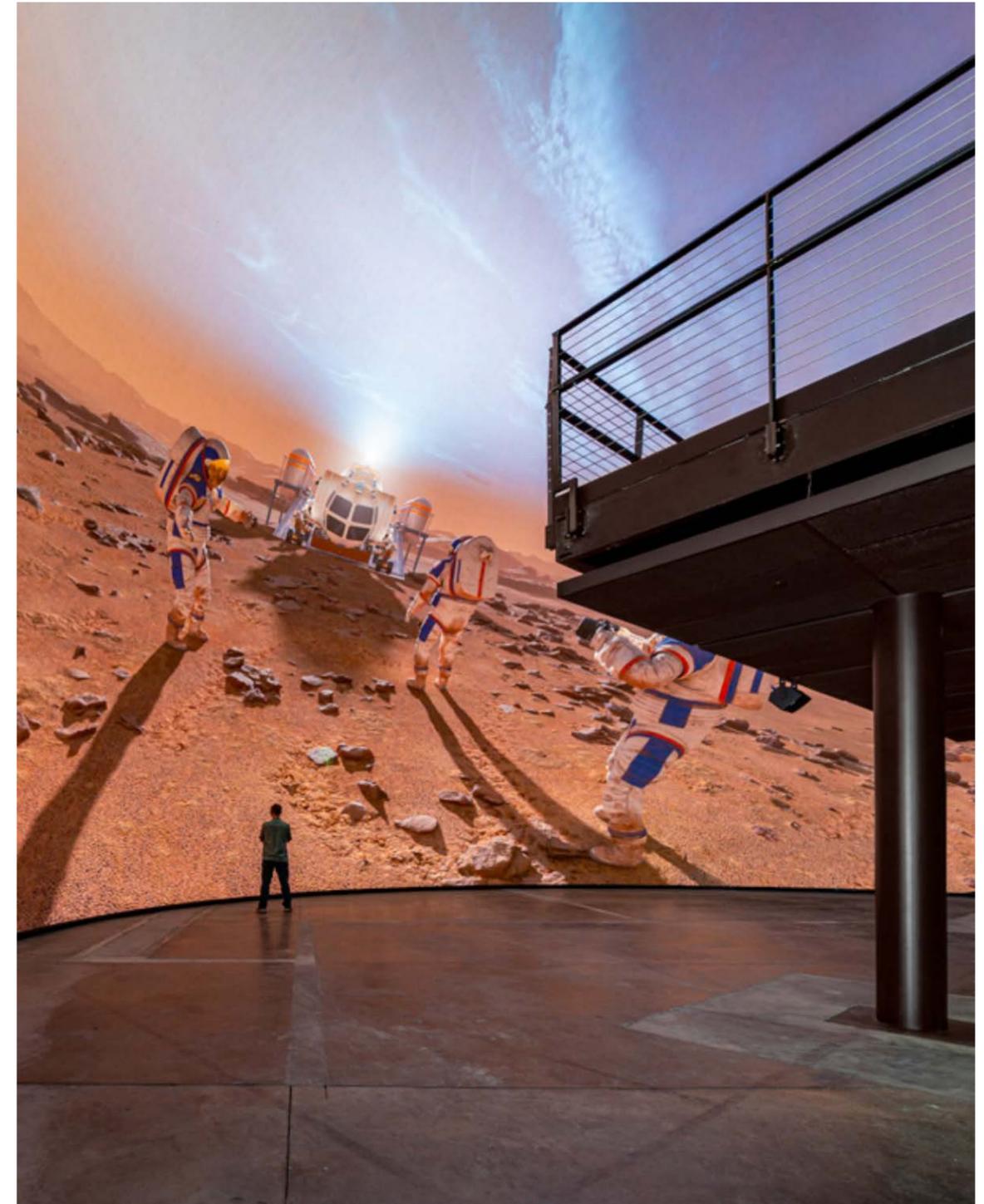
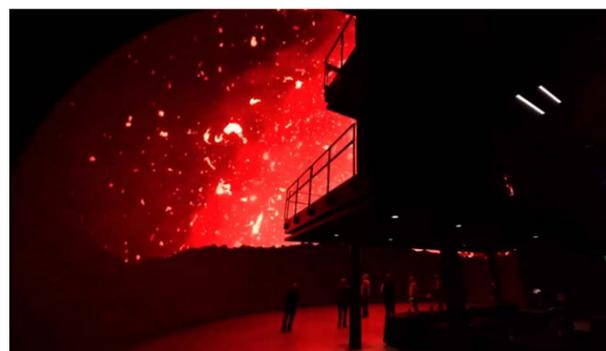
Hangar 01 is an approximately 8,000 sq ft facility which features a proprietary immersive, COSM theater environment that will be one of Space Base California’s featured attractions. The adjacent Hall of Space Innovations is a rotating exhibit space where NASA, JPL, and space industry leaders can tell their stories and showcase their product innovations. This area will also be part of a larger lobby area for guests waiting to enter the COSM theater, home to a spacesuit photo op allowing guests a digital photo op to appear inside the spacesuit model and in the off-world location of their choice. This is included as part of a larger lobby area for guests to wait to enter COSM theater. This facility also provides space for administration and operational back-of-house areas, staff offices, conference room(s), breakrooms, staff restrooms, and cash control.

## OmniDome “Eyes Wide Open”

**Story Beat: We saw what outer space really looks like!**

A spacious, immersive “holodeck” domed, real-time visualization environment, the OmniDome uses COSM technology to place guests anywhere in the cosmos utilizing a real-time rendering engine presenting actual scientific data and texture mapping produced by the world’s leading planetarium software provider and COSM’s proprietary CX Systems. One of two primary immersive theater attractions under consideration, the OmniDome’s 18-meter panoramic curved LED screen, is a unique multi-purpose environment allowing for receptions, seated presentations, and special viewing parties (i.e., major sporting events). In addition, COSM’s existing library of pre-produced space exploration and cosmological shows along with its ability to visualize high-resolution terrain mapping of Earth and other terrestrial worlds, as well as tap into live/archived feeds from some of the planet’s major telescopes, make it a tremendously entertaining, one-of-a-kind attraction for Space Base California guests. The OmniDome is a memorable, first-of-its-kind personal encounter with accurate recreations of off-world environments where the scientific data drives the show.

**ESTIMATED DWELL TIME: 15-18 minutes**



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### Hangar 02 “Where We’re Heading”

**Story Beat: It was the biggest view of outer space I’ve seen!**

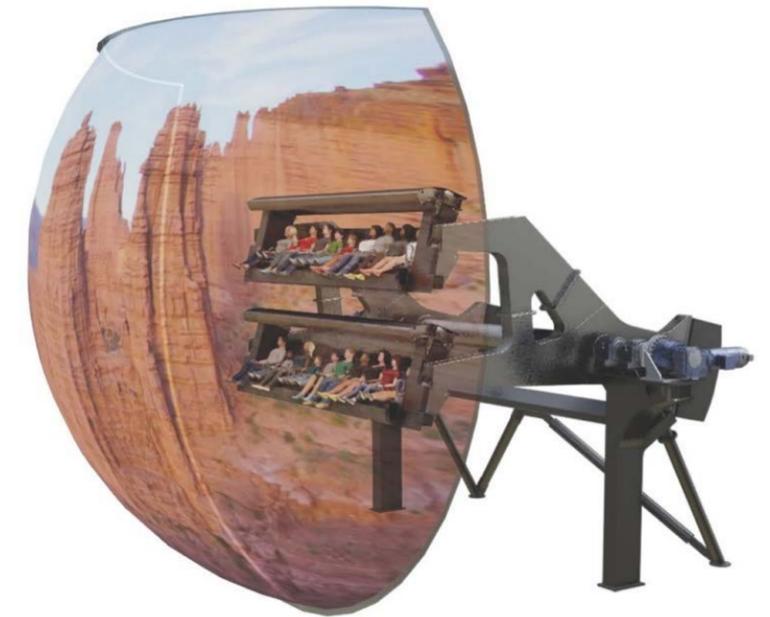
Hangar 02 is an approximately 6,000 sq ft housing a Dynamic Attractions “Flying Theater” along with pre-show queue line waiting area.

### Dynamic Flying Theater “Buckle Up & Head Out There”

**Story Beat: We flew across the surface of Mars!**

Another possible theater ride system, this additional capability may be free standing or a component of the OmniDome. It takes guests on a motion enhanced, “soaring” large screen tour over future space colonies on the moon or Mars, orbiting space stations, manned asteroid operations, or flyovers above the mapped terrains of moons and planets further out in the solar system. The ride system uses terraced seating rows plus wind, aroma, and water effects in sync with the large format video projection to give guests the sensation that they are really flying.

**ESTIMATED DWELL TIME: 12-15 minutes**



### Hangar 03 “Training For Flight”

**Story Beat: This is how real astronauts get ready for space travel!**

Hangar 03 is an approximately 10,000 sq ft facility that is home to Space Base California’s Flight Training experiences placed within a central atrium area featuring a series of mission training simulators shared by day guests, field trip students, and multi-day Camp Odyssey program participants. Typical ride & show elements could include:

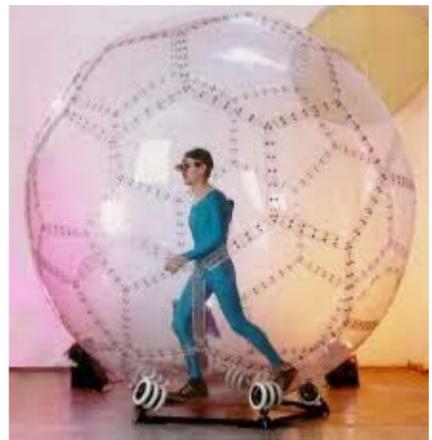


#### Multi-Axis Trainers “Test Your Limits”

**Story Beat: If you don’t keep your focus, you’ll quickly lose it!**

These kinetic trainers are used for testing physical stamina and mental focus under challenging physical conditions encountered during space flight. These single seat, gyroscope ride systems would feature a control panel to practice sequential console instructions while guests are rotating simultaneously across 3 different axes, disorienting the trainee.

**ESTIMATED DWELL TIME: 5-8 minutes**



#### Topospheres “Explore Other Worlds”

**Story Beat: I was literally walking on the moon!**

Using these systems developed for military combat training, guests don mixed-reality headsets and walk inside rotating spheres performing observation, geo-locating, or other human mobility activities depending on which surface mission on the moon, Mars, or an asteroid they are training for.

**ESTIMATED DWELL TIME: 12-15 minutes**



#### Personal Flight Simulators “Fly Solo”

**Story Beat: I was steering my own jet pack to complete a search and rescue mission on Mars!**

A simulation rig utilizing ParaDrop or JUMP attraction systems combined with VR media places guests inside a variety of off-world environments. These game-based experiences can include mission operations such as locating lost resupply shipments, searching for sub-surface ice deposits, or searching for alien lifeforms. The ride system would also incorporate kinetic stimuli such as air movement, heat, and other tactile inputs to further enhance the immersion.

**ESTIMATED DWELL TIME: 10-12 minutes**





### Counterweight Anti-Gravity Activity Wall “Lose those G’s”

**Story Beat: It was like I weighed nearly nothing at all!**

A counter-weighted harness rig that enables guests to move about feeling the sensation of micro-gravity and other less-than-Earth environments. Moving across simulated surface terrain and familiarizing themselves with working on the exterior of one of the surface structures creates mission-based activities for guests to challenge themselves to complete. The ride system will also incorporate several harness rigs as guests progressed from the training area to surface exploration, to mission activities along the exterior of a space habitat.

**ESTIMATED DWELL TIME: 12-15 minutes**



### Skyhopper Flight Sim Trainer “Aerial Flight Control”

**Story Beat: I earned my lunar pilot credentials!**

A flight similar chassis on a kinetic motion base combined with monitors providing a full peripheral view that puts guests in the cockpit of an aerial surface lander making its way across the Moon, Mars, or an asteroid mining operation. These mission-based flight simulations can include search and rescue operations, off-world surface transport, or supporting ongoing surface exploration. The ride system would also incorporate movement with the motion base along with audio interaction with flight control and other operators on the surface to amp up the stressors and enhance the reality of each mission.

**ESTIMATED DWELL TIME: 12-15 minutes**



### Robotic Arm Simulators “Time to Sweat the Details”

**Story Beat: It felt like we were actually out in space trying to locate the resupply capsule before dark.**

The Dynamic Attractions RAM360 Robotic Arm Motion Simulator is a hybrid multi-axes trainer that creates unique, interactive, and immersive experiences that challenge guests and campers to execute control commands and maneuvering functions while being fully disorientated across multiple axes of motion. By creating a motion profile that moves guests through complex paths and choreographed movement sequences that are synchronized to show elements, scenery, and near-field projection screens, each two-seat robotic arm mounted cockpit gives guests the chance to actually “pilot” a mission defined by specially created imagery on a near-field mini-dome projection system. Guests and campers can practice implementing instructions from Mission Control on the command console in a close-confined capsule environment as they perform important mission activities on the moon, an EVA in low Earth orbit, on the surface of Mars, or at a mining operation on an asteroid. Multiple mission profiles would be created over time for high repeatability. Training” activities are allowed to operate at higher G-forces in California than for “entertainment/amusement” purposes and these ride systems also provide dual-functionality as a low-G centrifuges by fully extending the arm and rotating around its base.

**ESTIMATED DWELL TIME: 20-24 minutes**



**Hangar 04 “Interplanetary Dining”**

**Story Beat: Fun to eat like people will once we truly venture out into space**

Hangar 04 is an approximately 11,000 sq ft facility. The 1<sup>st</sup> floor Nutrition Science Café will offer quick service indoor dining and a large exterior patio. Amid the dining area are hydroponic cultivation chambers demonstrating how food might be cultivated off-world. These agricultural testing installations not only advance the science of sustaining dietary nutrition and medicinal herbs necessary in space, but also support production for some of the culinary ingredients used in Space Base California’s food and beverage offerings. A back-of-house central kitchen will prepare all food items available at Space Base California. The Terra Bistro provides a more upscale, full-service dining experience on the 2<sup>nd</sup> floor that is available as special event flex space to host parties and banquets. Lift Off!, a rooftop bar, provides an elevated view of the entire campus from its spacious outdoor deck as well as a VIP location for watching launches from Vandenberg SFB. Hangar 04 has direct access to the perimeter service road for deliveries and to locate a dedicated service yard.

**ESTIMATED DWELL TIME: 25-30 minutes each with possible multiple visits during the day**

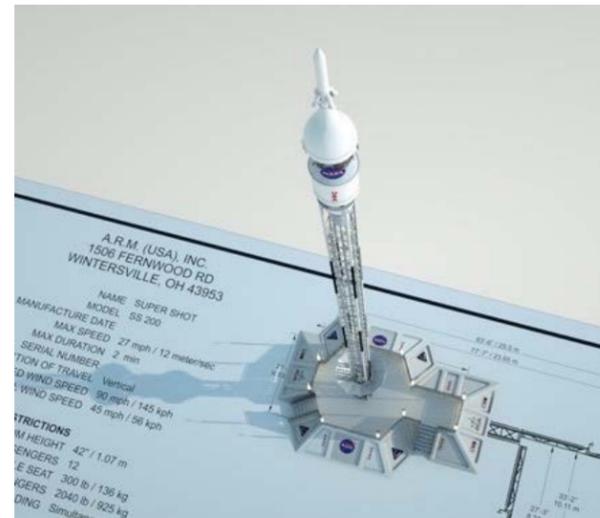
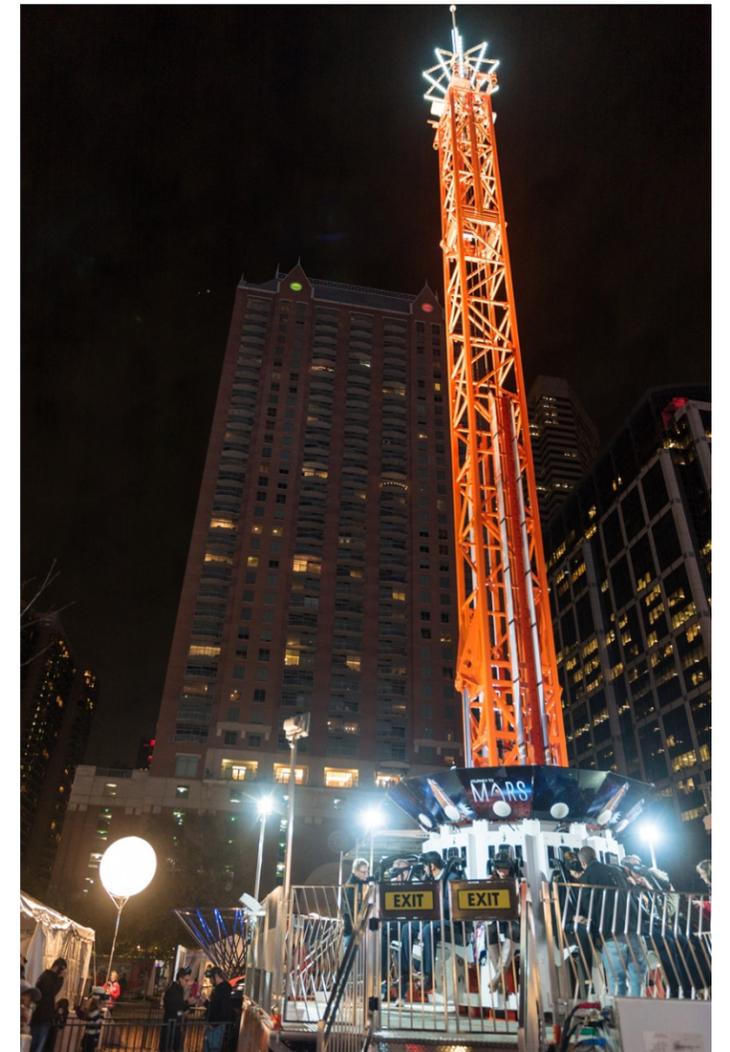


**VR Microgravity Tower “Augmented Reality Thrills”**

**Story Beat: We lifted off and landed on the moon!**

This is a 140ft drop tower ride system with appropriate space exploration theming. Using a proprietary system pioneered by IDEAS for Super Bowl 51, the drop tower would have an augmented reality media program synced to the ride system giving visitors the sensation of traveling back to the moon and returning to earth. Several VR experiences could be produced to create a portfolio of different ride adventures for day guests and Camp Odyssey participants, field trip students, or special event attendees. One option includes installing the drop tower atop a two story building where guests would mount the seating ring on the second floor, but after reaching the top of the tower and then plummeting down to the ground, the walkway panels around the loading level would retract and guests would actually drop down to a hidden ground level post-show area. Post-show options include a walking tour of a subterranean lunar habitat or a presentation on NASA’s Artemis program and our return to the moon.

**ESTIMATED DWELL TIME: 18-20 minutes**



Exploration Station **“ROVER EXPLORATION ROAD TEST”**

**Story Beat: I drove a rover across Mars ... and I'm only 12 years old!**

This 4-person capacity, trackless, guest-operated surface vehicle experience is located within the bermed confines of a Mars-like terrain. Each guest controls a specific function; steering, speed control, navigation along the course, or communicating with Mission Control during the excursion. A portfolio of mission objectives allows guests to choose or be assigned a task-order prior to commencing the experience. The rover course uses natural topography features, rock formations, space colony structures, and other natural and themed obstructions to maintain a safety perimeter and experiential boundary for guests piloting the vehicles. A special nighttime mission might leverage the rover vehicles as shuttles for transporting overnight park guests or multi-day campers to an outdoor dark sky venue not accessible during daylight operations. There may also be an opportunity for a motion-platform version of this experience as a training simulation for guests and students to practice operating the rover prior to actually taking on the course as part of the mission training activities inside Hangar 03.

**ESTIMATED DWELL TIME: 25-30 minutes**



**Explorer Trail “Personal Endurance Test”**

**Story Beat: We launched rockets, flew drones, and played inside a real inflatable space habitat!**

This winding trail through Space Base California’s open canyon country serves as both a circulation path and an adventure course with exciting activity stations along the way. *Training Pods* utilize a person’s body weight for isometric and/or gravity forms of space fitness exercise with explanations for how the human body adapts to microgravity environments. *Gravity Gag Stations* enable guests to feel the difference between lifting the same mass on Earth (1g) compared to that same mass on the moon (0.165 g), Mars 0.379 g), Jupiter (2.528 g), or the Sun (28.02 g) using block and tackle pulleys and counterweights to reinforce or reduce the actual weight of the object. *Remote Rover Corral* gives guests a shot at driving a robotic rover through a simulated scaled Martian terrain navigating the topography and overcoming a signal delay to fully appreciated how JPL does it for real. Making use of the existing ravine geography on property, the *Range and Drone Aviary*, an onsite, concrete pad for launching model rockets purchased at Space Base California as an upsell activity for park guests and included as part of certain Camp Odyssey multi-day packages. *The Rendezvous*, a secret meeting area for guests, campers, and students serving as a special event outdoor F&B area at night, space-themed lie-in theater, or a simple gathering spot for a late-night bonfire and storytelling.

**ESTIMATED DWELL TIME: 35-40 minutes**



## Concept Overview – Observation Plaza

**Story Beat: We watched the live rocket launch and stayed for the party afterward!**

The Observation Plaza is located atop the property's southern mesa. This hardscape special event venue will feature a permanent stage on the eastern end facing onto the plaza as a location for special events, private functions, launch viewing parties, and community festivals. This stage will accommodate portable bandshells and rented stage truss rigging installations. The open air stage will have hardwired internet access for livestreaming with video projection support provided as an outside service as required. Permanent public restrooms and utility stub-ups will support food trucks around the perimeter of the plaza ensuring cost-effective services for any type of public or private event.

The plaza provides a community asset for hosting seasonal events, cultural celebrations, music and art festivals, as well as science fairs, robotics competitions and other special events. Paved access to a small parking area behind the bandshell will enable support vehicles to set-up for shows, provide access for ambulances to be onsite during public events, and allow food truck access for special events. Attendees can walk from the Space Base California parking lot along a re-routed trail that connects the southern mesa with the primary park property. This trail can also be paved to allow for golfcart type shuttle service between the parking lot and Complex Alpha to the Observation Plaza.

**ESTIMATED DWELL TIME: 25-20 minutes, 1-2+ hours on event days**



## Concept Overview – Camp Odyssey

### **Story Beat: Prepare, plan, practice, and perform real off-world missions!**

This multi-purpose training facility is home to Space Base California's unique Camp Odyssey immersive education programs. The Sim Lab is designed to host multiple cohorts with assignments spread across a rotation throughout the facility's experiences. Camp attendees may be individual middle and high high-school students, family groups, adult learners or participants in 5<sup>th</sup> and 6<sup>th</sup> grade science camps required by the State of California. In addition to specialized training events at Camp Odyssey, campers will take part in focused learning activities utilizing other Space Base California facilities. The heart of Camp Odyssey is the Sim Lab featuring biological research/medical monitoring, environmental research, life support, engineering, and operations bays for this functional off world space habitat. The Sim Lab also houses camp staff offices and a conference room for instructors, muster spaces and meeting areas for participants, and a common galley area for meals and "in story" mission briefings. Some Camp Odyssey programming will be available to park guests in off-peak periods as an upcharge for an exciting 2 to 3-hour immersive off-world experience.

Camp Odyssey's portfolio of immersive learning experiences and enrichment programming will feature:

- Half day missions that let park guests spend several hours inside the Sim Lab and focus on a particular challenge to solve much like an Escape Room experience, but heavily themed for off world survival and involving real science and active space habitat operational situations and alert/emergency scenarios.
- Full day field trip excursions for area students that are scaffolded by age or grade level and include a Sim Lab mission adventure as well as other experiences within the park.
- 3-day science camps where students are organized into cohorts by age, and experience multiple immersive STEM adventures within the Sim Lab, Aqua Lab microgravity team trainer, and elsewhere across Complex Alpha. These would also include overnight lodging onsite at the HAB and exclusive evening activities onsite.
- 3-day premium camps for families, friends, and colleagues to experience multiple immersive STEM adventures within the Sim Lab, Aqua Lab microgravity team trainer, and other locations within Complex Alpha. These would include overnight lodging onsite in Earth Base accommodations and exclusive evening activities onsite.
- Longer duration programs leveraging the Sim Lab, Aqua Lab microgravity team trainer, other Complex Alpha facilities, and possible offsite training excursions for specific audiences as opportunities may present themselves.

**ESTIMATED DWELL TIME: 4+ hours**

## Camp Odyssey- "Preparing For Space"

- Day 1: Flight Test, Rover Course and Rocket Range
- Day 2: The Sim Lab Mission Simulation
- Day 3: Micro Gravity Trainer and Graduation

### Program Includes:

- Facilitated Instruction in Sim Lab
  - Engineering, Life Support,
  - Environmental, Bio Research Labs
- Meals
- Overnight Lodging in THE HAB Module
- Odyssey Crew Shirt
- Transportation to all destinations
- Certificate of completion & Mission Patch
- All activity materials and supplies

Elementary  
Middle School  
High School

Family Groups

Adult Groups



# Space Base California Project Summary

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## The Sim Lab

Space Base California's primary mission training facility, known as the Sim Lab, is home to a unique portfolio of Camp Odyssey programming. With their assignments spread across a rotation of the Sim Lab's science laboratories and engineering workshops. Thematically, all areas within the Sim Lab will use the same durable wallpaper/ceiling tile treatments to visually convey a sealed space colony habitat environment as well as a similar durable floor surface. The modular Sim Lab facility will feature the following kinds of facilities and activities.



### Arrival Area

This entry area includes a reception lobby, restrooms with lockers, a small retail kiosk for "Camp Odyssey" merchandise, a sales and admin office area with supply storage and breakroom, and a themed portal airlock for entry into the Sim Lab's interior. This area establishes a "Mars-era", aesthetic and serves as a visual boundary between being on Earth at Space Base California and stepping into the mission story envelope. This area can also serve as an entry or greeting point during special events.

### Crew Stations

These "classrooms" are equipped as working lab spaces, each with its own area of concentration:

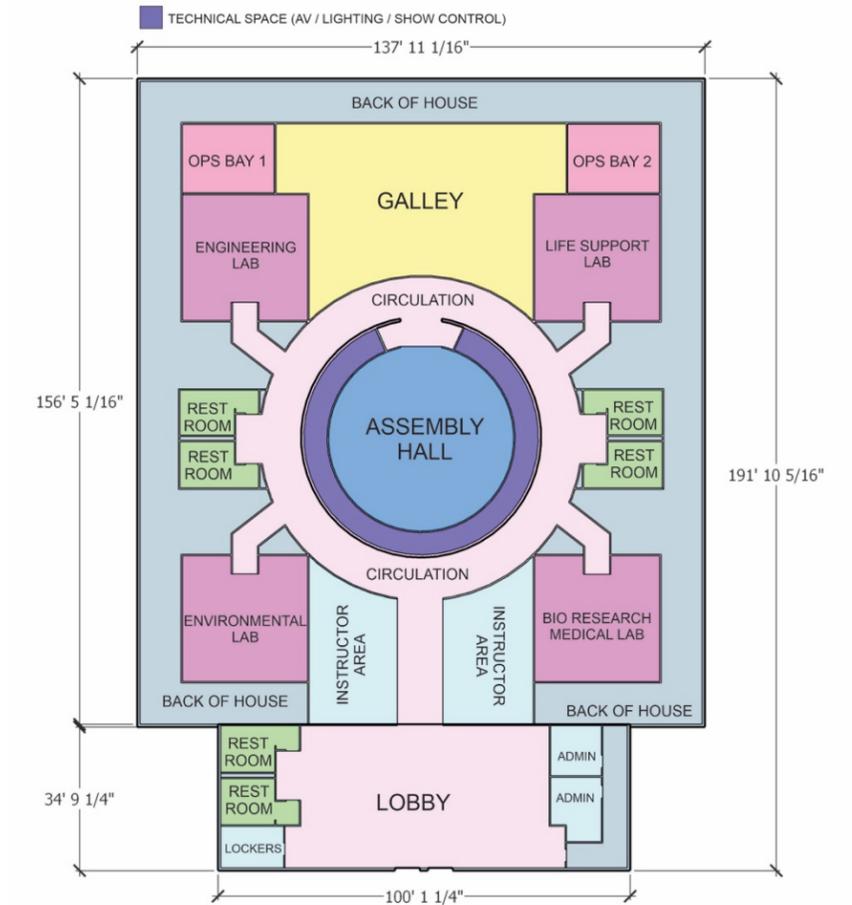


**BioScience Lab** – Focusing on biological research/medical monitoring, environmental research, and investigating alien life forms, it is the primary biological, environmental, medical, and xenobiology (alien life forms) research facility. Activities in this area could include monitoring exterior environmental conditions, monitoring vital signs of fellow crew members, and the investigation of signs of alien life.



**Life Support** – Focused on air supply and purification, water storage and recycling, and food generation this station is responsible for assuring that Sim Lab supports life inside the facility and serves as the mitigation planning and contingency solution design team for mission training events. Activities in this area would include the cultivation and management of crops and other nutritional resources, monitoring air and water quantity and quality, and the management of sustainable environmental conditions including recycling, thermal stability, and radiation protection.

**Engineering** – Handling all equipment/facility repairs, power generation and storage, and transportation, this is the hands-on, builder/maker space. Activities in this area would include design, build, and test activities to solve specific challenges or obstacles. The Engineering Lab will have worktables, robotics gear, 3D printers and other practical tools.



Conceptual floor plan of the Sim Lab



## Space Base California Project Summary

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**Mission Ops** – Tasked with maintaining communication with Earth, all Sim Lab operations, and overall facility safety, Mission Ops is the operational nerve center during mission training events. Activities in this area would include command and control, leadership decision-making, situational monitoring, and communications. Console stations will include touch screen displays with capabilities for accessing information and interacting with the situational scenarios that occur during mission events. Consoles will also display the Sim Lab’s current alert or operational status to amp up stressors during mission events and maintain the willing suspension of disbelief.

### Crew Muster

Crew Muster is a central meeting location to gather, receive instructions and announcements, media presentations, live speaker and video conferencing events, mission briefings, and chaperone staging. This would be where graduation ceremonies occur at the end of each Camp Odyssey training experience. Hidden storage built into the exterior walls of this meeting room provides additional space to store equipment and materials. Activities in this area can also be held during mission events.

### Galley

This is a flex space for mission debriefs, informal assemblies, and game time as well as providing group dining capabilities and a secondary gathering place where participants break for meals while remaining “in story and on mission”. This dining and assembly area provides all meal service to campers and serves as a catering prep area for special events. Participants are seated at tables with fixed seating. Meals during mission events are envisioned to convey a thematic consistency with being “on mission” and incorporate appropriate MRE and lab-grown functionality, microgravity-friendly packaging, and the potential to re-hydrate a dessert allowing for absorption time and re-constituting of the dish while eating the other portions of the meal. An alternate option would be for them to reconstitute an edible item that they might later eat as part of the mission completion celebration.

### Instructor Facilities

Onsite instructors at the Sim Lab will require dedicated onsite instructor offices and team meeting space separate from classroom and participant areas. This includes individual workspaces within each lab facility as well as a backstage office area with touchdown spaces/cubicles for instructors out of sight from mission participants.

### Back of House

The Sim Lab will also require dedicated back-of-house support for custodial, food receiving, plus an onsite maintenance facility with outdoor storage containers and a service yard.



**The HAB - Camp Odyssey Housing**

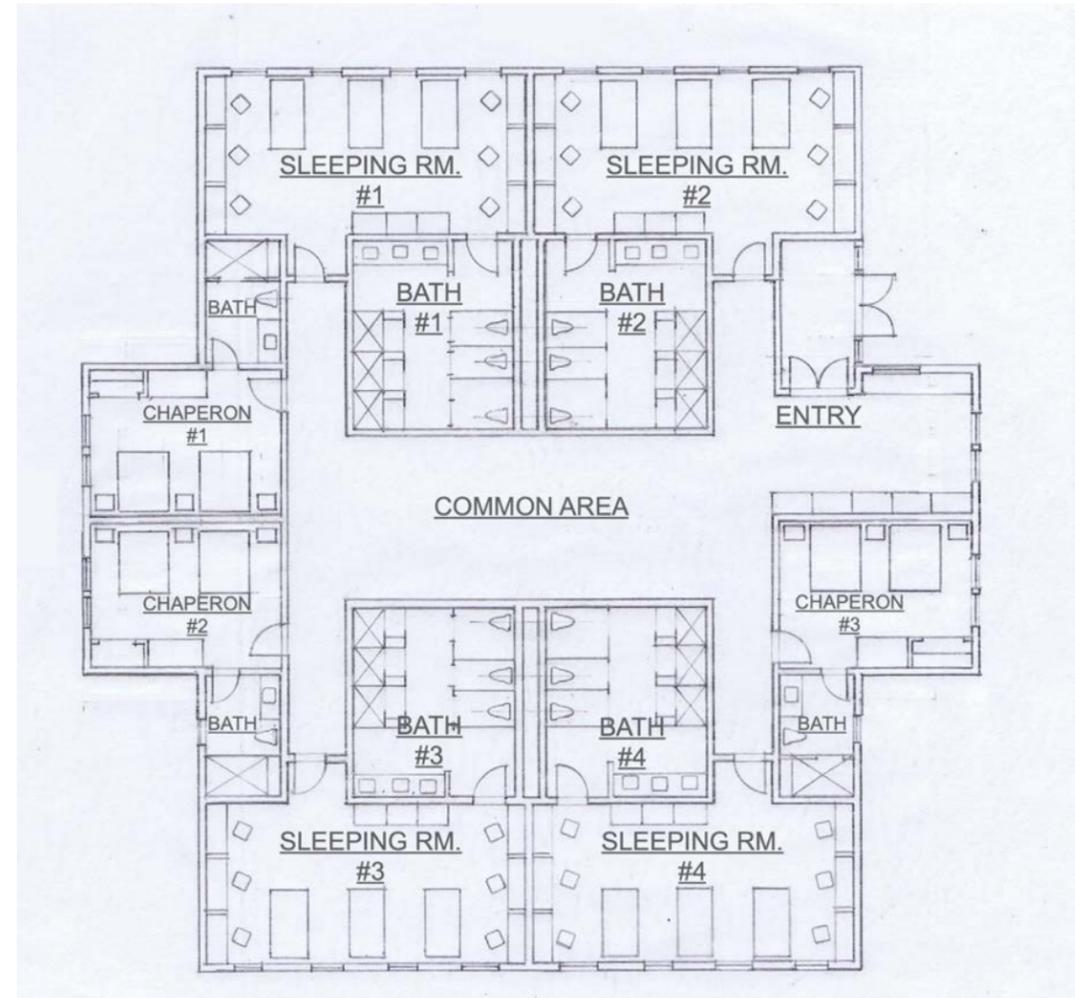
**Story Beat: We ate, breathed, lived, and slept living off world the entire time!**

The “HAB” will be dedicated, secure, overnight accommodations for campers in 6-person pods for students along with individual rooms for chaperones and teachers accompanying them for Camp Odyssey programs. HAB lodging structures will be comprised of “accommodation pods” echoing the modular space base/barracks aesthetic of the rest of the park. These pods will be themed as prefabricated structures assembled on site. Materials will likely include modular panel systems in light and neutral colors, inflatables, and repurposed cargo containers. Lodging pods for multi-day campers may also include access to a guest laundry room.

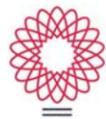
Common areas for both onsite lodging accommodations may include lobby, concierge, internet center, meeting rooms, guest pantry, and breakfast bar/dining areas which could convert into a happy hour lounge in the evening.



Conceptual rendering of HAB lodging pods securely clustered behind Sim Lab for Camp Odyssey students



Conceptual HAB Pod lodging floor plan for Camp Odyssey  
(dual bunk beds for 6 campers per room, plus double rooms for adults that can accommodate up to 24 campers and 6 adults in each pod)



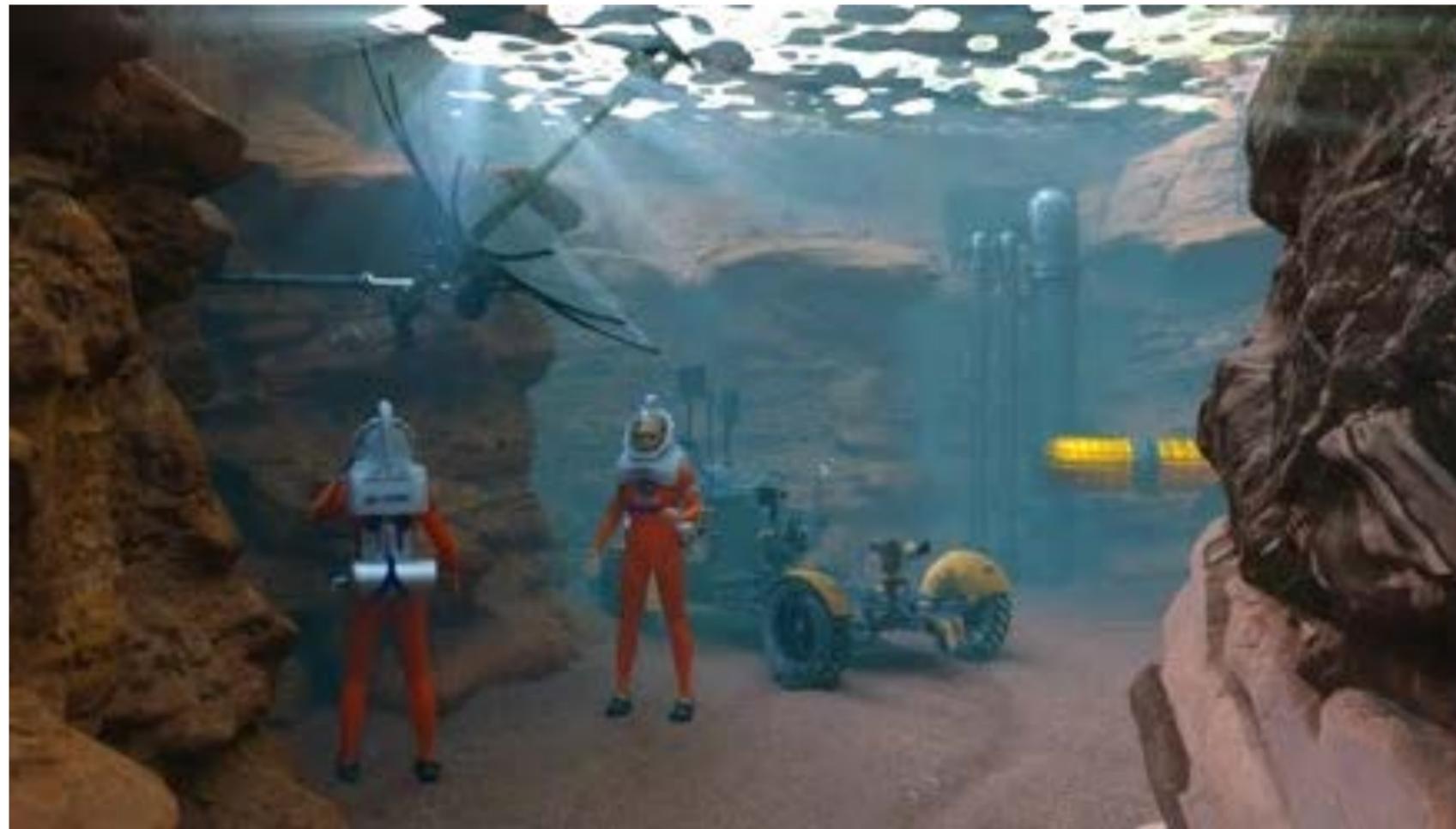
**Aqua Lab Microgravity Team Trainer (MGTT) “Underwater Mission Rehearsal”**

**Story Beat: This was the real deal ... walking around and completing the mission on another world!**

The Aqua Lab microgravity team trainer is an underwater, immersive experience featuring SeaTREK breathing helmets to provide guests with air and comms without the use of a regulator or the need for SCUBA-certification. Modeled on NASA’s famous Neutral Buoyancy Lab at the Johnson Space Center in Houston, the Aqua Lab’s Microgravity Team Trainer (MGTT) experience would enable astronaut “trainees” to be tasked with training missions to repair equipment, retrieve raw materials of scientific samples, or conduct a search and rescue operation, in a simulated micro-gravity environment.

Viewing areas from the pool deck and a below the surface window allow guests to watch groups participating in the microgravity training tank experience. The Aqua Lab water tank will also include an orientation presentation area for safety instruction, changing rooms with lockers to don and remove wetsuits and helmets, and a gear storage and repair space. The depictions on this page present a heavily “space fantasy” themed scenic concept. Actual Space Base theming will be more practical and realistic.

**ESTIMATED DWELL TIME: 75-90 minutes**

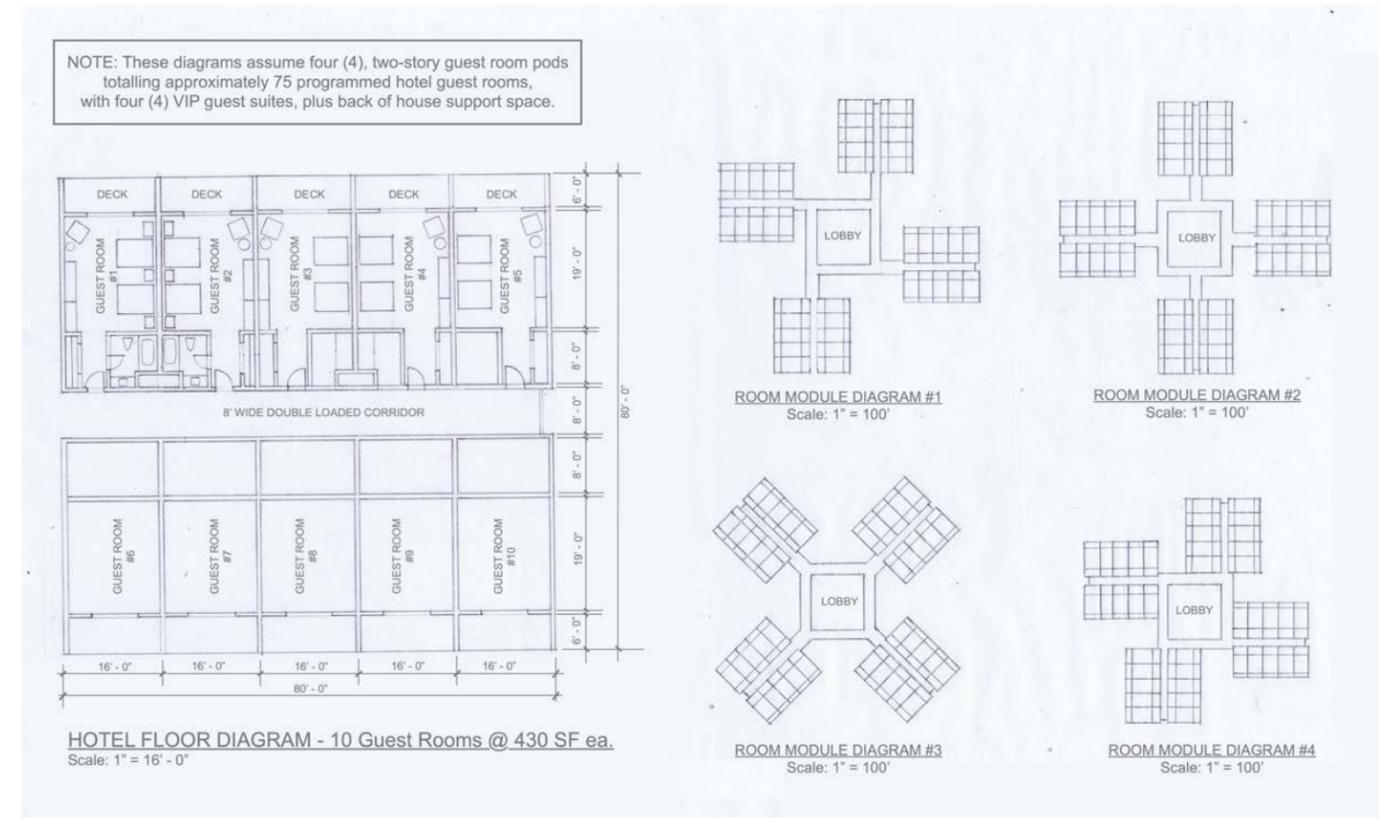


### Concept Overview – Earth Base Lodging

Space Base California will offer a unique overnight stay experience. The “Earth Base” will offer 75 rooms with attractively themed 3-star accommodations including single king or two queen bed options along with family-style rooms featuring drop-down “Murphy beds”. Earth Base will continue the park's techno-industrial design aesthetic to keep overnight visitors “in story” during their stay. The appeal for visitors is to have the experience of staying at Space Base California “after hours”. Exclusive nighttime programming and experiences will include VIP access to restaurants, use of the Rendezvous for exclusive sunset and wine and star parties, and other special programming along with early access to Complex Alpha and preferred reservations for the Aqua Lab’s Microgravity Team Trainer experience.



Conceptual rendering of Earth Base lodging facilities at Space Base California

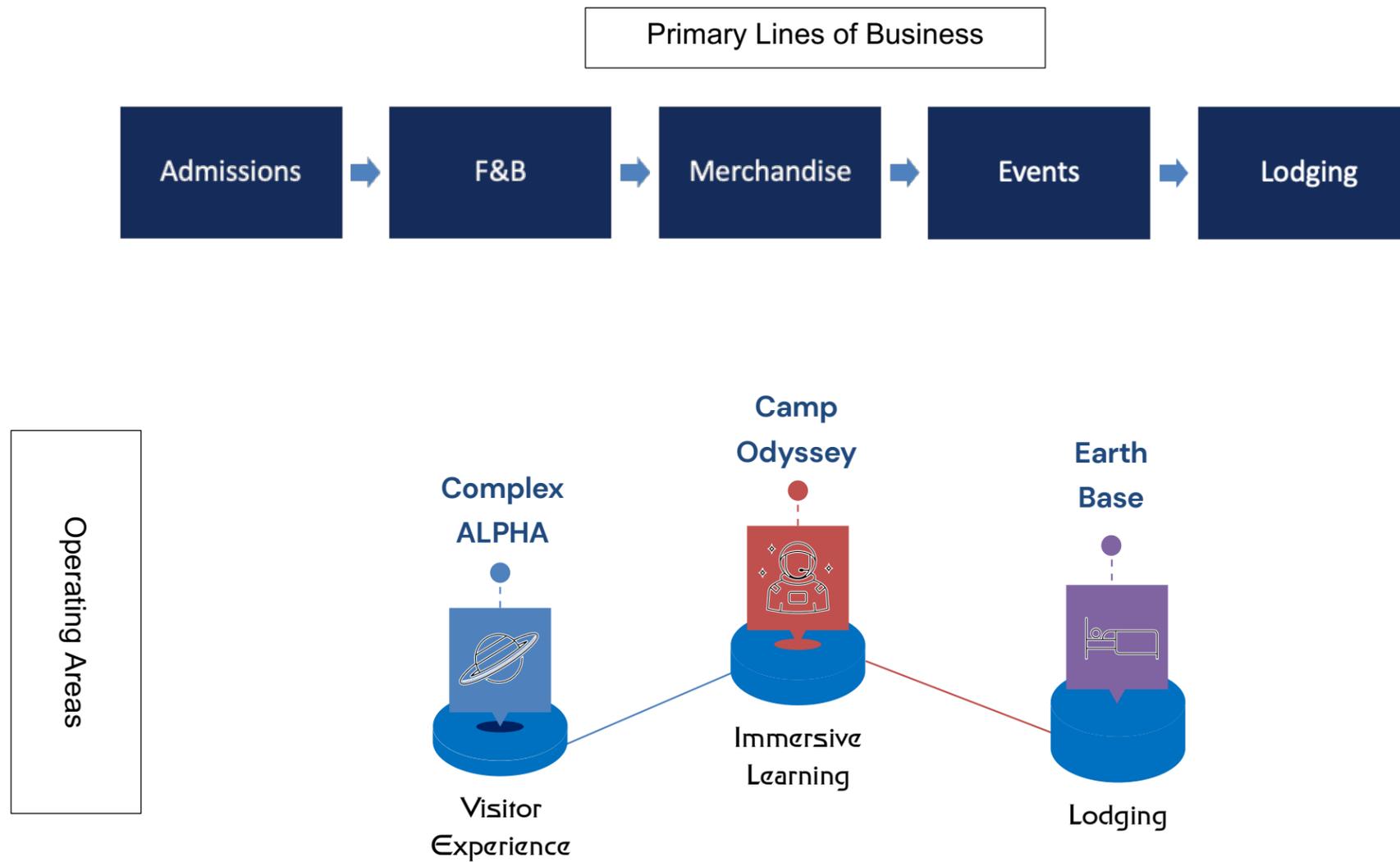


Conceptual Earth Base lodging floor plan



# CONCEPT OF OPERATIONS

Space Base California is envisioned as a single, owned and operated destination with the following high-level structure. Third-party “operating participant” agreements may be developed for specialty and non-core back of house services.



## Retail

Space Base California will deliver unique merchandise experiences across a range of retail offerings. A gift shop in the main building will offer branded merchandise, keepsakes, and apparel. Retail carts near popular attractions will provide guests with themed merchandise and apparel to memorialize their exciting experiences while still basking in the afterglow. An onsite retail kiosk at the Sim Lab will offer branded merchandise, mementos, and apparel themed around its immersive Camp Odyssey programming. Toys, mementos, and merchandise will be future facing as well as anchored into the exciting advances being made today in space exploration. Onsite overnight guests will also enjoy hassle-free and convenient shopping privileges with complimentary package delivery and guest pickup at the concierge desk of Space Base California's Earth Base lodging accommodations. There are also options for providing guests with the opportunity to purchase appropriate local goods, crafts, and handmade items from onsite vendor retail locations to promote regional culture and craftsmanship in a low-pressure, entertaining, and enjoyable experience. Establishing, communicating, and training Space Base California brand standards for all 3<sup>rd</sup> party vendors will be essential to the maintain the guest experience and enable them to retain permission to sell their goods on property as long as they maintain those service standards.

## Food & Beverage

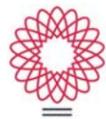
Space Base California will have tasty and distinctive onsite cuisine ranging from family favorites to upscale dining. The unique twist to eating here is the manner in which many of the food items are cultivated, prepared, and served according to practices and possibilities for how food will be grown, stored, and consumed off world. Not tubes of nutrient-rich consumables like in the early days of NASA, but forward-looking ingredients featuring hydroponically grown organics, synthesized proteins, and gastronomic chemistry. The science of modern food and beverage will be on full display at Space Base California. Themed lunch boxes for school groups at the Sim Lab, cosmic cocktails upstairs at the rooftop bar, full service dining at Terra Bistro, and space-inspired culinary creations at the Nutrition Science Café quick service restaurant will take guests on an out of this world dining experience. The region's rich source of fresh fruits and vegetables, fine wines, and farm to fork produce will be the pantry from where Space Base California will try to source many of its recipes. The influence of California's many diverse cuisines gives Space Base California F&B a broad platform of familiar favorites to interpret with a unique space exploration twist.

## Festivals & Gatherings

Space Base California is a celebration of human space exploration and the democratization of space travel for all. It is a gathering place for followers and believers to witness the continuing exploration of space with the ever-increasing launch schedule at Vandenberg SFB's space launch complexes (SLCs) along the South Base coastline. However, it will also operate a regular special event schedule for community events, cultural festivals, science fairs, and concerts as a source for additional revenue. Additionally, Space Base California is a great location for corporate events, meetings, and seasonal parties. By partnering with established 3<sup>rd</sup> party providers and event operators, it can avoid incurring additional capital expense in making these special event offerings available.

## Operational Modes

Detailed operational plans and guidelines for Space Base California will be developed during the subsequent Schematic Design phase. The following are conceptual observations on operational planning and staffing requirements. Space Base California will need multiple operational modes in order to efficiently address a variety of attendance patterns. These include day guests, overnight guests, and multi-day stays as well as special events onsite and community events. Operating hours, labor loading, permanent and part-time staffing mix, use of contractors, programming, F&B offerings, and other aspects of the Space Base California's guest experience will be affected by these different operational models.



## Partner and Sponsorship Opportunities

Pale Blue Dot Ventures, inc. anticipates robust relationships with aerospace, technology, entertainment, and education sponsors. Early discussions have included SpaceX, Boeing Commercial Crew, Blue Origin, and several non-aerospace companies. Other kinds of strategic partnerships will be developed. Examples might include:

- Hosting joint activities with Vandenberg Space Force Base and the Space & Missile Heritage Center on base, including public tour access from Space Base California and supporting school field trip visits with onsite activities such as launching model rockets assembled by students.
- Collaboration with the Lompoc Unified School District (USD) to develop classroom pre-visit/post-visit activities that integrate with the onsite field trip experience and align to State and national Common Core standards
- Working with space industry companies to develop a career prep onramp for students and visitors who want to learn more about jobs in the commercial and government space industries.
- Teaming with Lompoc City Council, the Lompoc Valley Chamber of Commerce & Visitors Bureau, and area businesses to align marketing and packaging opportunities with the area's other tourist destinations and supporting businesses.
- Working with Allan Hancock College, Cal Poly San Luis Obispo, UC Santa Barbara, SETI, NASA, aerospace companies, NewSpace entrepreneurs, etc. to promote certificate and degree programs supporting STEAM and space industry careers. Internships will be available to all Lompoc High School Juniors and Seniors with daily transportation provide by the School District. Allan Hancock College students will also have internship opportunities including the Collage's Hospitality Program.
- Lodging and food and beverage bundling with area hospitality companies to support multi-day regional visitation.
- Supporting tour and transportation operators with dedicated ease of access, parking, and driver services onsite.
- A Space Ambassador program activating at least one teacher from each area school as a resource for developing and delivering expanded field trip activities and instruction in the classroom
- Partnering with Amtrak for tour packages from the Los Angeles basin and San Francisco Bay area.



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## Appendix A – Project Research Summary



9+ out of 10 Appeal for  
Concept

### ***Space Base California is a highly appealing concept.***

The project is highly appealing across all consumer demographic segments. Potential visitors are looking for creative leisure activities emphasizing education with a broad age appeal.

**290K+ VISITORS**

### ***Project supports a ~\$114M investment for an immersive space attraction, Camp program and 75 key hotel.***

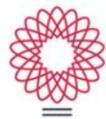
Estimated stabilized attendance of more than 290K for the attraction each year, plus roughly 9K Space Camp visitors. The EarthBase Hotel is estimated to book ~22K room nights annually, an 80% occupancy rate. Stabilization is expected in year three, with modest growth in subsequent years.

**\$38M+ REVENUE**

Baseline market research supports total revenues of \$38M+ at stabilized year three, with an expected 30% margin – \$23M from Space Base attraction, \$5M from Camp Odyssey, \$6M from EarthBase hotel and another \$4M in event programming and venue rentals.

**STRONG RETURN**

Project expected to generate a 15% return on equity assuming 40% equity investment to support the project and a total build out of ~\$114M.



## Appendix B – Economic Impact Summary

Regional Economic Impact Data from Integrated Insight. On an ongoing basis, the project generates a total annual economic impact (GDP) of roughly \$50M, supports more than 400 jobs, and generates more than \$800K in annual tax revenue to Santa Barbara County\*. A one-time impact of roughly \$100M and \$1.7M in tax revenue will be derived from the construction of the attraction and hotel. The one-time construction impact assumes the construction investment equals the supportable investment targeting a 15% IRR on equity invested.

400

JOBS

Project supports roughly 400 new jobs annually and \$800K in tax revenue to

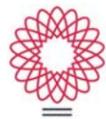
\$50M

ECONOMIC IMPACT

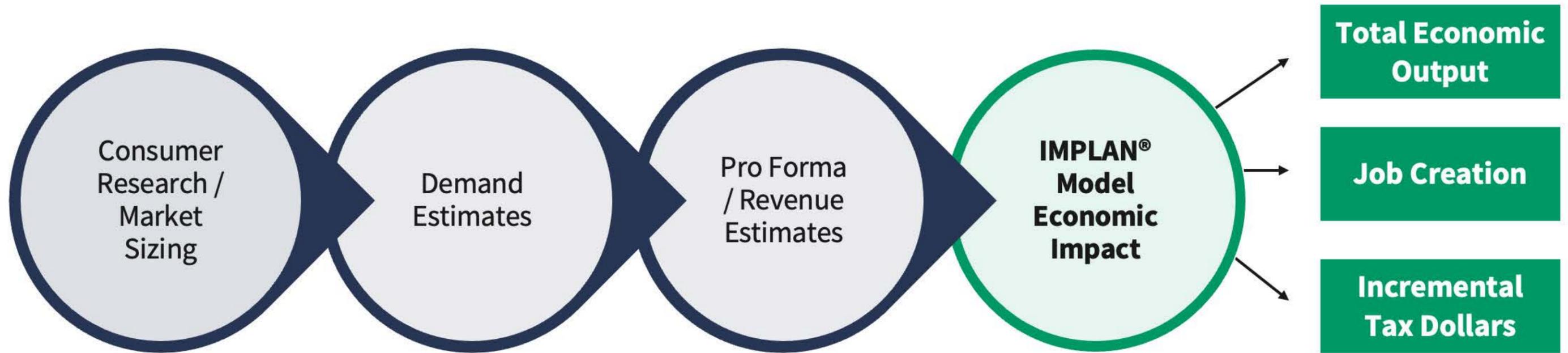
Total annual economic impact (GDP) of more than ~\$50M, plus an additional \$100M one time impact from

SPACE BASE CALIFORNIA ECONOMIC IMPACT						
	Ongoing Impact			One Time Construction Impact		
	Attraction Annual Impact	Hotel Annual Impact	Ongoing Annual Impact	Construction of Attraction	Construction of Hotel	Total Construction Impact
<b>Economic Impact (\$M)</b>						
Direct	\$22.0	\$5.7	\$27.7	\$51.7	\$13.7	\$65.4
Indirect	\$10.5	\$1.7	\$12.2	\$10.3	\$2.7	\$13.0
Induced	\$8.2	\$1.7	\$9.9	\$19.0	\$5.0	\$24.0
<b>Total</b>	<b>\$40.6</b>	<b>\$9.2</b>	<b>\$49.8</b>	<b>\$81.0</b>	<b>\$21.4</b>	<b>\$102.4</b>
<b>Jobs</b>						
Direct	238	50	288	422	112	534
Indirect	54	11	65	45	12	57
Induced	48	10	58	110	29	139
<b>Total</b>	<b>340</b>	<b>71</b>	<b>411</b>	<b>577</b>	<b>153</b>	<b>730</b>
<b>Tax Dollars (\$M)</b>						
Santa Barbara County	\$0.5	\$0.3	\$0.8	\$1.3	\$0.4	\$1.7
California	\$1.0	\$0.4	\$1.4	\$2.3	\$0.6	\$2.9
Federal	\$3.2	\$0.7	\$3.9	\$6.8	\$1.8	\$8.6
<b>Total</b>	<b>\$4.7</b>	<b>\$1.3</b>	<b>\$6.0</b>	<b>\$10.5</b>	<b>\$2.8</b>	<b>\$13.3</b>

\* Pale Blue Dot Ventures also estimates a City of Lompoc tax uplift of \$4M-\$6M per annum.



Integrated Insight combines a time-tested approach to demand sizing and pro forma development with the power of the IMPLAN® economic impact analysis model. IMPLAN® has more than 40 years of experience developing models and tools that inform economic analysis and is the leading provider of economic impact data and analysis.



Appendix C – Financial Summary

# Project Supports 15% Return on Equity At ~\$114M Build Out

- Based on market research, the 20-year pro forma shows the project returns double digits on equity, assuming modest growth and financing terms.
- The average 30% EBITDA margin is consistent with destination entertainment industry benchmarks stated by publicly traded companies including Six Flags, Merlin Entertainments, Disney, Universal Studios, Sea World and similarly sized privately held regional destinations in North America. Margins will vary by line of business.
- Pale Blue Dot Ventures is evaluating potential opportunities for additional IRR upside.

	Assumptions by Guest Type Year One							
	Camp	Retaamp	Educationter	Day Guest	Residenter Day Guest	Tounter	Overnight	Tourist
<b>Gate Admissions</b>								
Individuals	5.3	4.0	86	40	103			
Marquee Price	\$600.00	\$500.00	\$77.00	\$77.00	\$77.00			
Yield	90%	90%	70%	80%	85%			
<b>Retail</b>								
Retail Capture	35%	35%	35%	35%	35%			
Retail Per cap	\$15.00	\$15.00	\$20.00	\$20.00	\$20.00			
			\$30	\$14	\$36			
<b>Upsell (Buoyancy Tank)</b>								
Upsell Capture			2.0%	2.0%	2.0%			
Upsell Per Cap			\$150.00	\$150.00	\$150.00			
<b>Ancillary/Parking</b>								
Group Size	1.6	1.6	2.5	2.5	2.5			
% Parking	80%	80%	90%	90%	90%			
Ancillary/Parking Per Cap	\$0.00	\$0.00	\$10.00	\$10.00	\$10.00			
<b>FOOD &amp; BEVERAGE</b>								
<b>Seated Location</b>								
Food & Beverage Capture	0%	0%	10%	10%	5%			
Food & Beverage Purchaser Per Cap	\$25.00	\$25.00	\$25.00	\$25.00	\$30.00			
			8.6	4	5.15			
<b>QSR</b>								
Food & Beverage Capture	0%	0%	25%	35%	35%			
Food & Beverage Purchaser Per Cap	\$15.00	\$15.00	\$18.00	\$18.00	\$18.00			
			21.5	14	36.05			
<b>F&amp;B Carts</b>								
Food & Beverage Capture	10%	10%	25%	25%	25%			
Food & Beverage Purchaser Per Cap	\$10.00	\$10.00	\$10.00	\$10.00	\$10.00			
			21.5	10	25.75			
<b>Bar</b>								
Food & Beverage Capture	0%	0%	10%	10%	15%			
Food & Beverage Purchaser Per Cap	\$10.00	\$10.00	\$15.00	\$15.00	\$15.00			
			8.6	4	15.45			
<b>School Groups</b>								
Annual Count			65					
Per Person Price			\$45.00					
<b>Hotel</b>								
Number of Suites	Total		75					
Occupancy			80%					
Group Size			2.9					
LOS			2.0					
POR Revenue			\$275.00					

PRO FORMA FINANCIAL ASSUMPTIONS*	
Annual Rate Growth	3.0%
Volume Growth	2.5% First 3 years/ 1.0% Year 4+
Stabilized Revenue (year 3)	\$38.1M
EBITDA Margin	30%
Debt/Equity	60% / 40%
Loan Term	20 years
Interest Rate	7.5%
Discount Rate	15%
IRR	15%
Cash Return On Capital (year 3)	10%
Cash Flow	20 years
Payback Period	9 years
Terminal Value	10X EBITDA
Supportable Investment**	\$114.5M
<i>Space Base &amp; Camp</i>	\$97.2M
<i>Earth Base Hotel</i>	\$17.3M

\*Pro Forma Financial targets and debt terms provided and agreed to by Pale Blue Dot Ventures

\*\*Supportable Investment includes revenues from School Education Camps and Event Programming / Venue Rentals provided by Pale Blue Dot



## Appendix D – Educational Programs Overview

The shortage of skilled workers in Science, Technology, Engineering, and Mathematics (STEM) fields is at a crisis level. With the growing demand to innovate, organizations across various industries struggle to fill skilled positions. It's projected that there will be 3.5 million STEM jobs in the U.S. by 2025, and 2 million of those jobs will go unfilled, despite a national focus on STEM over the past decade. (Source: 4<sup>th</sup> Annual STEM Survey conducted by Emerson)

In order to begin to respond to this crisis, education must change. The curriculum that students receive needs a renewed focus on teaching math and science along with the 21<sup>st</sup> Century Skills of Creativity, Critical Thinking, Collaboration, and Communication. Students need “hands-on” experiences that allow them to work together to solve problems and develop a curiosity and thirst for learning new things.

A major area of opportunity both now and in the future requiring these skills is the space industry. “Space—once considered the final frontier and only accessible to a select few – is now home to the most dynamic and innovative economy on the planet. Today every community, infrastructure, and aspect of modern life is either acutely dependent on or indirectly affected by space-related technologies.” (Source – Center for Innovation and Education)

Through its Educational Programs, Space Base California will spark the curiosity of its student and teacher attendees in the Space Industry. This will start at the elementary level, and then inspire them to continue their interest and learning throughout their educational journey. Through a variety of programs, Space Base California will deliver space/science-based education and entertainment (“Edutainment”) to students of all ages. All educational programs offered at Space Base California will be aligned to the CA Common Core State Standards and the national Next Generation Science Standards (NGSS).

### K-12 EDUCATIONAL PROGRAMS

*(the following programs will be offered during the week within a traditional school year calendar)*

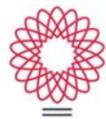
#### **Student Field/Day Trips**

Students from 4<sup>th</sup> through 12<sup>th</sup> grade will be able to experience a field trip to Space Base California. These programs will provide attendees a variety of activities throughout the park and include a mission for the day, where they will be placed in teams to problem solve space-based challenges.

Prior to their attendance, students will receive instruction regarding their mission, as well as the roles that they will assume during the simulation. All content will be based upon appropriate grade level standards. Upon their arrival at Space Base CA, students will be given their launch briefing for their teacher-guided mission. Their day will include a walk-through of Camp Odyssey as well as experiencing select park attractions. Students will be provided space themed lunches and refreshments as part of their experience. The day will conclude with a mission debriefing, and upon return to their school, students will be provided follow-up curriculum to aide in learning retention from their experience.

#### **Multi-day Overnight Visits/Camps**

The design for the multi-day overnight camp is based upon the CA Outdoor Education Program that 5<sup>th</sup> or 6<sup>th</sup> grade students across the state now attend. Students attending the multi-day overnight camps will stay in housing specifically designed for student groups, based upon California's Outdoor Education Model. Students will be assigned to a pod with rooms along with separate rooms for teachers and chaperones.



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The model is for a three (3) day, two (2) night Academy composed of three (3), one (1) day encounters which can be experienced in any order.

1. One full day in Complex Alpha with specific objectives for Space Edutainment. This will include a deeper dive into the engineering and science behind the visitor experience.
2. One day in The Sim Lab rotating through 6 stations to accommodate 6 classes at a time. Students will work “in story” and be placed in teams to solve critical mission challenges including the Aqua Lab’s Microgravity Team Trainer.
3. One day exploring a new planet – earth, but as though it was being visited for the first time using regional locations. Other outside space-based skills activities will also be provided.

All meals will be provided as part of the camp experience. Students will keep a digital journal of their experience. Nighttime activities including astronomical observations will be provided including critical in-story debriefing and discussion time at the conclusion of the day for each class to process the learning.

### **Additional Educational Opportunities**

Pale Blue Dot Ventures is in early discussions with a number of regional education and workforce development organizations. Discussions have included the following potential offerings:

#### ***High School Student Internships and CTE Programs***

The Lompoc Unified School District offers several Career Technical Education (CTE) programs for its secondary students. Space Base CA will partner with the district and provide opportunities for internships and unique on-site learning for these students. Students in these internship programs will be transported from both Lompoc and Cabrillo High Schools by District bus and returned to the two high schools at the end of the day.

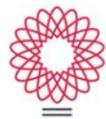
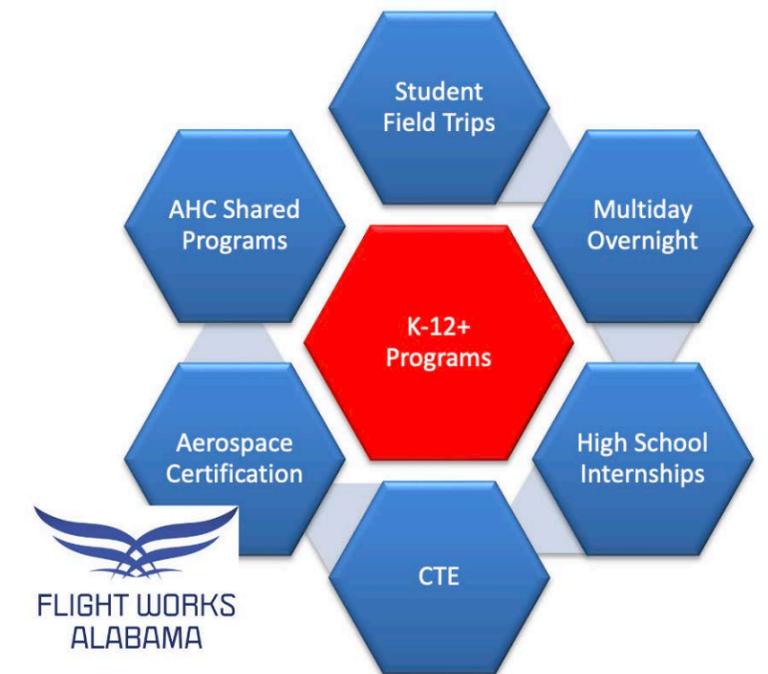
Some potential CTE Pathways include the following: Agriculture and Natural Resources Sector, Arts Media and Entertainment Sector, Engineering and Architecture Sector, Business and Financial Sector, Manufacturing Pathway, and Hospitality Industry.

A unique program currently operated in the Lompoc Unified School District (USD) is their Cabrillo High School Aquarium. Under the CTE and Intern models the concepts behind this totally student run program could be expanded into sections of the Space Base California. Additionally, the Cabrillo HS Aquarium could become part of a multiday overnight trip for visiting schools, with the responsibility for hosting and touring the facilities provided by student mentors.

As a result of this program, Lompoc Valley High School Students will have priority in the hiring process for weekend and summer jobs. These will be both part time and seasonal jobs.

#### ***Allan Hancock Community College (AHC) Shared Programs***

Situated next door to Space Base California is the Lompoc Satellite campus to Allan Hancock College (AHC). With a commitment to providing Lompoc USD Graduates free tuition for their first year, the college has a pledge to working with the local community. There are several opportunities for partnerships with AHC. Some of these include their hospitality, welding, and performing arts programs. Additionally, Hancock students could participate in internships at Space Base California.



***Aerospace Certification Classes Through Lompoc Adult Education Program***

The Lompoc USD has an extensive Adult School program which provides opportunities for working adults to continue their education while they are also employed in the local community. Adult Education students are able to complete requirements for graduation from high school, as well as several different certifications. The adult education program will add an aerospace certification program for High School Seniors and adults. This will be modeled after a very successful program at Flight Works Alabama that trains workers for the next-door Airbus final assembly plant in Mobile, AL. They have offered to provide all their class materials to the Lompoc USD at no cost.

**STUDENT AND ADULT SUMMER EDUCATIONAL PROGRAMS**

*(The following programs will be offered during the summer and holiday breaks)*

**Summer Day Academy For Local Youth**

The Summer Day Academy offerings for local students will provide similar experiences to the multi-day camp without the overnight stay. The academies will begin with a morning briefing at 9:00 am when the learning assignments for the day are introduced. Lunch will be included and team activities in the Space Base will conclude around 4:00 pm. Individual wrap-up activities and dinner will follow, before the students go home for the day. The second day the Academy will again begin at 9:00 am with a morning briefing, followed by exploring the new planet “Earth” and activities in the Academy training facility. Dinner and graduation would conclude the day.

**Girls In Stem Summer Camp**

The vast majority of workers in the STEM field, and particularly the Space Industry are male. This camp is designed to encourage more Girls to seek careers in the Space Industry. This multi-day overnight camp provides 4<sup>th</sup> – 8<sup>th</sup> grade girls the opportunity to experience many of the components of the multi-day outdoor education camp, with a focus on deeply engaging girls in the STEM fields. The camp will include guest speakers who are women role models within the Space Industry.

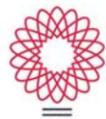
**Teachers In Stem Summer Intensive**

One of the biggest challenges in providing rigorous and engaging STEM instruction is that teachers, particularly at the elementary level, do not possess the content knowledge and skills to effectively teach this content. This multi-day, overnight experience provides teachers with in-depth training along with hands-on techniques for teaching STEM education. Open to any Kindergarten through 12<sup>th</sup> Grade teacher, elementary level teachers are particularly encouraged to be a part of this program. Teachers are encouraged to attend as school teams to help support continued sharing and work in this area throughout their school site. Follow-up activities and sharing throughout the year with fellow attendees will be encouraged.

During the Intensive experience, teachers will be participating in activities at Space Base California as though they were a student. They will be staying in the pods and enjoy evening activities together. Participants will be given behind the scenes access to the park, as well as the launch view areas, and other adult attractions .

**The Future**

We are ready every day to embrace and promote educational opportunities that support the future of space exploration and the new media and methods to teach it.



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