

REFLECTIONS A PART : ORIENTING TO A COSMOS OF STEWARDSHIP

JUST + MIG

PROJECT CONCEPT & MISSION STATEMENT

Stewardship and repair of the land is the artwork itself. We shine light on the processes of those already deeply engaged in this work of regenerating the site and the soul, enhancing and expanding its impact through all five senses and aligned to all four worlds – natural, spiritual, animal, and human.

The site interventions are designed with two objectives in mind: 1) to orient visitors to the land, to other human and non-human occupants of the site, and to their inner selves and 2) to support and enhance the regenerative grazing strategies and keyline design approach already in use to repair and revitalize the landscape and the ecosystems that comprise it.

Our three day onsite experience, talking with Skylar Skikos and walking the land with Jan Loeffler Bird and Lee Johnson, inspired a depth of appreciation and awe for this place and the regenerative vision they shared for bringing health and life to the soil, plants, and animals. Our explorations as a group led us to the lowest elevations, where long term erosion has generated magnificent, otherworldly forms and textures, but threatens the stability of the soil and species; and to the highest elevations, where views from the site's eastern edge reveal three directions of peaks - north, south, and west - and a wide, sweeping valley to the east. The peaceful middle ground, where horses and burros graze and cottonwoods indicate past and future water in the arroyo, is where we first glimpsed the power and meditative quality of the regenerative grazing strategy in action. After hours in the sun, soil, and wind, contemplating with Jan and Lee the grandness and vastness of the future and legacy of this site, we were struck by the sense that humans often see themselves as *apart from* nature, but are actually *a part of* nature. We asked: *How can our intervention encourage MEA visitors to move whole heartedly through a journey of site and self discovery, while better understanding our place and responsibility as a part of nature?*

Orienting to a Cosmos of Stewardship

Visitors to MEA Saddleback Ranch arrive through the front gate with the vastness and beauty of the expansive site and the legacy of ecological millenia before them. Through walking and observing the site, we identified **six sites** of interest where interventions occur that progressively orient the visitors to the site as it sits in the cosmos (in relation to sky, mountains, and culture), to the immediacy of the landforms and geology, to each other as part of a community, and ultimately to their inner selves.

The first site (the 7 Point Center) orients the visitors to the points and peaks of the Native American worlds - north, south, east, west, mother earth, father sky, and self. The second set of sites (the Groundstar Meadow, the Badlands Garden, and the Sonic Circle Aviary) orient the

visitors to Saddleback's unique landforms and plant and animal ecologies. The fifth site (Zuni Bowl + Talking Circle) changes functions depending on the season – rainy or dry – and speaks both to long-term ecological repair and to building stronger onsite communities. Finally, the sixth site (Vision Peak), the most remote and elevated location, is where the visitor looks both outward and inward and is re-oriented to the role of the self as part of - and inseparable from - the worlds, the ecologies, and the community. The concentric circle diagram is a reference to the expanding four levels of orientation, starting from the easiest-to-access 7 Point Circle and finally reaching the furthest and most difficult site, Vision Peak: orientation to worlds, orientation to site, orientation to ecologies, and orientation to self.

The orientation strategy of these 6 sites operates at the macro scale and though they perhaps create a much larger scheme than the call for proposals requested, this bigger plan works in conjunction with the existing regenerative land and grazing strategies and adds much needed erosion reduction and water management. The Zuni Bowl and Media Lunas, for example, are natural, Native American strategies for reducing erosion and detaining water in an effort to heal the degraded land and encourage regrowth. The Media Lunas slow water movement across the site while the Zuni Bowl holds water, allowing it to slowly seep into the ground, seeding plantlife, and supporting aquifer recharge. When dry, the Zuni Bowl operates as a Talking Circle, creating space for people to share emotions, ideas, knowledge, and build community. Utilizing nearby rock from the Saddleback hillsides, these forms will be built collaboratively with MEA visitors in hands-on workshops led by the design team.

This bigger plan contextualizes the primary component of our proposal, **the GROUNDSTARS**, designed specifically to support and enhance the existing regenerative landscape efforts. Our introduction to the regenerative grazing strategy came moments after our arrival, when we helped Lee and Jan to corral the horses and burros (all of them) that had wandered from the (un)electrified fenced space. We saw first hand how the system operates, heard directly about the bigger vision to heal and restore every square foot of the site, and spent time witnessing and participating in the peace and possibility of the animal + land + human ecological healing relationship. The groundstars began as a more enlightened (in more ways than one) fence post, then grew into a cosmos of interventions, both utilitarian and magical, reflecting and glowing across the site.

The five groundstar typologies – Seed, Habitat, Reflect, Fence, and Climate – evolve from analog to high-tech and from impermanent to permanent. As described more fully within our design boards, each has a role to play in the cosmological orientation to the site, self, and in the regenerative strategies of land repair. The most analog Groundstars – Seed and Habitat – are embedded with seeds, soil, and nutrients that foster new plant life and attract and sustain animals. In the Reflect Groundstar, shimmering natural materials from the site, like silica, are combined with more reflective crystals, mirrors, or glass to catch the eye, spark curiosity, and create captivating orientation moments for wandering visitors. Some Reflect Groundstars are detachable from their bases and usable as glowing walking sticks for nighttime site exploration (creating a roving band of Groundstars). The Fence Groundstar incorporates two hooks for threading the electrified fence line, the lower one also serving as a port for peripheral accessories and instruments powered by the solar-powered fence source. An internal solar

powered light, integrated within the base of the Groundstar shell, creates a glow in the shaft of the Groundstar and a pool of light at the base. part of the ground constellations. The most technological of the typologies, the Climate Groundstar, tracks a variety of environmental data including indicators of climate change and resiliency. Each site of intervention hosts one or more of the Groundstar typologies, connecting the entire cosmology with a sense of scale and a light, magical glow that connects sky to human to earth, ancestors of the past with elders of the future.

OPERATIONAL NEEDS AND SYSTEM INPUT/OUTPUT SUMMARY

The proposed design interventions are first and foremost facilitating the regenerative strategy of the site and making it alive and visible for MEA participants. The systems employed range from high-tech to no-tech, but are all designed to provide more benefits and resources than they consume. The following section discusses technologies, inputs and outputs for the two main proposed components - Groundstars and Zuni Bowls + Media Lunas.

An array of Groundstar typologies is proposed, all sharing a similar primary form but constructed from a range of materials and serving different purposes. These functional and beautiful vertical elements can be infused with a variety of systems, providing a range of value and regenerative opportunities. Zuni Bowls and Media Lunas are constructed from rock collected on site and placed by MEA workshop participants. Their scale and productivity are dependent on soil conditions prior to final design and installation.

Groundstars	Technology	Inputs	Outputs	Quantities
SEED	Seeds embedded in substrate	Wind, sun and water available naturally	Seeds fall and germinate into native flowering plants in the vicinity.	400 seeds per star - might germinate 200 and have 100 plants persist
HABITAT	Animal nests	Only what the animals choose to put in	Habitat - nests, perches, shelter, micro-shade and micro-water collection	Over the course of a year, one groundstar could host several nests for birds and small mammals, dozens of birds and lizards for temporary perching/shelter and hundreds of insects for nesting, shelter and watering.

REFLECT	Natural silica on site. Mirrors Optional LED light system with integral PV/battery	Sun (electricity needs likely <1kWh/day), human intention	Light, inspiration	
FENCE	Holds electric fence lines	No ongoing inputs (lines have their own electric source)	Structure	

CLIMATE	Sensors for wind direction, wind speed, dry bulb temperature, solar radiation, relative humidity, rainfall, CO2, PM10. LEDs for data art Data logger Wireless data output transmitter PV panel or micro wind turbine, battery and balance of system	Sun (electricity needs likely <1kWh/day)	Data on wind, sun, rain, temperature, humidity, air quality	Data logged every hour or configured as desired.
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Erosion Control	Technology	Inputs	Outputs	Quantities
ZUNI BOWLS	Rock and seeds	Winter water flows	Infiltrated water, reduced erosion, increased habitat	Each ~100sf Zuni bowl might infiltrate 1000 - 2000 gallons of water in each storm, foster the growth of about 50 woody habitat plants and hundreds of grasses, plus stop headcut development at its site, improve water quality and reduce erosion in all downstream creek banks.
MEDIA LUNAS	Rock and seeds	Winter water flows	Infiltrated water, reduced erosion, increased habitat	Each 100 linear feet of media lunas might infiltrate 1000-2000 gallons of water in each storm, foster the growth of about 100-200 woody habitat plants and hundreds to thousands of grasses, plus reduce erosion in downstream land and improve water quality in receiving creeks.

Some Groundstars are intended to degrade and feed the soil, so require no on site maintenance after installation. Others are intentionally enticing to visitors and interaction – inserting notes or pebbles, hanging offerings, etc. – is intended to enhance their vibrancy and texture. More technological Groundstars will need regular check-ups and maintenance to assure highest level functionality. Following particularly heavy rain events, Zuni Bowls and Media Lunas will need to be checked for damage; rocks may need to be relocated or replaced on a semi-regular basis to assure the highest level of operability.

ENVIRONMENTAL IMPACT SUMMARY

The intention of the proposed design is to fully integrate with and support the program's regenerative mission. The ground stars and stormwater components proposed are net positive in their environmental impact, producing as much energy as they take in and generating water, habitat and land repair benefits while they provide for operational needs and human delight. Material choices are largely bio-based and natural, making it possible to return them to the earth at the end of their service lives. The base material from the low-tech Groundstars are a 3D printed wood pulp, derived from surplus material wherever possible. Where longevity and resilience to the elements is needed, durable materials are selected with sustainability, fair trade and human/ecological health criteria at the forefront. Durable materials for the Climate Groundstars are sourced from recycled metals and designed for recycling at end of service where feasible.

In the case of Zuni Bowls and Media Lunas, the primary material, rock, is both natural and inherently durable, persisting for centuries with minimal erosion from passing water flows. The intention is to use rock that exists on site, relocated as part of building human community. Seeds and plants are to be local, native and organically grown with no synthetic fertilizers or pesticides applied, protecting water quality and generating habitat. Any soil amendments applied for planting will also be local and organic, primarily compost. Embodied carbon in materials is low and will be more than offset by carbon sequestering benefits from improvements to soil health in and around the interventions. If needed, the climate Groundstar could also be equipped to generate additional solar energy to produce more capacity into the site grid and provide an on-going carbon offset.

TECHNICAL SUMMARY AND PROJECT BUDGET

The Six Site constellation of interventions is prioritized, based on the available budget, to focus on the development of the Groundstars and Zuni Bowls + Media Lunas.. See project budget for expanded scope details to include the Sonic Circle Aviary and Offering Stones.

GROUNDSTARS

Development Process :

We intend to prototype 3D printed, full scale mockups of several Groundstar typologies, beginning with the Fence Groundstar. This will allow for rapid prototyping to refine form, structural integrity, and integration of instrumentation. This will be supported through 1:1 material studies, testing, and exploration.

To further hone the design, we will host virtual (and one in person) design workshops with key leadership from MEA, the regenerative grazing team, and other key stakeholders to develop aesthetic qualities, and clarify, reinforce, and confirm the core values, functionality, and performance criteria for the Groundstar typologies. This process will inform the quantity of the various typologies we will be implementing and the key data that will be measured and recorded by the Climate Groundstars.

These efforts would be enhanced via JUST Collaborate, by integrating a justice and equity minded industrial designer, user experience designer, and structural and electrical engineers as needed on our team to help guide engineering and constructability.

Technical Details:

Based on a common digital base form, the various Groundstar typologies will be realized physically by means of 3D printing techniques and methods. This will provide opportunities to shape the Groundstar shells with tunable mixtures of base materials (wood, paper, clay, metal) and to include additives as well (silica, seeds, binding agents, etc) allowing us to calibrate the desired functionality and durability of the associated typology. In some cases a UV and/or water resistant “slip” will be applied to the 3D printed shells for increased durability and resilience.

The 3D printed shell will attach (by means of a threaded connection) to durable ground stakes. The threaded stake will receive the threaded shell in an easy, screw-on installation. The shell will also include a lower Power and Accessory Point to attach the second power supply line from the solar battery used for the electrified fence. An LED light is integrated in the base of the shell.

Dimensions of key elements:

Groundstar shell = 42” tall by 1 ¼” in diameter

Groundstar stake = 18” tall (subgrade) 1 ¼” (tapered to point)

ZUNI BOWLS & MEDIA LUNAS

Development Process :

Through conversations and consultation with local Native American leaders and specialists, we will further develop the design of the Zuni Bowl and Media Lunas to incorporate traditional indigenous techniques and methodologies, merged with contemporary detailing. A series of

“guidance drawings” will be developed to act as points of reference when installing the elements within site constraints.

Further fulfilling opportunities for self reflection and growth, the installation process of these elements will be made possible by a series of two (2) one week long workshops hosted by MEA and led by key members of the JUST + MIG design team. This Reflections A Part Workshop will include paying guests, who will be led through an educational workshop about the regenerative strategies of the overall project and will partake in the assembly of the Zuni Bowl and Media Luna elements - building community capacity and further seeding ideals of land stewardship and healing.

These efforts will be enhanced via JUST Collaborate by integrating a master mason on our team to help guide the installation, as well as engagements with Dr. Kajete from the Santa Clara Pueblo, and medicine man Brodee Coletto who will ground the process in place with honor for the land and ancestors.

Technical Details:

Supported by Reflections A Part Workshop guests, The Zuni Bowls and Media Lunas will be built from hand gathered stone from the Saddleback ridges. The guests will stack and arrange the stones with oversight from JUST Collaborate’s Master Mason and support design team members. Site preparation will be by means of shovels and soil compactors; larger scale site grading will be by means of backhoe and will be fulfilled by a licensed professional.

Outlined below are key dimensions:

*Zuni Bowl = approximately 30’ in diameter by 6’-0” deep

*Media Lunas = approximately 20’ in length by 17” wide by 18” tall

*final dimensions based on site specific conditions to control erosion