6. MATERIALS PALETTE

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The materials selected for construction of the DDC were based on several factors. Primarily they were selected based on being highly durable, low maintenance, allowance for flexibility, and their cost effectiveness.

From an aesthetic point of view, they were selected to be materials of the desert – bold, rugged, and compatible with their setting. They needed to advance the overall sustainability goals. Lastly, we wanted to leave open the opportunity to incorporate future technologies that would be developed while the design continues to go through engineering and construction document phases, as well as into the future. The materials used in the construction of the existing buildings within the Preserve allowed us to review many of the materials and look at their long-term performance and cost / benefit rations. The following Palette of Materials is a general overview of the selections. As future phases of design advance these materials will continue to be evaluated, and analyzed along with their cost effectiveness in relation to the budget.

WALLS

The exterior walls and the mechanical equipment screen walls of the DDC will generally be stabilized rammed earth walls. Some of the accent walls will be locally manufactured, stabilized adobe block, and Corten steel panels. The adobe and the rammed earth will be raised off the ground with board formed concrete stem walls coming up 18” above the desert floor, to help protect them from any erosion. In some of the open pavilions the rammed earth will be left exposed on the interiors and in other spaces it will furred out with steel studs to allow for more durable, and cleanable surfaces such as in the kitchens, and restrooms.

ROOFS

The roofs were discussed earlier in detail, but generally will be steel framed and capped with steel decking that can be insulated from above, and left exposed on the interior for cost savings. When it is left exposed on the interior, floating ceiling plans that support lighting and acoustical material will float over portions of the room. The roof surface will be desert material, rocks and cobbles, that will be collected from the initial site work and then reused. Other desert debris will be added to the roofs to make then compatible with the desert floor when view from high up the mountain on the trails.

DESERT SHADE CANOPY

Woven throughout the DDC is a horizontal shade canopy that links the individual desert pavilions. As discussed earlier the desert shade canopy is a high tech, provider of shade and energy. Its shade pattern is an abstraction of the shade created by desert trees such as the Palo verde. It is evolving technology that should be available to the market by the time the DDC is under construction. Flexible inform and shape, semitransparent, and light weight, this shade devise will replace the need to have stationary roof top or ground mounted rigid solar panels. The technology is an outfall of the technology that the US Army developed to solar power its field tents. The design has been shaped to give the maximum shade in areas needed, but also opens to the sky in many places so that the canopy does not cut off views, or make the space feel to low. It is structurally suspended by a network of tensile steel cables and rods that are anchored into artistic column forms that are abstract shapes based on cactus.

GLASS – DOORS & WINDOWS

Most of the pavilions are designed to have a system of operable glass walls that can be opened mechanically to allow the cooler or warmer air to naturally cool or heat the space depending on the time of the year. A simple form of 100% natural air intake. The glass used in the system will be a high tech coated glass product with a Low E, and an anti-glare shield to minimize glare from the strong desert sun, to minimize any reflectivity that might affect the hikers experience form the mountain above. The retractable door system folds up horizontally with a unique mechanism somewhat similar to that which is used on airplane hangars.

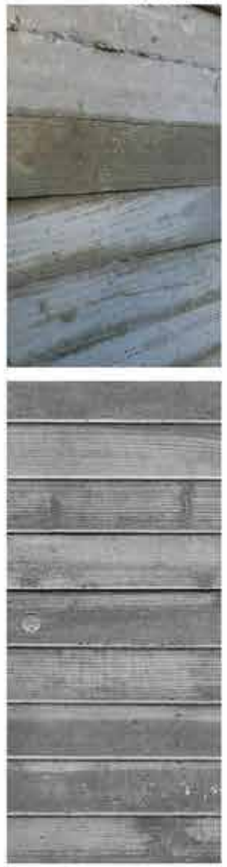
FLOORS / TERRACES

For the most part the interior floors will be polished stained concrete, or a special terrazzo product incorporating crushed desert stone. These flooring have been selected for durability and ease of maintenance. In some areas of the interiors where there will be no foot traffic, compacted native soil in a very natural state will be used. The exterior terraces will be studied more in the future design phases. Initially they will be thought to be concrete with a special admix of desert stone which will be exposed. We want to pour the concrete so it will have a permeability to it through large open control joints filled with pebble stones from desert washes, allowing the water to run back into the soil. All the final selections will be based on current market prices and the latest cost estimate.

MATERIALS PALETTE

RAMMED EARTH

CONCRETE



ADOBE

DESERT DEBRIS ROOF

CORTEN STEEL

MATERIALS PALETTE

FLOORING

TECHNICSOIL G5

FOLD AWAY DOOR SYSTEM

GLASS

DESERT SHADE CANOPY

COOL WALL