

CLUSTER STRUCTURE

THE FORM OF THE CLUSTER STRUCTURE HAS BEEN INSPIRED BY DESERT SHIP'S SHAPE. IT REPRESENTS FOUR SHADE STRUCTURES SURROUNDING A CENTRAL OVAL GLASSHOUSE, TO CREATE ANOTHER FUTURISTIC STRUCTURE STYLE. THE SHADE STRUCTURE HAS A CENTRAL SPHERE, WHICH CONTAINS THE SOLAR PANELS AND THE LIGHTNING ROD. THE SHADE STRUCTURE CONSISTS OF THE SAME STRUCTURAL, SKIN CLADDING MATERIALS AND COLORS USED IN THE VISITOR CENTER, AND PROVIDES PROTECTION AS WELL AS A NICE SITTING AND RESTROOM ZONE FOR THE VISITORS. THE OVAL GLASSHOUSE IS A HOME FOR EDIBLE PLANTS, AND IS USED TO DISPLAY THEM TO THE VISITORS. THIS BUILDING CONSISTS OF A STEEL STRUCTURE; THE EXTERIOR SKIN MATERIALS ARE ALUMINUM CLADDING AND A GREENHOUSE GLAZING SYSTEM.

IT HAS A SOLAR PANEL SYSTEM THAT CONNECTS TO THE FOUR SHADE STRUCTURES' SOLAR PANEL SYSTEMS. THE PROPOSED HEIGHT FOR CLUSTER STRUCTURE IS 27.66M, WITHOUT THE ROD. A VARIANCE IS NEEDED, AS THE BUILDING HEIGHT EXCEEDS THE MAXIMUM HEIGHT LIMITS OF WASHOE COUNTY'S GR ZONE. THIS BUILDING SHOULD BE IN HARMONY WITH THE HEIGHT OF DESERT SHIP, TO MAKE A BALANCED VISIONARY SCENE. IT CAN ALSO BE SCALED DOWN TO MEET THE REQUIRED HEIGHT. THE AREA COVERED BY SOLAR PANELS FOR THE CLUSTER STRUCTURE IS AROUND 996M², AND RESULTS IN 239,510.6KWH PER YEAR.

ENVIRONMENTAL IMPACT STATEMENT

- THE SOLAR PANELS PROVIDE CLEAN AND RENEWABLE ENERGY AND DO NOT PRODUCE AIR POLLUTION OR GREENHOUSE GAS EMISSIONS. USING SOLAR ENERGY WILL HAVE A POSITIVE, INDIRECT EFFECT ON THE ENVIRONMENT BECAUSE IT REPLACES OR REDUCES THE USE OF OTHER ENERGY SOURCES THAT HAVE NEGATIVE EFFECTS ON THE ENVIRONMENT.
- THE COLLECTED RAINWATER AND GROUNDWATER WILL SUPPORT PLANTS AND PROVIDE A SUSTAINABLE ENVIRONMENT FOR SURVIVAL. RAINWATER COLLECTION AFFECTS THE ENVIRONMENT POSITIVELY IN MANY WAYS. THE RAINWATER SYSTEM COUNTERACTS STORMWATER RUNOFF AND THEREFORE REDUCE FLOODING, EROSION, AND GROUNDWATER CONTAMINATION.
- PLANTS WILL NOT ONLY ENHANCE THE LOOK OF THE BOTANICAL GARDEN AND MAKE IT A MUCH NICER PLACE, BUT THEY ARE ALSO CONSIDERED A CRITICAL RESOURCE BECAUSE OF THE MANY WAYS THEY SUPPORT LIFE ON EARTH AND HELP THE ENVIRONMENT. PLANTS USE OXYGENIC PHOTOSYNTHESIS TO CONVERT CARBON DIOXIDE INTO OXYGEN THAT IS RETURNED TO THE ATMOSPHERE. PLANTS ALSO PROVIDE HABITAT AND FOOD FOR WILDLIFE AND HUMANS, AS WELL AS PLAY AN ESSENTIAL ROLE IN REGULATING THE WATER CYCLE BY PREVENTING SOIL EROSION AND

INCREASING GROUNDWATER LEVELS. GREEN PLANTS ALSO RELEASE WATER VAPOR IN THE AIR AS A BY-PRODUCT OF PHOTOSYNTHESIS, THUS INVOLVING GROUNDWATER IN THE WATER CYCLE.

- CREATE A SUSTAINABLE ARCHITECTURE WITH A GREAT VISUAL IMPACT, BY THE DESIGN SHAPES AND COLORS. THE STRUCTURES' WHITE SKIN WILL LOOK IN HARMONY WITH THE MOUNTAIN RANGE IN WINTER. THE FUTURISTIC DESIGN SHAPE FOR THE BUILDINGS AND THE WATERFALL SCENERY CREATED FOR THE DESERT SHIP STRUCTURE WILL BE CONTRARY TO FLY RANCH'S NATURAL LOOK, AND THEY WILL NOT REFLECT AND IMPACT THE LOOK OF FLY GEYSER, TO KEEP IT AS A UNIQUE ATTRACTION IN THE AREA FOR THE VISITORS AND TOURISTS.

