


DESERT SHIP

THE FLOATING DESERT SHIP IS A LANDMARK STRUCTURE IN FLY RANCH BOTANICAL GARDEN; IT SITS ON FLY RESERVOIR LAKE AND THE OASIS AREA AT PARCEL 071-331-11, WASHOE COUNTY.

THE DESIGN STYLE IS FUTURISTIC, AND THE INTENTION OF USING THIS STYLE IS TO CREATE A LASTING AND MAGNIFICENT VISUAL IMPACT THAT WILL REPRESENT FLY RANCH. THIS STRUCTURE CONTAINS THE VISITOR CENTER BUILDING, THE COVERED ENTERTAINMENT OVAL STRUCTURE, AND THE FRONT LANDSCAPING AREA.

THE SHAPE OF THE VISITOR CENTER BUILDING HAS BEEN INSPIRED BY THE SHAPE OF FOUR PAPER SHIPS, , STANDING ON A BASE, SURROUNDING, AND CONNECTED TO A CENTRAL DIVIDED SPHERE. THE UPPER AND LOWER PARTS OF THE SPHERE HAVE A SOLAR PANEL SYSTEM AND PLAY A ROLE IN RAINWATER HARVESTING ON RAINY DAYS. WHEN RAIN FALLS ON THE UPPER PART OF THE SPHERE, THE WATER WILL COLLECT AND GO THROUGH A TRENCH TO THE LOWER PART OF THE SPHERE, CREATING A WATERFALL SCENERY. WHEN THE RAIN STOPS, WATER DETECTING SENSORS LOCATED ON THE TOP OF THE UPPER PART OF THE SPHERE ACTIVATES A MOTOR, WHICH KEEPS AN AMOUNT OF WATER FLOWING LIKE A WATERFALL. THE COLLECTED RAINWATER WILL GO THROUGH A LARGE CENTRAL TUBE TO AN UNDERGROUND STORAGE TANK. THE METAL ROD ATTACHED TO THE TOP OF THE BUILDING IS A LIGHTNING ROD THAT CONNECTS TO THE GROUND THROUGH A WIRE. WHEN LIGHTNING STRIKES THE ROD, THE ELECTRIC CHARGE IS CONDUCTED HARMLESSLY INTO THE GROUND. THIS BUILDING PRINCIPALLY CONSISTS OF TWO COLLABORATING SYSTEMS, A CONCRETE STRUCTURE COMBINED WITH A SPACE FRAME SYSTEM, TO ENABLE THE CONSTRUCTION OF A FREE-FORM STRUCTURE IN ORDER TO ACHIEVE A COLUMN-FREE SPACE THAT ALLOWS VISITORS TO EXPERIENCE THE BEAUTY OF THE INTERIOR.

GLASS FIBER-REINFORCED CONCRETE-(GFRC) AND GLASS FIBER-REINFORCED POLYESTER-(GFRP) ARE THE IDEAL CLADDING MATERIALS FOR THE SKIN. THE GFRC ACTS AS A FORMWORK THAT ENCASES THE BUILDING IN FLOWING LINES OF CRISP WHITE. TO PROVIDE ADDITIONAL STRUCTURAL SUPPORT TO THE GFRC, LIGHTWEIGHT CONCRETE IS POURED INSIDE THE CASING WITH STEEL REBAR. THE INTERIOR MATERIALS ARE GLASS, TERRAZZO FLOORING, STAINLESS-STEEL, GLASS-REINFORCED GYPSUM, AND GYPSUM BOARD PAINTED. THE COLORS USED FOR THE INTERIOR AND EXTERIOR ARE WHITE, SILVER, AND BLUE. THE BUILDING FUNCTIONS AS A COMMUNITY-ORIENTED CENTER FOR THE BOTANICAL GARDEN; IT HAS A CAFÉ, LIBRARY, OFFICES, VISITOR HALLS, AND RESTROOMS. THE ENTERTAINMENT OVAL STRUCTURE IS LOCATED BEHIND THE VISITOR CENTER IN THE DESERT SHIP. THIS STRUCTURE WILL BE USED AS A COVERED ENTERTAINMENT AREA FOR THE VISITORS, AND IT CONTAINS A BAR AREA AND RESTROOMS. THIS BUILDING PRINCIPALLY CONSISTS OF A STEEL STRUCTURE; THE SKIN MATERIALS ARE ALUMINUM EXTERIOR CLADDING AND INSULATED GLASS. A SOLAR PANEL SYSTEM IS ALSO USED IN THIS BUILDING, AND IT IS CONNECTED TO THE VISITOR CENTER BUILDING'S SOLAR PANEL SYSTEM. THE FRONT LANDSCAPING AREA FOR THE DESERT SHIP HAS A SOLAR PANEL SYSTEM THAT IS CONNECTED TO THE VISITOR CENTER BUILDING'S SOLAR PANEL SYSTEM TOO. THE STRUCTURAL SYSTEM USED FOR THE BASE OF DESERT SHIP IN THE FLOATING AREA, DEPENDS ON THE DEPTH OF FLY RESERVOIR LAKE AT THE CONSTRUCTION LOCATION. CONCRETE FLOATS OR/AND BARRELS UNDERNEATH CAN BE USED. THE PROPOSED HEIGHT FOR DESERT SHIP IS 35.52M, 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 A GRAND LANDMARK OF THE PROJECT, AND BECAUSE IT IS LOCATED FAR ENOUGH FROM THE SITE BOUNDARY, THE PROPOSED HEIGHT SHOULD NOT AFFECT OTHER PARCELS AROUND THE PROJECT SITE. THIS BUILDING WILL PROVIDE ADDITIONAL BEAUTY TO THE AREA. THE AREA COVERED BY SOLAR PANELS FOR DESERT SHIP IS AROUND 872M², AND RESULTS IN 209,692.5KWH PER YEAR.

