

North Shore Entrance Station Lake Mead

Clark County, Nevada

Construction Manager & Cost Estimator

Kevcon, Inc.

Architect

United States Department of the Interior, National Park Service



Photos Courtesy of Roberto Zeballos

The North Shore Entrance Station of the Lake Mead National Recreation Area in Nevada looks like a simple structure of connected ticket booths that complements the surrounding scenery. However, completing the \$1.01 million new construction project, 70 miles northeast of Las Vegas, was as detailed and complex as a much larger undertaking. The reason is simple. Location.

When the U.S. Department of the Interior's National Park Service awarded the project, Kevcon's management team knew the site's sheer remoteness would be an issue. With the closest major city, Las Vegas, more than an hour away and the nearest small town 10 miles away, getting subcontractors and materials to the site efficiently and on time required forethought and organization. So, while it would seem that a no-frills 440-square-foot main building with administrative and bathroom facilities and a 40-square-foot satellite building would be simple to complete, the construction had challenges from the start.

As the area is home to the endangered Desert Tortoise, Kevcon brought on a full-time environmentalist as part of the team. The team had to ensure that no tortoises were living in the construction zone, build special fencing to secure the zone from tortoises entering it, and remain diligent for the nine month, May to February, construction.

Although protecting an endangered species was new to the team, managing the logistics of a challenging location was not. The remoteness of the site, however, did make the project unlike other assignments. Without easy access to supplies, everyone, including the subcontractors from Las Vegas, had to be self-



sufficient, arriving every day with all necessities on hand. Kevcon had to maintain resources like generators for power and gas, as well as large water tanks, onsite so machines could run and work continue at a steady pace. Arrangements also had to be made for everything from concrete and asphalt to the buildings' bulletproof windows and surrounding light poles to arrive at appropriate times to maintain progress as completion day was set—the first day of Lake Mead's 2012 boating season.

With Lake Mead's popularity, visitors streamed into the area throughout the project. This added further challenge to the project as the two-lane, 55-mile-per-hour highway remained open throughout construction. The traffic volume prompted Kevcon to take particular care educating their subcontractors about the company's stringent safety procedures, Kevcon's successful Think • Act • Be SAFE program. Further, the team scheduled its workweek from Monday through Thursday to leave the busiest visitor days, Friday through Sunday, off of the weekly agenda. The team also began work very early, not only to avoid the heat of the day, but to capture a block of time before traffic became an issue.

Kevcon faced another challenge when the electrical subcontractor had to pull out unexpectedly. As the Station was designed as a solar-powered structure, the team had to internally manage the installation of the electrical work while addressing the learning curve that comes with an unfamiliar system. Fortunately, Kevcon managed to bring the electrical company's foreman onto the project to guarantee that the work, which included large solar generators, was properly done. Meanwhile, the Kevcon team maintained the work schedule without disruption to the overall project.

In the end, pre-planning and flexibility were key to the successful completion, and, as Lake Mead's busiest season began in 2012, visitors and National Park Service employees alike beheld a welcome sight in the remote desert—a functional and attractive entrance station.



Product Information

Stucco: Omega

Gypsum: **ProRoc Type X by CertainTeed**

Acoustical: Armstrong Cirrus

Canopy: Fabral Metal Roof Panels

Membrane: FiberTite KEE Roof by Seaman Corporation

Security Windows: Quikserv Model SS-4035E

Glass: Armor Resist Bullet Resistant Glass by U.S. Armor

Doors: Steelcraft

Extended Product Information

Gypsum: **ProRoc Type X by CertainTeed**

ProRoc® Type X gypsum board has recently been rebranded as **CertainTeed® Type X** gypsum board. The product has a specially formulated core, enclosed in ivory-colored face paper and liner back paper, for use in fire resistance, Type X designs. It is used for interior walls and ceilings in residential and commercial applications requiring extended fire resistance ratings.

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General Contractor & Cost Estimator

Kevcon, Inc.
246 East Grand Avenue, Escondido, CA 92025
www.kevcon.us

Architect/Structural/MEP Engineer

United States Department of the Interior
National Parks Service
12795 W. Alameda Parkway, Denver, CO 80225

Construction Team

Geotechnical Engineer:

Cesare, Inc.
106 Cassia Way, Henderson, NV 89014

Project General Description

Location: Clark County, Nevada
Date Bid: Oct 2010
Construction Period: June 2011 to Jan 2012
Total Square Feet: 480 **Site:** n/a.
Number of Buildings: Two; main building & satellite building.
Building Size: Main building, 440; satellite building, 40; total, 480.
Building Height: First floor, 11'6"; total, 11'6".
Basic Construction Type: New.
Foundation: Cast-in-place, reinforced concrete, slab-on-grade.
Exterior Walls: CMU, stucco.
Roof: Membrane, metal canopy. **Floors:** Concrete.
Interior Walls: Metal stud drywall.



DIVISION	COST	% OF COST	SQ.FT. COST	SPECIFICATIONS
PROCUREMENT & CONTRACTING REQ.	82,619	9.51	172.12	Solicitation, instructions for procurement, available information, procurement forms & supplements, contracting forms and supplements, project forms, conditions of the contract, revisions, clarifications & modifications.
GENERAL REQUIREMENTS	119,728	13.78	249.43	Summary, price & payment procedures, administrative requirements, quality requirements, temporary facilities & controls, product requirements, execution & closeout, performance.
CONCRETE	131,079	15.08	273.08	Cast-in-place (concrete breakdown, cubic yards foundation, 21; cubic yards walls, 60; cubic yards floors, 11).
METALS	55,381	6.37	115.38	Structural metal framing, joists, decking.
THERMAL & MOISTURE PROTECTION	44,206	5.09	92.10	Dampproofing & waterproofing, thermal protection, weather barriers, roofing & siding panels, membrane roofing, flashing & sheet metal, fire & smoke protection, joint protection.
OPENINGS	54,577	6.28	113.70	Doors & frames, specialty doors & frames, entrances, storefronts, & curtain walls, windows, hardware, glazing.
FINISHES	77,542	8.92	161.55	Plaster & gypsum board, tiling, ceilings, flooring, wall finishes, acoustic treatment, painting & coating.
SPECIALTIES	4,461	0.51	9.29	Exterior.
PLUMBING	13,803	1.59	28.76	Piping & pumps, equipment, fixtures.
HVAC	39,863	4.59	83.05	—
ELECTRICAL	245,834	28.28	512.15	Electrical & cathodic protection, lighting, photovoltaic system.
TOTAL BUILDING COSTS	869,093	100%	\$1,810.61	
EARTHWORK	47,816			Site clearing, earth moving.
EXTERIOR IMPROVEMENTS	62,166			Bases, bollards, & paving, irrigation.
UTILITIES	74,485			
TOTAL PROJECT COST	1,053,560			(Excluding architectural and engineering fees)

UPDATED ESTIMATE TO OCTOBER 2012: \$1896.27 PER SQUARE FOOT

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