Association of Conservation Engineers

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ALCATRAZ — Preserving this American Landmark – The Secrets Revealed



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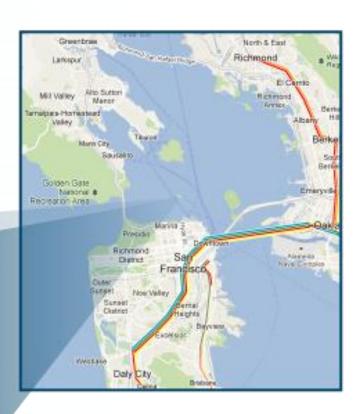


Introduction



- Owner National Park Service
 - Pacific West Region
 - Golden Gate National Recreation Area
 - Alcatraz Island
- Location San Francisco Bay



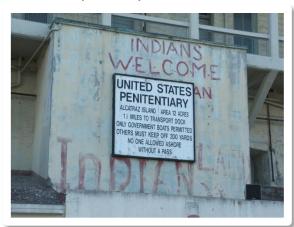






Overall Chronology

- Prior to 1542: Native Americans (Unoccupied) / Bird Sanctuary
- 1542-1822: Spanish Empire
- 1822-1848: Republic of Mexico
- 1848-1853: United States-California Territory and State (1851)
- 1852-1854: First Lighthouse Constructed
- 1853-1900: Fortress Alcatraz
- 1900-1934: U.S. Military Prison
- 1934-1963: U.S. Federal Penitentiary
- 1963-1972: Abandoned Federal Property
- 1969-1971: Native American Occupation
- 1972-Present: National Park Service / Bird Sanctuary





Overall Chronology

Prior to 1542

Native Americans / Bird Sanctuary 1900-1934 U.S. Military Prison

1852-1854

First Lighhouse Contructed

1822-1848

Republic of Mexico

1963-1972

Abandon

Federal Property

1542-1822

Spanish Empire

1848-1853

United States - California Territory and State (1851)

1853-1900

Fortress Alcatraz

1969-1971

Native American Occupation

> 1972-Today National Park

> > Service

. . . .

1934-1963

U.S. Federal Penitentiary









- Military Fortress 1853-1900









■ Military Prison – 1900-1934

Fortress Converted to Prison (1900-1911)

The "New Prison" (1911-1934)

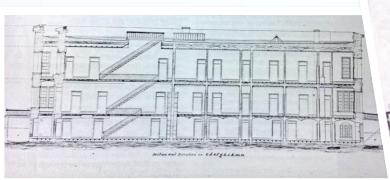
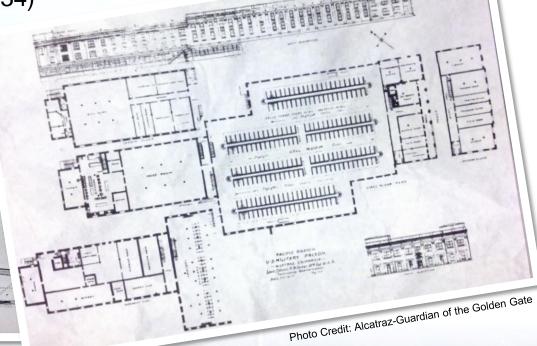


Photo Credit: Alcatraz-The Rock: A History of Alcatraz





Prison Cell Block Design and Construction (1907-1911)



Foundations

Iron and Steel Superstructure

 Concrete Encasement / Reinforced CIP Concrete

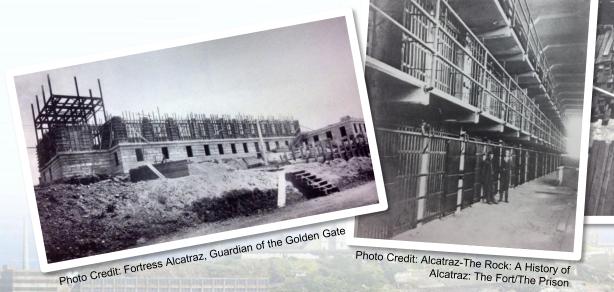


Photo Credit: Fortress Alcatraz, Guardian of the Golden Gate





■ Federal Penitentiary – 1934-1963

- Structural Modifications
- Security Improvements
- Other Structures
- World War II

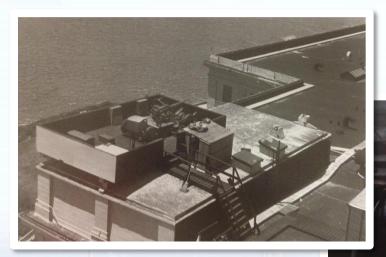


Photo Credit: Fortress Alcatraz, Guardian of the Golden Gate



Photo Credit: Alcatraz





■ Post Prison Closure - 1963-1972



- Fire
- Demolition
- Occupation and Graffite





- National Park Service Property 1972-Present
 - Visitor Experience and Safety
 - Preservation Planning
 - Preservation Challenges
 - Preservation and Structural Assessments







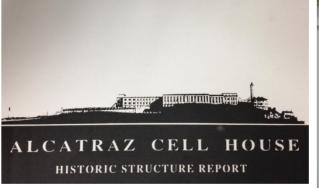


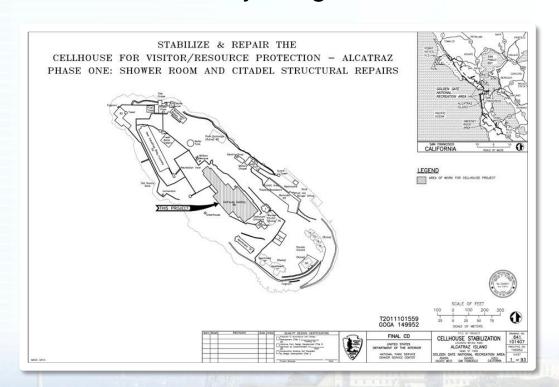
Photo Credit: Alcatraz Cell House; Historic Structure Report

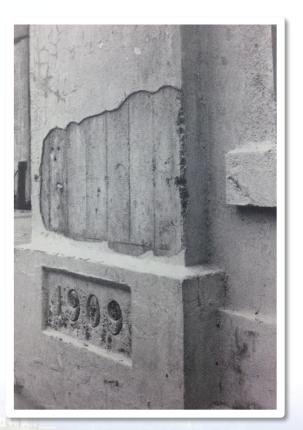


Current Conditions



- Visitor Use
- Structural Stability Programs of Cellhouse







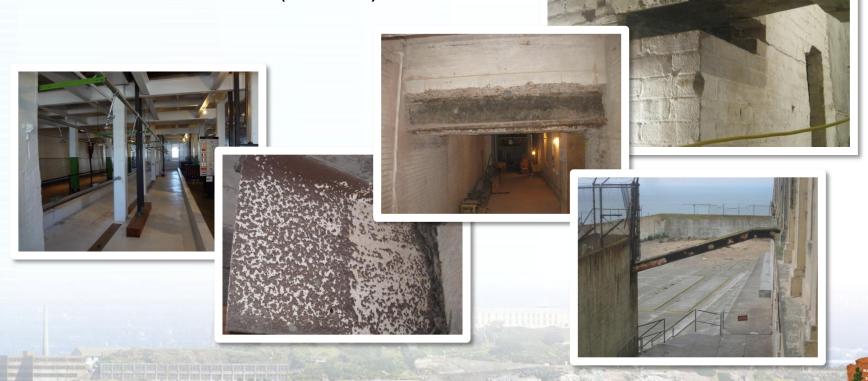
Structural Stability and Safety Improvement Program



Stabilize and Repair Cellhouse for Visitor and Resource Protection

■ Phase 1 – Interior (On-Going)

■ Phase 2 – Exterior (Future)



Phase 1: Interior (On-going)



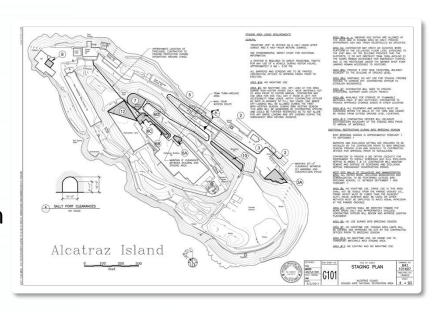


Phase 1: Stabilize and Repair Pre-Construction Activities



Submittal Documents

- 1) Construction Schedule
- 2) Photo Documentation
- 3) Safety Plan
- 4) Historic Preservation Treatment Plan
- 5) Quality Control Plan
- 6) Indoor Air Quality Management Plan
- 7) Temporary Storm Water Pollution Prevention Plan
- 8) Construction Waste Management and Disposal Plan
- 9) Construction Work Plan



Phase 1: Stabilize and Repair Pre-Construction Activities (Cont'd)



Material Submittals

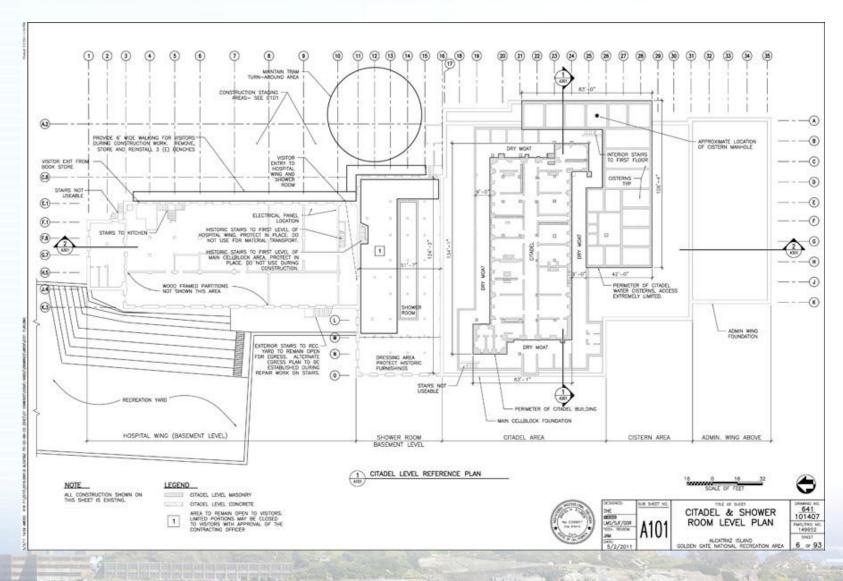
- Lead-Based Paint Removal and Disposal
- 2) Shoring
- 3) Demolition
- 4) Concrete Removal / Surface Preparation
- 5) Concrete Patching
- 6) Concrete Crack Repair
- 7) Epoxy Grouted Anchors
- 8) Metalized Cathodic Protection
- 9) Impressed Cathodic Protection
- 10) Reinforcing Steel

- 11) Cast-in-place Concrete
- 12) Brick Masonry Repair/Replacement
- 13) Structural Steel Repair/Replacement
- 14) Painting/Staining



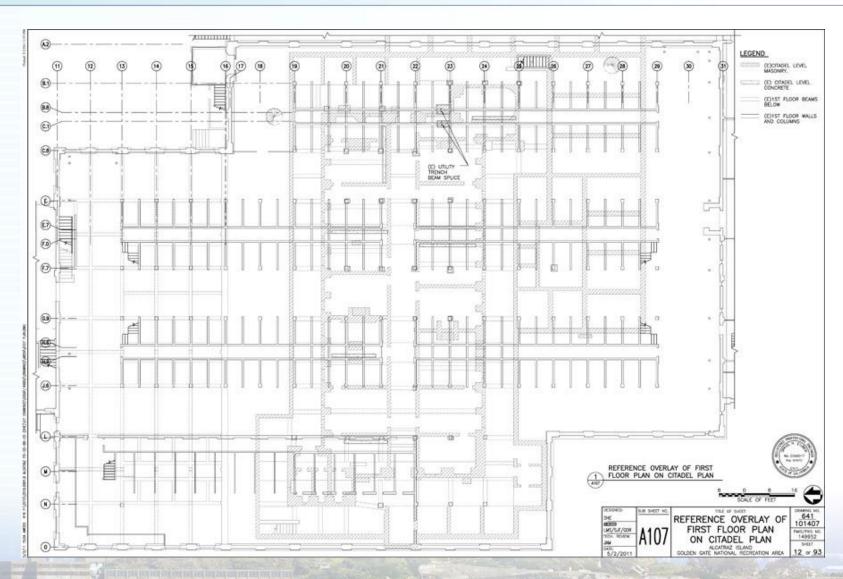






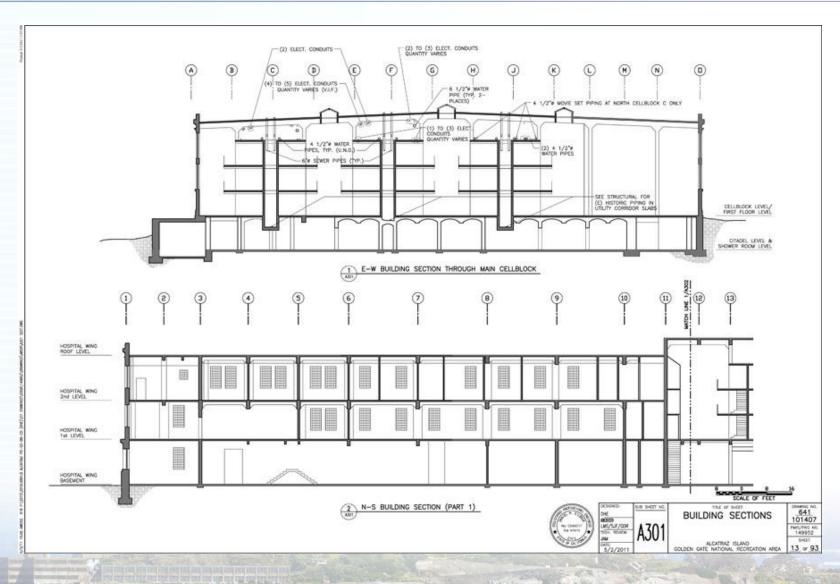






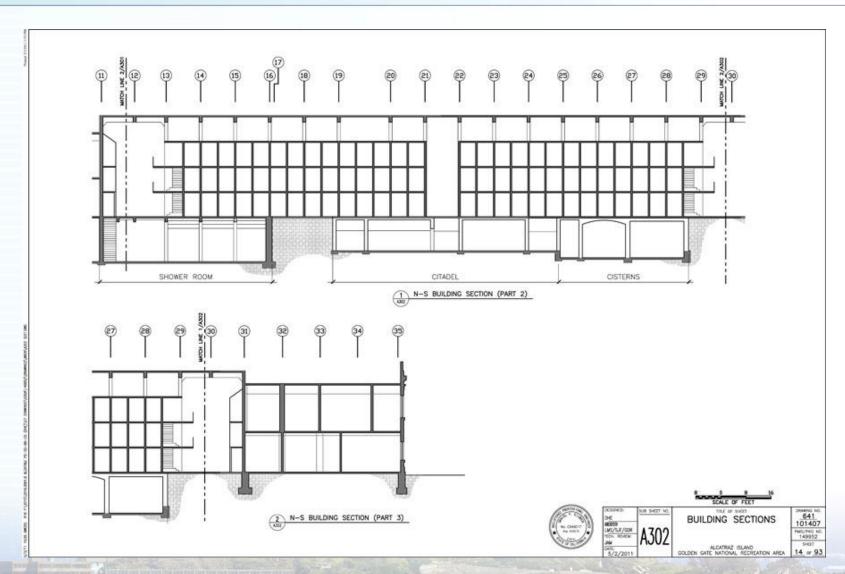












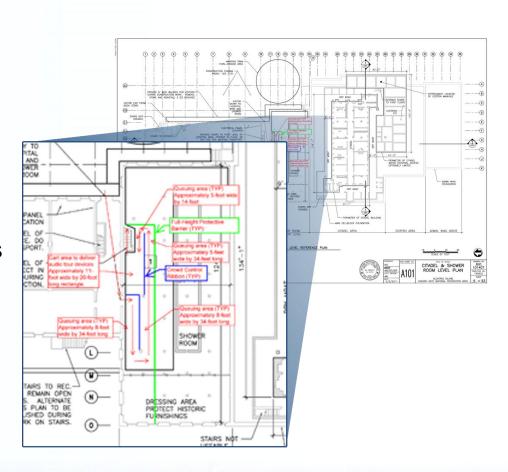


Phase 1 Work Elements (Interior)



Shower Room

- 1) Column Repairs (Two Types)
- 2) Beam Top Flange Repair
- 3) Beam Encasement Repair
- 4) Beam Replacement
- 5) Beam Repair at B, C, D Blocks
- 6) Soffit Repair
- 7) Slab Soffit Patching



Phase 1 Work Elements (Cont'd)



Citadel

8) B-Block Cistern Area Beam Repair at Utility Corridors

9) Beam Replacement at A and D Blocks

10) Other Beam Repairs (7 Types)

11) Brick Repair

12) Miscellaneous Concrete Repair



Phase 2 Work Elements (Exterior)



- Window Repairs and Protection
- Pilaster Repairs
- Wall Repairs
- Wall Painting
- Staircase / Railings / Fencing Repairs







Work Element Challenges



- Visitor Safety / Control
- Natural Resources Bird Sensitivity
- Cultural Resources Historic Protection
- Logistics
- Night Work
- Worker Safety

- Worker Training / Control
- Hazardous Materials
- Waste Management
- Shoring
- Island Events
- Use of Local Small Businesses





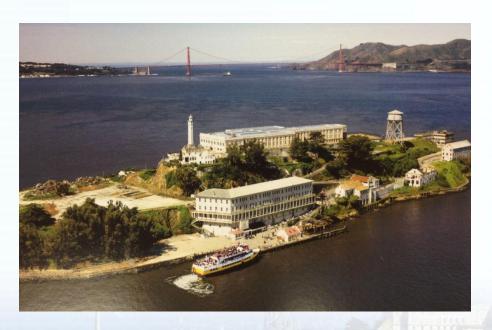




Acknoledgements



- National Park Service Denver Service Center
- National Park Service Golden Gate National Recreation Area
- Wiss, Janney, Elstner Associates, Inc.





References / Read More About It



- 1) Dunbar, Richard; Alcatraz; Casa Editrice Bonechi; 2012
- 2) Farneth, Stephen J.; Sugaya, Hisashi B.; Wessel, David P.; White, Gordon O.; Heili, John; Alcatraz Cell House, Historic Structure Report; Architectural Resources Group; 1992
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- 5) MacDonald, Donald and Nadel, Ira; <u>Alcatraz, History and Design of a Landmark</u>; Chronicle Books; 2012
- 6) Martini, John A.; Alcatraz at War; Golden Gate National Parks Association; 2002
- 7) Martini, John Arturo; Fortress Alcatraz, Guardian of the Golden Gate; Ten Speed Press; 2004
- 8) McHugh, Paul; Alcatraz, The Official Guide; Golden Gate National Parks Conservancy; 2007





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Questions

