

### *Land Use – Alcatraz Island*

Alcatraz Island’s land-use consistently has related to: its functions in the military defense of San Francisco Bay; as an aid to navigation in San Francisco Bay; as a military prison, and as a Federal penitentiary. The Island was nominated as a National Historic Landmark (NHL) for all of these uses.

Although there are remnants of land uses from each period of Alcatraz Island’s history, many areas were used and reused over the period of significance (Figure 4-7). They generally fall into four main categories: **defensive** elements such as the fortifications, Citadel and fortified Bombproof Barracks (Building 64) at the Wharf; **residential** and related uses of recreation facilities (playgrounds and tennis courts) as well as support services (such as a barber shop); **support** and **industrial** facilities for the Island such as water storage areas, workshops, and power generation; and **prison** facilities including the Main Prison, Stockade/Recreation Yard, and work facilities such as the Model Industries and New Industries buildings.

The Island, via the Lighthouse and two fog signals (Foghorn North and South), continues to serve as a navigational aid for ships entering San Francisco Bay and this land use contributes to the integrity of the landscape. The other historic uses of the site – military fortifications, military prison, and Federal penitentiary – do not retain integrity. The current use of the Island as a U.S. National Park is not historic and does not contribute to the significance of the cultural landscape.

### *Small Scale Features – Alcatraz Island*

Small scale features on Alcatraz Island provide a human scale to the Island and convey the various uses present throughout its history and throughout the various areas of the Island. These features include decorative fences, security fences, concrete handrails, steel handrails, concrete staircases, wooden staircases, concrete light fixtures, utility-related features, signs, paving and small walls present in gardens. The small scale features are analyzed in each individual landscape character area, presented elsewhere in this document. Those that are present throughout the Island and that contribute to its overall historic character are analyzed in this section.

The most common features occurring Island-wide are fences, handrails, light poles and fixtures, and utility related elements such as fire hydrants. Many were built between 1908 and 1933. Types of fencing and handrails and their placement on the Island varied during the Island’s period of significance. Early decorative wood picket fences delineated the Island’s gardens, and pipe handrails lined staircases and steep drop offs. These were replaced after 1912 following the construction of the Main Prison with new decorative concrete handrails of which many remain today.

Security features to monitor prisoner movement were evident from its earliest days as a military prison, but were greatly expanded during the Federal Penitentiary period when a high-level of security over prisoners was needed (the evolution of security features is illustrated in Figure 4-8). One of the earlier features was the 1918 Perimeter Sentry Walk that ultimately ringed the entire Island. As a military prison, prisoners accessed many areas of the Island to facilitate work assignments in various facilities. When the Bureau of Prisons modified the Island as a Federal penitentiary, prisoners were restricted to the Main Prison and Stockade/Recreation Yard (Figure 4-5). Work areas for prisoners, such as the Model Industries and the New Industries buildings and outside storage yards (Industries Yard), were consolidated at the north end of the Island. This isolation of prisoners within a smaller part of the Island allowed prisoners to be more easily guarded and provided a higher level of security for guards and their families. To facilitate this, cyclone fencing was installed dividing the Island into a series of smaller, more manageable spaces. A system

of catwalks was built, allowing guards to patrol large areas from above and to easily move between building rooftops, the Stockade/Recreation Yard sentry walk and guard towers. Defined routes were established for prisoners, such as the staircase from the Stockade/Recreation Yard to New Industries and Model Industries. On-the-ground guard patrol paths were formalized on the west side of the Island, and the Perimeter Sentry Walk on the east and north sides of the Island continued in use. Catwalks were attached on the sea-side of the Model Industries and buildings in the Powerhouse area. Many of these features have deteriorated or disappeared due to the harsh maritime climate and deferred maintenance.

The GSA installed additional cyclone fencing in 1971 to prevent people from landing on the island and from vandalizing facilities. Many of these features are in a state of disrepair due to the harsh maritime weather and a lack of maintenance since the Bureau of Prisons left the Island. Metal pipe rail fences and some cyclone gates have been added by the NPS to direct visitor traffic; however, these are generally compatible with the industrial character of the Island.

The collection of small scale features from the Island’s period of significance contributes to its significance as a cultural landscape. There remains evidence of each historic period’s small scale features, and therefore these features have integrity. However, there has been a substantial loss of small scale features since the end of the period of significance due to the harsh climate of Alcatraz Island as well as deferred maintenance. Large areas of the Island are closed seasonally for waterbird breeding resulting in damage from bird use as well as limiting access for maintenance. The loss of small scale features is on-going and is accelerating, and measures for immediate stabilization are needed.

**Table 4-1: Small Scale Features - Island**

<i>Feature</i>	<i>Figure #</i>	<i>Contributing or Non-Contributing</i>	<i>Rationale</i>
<b>Concrete Light Standards</b>	3-2 3-3	Originals: Contributing  Restorations/ Reconstructions to historic standard: Non-contributing, compatible	Original concrete light standards date to the period of significance  Restorations/reconstructions to historic standard do not date to the period of significance, however they reflect the historic feature.
<b>Fire Hydrants</b>	3-4	Contributing	Fire hydrants date to the period of significance

**Table 4-1: Small Scale Features - Island, continued**

<i>Feature</i>	<i>Figure #</i>	<i>Contributing?</i>	<i>Rationale</i>
<b>Prison Cyclone Fencing</b>	3-5	Originals: Contributing  Restorations/ Reconstructions to historic standard: Non-contributing, compatible	Originals date to the period of significance  Restorations/reconstructions to historic standard do not date to the period of significance, however reflect the historic fencing.  *Individual Fences assessed in the five character area sections.
<b>Metal Manhole Covers</b>	3-6 3-7	Contributing	Metal manhole covers date to the period of significance
<b>Above Ground Utility Pipes</b>		Originals: Contributing Additions/ Replacements/ Reconstructions to historic standard: Non-contributing, compatible	Originals date to the period of significance  Additions/restorations/reconstructions to historic standard do not date to the period of significance, however they reflect the historic utility pipes.
<b>Site Furnishings</b> • Picnic Tables • Benches • Trash Receptacles • Directional Signs	3-8 3-9 3-10 3-11	Picnic Tables, Benches, Trash Receptacles, Directional Signs: Non-contributing, non-compatible	Picnic tables, benches, trash receptacles, and directional signs do not date to the period of significance, and do not reflect the historic character of the Island.
		Benches: Contributing	Two benches (one near the Storage Vault, another at the Parade Ground entrance to the Agave Walk) exist on the Island that date to the period of significance.



**Figure 4 - 5.** Fencing, Sentry Walk and Catwalk from Stockade/Recreation Yard, top (AAC-9261 sflib 1956 recyd.jpg); bottom, (2009) (MBD IMG\_4102.jpg)



**Figure 4 - 6.** Security features are being lost due to a lack of maintenance, such as a catwalk feature in the Stockade/Recreation Yard, fencing along top of Stockade wall, and Hill Tower in distance; left, (c 1974) (Courtesy of J. Martini); right, (2009) (MBD P1000663.jpg)

### *Vegetation - Alcatraz Island*

This section presents an analysis of the vegetation of Alcatraz Island as a whole entity. A more in-depth analysis of vegetation associated with each landscape character area is presented separately.

The vegetation of Alcatraz Island developed along with its land uses and in response to its natural condition as a steep rocky island in the San Francisco Bay. Its original, sparse low groundcovers and grasses were augmented by its first inhabitants - the U.S. Army as they modified the Island for use as a military fortification. Due to its steep and rocky structure, the Island's early plantings consisted primarily of grasses and forbs for erosion control and to adorn the road along its steep hillsides and roadside. Garden areas were also blasted from the Island's rock, and were filled with imported soil and planted.<sup>14</sup> The vegetation normally found at an U.S. Army post such as native vegetation, grazing lands, vegetable gardens, orchards, or - at first - ornamental vegetation, was lacking due to the Island's harsh environmental conditions.

The initial vegetation was planted in response to the extensive earth moving and dramatic topography created for the military fortifications, and reformulated as the topography was rebuilt for the prisons and the penitentiary. Shrubs and forbs were used for stabilizing the steep slopes along the Main Road and in the narrow roadside beds, providing color and interest in addition to their functional role. Over time, flowering plants were added to the roadside beds. Grasses and groundcovers were used for erosion control on military embankments, and ornamental plantings filled the gardens set on the Island's few level plateaus. Few trees occurred on Alcatraz Island with

<sup>14</sup> Delgado et al 1992: 12

the exception of those associated with housing and later as slope plantings on the south end of the Island. These basic types of vegetation occurred throughout the Island's period of significance. The evolution of the plantings is illustrated on Figure 4-9.

As early as the 1860s, the U.S. Army built gardens on Alcatraz Island to soften its harsh environment and to make it livable for residents. Early gardens were an integral part of military life, first associated with the barracks of the Citadel along with the engineer's office on the Summit. The engineer's garden was likely for vegetables, however the Citadel garden and subsequent gardens were primarily ornamental. The form of the gardens and the character of their plantings reflected popular preferences and styles of the time. By 1869, the east and south sides of the Citadel included gardens. A large formal garden occurred on the south terrace next to the Ordnance Yard.<sup>15</sup> Its form and size varied slightly over time, and by 1900 an iron fence was built around the brick moat that surrounded the Citadel.<sup>16</sup> A much smaller garden occurred on the Citadel's east façade, set between the Main Road and the building, enclosed by a low decorative railing set on the Citadel wall. It was Victorian in style and had a clear view to the east towards Angel Island.<sup>17</sup> These early gardens no longer remain, although remnants (in the form of soils and debris) likely remain in the basement of the Main Prison as the building was built over this area. The tradition of creating defined gardens, especially associated with housing and to enhance livability, occurred throughout the Island's period of significance.

Many gardens were built in association with housing, beginning with the Citadel in the 1860s and continuing through the 1940s with the construction of the apartment buildings on the Parade Ground. In the early 1880s, four gardens were built on the sides of the Officers' Row Quarters as garden terraces. A fifth garden terrace was built uphill in association with the adjutant's office. This area was enlarged and formalized as the Commandant's garden after the construction of that residence (current day Warden's House) in 1923. The style and type of plantings likely followed the character of the earlier formal Victorian-style gardens of the Citadel.

Beginning in the 1920s, the U.S. Army began transforming level terraces that had earlier held buildings into gardens. One of the first was the Rose Garden built on the level terrace where the Hospital had stood, defined by the Hospital's original retaining walls on the uphill and downhill sides.<sup>18</sup> From the mid-1920s until 1933 when the Island was transferred to the Bureau of Prisons, the Rose Garden was cultivated by prisoners who moved to and from the greenhouse (built in 1931)<sup>19</sup> without oversight, reporting for gardening tasks in other parts of the Island and checking back when completed. On the Island's west side, the U.S. Army transformed the level terrace of the earlier corral and stables into the West Lawns,<sup>20</sup> flanking the Main Road.

Between 1934 and the early 1950s, the BOP (through the efforts of a few select guards and prisoners) created and maintained more than 15 gardens and hillside plantings. The BOP continued the tradition of gardening using earlier spaces created by the U.S. Army, and expanded the effort by adding gardens in the footprints of demolished buildings, and by beautifying the west side of the Island with hillside plantings and garden terraces. Garden cultivation was through the efforts of prison employees, their families, and by prisoners.<sup>21</sup> One key individual was Fred Reichel,<sup>22</sup> who, as

<sup>15</sup> The Ordnance Yard was defined by lines of cannon stacked to define it as a large plaza.

<sup>16</sup> Thompson 1979: 238

<sup>17</sup> Muybridge historic photographs

<sup>18</sup> 1928 Map

<sup>19</sup> Army Historic Building Book. The greenhouse replaced the earlier hothouse built in the 1920s.

<sup>20</sup> The West Lawns were configured and planted by the U.S. Army in the 1920s.

<sup>21</sup> Reichel 1934

<sup>22</sup> Reichel served as secretary to Warden Johnston between 1934 and 1941

secretary to the warden, was one of only a few people who had access to the entire Island.<sup>23</sup> He maintained gardens; bought, cultivated and planted new species, and experimented with species needing limited water and that could adapt to the harsh Island conditions. He was also instrumental in prisoners working as gardeners. Plants he noted as surviving included some previously introduced by the U.S. Army, as they persisted and spread because they were well suited to the Island's conditions. These included *aeonium*, *Agave americana*, *mesembryanthemum*, sedum and bulbs. To these he added other Mediterranean adapted species - *metroideros*, *Fremontodendron*, *echium* plus other *mesembryanthemum* species.<sup>24</sup>

During the BOP tenure, the west side of the Island flourished as it was the prime location for prisoner gardening due to the guards' ability to maintain surveillance of the area from the Stockade/Recreation Yard's catwalks and Guard Stations, and via the Road Tower. Prisoner gardeners included Dick Franseen, recruited by Reichel, who worked on the west side in 1940<sup>25</sup> before being promoted to the Rose Garden, and Elliot Michener who took over the west side gardening duties in 1941.<sup>26</sup> Michener worked in the entire area within the prison security fences for eight years, and was responsible for transforming it into pathways, beds and terraces working on both sides of the road, around the Greenhouse and down to the Laundry Building (New Industries).<sup>27</sup>

In addition to gardens, the planting of trees, shrubs, grasses and groundcovers for erosion control as well as for beautification occurred throughout Alcatraz Island's period of significance. Grasses and groundcovers were added to the steep embankments of the fortifications. Planted hillsides of mounding vegetation and trees are noted on historic maps as early as 1879, and likely occurred even earlier.<sup>28</sup> An 1893 photo shows a sloping hillside leading down from the Main Road towards the Bombproof Barracks with small trees at the top and low groundcovers interspersed by a few shrubs on the hillside.<sup>29</sup> In the mid-1910s, the U.S. Army instituted a tradition of beautification that continued through its tenure as a Federal penitentiary. Slopes of the Island were planted with *Agave americana*, ivy, ice plant, and eucalyptus to control erosion and beautify the Island. *Agave americana* was planted along portions of the Island's south hillside and adjacent to the staircase known as 'Lovers Lane.'<sup>30</sup> The Perimeter Sentry Walk was reported to have "flowers and shrubbery" planted on both sides, wherever possible.<sup>31</sup> In 1924, the U.S. Army began working with the California Spring Blossom and Wild Flower Association to transform the Alcatraz Island into a 'garden.'<sup>32</sup> Photographs and aerial photographs from 1930 to 1934 indicate plantings on the hillsides surrounding the lawns on the Island's west side as well as along the Upper West Road and below the Main Prison and Stockade/Recreation Yard. These were originally sod, clover and grass seed, but these species did not thrive due to the Island's harsh climate.<sup>33</sup> The slopes were later planted with

<sup>23</sup> Reichel undated oral history; ca. 1974; and ca. 1978

<sup>24</sup> Beatty 1996: 34-35 and Reichel undated oral history; ca. 1974; and ca. 1978

<sup>25</sup> Byers and Ashford 2008

<sup>26</sup> Michener 1995a: 1-2. Michener transformed the area into the Birdbath Garden (he planted it with flowering plants such as Delphinium, Dahlias and Iris, and placed a birdbath he had made within it), and built the Greenhouse and Laundry Terrace gardens. The recreation yard slope was the most visible of the gardens to the inmates since they walked through it daily via the stairway between the metal detectors and the Industries complex.

<sup>27</sup> Byes and Ashford: 2008; Michener 1995a: 1-2

<sup>28</sup> 1879 Map

<sup>29</sup> Review of Historical Photographs

<sup>30</sup> Lutsko 1992

<sup>31</sup> Mayer 1918

<sup>32</sup> Thompson 1979: 249

<sup>33</sup> Thompson 1979; Byers & Ashford 2008

*Agave americana*, ivy, and ice plant by the BOP. The U.S. Army built an irrigation system using recycled water from prison showers, routed to the cistern above the West Lawn South (an area previously used as a corral). Plantings may have included lavender-flowered *Mesembryanthemum* and century plants.<sup>34</sup>

The plant materials and planted areas on the Island that exist today are primarily reflections of the actions taken during the Federal Penitentiary period, and include remnants of the work of the U.S. Army from the early 1930s. This vegetation occurs in areas that were initially planted and areas not maintained along the shoreline. Garden areas received no maintenance or irrigation after the Bureau of Prisons left the Island in 1963. Some garden species disappeared as a result, and some species naturalized to other areas of the Island, and in some areas many plants survived.

Gardens, roadside beds, lawns and hillside plantings created during the period of significance remain today. These plantings and areas are organized by the following, and are illustrated on Figure 4-10.

**Historic Garden** – areas that were cultivated as gardens during the period of significance.

**Non Historic Vegetation** – areas that currently are vegetated but were not planted or do not have sufficient documentary evidence of plantings, during the period of significance.

**Historic Hillside Plantings** – slopes and hillsides that were planted for erosion control or aesthetics during the period of significance.

**Escaped Vegetations** – areas of extensive vegetation that is not desirable due to the potential impact to natural or cultural resources.

**Historic Lawn** – cultivated lawns that were present during the period of significance.

**Historic Roadside Bed** – areas at the base of walls and hillside's that were cultivated with ornamental plant species during the period of significance.

**Historic Tree** – tree present during the period of significance.

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<sup>34</sup> Reichel 1934

Historic gardens include those that have been rehabilitated, or are in the process of rehabilitation:

Sallyport Garden	Electric Shop Bed
Rose Garden	Trough Wall
Officers' Row Garden Terrace	West Lawn North
Laundry Terraces	West Lawn Borders
Toolshed Terraces	West Road Terraces
Cellhouse Slope	Birdbath Garden
Army Slope	Recreation Yard Slope
Greenhouse Garden	Seawall Planter
Warden's House Garden	Trough Wall
Apartments A, B, and C	Officers' Quarters - Duplex
Buildings 72, 73, 74, and 75	Eucalyptus Grove

Historic hillside plantings include the slopes along the Main Road on the east side of the Island and the Cellhouse Slope on the west side.

Historic roadside beds include those along the Main Road, on the Road to Industries, and along the Seawall Planter on the Parade Ground. Other historic gardens include the West Lawns (North and South); Greenhouse Garden; Birdbath Garden; and Stockade/Recreation Yard Slope. All of which are recommended for preservation or rehabilitation.<sup>35</sup>

Additional historic gardens, roadside beds and hillside plantings exist on the Island but not all have not been fully inventoried or evaluated. A few were partially inventoried in 1992.<sup>36</sup> Historic Gardens that have not been inventoried include the: Warden's House garden and greenhouse foundation; Lightkeeper's garden associated with the Lighthouse (may just be archeological remnants); Seawall Planter and its associated roadside bed on the Parade Ground; gardens on the hillside on the east side of the Parade Ground associated with Officers' Quarters 72, 73, 74 and 75 remnants; plantings associated with Apartments A, B and C and Building 83- (Officers' Quarters-Duplex) on the Parade Ground.

Hillsides that have not been inventoried include: the Eucalyptus Grove, and plantings associated with Agave Walk on the Island's south hillside.

Additionally, several historic trees remain from plantings that occurred between 1908 and the 1960s. These trees are in various condition - some older trees are nearing the end of their lifespan and should be removed. Others are in need of pruning and thinning to improve their health and form, and in some cases may need cabling to support branches. These include the larger Monterey Cypress trees planted by the U.S. Army. In addition, many of the Monterey Cypress and Eucalyptus trees are composed of multiple stems, and cabling of these trees has been recommended to reduce trunk rot. Non-historic trees include species (*Cordyline australis* and *Dracaena draco*) that are in poor condition due to termites and trunk rot, and the remaining trees should be removed.<sup>37</sup>

The historic vegetation of Alcatraz Island contributes to its significance as a cultural landscape. Extensive vegetation remains from the period of significance which results in the vegetation retaining historic integrity. The rehabilitation and preservation work undertaken by TGC and

<sup>35</sup> Byes and Ashford 2005, 2006a, 2006b, 2007a, 2007b, and 2008: While the plantings are historic, many did not have formal military or BOP names. Many of the current names are NPS designation.

<sup>36</sup> Lutsko 1992

<sup>37</sup> McBride 2007

volunteers is generally compatible with the historic vegetation and patterns of the Island. In particular, preservation actions such as weeding to remove invasive species, regular maintenance, and irrigating plantings has assisted in the re-establishment of original plantings and the historic character of vegetation on the Island during the period of significance, especially the years between 1930s and 1960s. In addition, the general practice of adding new plants that are either historic species or plants that are of a similar species also assists in re-establishing the Island's feeling and appearance during its period of significance.

The integrity of the Island's cultural landscape is likely to improve in those areas where preservation and rehabilitation efforts are occurring. Preservation actions are also clearly instrumental in protecting areas of historic vegetation. However, historic vegetation in some parts of the Island is threatened and is disappearing at an accelerating rate. This is occurring primarily in those areas subject to seasonal closures and managed for waterbird habitat - particularly in the area of the extant Laundry Terraces, and in the Parade Ground with its Seawall Planter and remnant vegetation. The Laundry Terraces contain a significant amount of historic plantings that date to the 1930s. The plantings are likely to be lost, to the harsh climate and invasive plant species, if the management of the area remains as it is currently.