Crime Prevention Through Environmental Design (CPTED) Survey of the Berkeley Marina

Completed by Officer Chris Scott on November 16, 2020

PURPOSE

This Crime Prevention Through Environmental Design survey was requested by Councilmember Rashi Kesarwani and Councilmember Susan Wengraf on 13 October 2020 through a referral to the City Manager. See council consent item #12 below for details.


The purpose of this survey is to examine the Berkeley Marina (with particular attention given to the berther parking areas) in order to provide Crime Prevention Through Environmental Design (CPTED) recommendations to hopefully reduce the risk of crime, the fear of crime, and potentially enhance the safety and security of the Berkeley Marina.
CPTED DEFINITION AND PRINCIPLES

Crime Prevention Through Environmental Design ("CPTED") is the proper design, maintenance, and use of the built environment in order to enhance the quality of life and to reduce both the incidence, and the fear, of crime. CPTED involves the balanced application of the following five principles.

**Natural Surveillance.** Natural surveillance involves design and maintenance elements that ensure full opportunity for people engaged in their normal behavior to observe the space around them, and equally, to minimize the perceived opportunity for concealment or anonymity by a person intending a criminal act. Natural surveillance is generally achieved by the use of appropriate lighting, low or non-opaque fencing or hedges, the removal of areas that offer concealment, and the placement of windows, doors, and walkways to ensure the opportunity for easy observation of surrounding areas by responsible users of property.

**Territorial Reinforcement (Territoriality).** Territorial reinforcement is the principle that providing clear delineation between public, private, and semi-private areas makes it easier for pedestrians to understand, and participate in, an area’s appropriate use while simultaneously communicating a sense of active “ownership” of an area that can discourage the belief that illegal acts may be committed in the area without concern or consequence. The use of non-opaque screening, low fencing, signage, pavement treatments, or other landscaping elements that visually indicate the transition between areas intended for different uses are examples of the principle of territoriality applied.

**Natural Access Control.** Access control is a concept directed primarily at decreasing criminal accessibility, especially into areas where a person with criminal intent would not easily be observed. Passive examples of access control would include a highly visible gate or entry way through which all users of a property must enter. Active examples include appropriate use of door and window locks, security fencing, or similar security barriers, to discourage unwanted access into private space or into dark or unmonitored areas.

**Activity Support.** Activity support involves both passive and active efforts to promote the presence of responsible pedestrian users in a given area, thus elevating the perceived community value of the area, while discouraging actions by would-be offenders who desire anonymity for their actions. A basic understanding of the value of activity support can be gained by considering the difference in both perceived and actual safety of a city park, or a sidewalk, that is used rarely as compared to a park or sidewalk that benefits from the routine presence of many responsible users. Passive examples are all manner of design that makes an area appealing to appropriate pedestrian use. Active examples involve event scheduling and similar steps to attract users.

**Maintenance.** Proper maintenance of landscaping, lighting and other features is a necessary requirement to ensuring that CPTED elements serve their intended purpose. Unfortunately, failure to maintain property — and its management parallel, the failure to stop harmful use of property by its legal occupants — will rapidly undermine the impact of even the best CPTED design elements. As such, while CPTED principles supplement effective maintenance and management practices, they cannot make up for the negative impacts of ineffective management. Damaged fencing, overgrown hedges, graffiti left to weather and age, litter and debris, broken windows, as well as such factors as inattentive, lax, or overly permissive management practices will advertise an environment of permissiveness to would-be offenders and, equally, undermine the desire of responsible users to remain in an area. While effective design is an important part of good crime prevention, following through with consistent maintenance and management practices ensures that the designed-in elements retain their effectiveness. In effect, this is the direct application of what has come to be known as the Broken Window Theory — ensuring that indicators of disorder are corrected promptly in order to prevent the greater disorder they may attract.
NATURAL SURVEILLANCE OBSERVATIONS AND RECOMMENDATIONS

Observations

Without a doubt, the biggest concern in the Berkeley Marina is lack of natural surveillance. Throughout much of the Berkeley Marina, large berms significantly obstruct the line of sight to and from almost every parking lot. Natural surveillance is critical in such areas as parking lots, pedestrian paths, and common gathering areas like Shorebird Park. The inability to see what is ahead along a route due to earth berms or bushes can be serious impediments to the feeling of being safe. Overgrown shrubbery and other barriers blocking sight lines adjacent to pedestrian paths or play areas could shield criminals. In the pictures below, one can see how difficult it is for pedestrians and motorists to see the various parking lots and vehicles from the street or sidewalk.
In the pictures below, one can see how the berms significantly impact line of sight from the street to Shorebird Park Nature Center and the Adventure Playground. The children in the park could not be seen from the street.
The picture below was taken looking out onto the N parking lot from the front of the Skates on the Bay Restaurant. As one can see, the berm just west of the lot hinders natural surveillance. It should be noted that Skates on the Bay and the Berkeley Marina implemented various CPTED suggestions I have given them over the past few years including lowering hedges, installing a mobile security booth, installing bollards, and improving signage in the Skates on the Bay lot. They determined that security cameras were cost prohibitive. The security booth was recently removed as it was burglarized and vandalized overnight.
Berms and dense shrubbery can also create hiding places for illegal campers. This trailer was parked along the south portion of Lot N – Skates and was not at all visible to anyone driving on University Avenue.

The large berm below is located just north of the former HS Lordships Restaurant building. The berm seriously impacts line of site from the restaurant to the parking lot.
Lighting is used for the illumination of human activity and security. Lighting by itself does not prevent crime, but it does provide a sense of safety and the ability to see a potential threat. Lighting helps an individual observe their surroundings and respond to a potential threat. Areas such as pathways and parking lots should be illuminated to the point where faces of pedestrians can be observed. Adequate lighting should provide enough illuminance that identification of a face could be made from 35 feet away. When applied within the CPTED principles, lighting is a great tool for owners, management teams, and residents to control and reduce fear, and the opportunity for criminal activity.

It’s worth noting that lighting is not desirable in an isolated area or for a path leading to some obscure places. Lighting such areas may provide a false sense of confidence for people during night time use. The paths or spaces not intended for night time use could be fenced off and remained unlit to avoid giving a false sense of security or impression of being used. I didn’t discover any isolated areas of the Marina that were illuminated unnecessarily.

Based on my training and experience, the lighting throughout the Marina was poor. The majority of the parking lots had areas that were not sufficiently illuminated.

Lack of lighting is evident immediately as one travels west on University Avenue into the Marina. As one can see from the pictures below, wayfinding/directional signage was not illuminated and almost impossible to see.
The lighting in the western most portion of the Hana Japan J & K lot was very good. This was due to the bright lights installed on the east side of the Hana Japan restaurant as one can see in the photo below.
One can see from the picture below however that the southeastern portion of the same Hana Japan lot is dark.

As mentioned before, every parking lot surveyed had areas that were not sufficiently illuminated. See the below photos for examples.

South Cove Lot (southeastern portion):
South Cove Lot (eastern portion):

L & M lot (northern portion):
Launch Ramp Lot (southern portion):

Doubletree Lot (northeastern portion):
Spinnaker Vista Lot (no lighting whatsoever):

Seawall Drive:
Seawall Drive:

Meadow Lot:
The perimeter pathway lighting was also poor. As one can see from the photos below, pedestrians walking at night may feel unsafe as some of the dark areas may offer concealment for a criminal element.

Perimeter pathway near Marina Blvd. and University Ave (extremely dark):

Pathway from the L&M dock to the parking lot:
The southwestern portion of the B&C Dock restroom building (first picture) was not sufficiently illuminated like the eastern side (second picture).

**Recommendations**

- Trim dense shrubs and tree canopies. Shrubs and ground cover should be maintained to a maximum height of 2 feet. For tall shrubs and trees, the canopy should not descend any lower than 6-8 feet.

- Remove or reduce the berms in the following areas:
  - Skates on the Bay N Lot
  - L&M Lot (south side)
  - Shorebird Park (north side)
  - HS Lordships Lot (west side and south side)
    - Prioritize the removal of the berm just north of the old HS Lordships Restaurant
  - Hana Japan / J&K Lot (south side)

See the photos below for exact locations.
• Install bollard/pathway lighting along the perimeter walking path of the Marina similar to the examples below.
• Install wall pack vandal resistant lights on the western portion of the B&C Lot restroom building

![Vandal Resistant](image1)

![Night View](image2)

• Although the lighting in the Marina parking lots is directional, the failure to overlap allowed shadows and void areas that provides an adult-size person with concealment. Install additional lighting posts to provide overlapped and uniform light, effectively eliminating the vulnerable areas.

![Lighting Diagram](image3)

- Prioritize lighting in the berthing parking areas, Skates N Lot, Hana Japan J&K Lot, Seawall Drive, and Spinnaker Vista.

• Mechanical Surveillance
  - Install security cameras in all parking lots. Security cameras installed in visible locations will help deter criminals from committing crimes. In addition, cameras can assist the Berkeley Police Department with investigations following a crime.
  - Prioritize the installation of a high definition security camera near the intersection of University Ave. and Marina Blvd. This strategic location would provide investigators with a tool to review all vehicles entering the Marina in the event of a critical incident such as a shooting.
TERRITORIAL REINFORCEMENT

Observations

For the most part, there appears to be clear delineation between public, private, and semi-private areas in the Berkeley Marina. I was pleased to see the outdoor seating area of the Hana Japan Restaurant is clearly delineated by decorative fencing and signage to deter trespassers in their private dining area.

The wayfinding signage throughout the Marina however is not very effective or appealing. None of the territorial reinforcement features or signage expresses pride and a sense of ownership of the space. The use of a clear signage and wayfinding strategy reduces the likelihood of visitors straying into less populated locations, or locations prone to concealment, by ensuring people are able to locate their destination using routes with high usage levels, adequate lighting and good natural surveillance.

Most experts agree that a disordered environment, one that is not maintained (poor quality roads, overgrown shrubs, excessive litter, insufficient lighting), sends the signal that the area is not monitored and that criminal behavior has little risk of detection. As one can see from the photos below, the first impression for travelers into the Berkeley Marina leaves a lot to be desired and gives one the impression that the area is not well maintained.
Visitors may assume that the entire area is McLaughlin Eastshore State Park from the sign below.
One particular area where territorial reinforcement can be improved is the Meadow Lot. As travelers turn northbound onto Marina Boulevard from University Avenue, they can be confused as to what purpose the Meadow Lot serves. Is it a parking lot, a dumping ground, or an extension of Eastshore Park? Is it a private or public space? The lot is also not paved making more difficult to ascertain its purpose or ownership. The lot has been used by trailers, motorhomes, RVs, and semi-trucks for illegal overnight camping.
Recommendations:

- Install modern, effective, and aesthetically pleasing signage on University Avenue just west of the freeway that indicates there is a sense of pride and ownership in the Berkeley Marina. See examples below.

- Install new wayfinding signs that are electronically illuminated or can be illuminated by external lighting. See examples below.
• Strongly recommend the installation of a welcome kiosk building or booth at the main entrance to the Berkeley Marina (University Ave. east of Marina Blvd.) To prevent burglaries or vandalism I would further recommend security cameras be affixed to this welcome kiosk. The advantages and utility of an aesthetically pleasing welcome kiosk would have a positive impact across various CPTED principles and would accomplish the following:
  o Give the impression the Berkeley Marina is well-managed
  o Increase perception of safety
  o Allow staff situational awareness
  o Provide visitors customer service and welcoming ambassadorship
  o Centralized place for signage and wayfinding
  o Deter criminal activity
As one can see from the examples below, many styles of kiosks have a welcoming and unintimidating look and feel.
• Communicate a sense of active “ownership” of the Meadow Lot by doing one or more of the following:
  o Pave and stripe the parking lot
  o Install adequate lighting
  o Install low level fencing with an entrance gate
  o Improve the area through landscaping projects
  o Consider re-purposing the parking lot into an active gathering space in-line with the Activity Support CPTED Principle. Possible ideas are:
    ▪ Community garden
    ▪ Sculpture or art projects
    ▪ Bocce ball courts
    ▪ Mini-golf area
    ▪ Picnic area
    ▪ Playground
    ▪ Rock climbing wall
    ▪ BMX track
    ▪ Lighted sand volleyball courts

ACCESS CONTROL

Observations

Some of the dock gates throughout the Marina need to be improved/updated to better prevent trespassers. After speaking with Marina Staff and berthers, it was clear that the improvements made to the gates at some of the docks helped reduce the incidence of trespass. There have also been numerous incidents of non-affiliates using the private showers that are only for berther use. This has caused berthers to become fearful of using the showers as some of the trespassers have become very aggressive. Some berthers have admitted to reluctantly letting unauthorized people use the showers out of fear of reprisal and physical harm.

There are numerous parking lots in the Marina that are only for berther use. Additionally, there are parking lots that are closed to the public during certain hours (mostly 2 am - 6 am). With no marina staff or parking enforcement officers available during evening/early morning hours, people can park in these areas without consequences. Overnight parking of RVs and motorhomes has been an issue at the marina for years. Most of the parking lots do not have any access control mechanisms. Some lots do have manual swing arm gates but they are not used regularly. Marina staff is not available to close/lock the gates in the late night or early morning hours. There were automatic gates in the Doubletree lot and the Launch Ramp lot.

The temporary fencing around the old HS Lordships restaurant is damaged and ineffective. Trespassers and/or squatters can easily bypass the fencing and gain access to the building.
The new and improved dock gate (left) is an improvement from the old gates (right) and is a more effective deterrent.

Manual swing arm gates were present in some lots but only used regularly Seawall Drive (HS Lordships lot). The Launch Ramp lot was the only lot with automatic gates. Bollards were installed in the Skates / N Lot and in the J&K Lot.
Fencing around the old HS Lordships restaurant:

Recommendations

- Upgrade the old fencing at all docks to prevent trespassers and increase the safety for all berthers.

- Enhance the countermeasures to deter or deny unauthorized access to the old HS Lordships Restaurant by changing the fencing fabric. A smaller (1”x1” or less) opening will be harder to climb than traditional chain-linked fencing. On the same note, consider barbed wire along the top of the fencing. Per BMC 23D.08.060, the use of barbed wire atop fences is restricted ONLY on property located within the boundary line of any residential district.
If the above recommendations are not implemented, then repair the existing fencing around the old HS Lordships Restaurant and ensure it is monitored on a daily basis; maintain when necessary. Consider installing signs indicating the area is alarmed and under surveillance.

- Install a fence with a gate (key fob access) around the B&C dock berther showers. This will create a buffer zone and prevent the berthers from being confronted by aggressive trespassers wanting to use their private showers as they exit. See picture below.
• Change the public parking hours along Seawall Drive and install automatic gate with tire spike strips. Of all the recommendations made in this survey, I believe this will have the greatest impact on reducing violent crime and making the Berkeley Marina safer for visitors and staff. Currently the public is allowed to park there between 6 a.m. and 2 a.m., however, vehicles regularly remain overnight. The old HS Lordships Restaurant is permanently closed and Skates on the Bay Restaurant closes at 10 p.m. on Friday and Saturday nights. Why does the parking lot need to stay open until 2 a.m.? The area has very poor lighting, no security cameras, and is very remote. There have been many shootings along Seawall Drive including one that occurred in 2017 at approximately 3:40 a.m. where a man was shot multiple times. Two men were charged with attempted murder in that case. I recommend closing the parking lot at 10 p.m. This may require a change in the Berkeley Municipal Code; however, the parking lot hours can be re-assessed at a later date once the old HS Lordships Restaurant is leased and re-purposed.

  o Install a gate (with signage) blocking the southbound lane that will automatically close at a set time. Install tire spikes in the northbound lane only allowing for people to exit. Authorized staff could gain access by entering the proper code on the keypad.
Install automatic gate barrier systems in all marina parking lots. Berthers and authorized staff can be issued key fobs or numeric codes to enter on a keypad. These gates will improve security and enhance the safety of berthers. They are adaptable and can be programed to open/close at various times. They can deter criminals and reduce staffing costs. The red lines in the photos below indicate recommended gate locations. Tire spike strips can be installed to allow for vehicles to exit only (indicated by orange lines in some photos). Existing gates are indicated by the green X.
Examples of gates
ACTIVITY SUPPORT

Observations

The Berkeley Marina staff has taken steps to attract legitimate users to the area by offering the following activity generators:

- Adventure Playground
- Shorebird Park Nature Center
- Nature education programs
- Free compost program
- Shoreline cleanups
- Special events
- Summer programs
- Volunteer programs
- Berkeley Yacht Harbor
- Water activities
- Boating

During the pandemic, public gatherings and efforts to generate activity support may be a challenge obviously. On the other side of this pandemic, however, the Berkeley Marina staff could create even more activity generators to recruit more eyes for “natural surveillance.”

Some of the previous recommendations in this survey would also satisfy passive activity support efforts such as re-paving or re-purposing the Meadow Lot. Pathway lighting along the perimeter path and additional lighting in parking lots would be other examples of passive activity support. Installing a volleyball court, bocce ball court, mini-golf area, or other amenities would no doubt draw more legitimate users to the Berkeley Marina as well.
Recommendations

Criminal acts can further be discouraged if staff generates even more activities in the Berkeley Marina for residents, visitors and other legitimate users. Examples of other activity generators are as follows:

- Fairs
- Organized exercise groups
- Fitness trails
- Car shows
- Outdoor swap meet / flea market
- Birdwatching groups/events
- Concerts/music festivals
- Outdoor movies
- Scavenger hunts
- Liveaboard events
- Food kiosks
- Food truck events/fairs
- Liveaboard Neighborhood Watch / community organized patrols
MAINTENANCE

Observations

As mentioned on page two of this survey, maintenance and management are parallel efforts that go hand in hand with one another. A clear strength of the Berkeley Marina is its management team. Based on my experience and observations, the team continually strives to improve the marina and that’s evident with some of the recent positive changes. The team has been constantly engaged with liveaboard residents, the police department, and other city departments to solve problems and decrease crime while increasing the quality of life for visitors and residents of the Berkeley Marina.

There were some maintenance concerns observed in the marina during this survey. Routine and preventative maintenance helps ensure CPTED elements serve their intended purpose. It also demonstrates that someone cares and is watching over the Berkeley Marina as neglected space often results in mistreatment by people. Trash bins throughout the marina were dirty, overflowing, lacked proper signage, and were not properly secured. Unsecured trash bins invite vermin, illegal dumping, and scavenging (dumpster diving).
I located debris and litter throughout the marina, especially along Seawall Drive (pictured below). The litter was most likely left behind by people parked along the street in the early morning hours. While conducting a nighttime lighting survey along Seawall Drive, I observed multiple people walking from their vehicles over to the berm just east of the roadway and urinating. It’s a good bet that this is happening multiple times every night. **These issues would be remedied if a gate was installed and the area was closed to vehicles during late night and early morning hours.** It would not be feasible to expect the beat officer to have the time to continually patrol the area given other responsibilities throughout the beat. Additionally, during graveyard hours that officer has the responsibility of two beats (13 and 14).
Clearly the quality of the streets sends the wrong message, however, the Measure T1 Bond street improvement projects postponed to Spring of 2021 will rectify this concern. I did notice that the pavement on Seawall Drive is also in need of resurfacing and I don’t believe that is schedule for improvement. I also noticed that many streets throughout the Berkeley Marina were dirty and in need of street sweeping.
Recommendations

- Install gated enclosures around all dumpsters with signage to deter illegal dumping. Dumpsters used by liveaboard residents should be placed in well-lit areas for safe nighttime use. Dumpsters not for use by the general public should be secured with locks and keys issued to authorized users and marina staff. If existing dumpsters are going to be kept, then I would recommend removing graffiti, locking them regularly, and installing better signage.
• In order to decrease the accumulation of trash, consider installing secure trash containers throughout the marina. These secure containers will deter animals, rodents, and people wishing to “dumpster dive.” This will also prevent wind from blowing trash out of the containers and polluting the marina and the bay.

• Consider installing portable restrooms along Seawall Drive to prevent people from urinating in public as well as prevent incidents of indecent exposure.

• Increase the frequency of trash collection and street sweeping in the Berkeley Marina. The marina should have street sweeping at least once per month. Maintenance crews should monitor trash bins on a daily basis and ensure they are properly maintained and secured. Vandalized or damaged bins/enclosures should be repaired as soon as possible.

CONCLUSION

I hope this CPTED survey has been helpful in addressing potential safety concerns and has given staff some direction for possibly improving the safety of the Berkeley Marina. The recommendations listed in this survey are made for the purpose of reducing the likelihood of criminal activity and providing for a safer environment. While no guarantee can be stated or implied, the concepts of CPTED have been proven internationally. The recommendations in this survey are made by the Berkeley Police Department as a public service, with the understanding that there is no way to predict or prevent all crime risks.

I am happy to answer staff’s questions about this survey and conduct a thorough site visit with marina staff to clarify and point out my observations and recommendations. I can be reached at 510-926-1097 or via e-mail at: cscott@cityofberkeley.info.