



RoseKennedyGreenway.org

CAPITAL REPAIRS REPORT

Summer 2015

CAPITAL REPAIRS INVENTORY

- This inventory of items in need of repair on the Rose Kennedy Greenway was updated in Summer 2015. Annual inventories were previously compiled in 2013 & 2014.
- The 2015 report does not include the parcels acquired from the July 1st, 2015 lease signing.
- This report is not intended to capture anticipated future capital repair needs nor reflect the funding that would be necessary annually or over time.
- The ranged cost estimates for each item are very preliminary. Wide ranges are used in cases of significant uncertainty, such as fixes involving subsurface conditions.
- The Rose Kennedy Greenway Conservancy does not currently have a capital reserve or sufficient funding necessary to address the vast majority of these items.

Issue	Park	Root Cause	Cost Estimate	
			LOW	HIGH
Upgrade WiFi	Across Greenway	Normal Deterioration	\$100,000	\$200,000
Horticulture Containers	Across Greenway	Accident/Vandalism	\$7,500	\$10,000
Tree Grates	Across Greenway	Normal Deterioration	\$5,000	\$7,500
Channel Fountain Leak	North End Parks	Design/Install Flaw	\$7,000	\$10,000
North End Map Engraving Fading & Damage	North End Parks	Normal Deterioration	\$2,500	\$5,000
Boxwood Renovations	North End Parks	Design/Install; Normal Deterioration	\$175,000	\$225,000
Sidewalk Slabs Buckling	North End Parks	Normal deterioration	\$5,000	\$10,000
Reset Stone Slabs in Fountain	North End Parks	Normal deterioration	\$10,000	\$12,000
Reset Granite Slabs	North End Parks	Normal deterioration	\$12,000	\$16,000
Stone Wall Caps and Granite Pavers Cracking	North End Parks	Design/Install Flaw	\$20,000	\$30,000
Re-grout for joint issues	North End Parks	Normal Deterioration	\$50,000	\$55,000
Skateboard Damage	Wharf District Parks	Accident/Vandalism	\$15,000	\$25,000
Rings Fountain: Leak into Vault A/C Ducts	Wharf District Parks	Design/Install Flaw; Cause Unknown	\$15,000	\$50,000
Rings Fountain Step Lights Malfunctioning	Wharf District Parks	Design/Install Flaw	\$20,000	\$30,000
Light Blades Repaint	Wharf District Parks	Normal Deterioration	\$15,000	\$20,000
Drip Irrigation System Retrofit	Wharf District Parks	Design/Install Flaw	\$7,000	\$10,000
Engravings fading	Wharf District Parks	Normal Deterioration	\$2,500	\$5,000
Sidewalk Removal	Wharf District Parks	Design/Install Flaw	\$10,000	\$15,000
Irrigation in P18 beds	Wharf District Parks	Design/Install Flaw	\$10,000	\$15,000
Reset Utility Covers	Wharf District Parks	Design/Install Flaw	\$20,000	\$30,000
Promenade London Plane Trees	Wharf District Parks	Cause Unknown	\$20,000	\$25,000
Re-grout for joint issues	Wharf District Parks	Normal Deterioration	\$25,000	\$30,000
Trash Cans	Wharf District Parks	Design/Install; Normal Deterioration	\$65,000	\$100,000
Metal and Wood Benches	Wharf District Parks	Normal Deterioration	\$30,000	\$50,000
Stone Dust Path Maintenance Problems	Fort Point Channel Parks	Design/Install Flaw	\$50,000	\$100,000
Chipseal Path Deterioration	Fort Point Channel Parks	Design/Install Flaw	\$25,000	\$40,000
Street Trees	Fort Point Channel Parks	Cause Unknown	\$36,000	\$50,000
Re-grade Dewey Road	Dewey Square Park	Normal Deterioration	\$2,500	\$5,500
Granite Pavers Settling	Dewey Square Park	Normal Deterioration	\$6,000	\$10,000
Leaning Light Pole	Dewey Square Park	Accident/Vandalism	\$6,500	\$8,000
Lawn Trees-Dogwood	125 Summer St	Cause Known	\$5,000	\$15,000
Fountain Fixture Leak	Chinatown Park	Normal Deterioration	\$3,500	\$4,000
Ginko Trees	Chinatown Park	Cause Known	\$5,000	\$7,500
Metal Bench Finish Damage	Chinatown Park	Normal Deterioration	\$10,000	\$15,000
LED Light Upgrade	Chinatown Park	Design/Install Flaw	\$15,000	\$18,000
Additional Railings on Red Cages	Chinatown Park	Design/Install Flaw	\$20,000	\$30,000
TOTAL			\$843,000	\$1,288,500

A photograph of a child riding a carousel horse, overlaid with a semi-transparent green filter. The child is smiling and holding onto the pole of the horse. The carousel is ornate with decorative patterns on the ceiling and other horses visible in the background.

ACROSS THE GREENWAY

GREENWAY WIFI

Normal Deterioration

- **Details:**
 - Poor connectivity due to an outdated wifi system
- **Repair Option:**
 - Upgrade wifi system
- **Cost Estimate:** \$100,000 – 200,000



HORTICULTURE CONTAINERS

Accident/Vandalism

- **Details:**
 - Damage primarily incurred as a result of vandalism/accidents
 - Approximately a dozen containers of various size and style, located across the park, will need attention
 - This problem presents an aesthetic issue
- **Repair Option:**
 - Replacement for severe damage; possible in-house repairs to lesser damaged containers
- **Cost Estimate:** \$7,500 – 10,000



TREE GRATES

Normal Deterioration

- **Details:**
 - 5 tree grates throughout the park are broken in some capacity
 - This problem presents an aesthetic issue, negatively impacts park maintenance and is a safety hazard
- **Repair Option:**
 - Welding repair required on some; others need complete replacement
 - In-house
- **Cost Estimate:** \$5,000 – 7,500



NORTH END PARKS

CHANNEL FOUNTAIN LEAK

Design/Install Flaw

- **Details:**

- Water leaking along multiple points of fountain wall joint due to failure of joint sealant
- If not repaired before winter, moisture behind wall will freeze, increasing likelihood of structural damage
- This item is carried over from 2014, and is in the process of being fixed, but there remains more work to be completed
- This problem presents an aesthetic issue, and will continue to deteriorate, increasing repair cost



- **Repair Option:**

- Replace joint sealant and install backer rod in wall cap above water line
- In-house repair

- **Cost Estimate:** \$7,000 – 10,000

NORTH END ENGRAVINGS FADING & DAMAGE

Normal Deterioration

- **Details:**
 - Details of historical map on southwest corner are wearing and chipping
 - Engraving near the northeast corner of the park is fading
 - This problem presents aesthetic issues
- **Repair Options:**
 - Repair damaged map features and paint with lithichrome paint
 - In house repair or contract out
- **Cost Estimates:** \$2,500 – 5,000



BOXWOOD RENOVATIONS

Design/Install Flaw

- **Details:**
 - There is an invasive weed and the boxwoods were installed too close together
 - A more dynamic landscape is desired on the Surface Artery side of Parcel 10 that would increase plant variety and year round seasonal interest
 - Renovations would mimic the new boxwood design on Parcel 8, which was installed the summer of 2015
 - This problem presents aesthetic issues and negatively impacts park operations



- **Repair Option:**
 - Horticulture and irrigation costs
 - Contract out
- **Cost Estimate:** \$175,000 – 225,000

SIDEWALK SLABS BUCKLING

Normal Deterioration

- **Details:**
 - Sidewalk slabs have heaved due to tunnel vibrations and frost damage
 - Problem worsens in winter; sidewalk is not ADA compliant
 - Construction area is approximately 12'x16' adjacent to Hanover St on the north side of Parcel 10
 - This problem concerns a basic park amenity



- **Repair Option:**
 - Remove and reset slabs; re-grade surface below
 - Contract out
- **Cost Estimate:** \$5,000 – 10,000

RESET STONE SLABS IN FOUNTAIN

Normal Deterioration

- **Details:**
 - 6 slabs in the fountain need to be reset, as they have heaved
 - Water enters joints, and when it freezes the slabs are disturbed, creating trip hazards
 - This problem is an aesthetic issue, concerns a basic park amenity, and is a safety issue
- **Repair Option:**
 - Contract out work
- **Cost Estimate:** \$10,000 – 12,000



RESET GRANITE SLABS

Normal Deterioration

- **Details:**
 - 30 slabs need to be reset, the slabs have heaved
 - Water enters joints, and when it freezes the slabs are disturbed, creating trip hazards
 - This problem is an aesthetic issue, concerns a basic park amenity, and is a safety issue
- **Repair Option:**
 - Contract- out
- **Cost Estimate:** \$12,000 – 16,000



STONE WALL CAPS & GRANITE PAVERS CRACKING

Design/Install Flaw

- **Details:**

- The bases of the fountain railings were not installed properly allowing moisture to seep through the spaces between the stones
- Freezing conditions put stress on the joints, causing stone caps and adjacent granite pavers to crack
- All of the caps need to be reset, some replaced, but those on the north side of Parcel 10 and south side of Parcel 8 are priorities
- This problem continues to deteriorate; repair costs may rise



- **Repair Option:**

- Remove stone cappings and reset, re-cut or replace as necessary; replace any broken pavers
- In-house repair or contract out

- **Cost Estimate:** \$20,000 – 30,000

RE-GROUT FOR JOINT ISSUES

Normal Deterioration

- **Details:**
 - Joints need to be re-grouted due to normal deterioration
 - If not done, water enters joint, freezes and causes pavers to heave upwards
 - Amount of work is beyond the capacity of the Greenway team
 - This problem presents an aesthetic issue, will continue to deteriorate and increase repair cost, and negatively impacts park operations



- **Repair Option:**
 - Re-grout joints where grouting has deteriorated with flexible sealant
 - Contract out
- **Cost Estimate:** \$50,000 – 55,000



WHARF DISTRICT PARKS

SKATEBOARD DAMAGE

Accident/Vandalism

- **Details:**

- Skateboards are damaging the granite, benches and planters by applying wax and using the features to skate on
- Previous deterrents are not working; next remedy attempt will increase the frequency of deterrents
- This problem concerns a park amenity and will continue to deteriorate, increasing repair costs

- **Repair Option:**

- Increase number of deterrents; repair damaged areas
- Contract out

- **Cost Estimate:** \$15,000 – 25,000



RINGS FOUNTAIN: LEAK INTO VAULT A/C DUCTS

Design/Install Flaw & Cause Unknown

- **Details:**

- In the vault there are (future-use) empty conduits that seem to be leaking water
- Water is causing metal cabinet to rust
- This problem will continue to deteriorate, increasing repair cost

- **Repair Option:**

- Find water source, seal duct from water penetration

- **Cost Estimate:** \$15,000 – 50,000



Photos show damage caused by leak



RINGS FOUNTAIN STEP LIGHTS MALFUNCTION

Design/Install Flaw

- **Details:**

- All of the 29 lights embedded in the steps adjacent to the Rings Fountain do not function; condensation has built up inside some of the fixtures
- The lights are part of the original site design and contribute to the park's visual appeal; they also have a safety function
- The original lights are no longer manufactured
- This problem presents aesthetic issues and concerns a basic park amenity



- **Repair Option:**

- Select alternative lights and retrofit the step light settings

- **Cost Estimate:** \$20,000 – 30,000

LIGHT BLADES REPAINT

Normal Deterioration

- **Details:**
 - The light blades on Parcels 15 & 16 contain 12 structures
 - They need to be repainted periodically due to scratches, damage or normal wear and tear of the elements
 - This problem presents an aesthetic issue
- **Repair Option:**
 - Repaint the 12 structures
 - Contract out
- **Cost Estimate:** \$15,000 – 20,000



DRIP IRRIGATION SYSTEM RETROFIT

Design/Install Flaw

- **Details:**

- The below-ground drip irrigation system is insufficient for watering the amigdaloid beds, which are part of the original site design
- The turf is dying as a result, and the birch trees receive inadequate irrigation during the summer
- This problem presents aesthetic issues and negatively impacts park operations



- **Repair Option:**

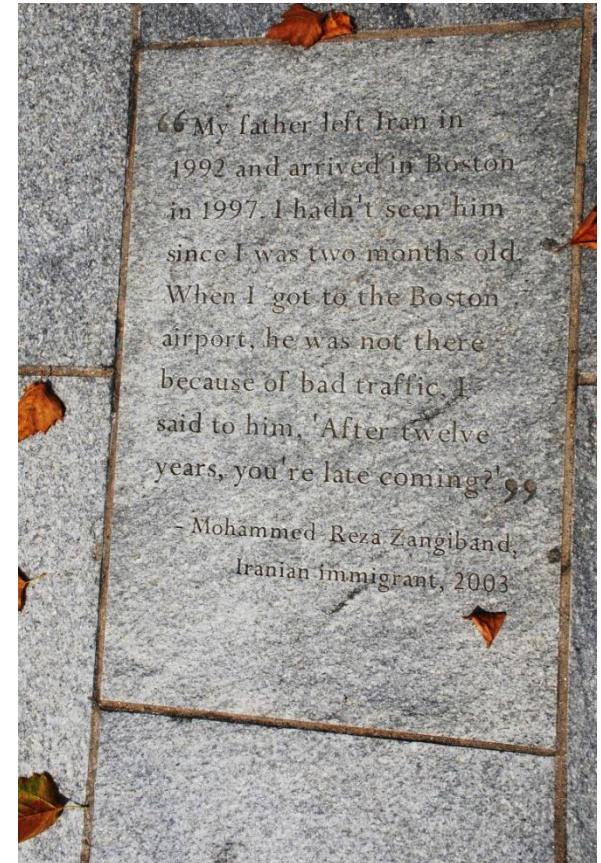
- Convert the existing drip zone into a spray zone by capping drip lines and installing new pipping with 35 -40 spray heads
- Contract out

- **Cost Estimate:** \$7,000 – 10,000

WHARF DISTRICT ENGRAVINGS FADING

Normal Deterioration

- **Details:**
 - Hardscape engravings in the Wharf District, including the Immigrant Letters engravings, are fading
 - This problem presents aesthetic issues
- **Repair Options:**
 - Paint with lithichrome paint
 - In-house repair or contract out
- **Cost Estimate:** \$2,500 – 5,000



SIDEWALK REMOVAL

Design/Install Flaw

- **Details:**
 - The sidewalk leads to a non-pedestrian paved strip, entering Atlantic Ave with no correlating crosswalk
 - Add light-touch landscape improvements
 - This problem presents an aesthetic issue and is a safety hazard
- **Repair Option:**
 - Jackhammer removal of sidewalk and its base; replace with soil & sod
- **Cost Estimate:** \$10,000 – 15,000



P18 IRRIGATION

Design/Install Flaw

- **Details:**
 - Currently only the lawns are irrigated on P18
- **Repair Option:**
 - Install drip irrigation system into beds
- **Cost Estimate:** \$10,000 – 15,000



RESET UTILITY COVERS

Design/Install Flaw

- **Details:**

- Utility covers do not match the ground elevation, which has only been amplified with settling that occurs naturally over time
- 6 units need to be adjusted
- This problem presents an aesthetic issue, negatively impacts park operations and is a trip hazard

- **Repair Option:**

- Reset the frame to the appropriate elevation; some regrading of the soil will be required

- **Cost Estimate:** \$20,000 – 30,000



PROMENADE LONDON PLANE TREES

Cause Unknown

- **Details:**
 - Seven trees currently in need of removal
 - Spread throughout the Wharf District parks
 - Plans in place to remove two trees and investigate the tree pit for causes
 - This problem presents aesthetic issue and is a safety hazard
- **Repair Option:**
 - Replace with new trees
- **Cost Estimate:** \$20,000 – 25,000



RE-GROUT FOR JOINT ISSUES

Normal Deterioration

- **Details:**

- Joints need to be re-pointed or re-caulked due to normal deterioration
- If not done, water enters joint, freezes and causes pavers to heave
- Amount of work is beyond the time capacity of the Greenway team
- This problem presents an aesthetic issue, will continue to deteriorate and increase repair cost, and negatively impacts park operations



- **Repair Option:**

- Re-point or re-seal joints where mortar or sealant have failed
- Contract out

- **Cost Estimate:** \$25,000 – 30,000

TRASHCANS

Design/Install Flaw & Normal Deterioration

- **Details:**

- As a park, there is a movement to transition to a unified barrel system with side by side recycling and consistent branding
- The white industrial metal trash cans throughout the Wharf District Parks are rusting due to non-galvanized manufacture, causing unsightly appearance
- There are 23 barrels in the Wharf District
- This problem presents an aesthetic issue



- **Repair Option:**

- Remove current trash cans; replace with new ones

- **Cost Estimate:** \$65,000 – 100,000

METAL AND WOOD BENCHES

Normal Deterioration

- **Details:**

- Wear and tear have damaged the metal finishing; exposed metal has started to rust
- There are a total of 75 benches in the Wharf District Parks
- Some wooden slats on the benches are badly warped – 18 top slats and 28 bottom slats need replacing
- This problem presents aesthetic issues and concerns a basic park amenity



- **Repair Option:**

- Investigate whether refinishing the benches would be cost-effective; otherwise, replacements are needed

- **Cost Estimate:** \$30,000 – 50,000

FORT POINT CHANNEL PARKS

STONE DUST PATH MAINTENANCE PROBLEMS

Design/Install Flaw

- **Details:**
 - Stone dust path cannot stand up to high-intensity use during most of the year, or be plowed during the winter
 - Strong rainstorms cut channels into the path, making it uneven; pedestrians use at their own risk during the winter
 - There is considerable erosion of the path complicating maintenance of the park
 - This problem presents an aesthetic issue, concerns a basic park amenity and negatively impacts park operations

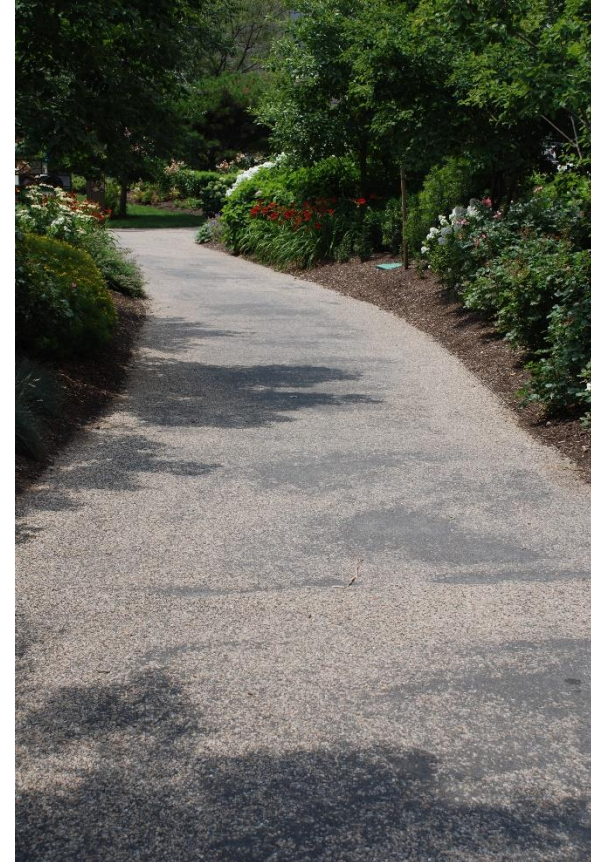


- **Repair Option:**
 - Design and install a more durable asphalt or Chipseal path
- **Cost Estimate:** \$50,000 – 100,000

CHIPSEAL PATH DEFECT

Design/Install Flaw

- **Details:**
 - Path has permanent aesthetic flaws due to installation problems
 - Most of the pebbles that were supposed to adhere to the asphalt base layer are gone
 - This problem presents aesthetic issues
- **Repair Options:**
 - Remove and reinstall the path
 - Contract out
- **Cost Estimate:** \$25,000 – 40,000



STREET TREES

Cause Unknown

- **Details:**
 - 24 trees along the Atlantic Street side of these three parcels have failed to establish
 - Potential cause could be the underground steam line effecting tree roots
 - This problem presents an aesthetic issue
- **Repair Option:**
 - Remove and replace, either with a 3” caliper tree or with a bigger more mature tree
 - Pending confirmation of cause, consideration for re-design *
- **Cost Estimate:** \$36,000 – 50,000+



* Re-design cost is not represented in this estimate

DEWEY SQUARE

RE-GRADE DEWEY ROAD

Normal Deterioration

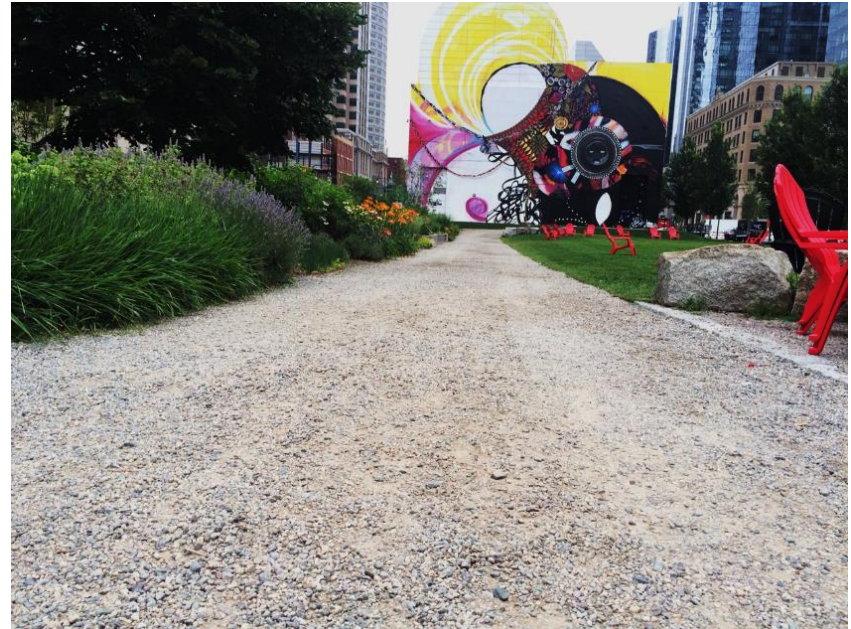
- **Details:**

- The nature of a gravel road requires regrading as result of use
- The road on Dewey has become uneven, and the number of ruts are increasing
- This problem presents an aesthetic issue, will continue to deteriorate, increasing repair costs, and negatively impacts park operations

- **Repair Option:**

- Regrade the road
- Contract out

- **Cost Estimate:** \$2,500 – 5,500



GRANITE PAVERS SETTLING

Normal Deterioration

- **Details:**
 - Natural settling of the pavers, and the dynamic nature of the tunnel, causes an uneven surface
 - This presents an aesthetic issue and is a safety hazard
- **Repair Option:**
 - Contract out
- **Cost Estimate:** \$6,000 – 10,000



LEANING LIGHT POLE

Accident/Vandalism

- **Details:**
 - Light pole leans to one side; cause due to impact from vehicle
 - This problem presents an aesthetic issue
- **Repair Option:**
 - Remove and replace granite base and existing pole
 - Contract out
- **Cost Estimate:** \$6,500 – 8,000



LAWN TREES – DOGWOOD DISEASE

Cause Known

- **Details:**
 - Decline of 8 Dogwood trees from the original design due to disease
 - One tree has been removed; 7 left to address
 - This problem presents an aesthetic issue and will continue to deteriorate, increasing repair costs.
- **Repair Option:**
 - Remove and replace, potentially with an improved species
- **Cost Estimate:** \$5,000 – 15,000



CHINATOWN PARK

FOUNTAIN FIXTURE LEAK

Normal Deterioration

- **Details:**
 - Flexible sealant used is waterproofed, but has a limited life span
 - Worsens with time, as the sealant's waterproof abilities fade
 - This problem presents an aesthetic issue
- **Repair Option:**
 - Re-seal with flexible sealant
 - In-house
- **Cost Estimate:** \$3,500 – 4,000



GINKGO TREES

Cause Known

- **Details:**
 - Two trees currently in need of removal
 - Result of winter stress and impact of interrupted irrigation
 - This problem presents an aesthetic issue and is a safety hazard
- **Repair Option:**
 - Replace with new trees
- **Cost Estimate:** \$5,000 – 7,500



METAL BENCH FINISH DAMAGE

Normal Deterioration

- **Details:**
 - Paint is chipping off all 4 benches due to normal use
 - While chipping is not as severe or noticeable on all the benches, at least one bench is in very poor condition and needs to be removed and re-finished off-site
 - This problem presents an aesthetic issue
- **Repair Options :**
 - Sand, seal, and paint benches with a powder finish off-site
 - Contract out
- **Cost Estimate:** \$10,000 – 15,000



LED LIGHT UPGRADE

Design/Install Flaw

- **Details:**
 - Current light fixtures do not provide adequate light levels and are costly to maintain
 - Transitioning to LED light fixtures will reduce maintenance costs, reduce energy use and provide increased level of illumination
 - There are a total of 23 lights. One light has been replaced as a test case and was successful
 - This problem presents an aesthetic issue and is a safety concern



- **Repair Option:**
 - Remove current light fixtures, replace with the LED light packages
- **Cost Estimate:** \$15,000 – 18,000

ADDITIONAL RAILING ON RED CAGES

Design/Install Flaw

- **Details:**
 - When the bamboo is young, there are no horizontal rails to support its growth, and it spills out
 - Additional horizontal rails would contain the bamboo
 - This problem presents an aesthetic issue and negatively impacts park operations
- **Repair Option:**
 - Install additional supports
- **Cost Estimate:** \$20,000 – 30,000





FURTHER NOTES

ITEMS RESOLVED SINCE LAST REPORT

Issue	Park
Freedom Trail Lights Malfunctioning	North End Parks
Gold Bench Finish Deteriorating	North End Parks
Bollard Lights Loosening	North End Parks
Canal Fountain Railing Residue Buildup and Corrosion	North End Parks
Pergola Finish Damage	North End Parks
Wall Cap Drain Joint Sealant Shrinkage	North End Parks
Pergola Electric Wire Bird Deterrent Malfunctioning	North End Parks
Bed Lights Malfunctioning	Chinatown Park
Garden Bed Damage	Chinatown Park