From: Scala, Mary Joy
Sent: Thursday, July 28, 2016 11:22 AM
To: Ehman, Doug
Subject: BAR Action - Downtown Mall between 6th and 7th Street East End - July 19, 2016

July 28, 2016

City of Charlottesville
Department of Parks and Recreation
ATTN: Doug Ehman

RE: Certificate of Appropriateness Application
BAR 16-07-07
Downtown Mall, between 6th Street and 7th Street
Tax Map 53
City of Charlottesville, Owner/Department of Parks and Recreation, Applicant
Move lamp posts & install synthetic tree grates

Dear Applicant,

The above referenced project was discussed before a meeting of the City of Charlottesville Board of Architectural Review (BAR) on July 19, 2016. The following action was taken:

Balut moved to find that relocating four light poles as submitted does not satisfy the BAR's criteria, and we stipulate that Mary Joy and at least two members of the BAR will visit the mall to verify the new lamps will be compatible with this property and other properties in the Downtown ADC district, that the BAR will approve that new layout administratively after that meeting takes place. Schwarz seconded. Motion passed (7-0).

Balut moved to find that the redesign of ten tree grates does not satisfy the BAR's criteria and is not compatible with this property and other properties in the Downtown ADC district, and that the BAR recommends that the grates located around damaged or threated trees may be temporarily replaced by plastic grates, for no longer than six months until another solutions is found to replace those grates with metal grates that are similar to the existing grates on the Downtown Mall. The cantilever frames are approved as submitted. Knott seconded. Motion passed (7-0).

This certificate of appropriateness shall expire in 18 months (January 19, 2018), unless within that time period you have either: been issued a building permit for construction of the improvements if one is required, or if no building permit is required, commenced the project. The expiration date may differ if the COA is associated with a valid site plan. You may request an extension of the certificate of appropriateness *before this approval expires* for one additional year for reasonable cause.

If you have any questions, please contact me at 434-970-3130 or scala@charlottesville.org.

Sincerely yours,

Mary Joy Scala, AICP
Preservation and Design Planner

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CITY OF CHARLOTTESVILLE
BOARD OF ARCHITECTURAL REVIEW
STAFF REPORT
July 19, 2016

Certificate of Appropriateness Application
BAR 16-07-07
Downtown Mall, between 6th Street and 7th Street
Tax Map 53
City of Charlottesville, Owner/Department of Parks and Recreation, Applicant
Move lamp posts & install synthetic tree grates

Background

The Downtown Pedestrian Mall was designed by Lawrence Halprin Associates from 1973-76. The first five blocks of East Main Street were pedestrianized in 1976. In 1980 the mall was extended by two blocks on West Main Street. The west end in front of the Omni was completed in 1985. The east end of the mall was completed in 2006, when the Transit Station, Freedom of Expression wall, and the Amphitheater were built.

In 2004, revised 2005, Wallace, Roberts and Todd, LLC (WRT) prepared a Downtown Mall Schematic Design Report, as part of a coordinated series of projects downtown. The report recognized the success of the 1970's Lawrence Halprin mall design, and recommended minimal intervention to repair age-related decline. (See attached recommendations regarding tree grates.)

In 2009 the Mall was completely renovated with 4" x 12" paving bricks (similar in size to the originals) laid in sand instead of mortar. The original mortared runnels were retained, and also the soldier courses abutting the buildings. The spider lights were refurbished, and the fountains repaired. The concrete paving designs were replaced with the originally proposed granite. As part of the 2009 renovations, approximately 30 single chairs with backs, constructed of wood slats and metal similar to the original Halprin design, were installed in various locations on the Mall. The chairs were fixed in place due to concerns regarding theft, and placement in the fire lane.

In 2013 the Parks Division (at the City Manager's request) removed some of the chairs from Central Place, and also removed/replaced the chairs in front of City Hall with backless, black metal benches. The BAR did not review this change. At that time, sufficient backless benches were purchased to replace all of the 2009 chairs.

December 18, 2007 - Preliminary discussion and comments made. The BAR urged the City not to skimp or rely on "off the shelf" designs for this important space; be as faithful as possible to the original Halprin design; don't even consider concrete pavers; **the east mall addition is like an addition to a historic building- don't use that as a precedent for the older mall**; why replace rather than retrofit lighting and chairs; concern that mall will be over lit; use wire-cut bricks (not wood form) that are more consistent with 1970's time period; like proposed runnel design but using wire bricks; opportunity to correct things such as marking the travelway; crossing design is crucial : signage, all details – could see variation here; look at ways to incorporate side streets; cultivate trees offsite now; **consistent tree grate design; retain original pieces on mall so you can see what it was, then create hierarchy – subordinate areas added on**; preference for brick matching original – find out price for larger, wire cut brick.

May 20, 2008 - Approved (8-0) the proposed planters, benches [additional benches of the same design, but not circular benches around planters], trash and recycling receptacles, bike racks, lights and light poles with phototmetrics to come back to BAR for approval, removal of internal mall bollards, the addition of side street bollards, two new small fountains, and reconfiguration of the planted island near Water Street. They want to look further at larger brick size samples [either 12 ft x 12 ft or 20 ft x 20 ft actual samples of 5x10 vs. 4x12; also 4x8 laid in an oversized (doubled) pattern with two regular size bricks replacing one of the oversize bricks] , additional details of runnels, an overall paving design [drawing] for the width of the mall, other samples of granite banding [closer to the dark with finer grain than the light sample – look to the central place fountain for tonal quality], and details of the vehicle crossings including speed bumps and tactile strips.

June 17, 2008 – The BAR discussed the mall bricks and said the City should be held to the same standard as other applicants. They cautioned not to change it for pragmatic or financial reasons; that architecture and landscape architecture are equally important as engineering considerations. The BAR wants the 4 x 12 size and herringbone pattern maintained. They understand and agree with the benefits of laying the bricks in sand; therefore they understand that the existing bricks cannot be reused and laid in sand in a herringbone pattern due to proportions being incorrect without mortar. They want the runnels kept similar to the existing design, and like the addition of granite banding that Halprin proposed.

July 21, 2008 - The City Council passed resolutions regarding the rehabilitation of the mall and funding. They were undecided on the size of the bricks for the mall crossings. Three of them preferred the 4 x 8s, but they agreed to abide by the BAR's decision if the BAR decides to go with the 4 x 12s.

August 19, 2008 - Approved (7-0) the 4 x 12 bricks in the main field and 4 x 8 bricks in the crosswalks; the mortar-set reconstructed runnels and soldier courses on either side; the light fixtures; granite inserts and newspaper corral boxes; the flip-flopped light levels (70 w lamps in spider configuration and 100 w in singles to even out lighting levels);
with the following to come back to the BAR for approval: color samples of the brick and granite; **tree preservation plan and grate design**; solution for the light poles [preference for 3 ½ " thicker steel or 1-2' taper at top with seamless transition to spider fixture, or pack base with concrete] and additional design work on vehicular crossings taking into account the suggestions made about truncated domes and reorientation of 4x8 bricks.

October 21, 2008 - Approved (6-0) the following proposed changes: fire lane demarcation (but deferred discussion of the café demarcation); the alternate drinking fountain # 4420; the brick color and granite colors; and the design intention of the vehicular crossing, but not the level of detail, which must come back for BAR approval.

November 18, 2008 - The BAR approved (8-1) the drawing received at the meeting described as "4th St. Mall Crossing Layout #1," but keeping the 4"x 8" crossing bricks in the same orientation as the mall bricks.

January 20, 2009 – The BAR approved (5-0-1) the Concept 3 banding in the West End Plaza with the strong recommendation that the angle of the brick runnel that is just east of the plaza be realigned to make it parallel with the east edge of the outer granite band.

April 19, 2016 – The BAR accepted (8-0) the applicant's request for a deferral. The BAR asked the applicant to provide a map showing the current location on the Downtown Mall of all the existing

benches and chairs, and to research a possible replacement chair with a back, made of wood and metal.

Application

The Parks Division is requesting approval to replace ten "cantilevered" brick tree grates around the Freedom of Expression Wall and the Music Pavilion with black recycled plastic tree grates.

In addition, the four pole lights at the Freedom Wall were installed too close to the trees and must be relocated. Figure 5 shows the proposed locations for the four lights.

Criteria and Guidelines

Review Criteria Generally

Sec. 34-284(b) of the City Code states that,
In considering a particular application the BAR shall approve the application unless it finds:
(1) That the proposal does not meet specific standards set forth within this division or applicable provisions of the Design Guidelines established by the board pursuant to Sec.34-288(6); and
(2) The proposal is incompatible with the historic, cultural or architectural character of the district in which the property is located or the protected property that is the subject of the application.

Standards for Review of Construction and Alterations include:

(1) Whether the material, texture, color, height, scale, mass and placement of the proposed addition, modification or construction are visually and architecturally compatible with the site and the applicable design control district;
(2) The harmony of the proposed change in terms of overall proportion and the size and placement of entrances, windows, awnings, exterior stairs and signs;
(3) The Secretary of the Interior Standards for Rehabilitation set forth within the Code of Federal Regulations (36 C.F.R. §67.7(b)), as may be relevant;

1. *A property shall be used for its historic purpose or be placed in a new use that requires minimal change to the defining characteristics of the building and its site and environment.*
2. *The historic character of a property shall be retained and preserved. The removal of historic materials or alteration of features and spaces that characterize a property shall be avoided.*
3. *Each property shall be recognized as a physical record of its time, place, and use. Changes that create a false sense of historical development, such as adding conjectural features or architectural elements from other buildings, shall not be undertaken.*
4. *Most properties change over time; those changes that have acquired historic significance in their own right shall be retained and preserved.*
5. *Distinctive features, finishes, and construction techniques or examples of craftsmanship that characterize a historic property shall be preserved.*
6. *Deteriorated historic features shall be repaired rather than replaced. Where the severity of deterioration requires replacement of a distinctive feature, the new feature shall match the old in design, color, texture, and other visual qualities and, where possible, materials. Replacement of missing features shall be substantiated by documentary, physical, or pictorial evidence.*
7. *Chemical or physical treatments, such as sandblasting, that cause damage to historic materials shall not be used. The surface cleaning of structures, if appropriate, shall be undertaken using the gentlest means possible.*
8. *Significant archeological resources affected by a project shall be protected and preserved. If such resources must be disturbed, mitigation measures shall be undertaken.*
9. *New additions, exterior alterations, or related new construction shall not destroy historic materials that characterize the property. The new work shall be differentiated form the old and shall be*

compatible with the massing, size, scale, and architectural features to protect the historic integrity of the property and its environment.

10. *New additions and adjacent or related new construction shall be undertaken in such a manner that if removed in the future, the essential form and integrity of the historic property and its environment would be unimpaired.*

(4) The effect of the proposed change on the historic district neighborhood;
(5) The impact of the proposed change on other protected features on the property, such as gardens, landscaping, fences, walls and walks;
(6) Whether the proposed method of construction, renovation or restoration could have an adverse impact on the structure or site, or adjacent buildings or structures;
(7) When reviewing any proposed sign as part of an application under consideration, the standards set forth within Article IX, sections 34-1020 et seq. (SIGNS) shall be applied; and
(8) Any applicable provisions of the City's Design Guidelines.

Pertinent Design Review Guidelines - Public Design and Improvements

A. INTRODUCTION

Public spaces define the spatial organization of the City, forming the basis for social, cultural, and economic interaction. The Downtown Pedestrian Mall is the centerpiece of the community. Charlottesville's historic parks, trails, boulevards, cemeteries, playgrounds, and other open spaces help balance the desired urban density and promote healthy living and quality of life. Public spaces accommodate multiple functions and provide social venues. The historic uses and organization of public spaces represent a timeline of cultural practices and values of the community. Significant features should be identified and respected when changes are proposed. New public spaces and improvements should reflect contemporary design principles and values.

Charlottesville has a rich history of public improvements, which include public buildings, bridges, streetscape landscaping and lighting, street furniture, monuments, public art, fountains, and signage. Many of these improvements have been made within the historic districts, and there will be the opportunity to create additional such amenities in future years. All changes or improvements require BAR review and approval, and should be compatible with the general architectural features and character of an area or district. Repairs and maintenance should match original materials and design, and should be accomplished in a historically appropriate manner.

All public improvements should reflect the quality and attention to detail and craftsmanship of the overall historic districts' character.

B. PLAZAS, PARKS & OPEN SPACES

1) *Maintain existing spaces and important site features for continued public use consistent with the original design intent.*
2) *Maintain significant elements in a historic landscape: grave markers, structures, landforms, landscaping, circulation patterns, boundaries, and site walls.*
3) *Design new spaces to reinforce streetscape and pedestrian goals for the district. These areas offer the opportunity to provide visual focal points and public gathering spaces for the districts.*
4) *New landscaping should be historically and regionally appropriate, indigenous when possible, and scaled for the proposed location and intended use.*
5) *Exterior furniture and site accessories should be compatible with the overall character of the park or open space.*

6) *Repairs and maintenance work should match original materials and design, and should be accomplished in a historically appropriate manner.*
7) *Avoid demolishing historic buildings to create open spaces and parks.*

D. STREETS, WALKS, & CURBS

1) *Retain historic paving or curbing.*
2) *If any historic paving or curbing is uncovered in future public projects, consider reusing it or parts of it in the new project.*
3) *Make street paving consistent throughout districts.*
4) *When widening existing streets provide sidewalks, street trees, and other elements that maintain the street wall and emphasize the human scale.*
5) *Limit paved areas to streets, driveways and pedestrian areas.*
6) *Consider using some type of distinctive crosswalks at key intersections or crossings.*
7) *Avoid faux techniques or appearances in materials, such as stamped asphalt or concrete.*
8) *When sidewalks must be repaired, match adjacent materials in design, color, texture, and tooling.*
9) *Avoid variation in sidewalk and curb materials.*
10) *When sidewalks need replacement, use a paving unit, such as brick or concrete with a tooled or saw cut joint that relates to the scale of the districts.*
11) *Avoid excessive curb cuts for vehicular access across pedestrian ways.*
12) *Where curb cuts are necessary, they should be consistent with other curb cuts in the area.~~mark~~*
13) *Do not block sidewalks with street furniture elements.*
14) *Remove obsolete signs and poles.*

E. STREET TREES & PLANTINGS

1) *Maintain existing plantings in public rights of way.*
2) *Replace damaged or missing street trees with appropriate species. New street trees should be planted in appropriate locations. Consult the City-approved plant list.*
3) *Install plantings in areas like medians, divider strips, and traffic islands.*
4) *Locate planters so that they do not block sidewalks.*

F. LIGHTING

1) *In pedestrian areas, use smaller-scaled light fixtures that do not create a glare.*
2) *Light fixtures can vary according to district or sub-area and can be in traditional or contemporary styles.*
3) *Provide adequate lighting at critical areas of pedestrian/vehicular conflict, such as parking lots, alleys, and crosswalks.*
4) *Limit the number of styles of light fixtures and light sources used in each district except in cases of varying sub-areas or distinctive areas, such as bridges.*
5) *Light color and intensity should be consistent throughout a general area or subarea of a historic district. Use similar lamping (bulb type) and/or wattage to maintain a consistent quality of light.*
6) *Provide street lighting fixtures with flat lenses that are shielded and directed down to the site in order to reduce glare and prevent uplighting.*

G. STREET FURNITURE, KIOSKS, & NEWSPAPER BOXES

1) *Trash containers should be metal and should match other street furniture.*
2) *Place benches at key pedestrian locations. Use designs constructed of wood and/or metal.*

3) *Attempt to make street furniture, such as newspaper boxes, bicycle racks, drinking fountains, planters, and bollards, compatible in design, color, and materials with exiting elements.*
4) *The design and materials of bus stop shelters should be compatible with street furniture in the districts.*

5) *Kiosks*
   a. *Kiosks should be in scale with other mall elements.*
   b. *Kiosks should not obscure significant features of the space.*
   c. *Kiosks should be constructed of wrought iron, painted metal, painted wood, or some combination of the above.*
   d. *The use of natural wood is discouraged.*
   e. *The roof should be painted metal or copper.*
   f. *Signs should be incorporated into the design of the kiosk.*
   g. *No signs should be located on the roof of the structure.*

5) *Newspaper boxes should be grouped in designated locations and placed within uniform enclosures of black metal.*

Recommendations and Discussion

Staff agrees the light poles should be moved, but recommends that the new light pole layout (location, orientation, number of lamps) should be designed by a professional. The existing light poles associated with a tree and the light poles adjacent City Hall have one lamp oriented north-south. Other freestanding light poles in the area have two lamps oriented east-west.

Regarding the tree grates, staff understands the need to be practical, and this part of the Mall is not part of the older construction, but there must be a better solution than the proposed plastic grates. If the plastic grates are allowed, they should be neatly cut. Other options are metal grates or cantilevered brick. The attached plan by WRT suggested brick surfaces in combination with gravel near the tree, to allow the tree to grow without creating excess space for someone to step into.

There should be an overall Cultural Resource Plan adopted for the Mall, with adequate funding provided, so that Parks Department is not always put in a position of trying to devise ad hoc solutions.

Suggested Motions

Having considered the standards set forth within the City Code, including City Design Guidelines for Public Improvements, I move to find that relocating four light poles satisfies the BAR's criteria and is compatible with this property and other properties in the Downtown ADC district, and that the BAR approves the application with the following modifications....

Having considered the standards set forth within the City Code, including City Design Guidelines for Public Improvements, I move to find that the redesign of ten tree grates satisfies (does not satisfy) the BAR's criteria and is (is not) compatible with this property and other properties in the Downtown ADC district, and that the BAR approves (denies) the application as submitted (or approves the application with the following modifications...).

TREE GRATES

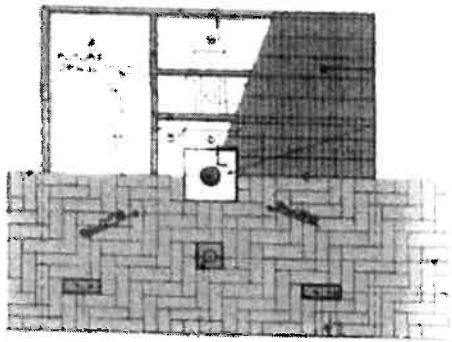
Summary:

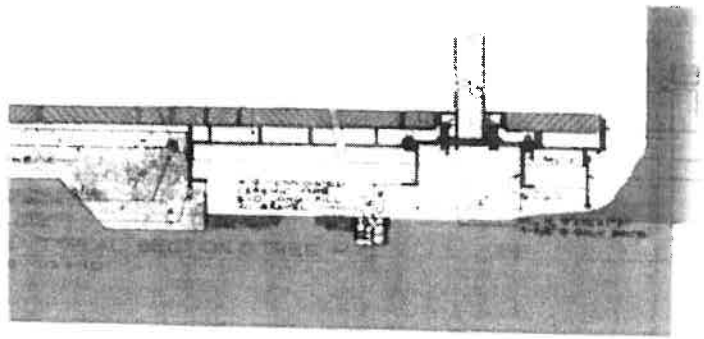
The original detail at the trees called for a 16" x 16" square opening in the brick paving at each tree, with no tree grate. An 8'x8' section of brick paving around each tree is held off the ground by a metal frame. As the trees have grown, they have become too large for the original openings, and various alternative solutions including plywood surrounds and tree gates have been tested.

WRT recommends using the original Halprin detail, enlarged as required to accommodate the mature willow oaks. To reduce the risk of pedestrians tripping in the space between the tree and the opening, the area beneath the brick should be filled with gravel mulch.

Proposed:

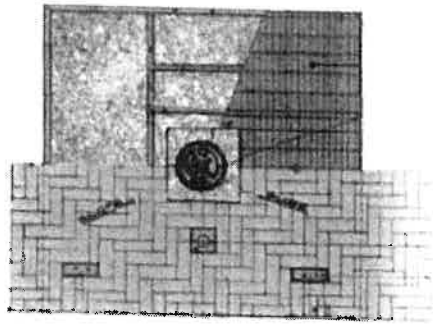
- **Adapt Halprin detail:** enlarge openings to accommodate mature tree trunks, add gravel mulch.

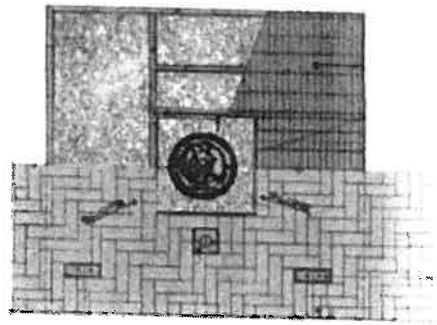




Halprin Detail: 16" x 16" opening at tree

Current Conditions: Black plywood, Round opening, Metal Grate





Adapted Halprin Detail: 24" x 24" or 32" x 32" opening with gravel mulch

Proposal for Reworking Tree Grates and Relocating Lights On the East End of the Mall

There are currently a total of 10 trees in the non-Halprin/Pavilion section of the mall which have out grown their current tree wells which are negatively impacting these trees. There is one additional well that is currently vacant, but will be replanted. This request only covers the trees on the east end of the mall in close proximity to the Freedom Wall and the Pavilion and not any of the Halprin designed mall. Most of these trees show signs of degradation and will be critically impacted this growing season if no action is taken. At the present time pavers come up to the butt of the tree (Figure 1) The framework and system that supports the brick and grate around the trees, was designed to allow growth by a connection layer of galvanized channel steel, a large grid grate (similar to a grate in a sidewalk over a steam tunnel), fabric and sand. The first part of this framework is a larger grid of galvanized channel, welded and bolted together. This larger framework is incrementally placed for expansion as is the additional members in the system. The next is the large galvanized grate with approximately 1'x 2' hole. On top of that grate is a fabric to hold the sand that the brick pavers are set in. (figures 2 & 3).

Staff has evaluated many options for a long term solution. The proposed solution, using best management practices, would be to remove the interior frame and its supporting members back to the next square in the supporting structure. Install a supplemental frame (figure 3) and install high quality structural grates made of black recycled plastic material. This material was chosen over iron grates for several reasons. The first is that it is easily trimmed by staff, using standard equipment and requires no special or exceptional safety precautions. The current iron grates are very heavy and most are welded down. The grates trimming has resulted in injury to trees, requires specialty equipment and special certifications which staff do not have, iron bits fly and mall users are always in proximity requiring exceptional safety precautions. The iron grates are also exceptionally expensive. The black structural plastic grates are an affordable option that can be easily handled and managed by staff utilizing standard tools and safety practices. The grate, regardless of material, would also afford an additional location for gas exchange and contribute to an more positive growing environment for the trees. Attached you will find technical specifications and frequently asked questions for the proposed grate material.

The four lights at the Freedom Wall are extremely close to the trees (Figure 4) and must be moved to prevent damage to the light base and to allow for tree growth (Figure 5). The light fixtures are within the crown of the trees and their location impedes the proper dispersal of light and is interfering with proper root development and would need to be moved within the next 3-5 years if not done now. We are proposing to take the far western light on the north side of the wall and place it more or less in line and equidistance between the two trees. The second light on the north side will move to the east the same number of feet as the first light is from the trees (Figure 5). The far western light on the south side will be placed midway between the two trees on that side. The second light will be placed midway between the tree and the speakers platform. We will use the existing lights in the same orientation and mount them on a concrete base utilizing the same base covers. The existing bases may be moved and will be used as electrical junction boxes for electrical feeds.

FIGURE 5

MALL EAST END TREE GRATE WORK

N

1/8" SCALE

RE-LOCATION WORK + NEW GRATES

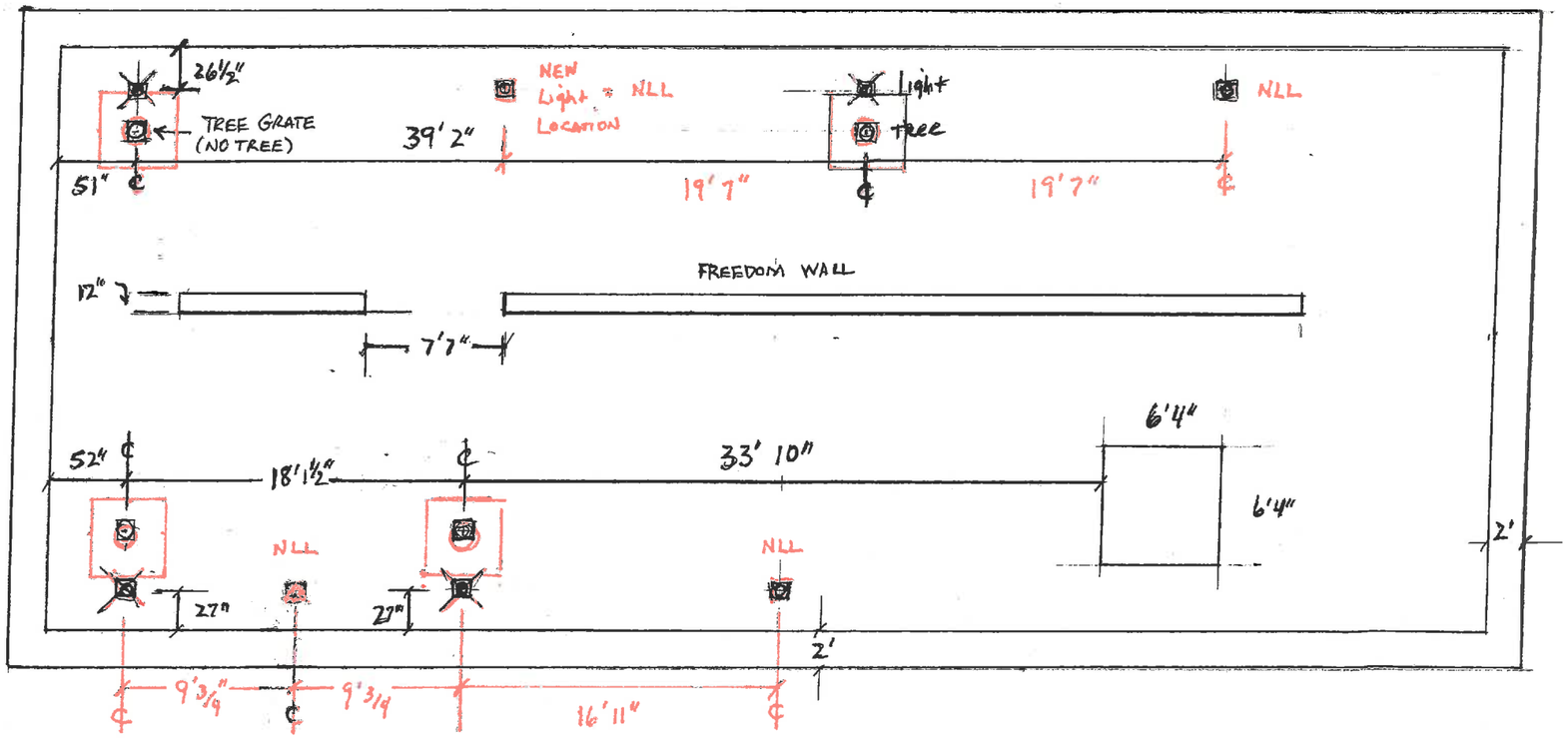


FIGURE 4

MALL EAST END TREE GRATE WORK

1/8" SCALE

EXISTING CONDITIONS

N

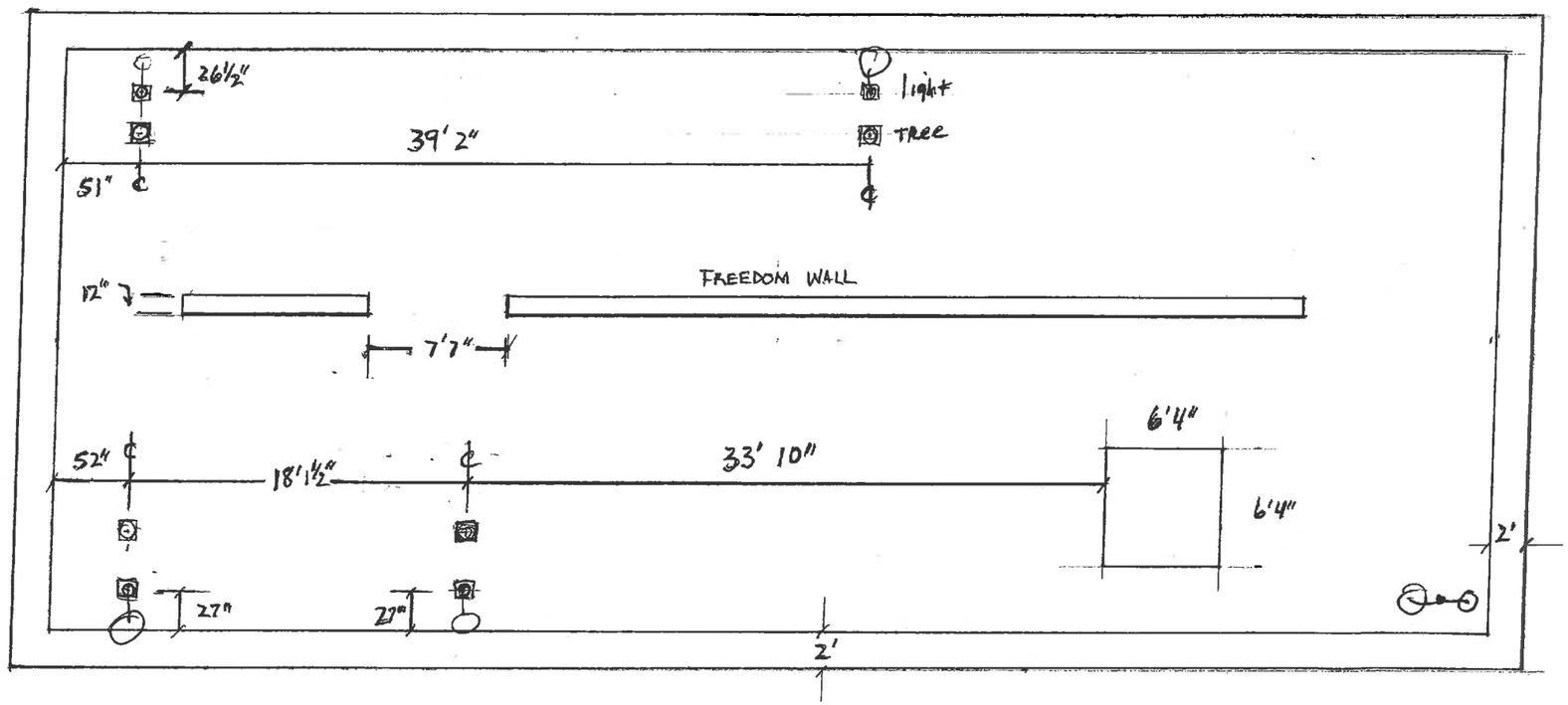



FIGURE 1
EXISTING CONDITIONS
PAVERS TO EDGE
FRAME MEMBER
(EXISTING)

FIGURE 2

FIGURE 3

PolyGrate™

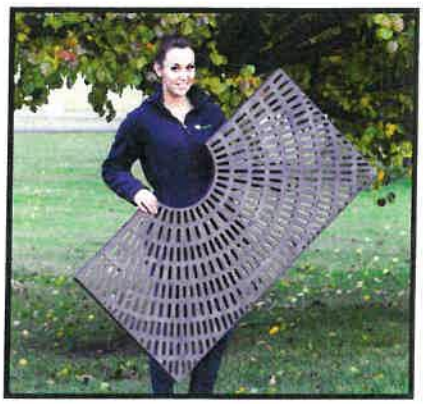
RECYCLED PLASTIC TREE GRATES

1-800-523-6899

www.PolyGrate.com

why specify?

PolyGrate™
RECYCLED PLASTIC TREE GRATES



LIGHTWEIGHT & EASY TO INSTALL

PolyGrate™ tree grates come in a variety of sizes and weights ranging from 30-60lbs each. Their lightweight and easy handling make one-person installments possible without the need for specialized tools or expensive, heavy equipment.

EASILY EXPANDABLE

PolyGrate™ comes standard with a 12" diameter hole opening that can easily be expanded in minutes with any common saw for larger tree sizes and future tree growth.

NEVER RUSTS OR NEEDS PAINTING

Made of HDPE recycled plastic means PolyGrate™ never rusts, corrodes, or leaves unsightly streaks on surrounding pavement or decorative pavers. The color is integrally molded through and through and never needs painting.

EARTH FRIENDLY

PolyGrate™ maintains a smaller carbon footprint by more than 15% compared to typical cast iron tree grate solutions. This is achieved by reduced fuel consumption, lower carbon emissions and its lightweight for shipment and installation. PolyGrate™ is made of 100% post-consumer plastics and is recyclable, non-toxic and will never leach harmful contaminants into surrounding soils.

DURABLE AND LONG-LASTING

PolyGrate™ is made of high-density polyethylene (HDPE) recycled plastic with ultraviolet inhibitor additives to ensure it will last for years and won't fade or become brittle even in the harshest conditions of salt, humidity, cold, and heat.

ADA COMPLIANT

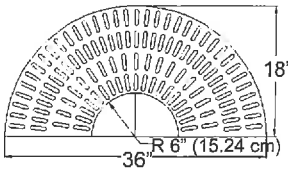
PolyGrate™ has a radial design pattern with grid openings that are less than ½"W x 2 ¼"L, which safely complies with American Disabilities Act requirements for pedestrian sidewalk accessibility.

product **dimensions**

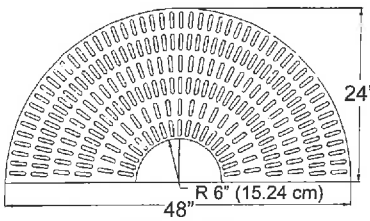
ROUND TREE GRATES

2" (5 cm)
Cut-Away Side View

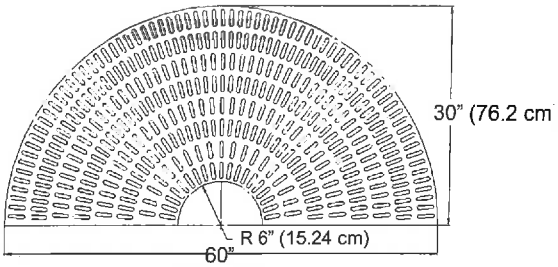
*All detailed drawings are half grates



TRB33 · 3' ROUND
Weight - 19 lbs. (8.6 Kg)



TRB44 · 4' ROUND
Weight - 28 lbs. (12.7 Kg)

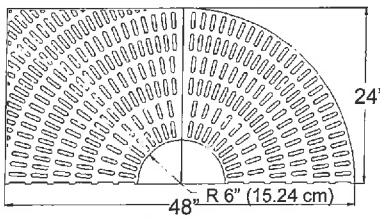


TRB55 · 5' ROUND
Weight - 45 lbs. (20.6 Kg)

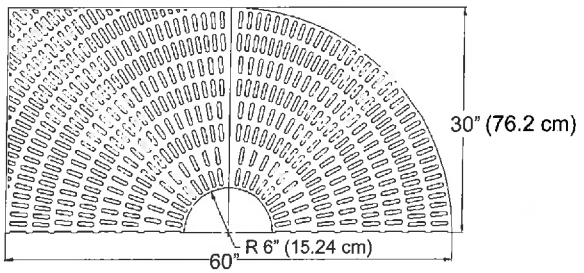
COMBINATION TREE GRATES

2" (5 cm)
Cut-Away Side View

*All detailed drawings are half grates



TSB44C · 4' x 4' SQUARE/ROUND COMBO
Weight - 33 lbs. (14.9 Kg)

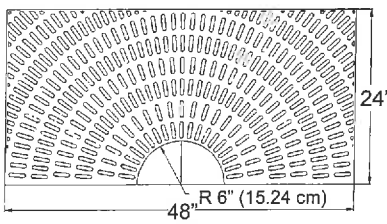


TSB55C · 5' x 5' SQUARE/ROUND COMBO
Weight - 52 lbs. (23.6 Kg)

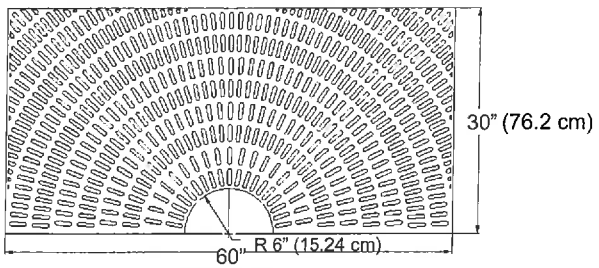
SQUARE TREE GRATES

2" (5 cm)
Cut-Away Side View

*All detailed drawings are half grates



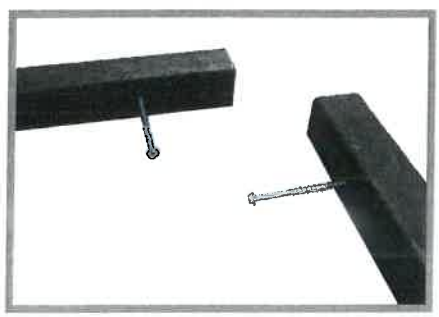
TSB44 · 4' x 4' SQUARE
Weight - 38 lbs. (17.2 Kg)



TSB55 · 5' x 5' SQUARE
Weight - 58 lbs. (26.5 Kg)

RECTANGLE TREE GRATES PolyGrate™ FRAME

TSB9648FE · 4' x 8' RECTANGLE
TSB12060FE · 5' x 10' RECTANGLE



THE EASIEST WAY TO INSTALL PolyGrate™

TGF44 · 4' SQUARE FRAME
TGF55 · 5' SQUARE FRAME
TGF9648 · 4' x 8' FRAME
TGF12060 · 5' x 10' FRAME

suggested specifications

PART 1 - GENERAL

1.1 Work Included --
The scope of the work includes labor, materials, equipment and performance of all work required for installation of PolyGrate™ as suggested by manufacturer's drawings and installation procedures.

1.2 Work by Others --
Openings to receive grates are to be provided by others in accordance with instructions of tree grate manufacturer and are indicated on drawings and provisions of the specification.

PART 2 - PRODUCT

2.1 Tree Grates

A. Manufacturer
Grates shall be PolyGrate™ plastic tree grates as manufactured by Structural Plastics Corp., Holly, Michigan.

B. Material
Grates shall be of high-density polyethylene resins conforming to ASTM D-638.

C. Design
Grate pattern shall comply with A.D.A. requirements for equal access. Color, size, and configuration shall be specified by owner/architect.

D. Finish
Grates shall be manufactured true to pattern, of uniform quality and size, and free from defects. Surface shall be smooth; free of sharp edges.

2.2 Hardware --
Fasteners (included)
Grate halves shall be joined together with tamper-resistant bolt package as provided by Structural Plastics Corp., or approved equal. Package to consist of (6) each #16 3/8" x 1-1/4" button head socket-cap screw, stainless; #16 3/8" Tuff Nut, brass; and (12) each 3/8" USS Flat washer, zinc.

PART 3 - EXECUTION

3.1 Inspection –
Proper site preparation and ongoing maintenance will determine performance.

3.2 Surface Conditions --
Examine concrete ledge, and/or existing tree pit to receive grate. Correct condition to comply with manufacturer's recommended installation procedure.

3.3 Installation

A. Opening to Receive Grate

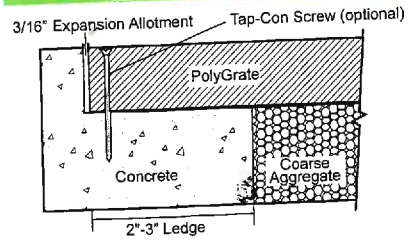
1. Concrete Ledge Supported - New Installation (figure 3.3A1)
Concrete ledge shall be cast in size and configuration of specified tree grate model plus 3/8" expansion allotment. Ledge shall be 2 inches below concrete or tiled surface and extend inward 2 to 3 inches. Ledge must be level and free of bulges and slag.

2. PolyGrate™ Frame Supported - New or retro-fit Installation (3.3A2)
The PolyGrate™ Frame accessories will come complete with (4) 1 1/2" square pre-drilled plastic frames (42" length for use with 48" PolyGrate™s, or 54" length for use with 60" PolyGrate™s). Sidewalk preparation should allow 3/8" additional length per side to provide for grate expansion. Attach PolyGrate™ Frame to sides of poured surface with Tap-Con screws (provided) or other approved concrete fastener (pre-drill pilot holes using a masonry bit). The PolyGrate™ Frame support ledge should be placed 2" below the surface of the concrete.

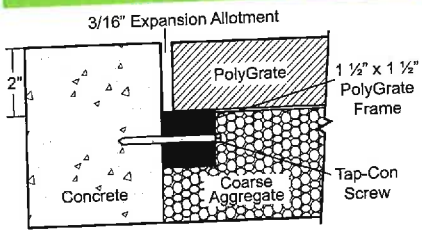
B. Support and Litter Prevention
Fill space from bottom of tree pit flush to bottom of tree grate with crushed shale or other self-compacting aggregate.

C. Join Grate Halves
Bring tree grate halves together around a tree at a height that allows easy access to underside. Join section at pre-formed holes using tamper-resistant bolt package provided by manufacturer, or approved equal. Lower grate into place.

INSTALLATION WITH CONCRETE SURROUND (3.3A1)



INSTALLATION WITH PolyGrate™ FRAME (3.3A2)



TEST DATA

	ASTM TEST	UNITS	
RESIN PROPERTIES			
Density	D-1505	g/cc	0.957
Melt Index	D-1238	g/10 min	7
MOLDED PROPERTIES			
Tensile Modulus (1% Secant)	D-638	psi	166000
Tensile at Yield	D-638	psi	4300
Elongation at Break	D-638	%	1400
Flexural Modulus	D-790	psi	194000

The key to any successful landscape project is to budget for ongoing maintenance expenditures such as grate expansion as your trees mature. For best results and longevity, PolyGrate™ requires that the space between the ground and tree grate bottom be filled with course aggregate for all installation applications. This will properly support the grate prevent accumulation of debris under grate and protect close-to-surface root systems.

PolyGrate™
1-800-523-6899
www.PolyGrate.com

PolyGrate™
RECYCLED PLASTIC TREE GRATES

frequently asked questions

specifies PolyGrate?

- Municipalities
- Civil Engineers
- Landscape Architects
- Commercial Real-Estate Developers
- Development Authorities
- City Planners

are the Benefits of PolyGrate?

- Durable, long-lasting, and ADA compliant grid pattern
- Lightweight, no heavy equipment needed for installation
- Easily expandable to accomodate tree growth
- Never rusts or needs painting
- Theft-proof - no scrap scavenger market

should I consider PolyGrate?

- At the beginning of any Green-oriented streetscape project
- New installations of sidewalks and trees
- Retrofitting trees into existing streetscapes
- Labor and material handling costs are a concern
- Your project goes over budget
- Planting fast-growing, large trees

can I use PolyGrate?

- All climate and temperature extremes
- Public areas where ADA access guidelines are a concern
- Parks and other green spaces
- High-salt environments
- New or existing poured sidewalks
- Paver sidewalks
- Shopping malls

should I specify PolyGrate?

- Trees regulate and moderate climate
- Trees filter fine particle pollutants from air and water
- Trees help regulate water supply
- Trees add water-holding capacity
- Trees reduce sediment runoff
- Trees provide habitat for pollinators
- Trees support social dynamics

is PolyGrate "Green"?

- Made of 100% post-consumer plastic
- Lower fuel consumption for delivery and installation by at least 15%
- Does not contribute to heavy metals in water supply
- Reduces sediment runoff
- Alternative to harmful landscape materials
- Reduces installation time and energy

Structural Plastics Corp. • 3401 Chief Drive • Holly, Michigan 48442-9333 • Phone (800) 523-6899

Scala, Mary Joy

From: Ehman, Doug
Sent: Tuesday, June 28, 2016 11:17 AM
To: Scala, Mary Joy; Fabio, Craig; Edwards, Tony; Silman, Martin; Creasy, Missy
Cc: Daly, Brian; Mann, John; Dooms, Clifton; Nolan, Ron; Gensic, Lori; Tree Commission; Murphy, Mike; Broocks Meade (broocks@thenteloswirelesspavilion.com); 'kirby@nteloswirelesspavillion.com' (kirby@nteloswirelesspavillion.com)
Subject: Grate Install

Greetings;
Parks Division staff has installed a proposed prototype modification for the trees in the eastern end of the mall which will be heard at the July 19 BAR meeting. Staff has evaluated many options for a long term solution. The proposed solution, using best management practices, would be to remove the interior frame and its supporting members back to the next square in the supporting structure. Install a supplemental frame and install high quality structural grates made of black recycled plastic material. This material was chosen over iron grates for several reasons. The first is that it is easily trimmed by staff, using standard equipment and requires no special or exceptional safety precautions. The current iron grates are exceptionally heavy and most are welded down. Their trimming has resulted in injury to trees, requires specialty equipment and special certifications which staff do not have, iron bits fly and mall users are always in proximity requiring exceptional safety precautions. The iron grates are also exceptionally expensive and heavy. The black structural plastic grates are an affordable option that can be easily handled and managed by staff utilizing standard tools and safety practices. The grate, regardless of material, would also afford an additional location for gas exchange and contribute to a more positive growing environment for the trees. While incomplete the installation does provide perspective and what Parks staff believe to be a reasonable option. It is on the north side of the Freedom Wall.

The four lights at the Freedom Wall are exceptionally close to the trees and must be moved. The light fixtures are within the crown of the trees and their location impedes the proper dispersal of light and is interfering with proper root development and would need to be moved within the next 3-5 years if not done now. We are proposing to take the far western light on the north side and place it more or less in line and equidistance between the two trees. The second light on the north side will move to the east the same number of feet as the first light is from the trees. The far western light on the south side will be placed midway between the two trees on that side. The second light will be placed midway between the tree and the speaker's platform. We will use the existing lights in the same orientation and mount them on a concrete base utilizing the same base covers. The existing bases will be used as electrical junction boxes for electrical feeds.

Please go by and take a look and let me know if you have any questions,

Doug Ehman, CPRP, CPSI, CPO
Manager Parks Division
Department of Parks and Recreation
1300 Pen Park Road
City of Charlottesville, Virginia 22901
434-970-3021-Office
434-970-3889-Fax
434-981-5595-Cell

Scala, Mary Joy

From: Scala, Mary Joy
Sent: Thursday, August 18, 2016 1:44 PM
To: Ehman, Doug
Subject: East Mall lights
Attachments: Recommended light pole revisions east Mall.pdf

Doug,
The first attached drawing with green edits is administratively approved.

1. Move all four lights further north or south so their bases abut the granite strip (similar to the single lights just west of this area in front of the Post Office).
2. Your east-west dimensions look fine except for the light near the speaker podium, which should align with the tree opposite. Let me know if you have any questions.

Mary Joy Scala, AICP
Preservation and Design Planner
City of Charlottesville
Department of Neighborhood Development Services
City Hall – 610 East Market Street
P.O. Box 911
Charlottesville, VA 22902
Ph 434.970.3130 FAX 434.970.3359
scala@charlottesville.org

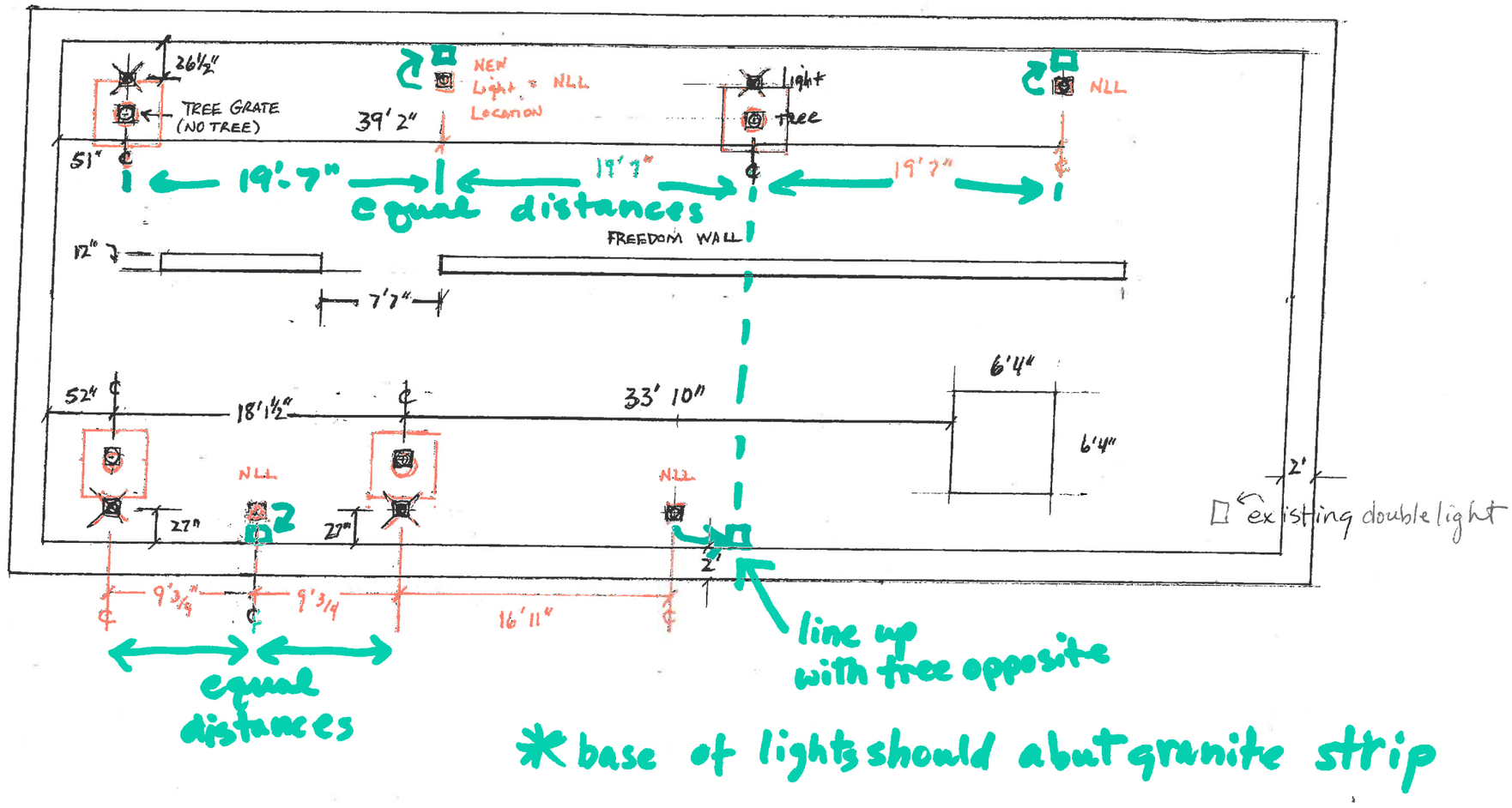
FIGURE 5

MALL EAST END TREE GRATE WORK

N

1/8" SCALE

RE-LOCATION WORK + NEW GRATES



* base of lights should abut granite strip